vandenbroucke metalen

mungo® since 1968

Main Catalogue

Statiestraat 116 / 8980 Passendale / vdbm.be / info@vdbm.be / 051 78 00 30

www.mungo.swiss Mungo Befestigungstechnik AG · CH-4600 Olten · Switzerland E2021

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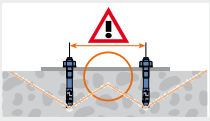
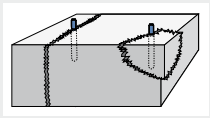
1 Spacing distance



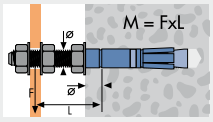
Consideration must be given to the minimum distances required when setting groups of fixings to avoid failure of the building material. A factor of 3 times the setting depth must be used to achieve maximum loads.

2 Edge distance



Consideration must be given to the minimum edge distances to avoid failure of the building material.

3 Bending moment M

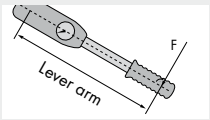


For some applications anchors are subjected to bending moments. For example, at a distance fixing.

4 Screw types

1. Hexagon
2. PZ2/3
3. T25/T30/T40
4. Hexagon, T40, collar

5 Torque



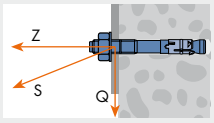
Force (F) x lever arm, measured at fulcrum,
Nm = Newton meter

The anchor should be set using the recommended torque settings.

6 Installation torque

When the anchor is set using the correct torque a guaranteed fixing can be achieved.

7 Load directions



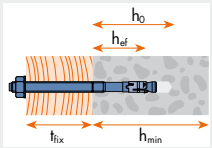
Tension (Z), Shear (Q), Combined (S)

8 Force

The force is indicated in Kilo-Newton (kN) / Newton (N)

1kN=1000N=100dN ≈ 100kg
10N=1dN ≈ 1kg

9 Setting data



h_{ef}: Effective anchorage depth
h_0: Drilling depth
h_{min}: Minimum thickness of concrete member
t_{fix}: Usable length

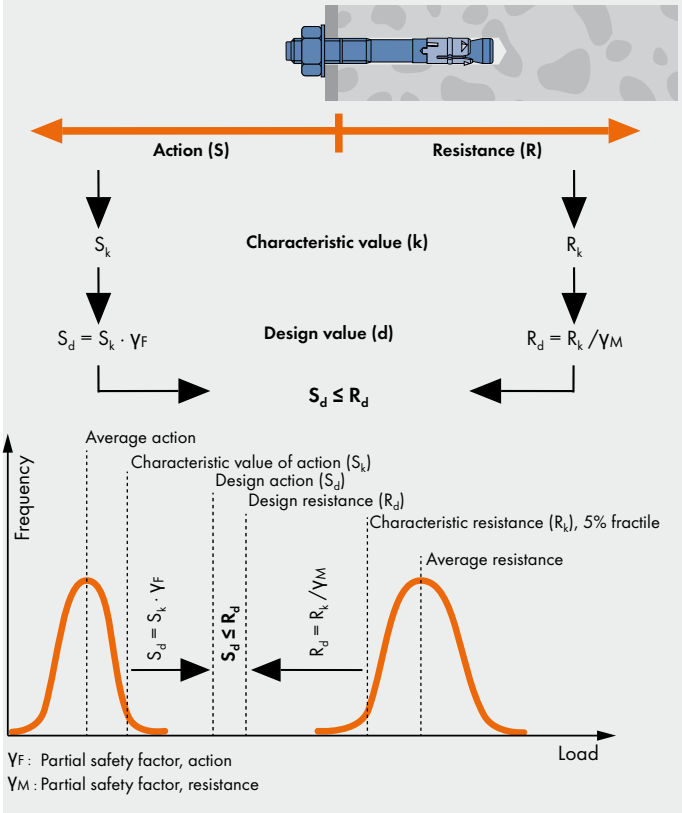
10 Breaking load

Failure of fixing (pt. 17)

11 Approved and recommended loads

Approved loads are those given in the corresponding approval. Working loads for products with European Technical Assessment include a partial safety factor given by ETAG. Recommended loads are not always equal to approved loads. Recommended loads are determined under laboratory conditions and do not consider any influence of edge or centre distances.

12 Partial safety factor concept



γ_F : Partial safety factor, action
γ_M : Partial safety factor, resistance

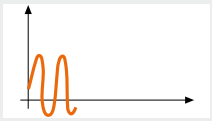
Dictionary Fastening Technology

13 Load classification

Static loads

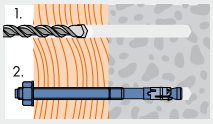
Dynamic loads / Pulsating

Dynamic loads / Shock

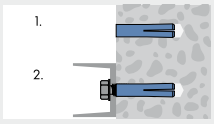


Dynamic loads / Alternative

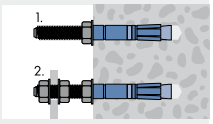
14 Methods of application



Through fixing



Pre installation



Distance fixing

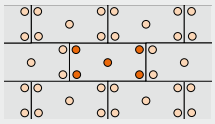
15 Drilling process

Rotary drilling with wood drills and carbide drills: Drilling without percussion. Application: wood, plywood, particle board, wood fibreboard, gypsum plasterboard, fibrecementboard, aerated concrete, perforated brick.

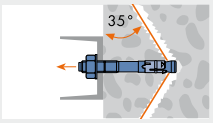
Percussion drilling with carbide drills: Drilling at high speed with fast, short impacts. Application: brickwork made of solid blocks.

Hammer drilling with SDS-drills: Drilling at low speed with slow, strong impacts. Application: concrete and natural stone.

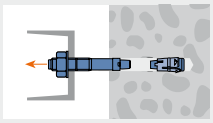
16 Setting pattern of insulation fixings



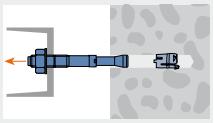
17 Modes of failure



Concrete failure

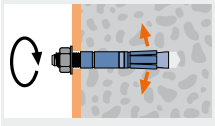


Steel failure

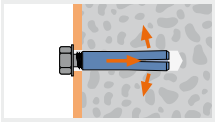


Anchor failure

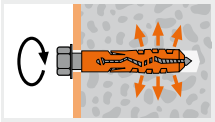
18 Different anchor types



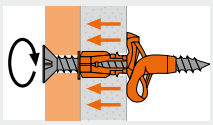
Torque controlled expansion anchors (e.g. m2, MSL). Expansion achieved by application of torque.



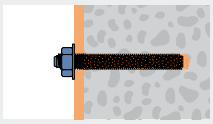
Hammer set expansion anchor (e.g. MEA). Expansion is achieved by hammering a cone in the body of the anchor.



Nylon plug (e.g. MN, MQ, MU, MNA, ML, MQL, MB, MBR, MDD). Performance is achieved by the introduction of an expansion component which is screwed or driven into the anchor body. The anchor body is thus firmly blocked against the sides of the drilled hole.



Cavity wall anchor (e.g. MU, MHD-S). The head of the plug is pushed down onto the base material with the screw, and the anchor body is drawn against the interior of the base material by deformation.



Chemical anchor (e.g. MIT, MVA). The anchor consists of a fixing element (male or female rod) and a synthetic-based mortar. Manufactured from 2 components, hardener and resin which when mixed together create the chemical reaction, which hardens to create the fixing by bonding to the base material. Adhesive anchors do not generate stress in the building material.

Concrete Screw (e.g. MCS): The special thread of the anchor cuts an internal thread into the member while setting. The anchorage is characterised by mechanical interlock in the special thread, thus small edge and spacing distances and high loads.

19 Minimum setting depth

The indicated minimum setting depths may not be under-run. Non bearing layers such as plaster, flagstones, insulating materials etc. do not count as setting depths.

20 Fire protection

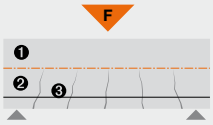
Fixings, for which fire rated anchors are required, Mungo offers a considerable range of metal anchors and MIT Injection Technique.

MQL/MB/MBR are approved for fixing of curtain walls without any restriction. The expansion part in the building material remains fire-resistant for at least 90 minutes.

21 Corrosion protection

Anchors made from galvanic zinc coated steel are used for fixings of fixtures indoors, with the exception of wet rooms. The thickness of the zinc coating is 5 microns. For external applications, wet rooms, areas of high humidity found in industrial atmospheres etc and locations in close proximity to the sea, require fixings of stainless steel A4 (1.4401 or 1.4571).

22 Concrete non-cracked/cracked



1. Compression strength: concrete non-cracked
2. Tensile strength: concrete cracked
3. Reinforcing steel

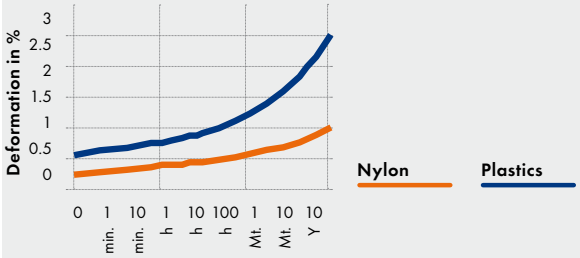
23 Nylon Quality PA6

Mungo nylon products are made from high-grade polyamide PA6. Due to its excellent characteristics PA6 can be described as the most valuable material in the fastening world.

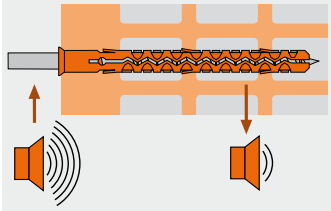
- Large temperature range of –40°C up to +100°C
- Resistance to humidity maintains important technical features such as impact strength and low deformation risk
- Excellent stability in terms of dynamic loads
- Low flammability and self-extinguishing
- Halogen-free material

24 Deformation

The deformation characteristics of polyamide PA6 clearly offers better value in comparison to conventional materials.

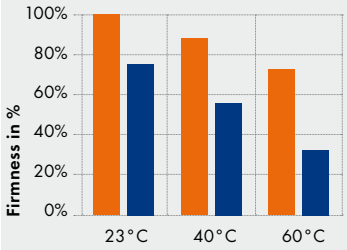


25 Sound absorption



Polyamide PA6 reduces the sound transmission between fastening and building material.

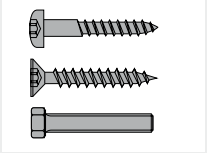
26 Solidity under temperature influences



PA6 exhibits higher strength under temperature influences compared to conventional plastics.

27 Screw types

The following screw types can be used with Mungo nylon plugs:

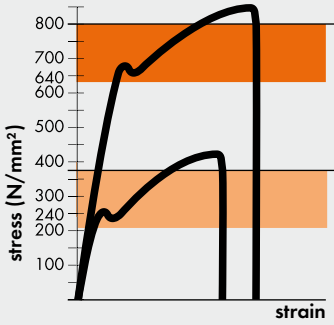


Wood screws

Chipboard screws

Metric screws

29 Grades of steel



8.8
tensile strength **8**00 N/mm²
yield point **8**0% of tensile strength
640 N/mm²

4.6
tensile strength **4**00 N/mm²
yield point **6**0% of tensile strength
240 N/mm²

30 GreenTec® Corrosion resistant zinc alloy layer

GreenTec® is a special alloy layer system on a zinc and nickel foundation which provides hard, wear and tear resistant layers with a very high corrosion resistance, even with the lowest layer thicknesses. The layer system **GreenTec®** with its excellent metal distribution and constant alloy layer composition can be used for various purposes, given the right after care.
Due to its excellent corrosion resistance, **GreenTec®** is even used with the lowest layer thicknesses, especially for high quality purposes in the automobile hydraulic and electronic industry. The layer system provides further advantages through the hydrogen de-embrittlement of highly solid components without a loss of properties. Typical applications are coatings of connecting elements in the mid-cost area with corrosion and wear and tear requirements as well as high quality applications and applications in the high-tech industry.
An important economic factor for the use of **GreenTec®** is the excellent extension of the durability in comparison with conventional zinc coatings which have a much lower layer thickness.

CR(VI) Chrom(VI)-frei Chromium(VI)-free 100% CR-Free

SWISS TESTING

DIN EN ISO 17025 ACCREDITED LABORATORY

DIN EN ISO 9227 SALT SPRAY TEST

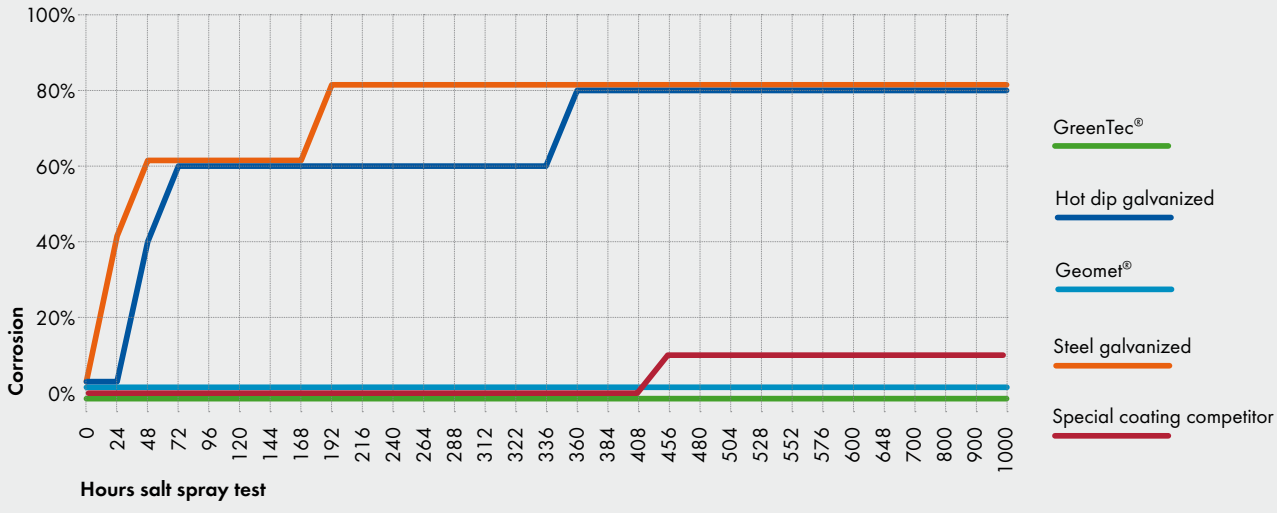
ilac-MRA

31 Zinc flake coating

Zn FLAKE

Zinc flake coatings are non-electrolytically applied coatings, which provide good protection against corrosion. These coatings consist of a mixture of zinc and aluminium flakes. Further characteristics: uniform appearance, high protection against corrosion, chemical resistance and good friction characteristics.

28 Corrosion behavior in a salt spray test



Branches

Building construction

Infrastructure

Façade
Scaffold

Drywall

Steel and metal

Woodwork

Electrician

Sanitary installation

Approvals

European Organisation for Technical Assessment
EOTA, Brussels

Institute of Constructional Physics
IFB, Mülheim

Swiss Testing Service, RUAG

Fire resistance test certification

Certification for drinking water systems

Seismic action
Performance category C1

Seismic action
Performance category C2

CE marking

Nylon Quality PA6
Proved Material

Class B1 according to DIN 4102-1

Class B2 according to DIN 4102

Class B-s1,d0 according to EN 13501-1

Fire resistance up to 240 minutes; EI240 according to EN 13501-2

oSa (The Organisation for the Safety of Abrasives)

Complying EN13236 standards

LEED - Test Report

VOC free product

VOC free according to Swiss legislation and certified A+ according to DEVL 1101903D / DEVL 1104875A

Emicode EC1 PLUS
very low emission

PGM Masonry Drill Bit Certification Board Remscheid

The Materials Testing Institute for Construction Engineering in Hanover

The Institute for Materials Research and Testing for the construction industry in Leipzig

Symbols

Hammer drilling

Diamond drilling

Hammer drilling / Diamond drilling

Fixed setting depth

Variable setting depth (4-12xd)

Variable setting depth (4-20xd)

Variable setting depth (8-12xd)

Variable setting depth (8-20xd)

Medium duty fastening

Heavy duty fastening

Slow curing

Fast curing

Dry drill holes

Dry and damp drill holes

Dry, damp and water-filled drill holes

50 litres

European Technical Assessment guarantees a working life of at least 100 years

Automatic hole cleaning with the innovative 2in1 Hollow Drill Bit

Hammer setting

No jamming with reinforcement hits

SDS-Plus

SDS-Max

Cylindrical

Mungo Design software
Use our anchor design software for fast and reliable calculations of your application

New generation

Fungus-inhibiting

UV resistant

Adhesion Promoter

Self opening

Width of layer

Height of layer

Noise reduction

Laser welded

High cutting speed

Long life

Dry operation

Wet operation

Philips

Pozi

TX

Hexagon socket

Hexagon screw

Hexagon screw, T40, collar

Material

Zinc plated

Stainless steel A2

Stainless steel A4

Hot dip galvanized

GreenTec® > 750h EN ISO 9227
Corrosion resistant zinc alloy layer

Geomet®

Zinc flake coating

More than 50 years of success

Your construction project will benefit from our experience

Over more than 50 years Mungo has gained experience, technical know how and profound market knowledge. With these competences we are in a position to develop innovative and technically fully matured solutions. Creativity and innovation of our employees secure our market position in the future.

Worldwide market presence

1968
Olten, CH

1976
Bremen, DE

2003
Padua, IT

Where building takes place

The head office and production facility in Olten is ideally located in central Switzerland, which offers advantages in our home country and, moreover, provides an ideal platform for distribution of our products to more than 52 countries worldwide.

The Milestones

1968	Mungo Befestigungstechnik AG Switzerland was established
1976	Foundation of Mungo Germany Stettenhofen
1977	Establishment of our worldwide distribution organisation
1980	New company build in Olten
2000	The fully automated high-bay warehouse has been commissioned
2003	Opening of the multi-stage cold forming plant in Olten
2003	Foundation of Mungo Italia in Padua
2004	Japanese honour for extraordinary product innovation
2005	Winner of the Solothurn Innovation Award
2009	Fully automated packaging machine has been commissioned
2015	Takeover of Mungo Befestigungstechnik AG by the management and two Swiss private investors
2018	Takeover of Mungo Befestigungstechnik AG by a European private equity company

High expertise in production

Nylon products production, injection moulding
Mungo nylon products are made from high-grade polyamide PA6. Due to its excellent characteristics PA6 can be described as the most valuable material in the fastening world.

Throughbolt production with cold forming techniques
For more than 50 years, Mungo has gained expertise in distribution and manufacturing of throughbolts. With our investment, we have established an important platform in cold forming techniques, which enables our company to play an important role in this worldwide market.

Attributes you can build on

The Mongoose, also known as a Mungo, inhabits South America, the Mediterranean coastline and Asia. This corresponds perfectly to Mungo's international reputation.

The Mungo is fast, mobile and resilient – similar characteristics to application friendliness, flexibility and maximum strength which distinguish our products.

The need to discover new technologies and applications is our commitment to the future.

Life as part of a community is natural for the Mungo, as it is for us being in constant contact with our customers, potential customers, colleagues and suppliers.

Mungo Design software

Available as a download

The advantages of Mungo Design software at a glance:

- User-friendly look and feel
- Optional user prompting and helpful reminders for missing information serve to reduce familiarisation time to a minimum
- The data can be edited either directly in the graphic or in the provided data fields
- Multilingual user interface
- Contact details of companies can be saved and reused
- Online updates: Quick and easy updates load automatically

Expert advice

Mungo has a strong presence - even on site

All those working with Mungo will enjoy the benefit of high quality products combined with expert advice from our field and in-house teams of sales and technical consultants, qualified engineers and product technicians.

Whether you need anchor calculations for a complex project or on site recommendations including pull out tests - we work together with you to define and optimise fixing solutions.

Quality assurance is a core competence

Consistent processes create satisfied customers

When it comes to quality, we do not compromise.
The certification body of Swiss Safety Center AG confirms that Mungo operates an appropriate management system meeting the requirements of the international standards for quality management and quality assurance according to ISO 9001:2015.
In addition to outside monitoring, in-house test, inspection equipment and laboratories ensure the safety and quality of the individual products. Optical gauging of the products with analysis in the SPC offers a reliable indication of the controlled and capable production process.

swiss safety center
ISO 9001
certified system

Comprehensive training courses for users

Learning and experience shared at team meetings

Mungo offers you full-day training courses on products and how to use them. Popular learning objectives include increasing efficiency or getting the most out of products. The training courses optimise users' economic viability and they increase the conscious use of technical advantages.

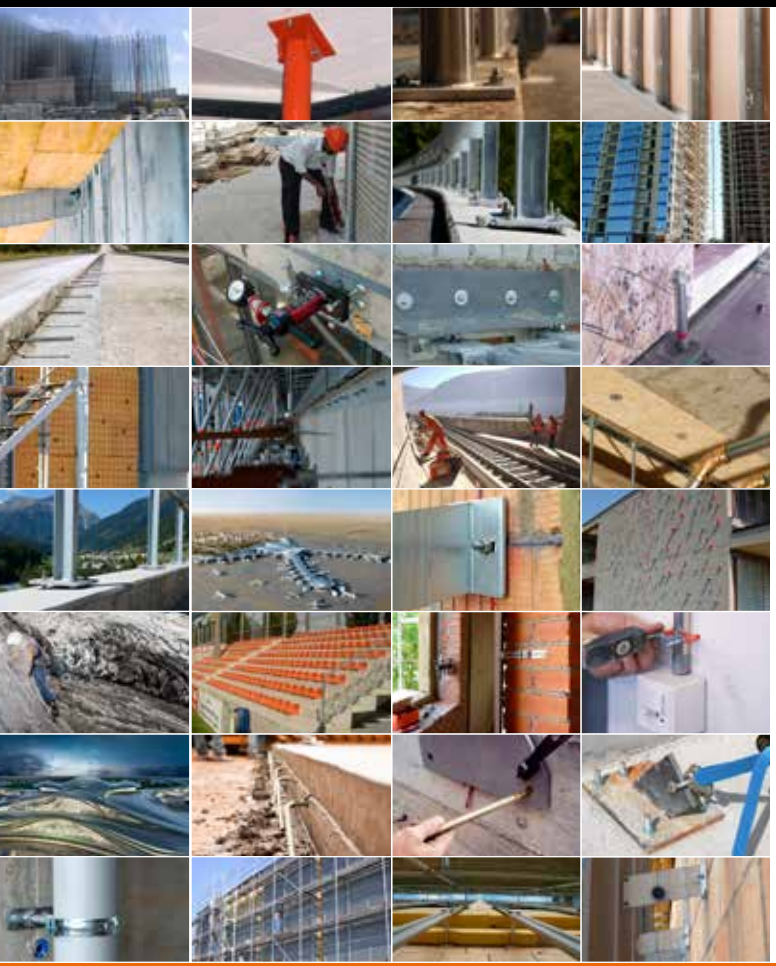
Training courses for post-installed rebar connections are in great demand. The course is led by experienced Mungo fastening experts. The course programme covers both theory, such as approvals, as well as practice with lots of helpful tips from the expert. Our professional user training provided by our specialists will prepare you for the Deutsches Institut für Bautechnik (DIBT - German Institute of Construction Technology) aptitude certificate.

Professional sales promotion

Together we succeed

With professional marketing tools and sales aids, we are able to support your company in sales, and help promote customer relationships with the brand image of Mungo.

Mungo references demonstrate top performance



Well equipped for the future

Mungo is a leading player in the development, manufacturing and distribution of high-quality fastening products that offer added value to professional customers in the construction industry and the building maintenance sector. Mungo's product range includes nylon plugs, metal anchors, chemical fixings, insulation fixings, drill bits and accessories.

Direct access to information about Mungo and its products

Give it a go

Download a free app onto your mobile, scan the QR Code on the Mungo boxes and outer carton labels and you will have easy and quick access on mobile devices to all product information.

Your perfect partner

Professional partner in the fastening industry

Formed in 1968, Mungo has developed into a medium-sized enterprise with a worldwide customer base and has secured a firm position as a professional partner in the fastening industry. This is due to its consistent enhancements of its product range and the active expansion of its presence on the international market.

Metal Products

m1 powerGrip Throughbolt, ETA Option 1

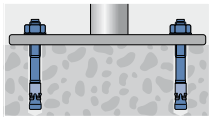
Option 1 · F120 · C1 · NEW GENERATION

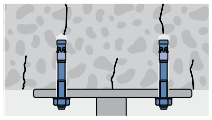
Features

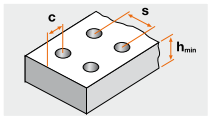
- The powerGrip Throughbolt for highest performance in cracked concrete
- European Technical Assessment Option 1 for cracked and non-cracked concrete
- Resistance under fire exposure F120 is part of the assessment
- The anchor may also be used under seismic influence for performance category C1
- GreenTec® corrosion protection - Extra long lasting
- Advanced corrosion resistance ≥ 750 hours in salt spray test
- High-quality and stainless steel appearance
- Reduced setting depths for a faster installation
- Innovative clip design; higher loads and best expansion
- Additional slide coating "T5" ensures an uniform expansion in cracked concrete
- With a big DIN 9021 washer for fixings with slotted holes and for wooden structures
- Setting depth mark for correct installation
- Small edge and spacing distances
- Simple setting process due to low resistance to impacts
- Fast achievement of installation torque
- Pre installation or through fixing
- Indoor applications and unweathered outdoor applications

Applications

steel constructions, profiles, machines, substructures, high-racks, cable trays, railings, guard rails





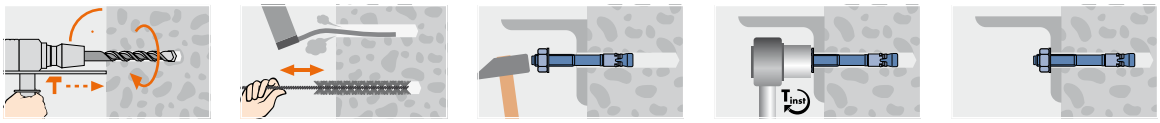


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Min. distance betw. anchors/at edge distance mm s_{min}/c	Min. edge distance/ at distance betw. anchors mm c_{min}/s	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M8	4.3	1.7	4.4	14	60/70	70/60	110	20	13
M10	7.1	3.6	6.9	28	80/55	55/80	120	45	17
M12	8.6	6.7	10.0	48	110/60	60/110	140	60	19
M16	12.4	9.5	16.2	115	130/90	90/130	160	80	24

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Loads do not apply for reduced setting depths / 1 kN ≈ 100 kg

Installation



m1 powerGrip Throughbolt with washer DIN 125A

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth / reduced setting depth mm $h_0 / h_{0,red}$	Usable length / reduced setting depth mm $t_{fix} / t_{fix,red}$	Effective anchorage depth / reduced setting depth mm $h_{ef} / h_{ef,red}$	Box content FS	Outer carton SK	Quantity per pallet
3100807	8	70	65	5	48	100 41	300 12	18000
3100808	8	80	65	10	48	100 41	300 12	18000
3100809	8	95	65	25	48	100 51	300 22	18000
3100811	8	115	65	45	48	100 51	300 22	18000
3100816	8	165	65	95	48	50 51	150 22	9000
3101009	10	95	80/60	15/35	60/40	100 51	300 22	18000
3101011	10	110	80/60	30/50	60/40	50 51	150 22	9000
3101012	10	125	80/60	45/65	60/40	50 51	150 22	9000
3101014	10	140	80/60	60/80	60/40	50 51	150 22	9000
3101016	10	160	80/60	80/100	60/40	50 51	150 22	9000
3101018	10	180	80/60	100/120	60/40	25 51	75 22	4500
3101211	12	110	90	15	70	50 51	150 22	9000
3101212	12	125	90	30	70	50 51	150 22	9000
3101214	12	145	90	50	70	25 41	75 12	4500
3101216	12	165	90	70	70	50 51	150 22	9000
3101218	12	185	90	90	70	50 51	150 22	9000
3101613	16	130	110	15	80	25 51	75 22	4500
3101614	16	145	110	30	80	25 51	75 22	4500
3101618	16	180	110	60	80	25 51	75 22	4500

m1-C powerGrip Throughbolt with big washer DIN 9021

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth / reduced setting depth mm $h_0 / h_{0,red}$	Usable length / reduced setting depth mm $t_{fix} / t_{fix,red}$	Effective anchorage depth / reduced setting depth mm $h_{ef} / h_{ef,red}$	Box content FS	Outer carton SK	Quantity per pallet
3110808	8	80	65	10	48	100 51	300 22	18000
3111009	10	95	80/60	15/35	60/40	50 51	150 22	9000
3111211	12	110	90	15	70	25 41	75 12	4500

m1r powerGrip Throughbolt, stainless steel A4/316, ETA Option 1

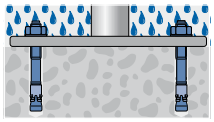
Option 1 F120 C1 NEW GENERATION

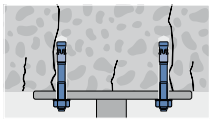
Features

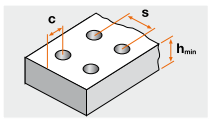
- The powerGrip Throughbolt for highest performance in cracked concrete
- European Technical Assessment Option 1 for cracked and non-cracked concrete
- Resistance under fire exposure F120 is part of the assessment
- The anchor may also be used under seismic influence for performance category C1
- Reduced setting depths for a faster installation
- Innovative clip design; higher loads and best expansion
- With a big DIN 9021 washer for fixings with slotted holes and for wooden structures
- Setting depth mark for correct installation
- Small edge and spacing distances
- Simple setting process due to low resistance to impacts
- Fast achievement of installation torque
- Stainless steel A4/316
- Pre installation or through fixing
- Indoor and outdoor applications

Applications

railings, steel constructions, profiles, machines, substructures, guard rails





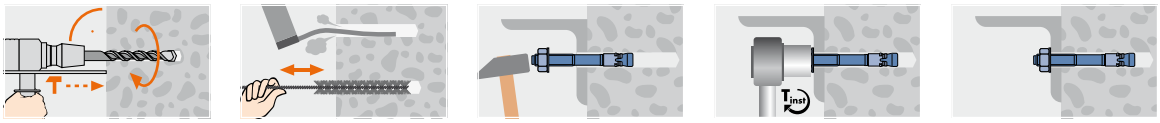


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Min. distance betw. anchors/at edge distance mm s_{min}/c	Min. edge distance/ at distance betw. anchors mm c_{min}/s	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M8	5.7	1.9	4.9	16	50/50	50/50	100	20	13
M10	9.5	4.3	7.8	32	80/65	65/80	120	45	17
M12	11.4	7.1	11.3	55	100/60	60/100	140	60	19
M16	12.4	11.4	21.1	130	120/70	70/120	160	80	24

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Loads do not apply for reduced setting depths / 1 kN ≈ 100 kg

Installation



m1r powerGrip Throughbolt with washer DIN 125A, stainless steel A4/316

EDELSTAHL INOX A4 1.4401 / 1.4404 316

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth / reduced setting depth mm h_0 / $h_{0,red}$	Usable length / reduced setting depth mm t_{fix} / $t_{fix,red}$	Effective anchorage depth / reduced setting depth mm h_{ef} / $h_{ef,red}$	Box content FS	Outer carton SK	Quantity per pallet
3900807	8	70	65	5	48	100 41	300 12	18000
3900808	8	80	65	10	48	100 41	300 12	18000
3900809	8	95	65	25	48	100 51	300 22	18000
3900811	8	115	65	45	48	100 51	300 22	18000
3900816	8	165	65	95	48	50 51	150 22	9000
3901009	10	95	80/60	15/35	60/40	100 51	300 22	18000
3901011	10	110	80/60	30/50	60/40	50 51	150 22	9000
3901012	10	125	80/60	45/65	60/40	50 51	150 22	9000
3901014	10	140	80/60	60/80	60/40	50 51	150 22	9000
3901016	10	160	80/60	80/100	60/40	50 51	150 22	9000
3901018	10	180	80/60	100/120	60/40	25 51	75 22	4500
3901211	12	110	90	15	70	50 51	150 22	9000
3901212	12	125	90	30	70	50 51	150 22	9000
3901214	12	145	90	50	70	25 41	75 12	4500
3901216	12	165	90	70	70	50 51	150 22	9000
3901218	12	185	90	90	70	50 51	150 22	9000
3901613	16	130	110	15	80	25 51	75 22	4500
3901614	16	145	110	30	80	25 51	75 22	4500
3901618	16	180	110	60	80	25 51	75 22	4500

m1r-C powerGrip Throughbolt with big washer DIN 9021, stainless steel A4/316

EDELSTAHL INOX A4 1.4401 / 1.4404 316

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth / reduced setting depth mm h_0 / $h_{0,red}$	Usable length / reduced setting depth mm t_{fix} / $t_{fix,red}$	Effective anchorage depth / reduced setting depth mm h_{ef} / $h_{ef,red}$	Box content FS	Outer carton SK	Quantity per pallet
3910808	8	80	65	10	48	100 51	300 22	18000

m2 Throughbolt, ETA Option 7

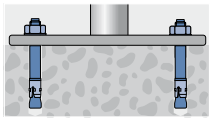
Option 7

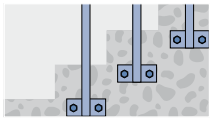
Features

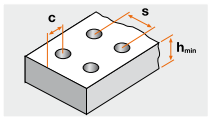
- European Technical Assessment Option 7 for non-cracked concrete
- GreenTec® corrosion protection - Extra long lasting
- Advanced corrosion resistance ≥ 750 hours in salt spray test
- Higher loads, higher security
- Improved clip design; higher loads and best expansion
- High-quality and stainless steel appearance
- Small edge and spacing distances
- Highest shear loads and bending moment for safe distance fixing
- Setting depth mark for correct installation
- Simple setting process due to low resistance to impacts
- Fast achievement of installation torque
- GreenTec® coating
- Pre installation or through fixing
- Indoor applications and unweathered outdoor applications

Applications

steel constructions, profiles, machines, high-racks, cable trays







Technical Data

	Concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Min. distance betw. anchors/ at edge distance mm s_{min}/c	Min. edge distance/at distance betw. anchors mm c_{min}/s	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M8	5.7	6.1	14.9	45/45	45/45	100	15	13
M10	7.6	10.1	31.9	50/50	50/50	120	30	17
M12	9.5	13.7	52.3	75/80	75/80	140	50	19
M16	11.9	15.7	118.6	100/190	130/190	160	100	24
M20	19.8	24.3	231.5	200/400	300/350	200	200	30

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to assessment / 1 kN ≈ 100 kg

Installation

m2 Throughbolt with washer DIN 125A

Green Tec®

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Box content FS	Outer carton SK	Quantity per pallet
1) 3200805	8	50	45	5	27	100 21	900 22	54000
1) 3200806	8	60	50	10	30	100 21	900 22	54000
3200808	8	80	65	10	50	100 41	300 12	18000
3200885	8	85	65	15	50	100 41	300 12	18000
3200809	8	95	65	25	50	100 51	300 22	18000
3200811	8	115	65	45	50	100 51	300 22	18000
3200816	8	165	65	95	50	50 51	150 22	9000
3201006	10	60	55	5	33	100 41	300 12	18000
1) 3201007	10	70	60	10	35	100 51	300 22	18000
3201009	10	95	80	15	58	100 51	300 22	18000
3201011	10	110	80	30	58	50 51	150 22	9000
3201012	10	125	80	45	58	50 51	150 22	9000
3201014	10	140	80	60	58	50 51	150 22	9000
3201016	10	160	80	80	58	50 51	150 22	9000
3201018	10	180	80	100	58	25 51	75 22	4500
1) 3201208	12	80	70	5	49	50 41	150 12	9000
3201211	12	110	90	15	68	50 51	150 22	9000
3201212	12	125	90	30	68	50 51	150 22	9000
3201214	12	145	90	50	68	25 41	75 12	4500
3201216	12	165	90	70	68	50 51	150 22	9000
3201218	12	185	90	90	68	50 51	150 22	9000
1) 3201609	16	90	80	5	50	25 51	75 22	3600
1) 3201611	16	115	100	10	70	25 51	75 22	3600
3201613	16	130	110	15	80	25 51	75 22	3600
3201614	16	145	110	30	80	25 51	75 22	3600
3201616	16	160	110	45	80	25 51	75 22	3600
3201618	16	180	110	65	80	25 51	75 22	3600
5) 1452013	20	130	110	10	76	20 51	60 22	2880
5) 1452016	20	160	130	30	100	20 51	60 22	2880

5) No GreenTec® corrosion protection
1) Not part of the assessment

m2 Throughbolt with washer DIN 125A in Mini-Box, bulk packed

Green Tec®

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Unit content	Quantity per pallet
3200080	8	80	65	10	50	300	24000
3200095	10	95	80	15	58	150	12000
3200110	12	110	90	15	68	100	8000

m2-C Throughbolt, ETA Option 7

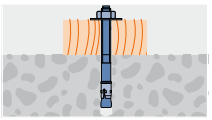
Option 7

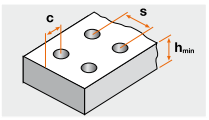
Features

- European Technical Assessment Option 7 for non-cracked concrete
- Higher loads, higher security
- Improved clip design; higher loads and best expansion
- With a big DIN 9021 washer for fixings with slotted holes and for wooden structures
- Small edge and spacing distances
- Highest shear loads and bending moment for safe distance fixing
- Setting depth mark for correct installation
- Simple setting process due to low resistance to impacts
- Fast achievement of installation torque
- Zinc plated > 5µm
- Pre installation or through fixing
- Indoor applications

Applications

wooden constructions, distance fixing



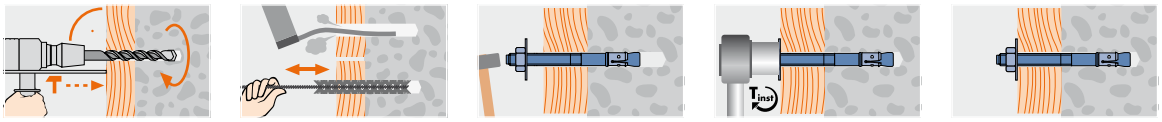


Technical Data

	Concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Min. distance betw. anchors/ at edge distance mm s_{min}/c	Min. edge distance/at distance betw. anchors mm c_{min}/s	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M8	5.7	6.1	14.9	45/45	45/45	100	15	13
M10	7.6	10.1	31.9	50/50	50/50	120	30	17
M12	9.5	13.7	52.3	75/80	75/80	140	50	19
M16	11.9	15.7	118.6	100/190	130/190	160	100	24

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to assessment / 1 kN ≈ 100 kg

Installation



m2-C Throughbolt with big washer DIN 9021

Article code	Plug and drill ∅ mm	Length mm	Drilling depth mm	Usable length mm	Effective anchorage depth mm	Box content	Outer carton	Quantity per pallet
	$d_{nom} = d_0$	L	h_0	t_{fix}	h_{ef}	FS	SK	
1) 3210805	8	50	45	5	27	100 41	300 12	18000
1) 3210806	8	60	50	10	30	100 41	300 12	18000
3210808	8	80	65	10	50	100 51	300 22	18000
3210816	8	165	65	95	50	50 51	150 22	9000
1) 3211007	10	70	60	10	35	100 51	300 22	18000
3211009	10	95	80	15	58	50 51	150 22	9000
3211011	10	110	80	30	58	25 41	75 12	4500
3211012	10	125	80	45	58	25 41	75 12	4500
3211016	10	160	80	80	58	25 51	75 22	4500
3211018	10	180	80	100	58	25 51	75 22	4500
1) 1471021	10	210	80	130	58	25 41	75 12	4500
3211211	12	110	90	15	68	25 41	75 12	4500
3211212	12	125	90	30	68	25 41	75 12	4500
3211216	12	165	90	70	68	25 51	75 22	4500
3211218	12	185	90	90	68	25 51	75 22	4500
1471220	12	200	90	105	68	25 51	75 22	4500
1471222	12	220	90	125	68	20 51	60 22	3600
1471224	12	240	90	145	68	20 51	60 22	3600
1471226	12	260	90	165	68	20 61	40 12	2400
1471228	12	280	90	185	68	10	-	-
1471230	12	300	90	205	68	15	-	-
1471233	12	330	90	235	68	10	-	-
1471236	12	360	90	265	68	15	-	-
1471622	16	220	110	105	80	10 51	30 22	1800
1471624	16	240	110	125	80	10 61	20 12	1200
1471626	16	260	110	145	80	10 61	20 12	1200
1471628	16	280	110	165	80	5	-	-
1471630	16	300	110	185	80	5	-	-
1471633	16	330	110	215	80	5	-	-
1471644	16	440	110	325	80	5	-	-

1) Not part of the assessment

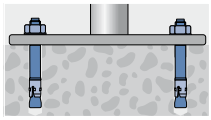
m2f Throughbolt, hot dip galvanised

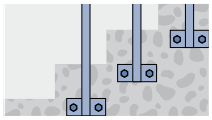
Features

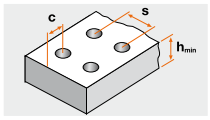
- Higher loads, higher security
- Improved clip design; higher loads and best expansion
- Torque controlled expansion
- Small edge and spacing distances
- Highest shear loads and bending moment for safe distance fixing
- Setting depth mark for correct installation
- Simple setting process due to low resistance to impacts
- Fast achievement of installation torque
- Hot dip galvanised > 40µm
- Pre installation or through fixing
- Indoor and outdoor applications

Applications

cable trays, railings, steel constructions, machines, high-racks, profiles





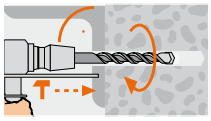


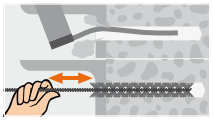
Technical Data

	Concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Min. distance betw. anchors/ at edge distance mm s_{min}/c	Min. edge distance/at distance betw. anchors mm c_{min}/s	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M8	5.7	6.1	14.9	45/45	45/45	100	15	13
M10	7.6	10.1	31.9	50/50	50/50	120	30	17
M12	9.5	13.7	52.3	75/80	75/80	140	50	19
M16	11.9	15.7	118.6	100/190	130/190	160	100	24
M20	19.8	24.3	231.5	200/400	300/350	200	200	30

The partial safety factors of the resistances regulated in the zinc plated m2 assessment as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to assessment / 1 kN ≈ 100 kg

Installation





Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Box content FS	Outer carton SK	Quantity per pallet
3400805	8	50	45	5	27	100 21	900 22	54000
3400806	8	60	50	10	30	100 21	900 22	54000
3400808	8	80	65	10	50	100 41	300 12	18000
3400809	8	95	65	25	50	100 51	300 22	18000
3400811	8	115	65	45	50	100 51	300 22	18000
3401006	10	60	55	5	33	100 41	300 12	18000
3401007	10	70	60	10	35	100 51	300 22	18000
3401009	10	95	80	15	58	100 51	300 22	18000
3401011	10	110	80	30	58	50 51	150 22	9000
3401012	10	125	80	45	58	50 51	150 22	9000
3401014	10	140	80	60	58	50 51	150 22	9000
3401016	10	160	80	80	58	50 51	150 22	9000
3401018	10	180	80	100	58	25 51	75 22	4500
3401208	12	80	70	5	49	50 41	150 12	9000
3401211	12	110	90	15	68	50 51	150 22	9000
3401212	12	125	90	30	68	50 51	150 22	9000
3401214	12	145	90	50	68	25 41	75 12	4500
3401216	12	165	90	70	68	50 51	150 22	9000
3401218	12	185	90	90	68	50 51	150 22	9000
3401609	16	90	80	5	50	25 51	75 22	3600
3401611	16	115	100	10	70	25 51	75 22	3600
3401613	16	130	110	15	80	25 51	75 22	3600
3401614	16	145	110	30	80	25 51	75 22	3600
3401616	16	160	110	45	80	25 51	75 22	3600
3402016	20	160	130	30	100	20 51	60 22	2880

m2f Throughbolt with washer DIN 125A, hot dip galvanised

m2r Throughbolt, stainless steel A4/316, ETA Option 7

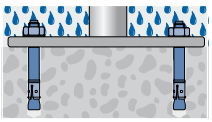
Option 7

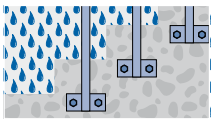
Features

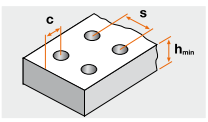
- European Technical Assessment Option 7 for non-cracked concrete
- Higher loads, higher security
- Improved clip design; higher loads and best expansion
- Torque controlled expansion
- Highest shear loads and bending moment for safe distance fixing
- Setting depth mark for correct installation
- Simple setting process due to low resistance to impacts
- Stainless steel A4/316
- Pre installation or through fixing
- Indoor and outdoor applications

Applications

façades, cable trays, railings, steel constructions, machines, high-racks, profiles





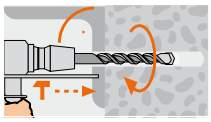


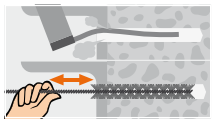
Technical Data

	Concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Min. distance betw. anchors/ at edge distance mm s_{min}/c	Min. edge distance/at distance betw. anchors mm c_{min}/s	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M8	5.7	7.0	16.1	45/45	45/45	100	15	13
M10	7.6	11.2	32.2	55/55	55/55	120	30	17
M12	11.9	16.1	56.4	75/75	75/75	140	50	19
M16	14.3	30.1	142.8	100/190	130/190	160	140	24

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to assessment / 1 kN ≈ 100 kg

Installation





Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Box content FS	Outer carton SK	Quantity per pallet
1) 3300805	8	50	45	5	27	100 21	900 22	54000
1) 3300806	8	60	50	10	30	100 21	900 22	54000
3300808	8	80	65	10	50	100 41	300 12	18000
3300885	8	85	65	15	50	100 41	300 12	18000
3300809	8	95	65	25	50	100 51	300 22	18000
3300811	8	115	65	45	50	100 51	300 22	18000
1) 3301006	10	60	55	5	33	100 41	300 12	18000
1) 3301007	10	70	60	10	35	100 51	300 22	18000
3301009	10	95	80	15	58	100 51	300 22	18000
3301011	10	110	80	30	58	50 51	150 22	9000
3301012	10	125	80	45	58	50 51	150 22	9000
3301014	10	140	80	60	58	50 51	150 22	9000
3301016	10	160	80	80	58	50 51	150 22	9000
3301018	10	180	80	100	58	25 51	75 22	4500
1) 3301208	12	80	70	5	49	50 41	150 12	9000
3301211	12	110	90	15	68	50 51	150 22	9000
3301212	12	125	90	30	68	50 51	150 22	9000
3301214	12	145	90	50	68	25 41	75 12	4500
3301216	12	165	90	70	68	50 51	150 22	9000
3301218	12	185	90	90	68	50 51	150 22	9000
1) 3301611	16	115	100	10	70	25 51	75 22	3600
3301613	16	130	110	15	80	25 51	75 22	3600
3301614	16	145	110	30	80	25 51	75 22	3600
3301616	16	160	110	45	80	25 51	75 22	3600
3301618	16	180	110	65	80	25 51	75 22	3600

1) Not part of the assessment

m2r Throughbolt with washer DIN 125A, stainless steel A4/316

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Box content FS	Outer carton SK	Quantity per pallet
1) 3310806	8	60	50	10	30	100 41	300 12	18000
1) 3310808	8	80	65	10	50	100 51	300 22	18000
1) 3311007	10	70	60	10	35	100 51	300 22	18000
1) 3311009	10	95	80	15	58	50 51	150 22	9000

1) Not part of the assessment

m2r-C Throughbolt with big washer DIN 9021, stainless steel A4/316

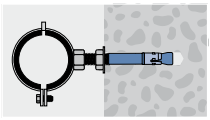
m2-I Internally Threaded Bolt

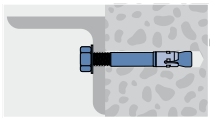
Features

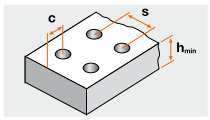
- Higher loads, higher security
- Improved clip design; higher loads and best expansion
- Suitable for metric screws and rods
- Zinc plated > 5µm
- Stainless steel A4/316
- Pre installation
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

pipes, ventilation systems, substructures, wooden structures





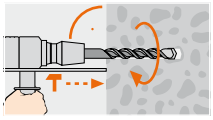


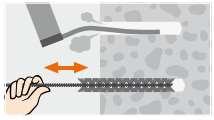
Technical Data

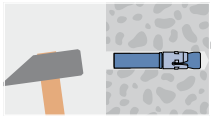
	Concrete C20/25 tension load (kN) m2-I	Concrete C20/25 tension load (kN) m2r-I	Distance betw. anchors mm s	Edge distance mm c	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}
M6	3.1	3.0	117	60	40	50	100	7
M8	3.5	3.4	141	71	47	60	120	10
M10	4.0	4.8	150	75	50	63	140	20
M12	5.4	6.5	177	89	60	75	160	50

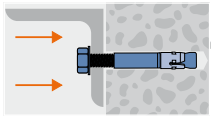
Safety factor of 3 is included / The technical data is only valid for single fixings without consideration of edge and anchor distances / 1 kN ≈ 100 kg

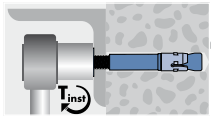
Installation











m2-I Internally Threaded Bolt

Article code	Thread d	Internal thread length mm L_{th}	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Effective anchorage depth mm h_{ef}	Minimal drive-in depth mm e_{min}	Box content FS	Outer carton SK	Quantity per pallet
1450645	M6	15	8	45	60	39	6	100 21	900 22	21600
1450850	M8	17	10	51	69	47	8	100 21	900 22	21600
1451055	M10	17	12	55	75	50	10	100 41	300 12	7200
1451268	M12	20	16	69	96	59	12	50 41	150 12	3600

m2r-I Internally Threaded Bolt, stainless steel A4/316

Article code	Thread d	Internal thread length mm L_{th}	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Effective anchorage depth mm h_{ef}	Minimal drive-in depth mm e_{min}	Box content FS	Outer carton SK	Quantity per pallet
14406455	M6	15	8	45	60	39	6	100 21	900 22	21600
14408505	M8	17	10	51	69	47	8	100 21	900 22	21600
14410555	M10	17	12	55	75	50	10	100 41	300 12	7200
14412685	M12	20	16	69	96	59	12	50 41	150 12	3600

MSL Heavy Duty Anchor, ETA Option 1

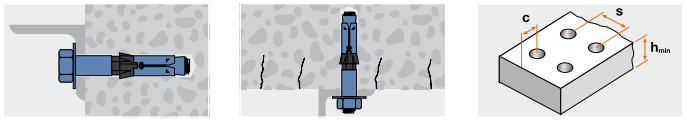
Features

- European Technical Assessment Option 1 for cracked and non-cracked concrete
- Assessment of resistance under fire exposure F30-F120
- The anchor may also be used under seismic influence for performance category C1 + C2 (M8-M24)
- Maximum safety with greater loading capacity
- Easy to disassemble
- Torque controlled expansion
- Rotation resistance stops the plug rotating in the drill hole
- Optimal expansion guaranteed by the coupling of the cone and body
- Uniform expansion
- Zinc plated > 5µm
- Through fixing
- Indoor applications

Option 1 | F30-120 | C1 | C2 | NEW GENERATION

Applications

machines, cable trays, pipes, gates, substructures, railings

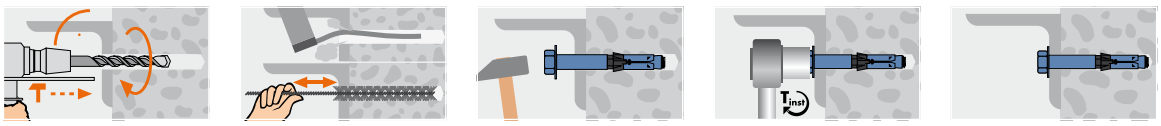


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Tension load (kN) C1	Tension load (kN) C2	Concrete C20/25 shear load (kN) $c \geq 10xh_{ef}$	Bending moment (Nm)	Min. distance betw. anchors/at edge distance mm s_{min}/c	Min. edge distance/ at distance betw. anchors mm c_{min}/s	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M6	7.7	4.3	3.2	-	8	7	50/75	50/75	100	10	10
M8	10.9	5.7	5.7	5.8	14.9	17	60/90	60/90	120	20	13
M10	13.2	7.6	7.6	9.7	24	34	70/100	70/100	140	45	17
M12	19.8	11.9	11.9	9.7	28.6	60	80/150	80/150	180	80	19
M16	23.6	16.9	16.9	25.1	55.4	150	100/200	100/200	200	150	24
M20	33.6	23.9	23.9	41.7	71.4	310	125/250	125/250	250	170	30

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / 1 kN ≈ 100 kg

Installation



MSL-S Heavy Duty Anchor with hexagon screw

Article code	Thread d	Plug and drill ∅ mm $d_{nom} = d_0$	Usable length mm t_{fix}	Drilling depth mm h_0	Effective anchorage depth mm h_{ef}	Length mm L	Box content FS	Outer carton SK	Quantity per pallet
12801001	M6	10	10	75	49	70	50 31	300 22	18000
12801002	M6	10	20	75	49	80	50 31	300 22	18000
12801005	M6	10	50	75	49	110	50 31	300 22	18000
12801201	M8	12	10	85	59	80	50 41	150 12	9000
12801202	M8	12	20	85	59	90	25 31	150 22	9000
12801205	M8	12	50	85	59	120	25 31	150 22	9000
12801501	M10	15	10	95	67	90	25 31	150 22	9000
12801502	M10	15	20	95	67	100	25 31	150 22	9000
12801505	M10	15	50	95	67	130	25 41	75 12	4500
12801510	M10	15	100	95	67	180	25 51	75 22	4500
12801801	M12	18	10	115	88	110	20 31	120 22	7200
12801802	M12	18	25	115	88	125	20 41	60 12	3600
12801805	M12	18	50	115	88	150	20 51	60 22	3600
12801810	M12	18	100	115	88	200	10 41	30 12	1800
12802401	M16	24	10	130	99	125	10 41	30 12	1800
12802402	M16	24	25	130	99	140	10 51	30 22	1800
12802405	M16	24	50	130	99	165	10 51	30 22	1800
12802816	M20	28	10	160	125	160	5 41	15 12	900
12802818	M20	28	30	160	125	180	5 41	15 12	900
12802821	M20	28	60	160	125	210	5 41	15 12	900
12802825	M20	28	100	160	125	250	5 61	10 12	600

MSL-B Heavy Duty Anchor with threaded bolt and nut

Article code	Thread d	Plug and drill ∅ mm $d_{nom} = d_0$	Usable length mm t_{fix}	Drilling depth mm h_0	Effective anchorage depth mm h_{ef}	Length mm L	Box content FS	Outer carton SK	Quantity per pallet
12901001	M6	10	10	75	49	70	50 31	300 22	18000
12901002	M6	10	20	75	49	80	50 31	300 22	18000
12901005	M6	10	50	75	49	110	50 31	300 22	18000
12901202	M8	12	20	85	59	90	25 31	150 22	9000
12901205	M8	12	50	85	59	120	25 31	150 22	9000
12901502	M10	15	20	95	67	100	25 31	150 22	9000
12901505	M10	15	50	95	67	130	25 41	75 12	4500
12901510	M10	15	100	95	67	180	25 51	75 22	4500
12901801	M12	18	10	115	88	110	20 31	120 22	7200
12901802	M12	18	25	115	88	125	20 41	60 12	3600
12901805	M12	18	50	115	88	150	20 51	60 22	3600
12901810	M12	18	100	115	88	200	10 41	30 12	1800
12902401	M16	24	10	130	99	125	10 41	30 12	1800
12902402	M16	24	25	130	99	140	10 51	30 22	1800
12902405	M16	24	50	130	99	165	10 51	30 22	1800
12902410	M16	24	100	130	99	215	10 51	30 22	1800
12902818	M20	28	30	160	125	180	5 41	15 12	900
12902821	M20	28	60	160	125	210	5 41	15 12	900
12902825	M20	28	100	160	125	250	5 61	10 12	600

MSL-SK Heavy Duty Anchor with countersunk head

Article code	Thread d	Plug and drill ∅ mm $d_{nom} = d_0$	Usable length mm t_{fix}	Drilling depth mm h_0	Effective anchorage depth mm h_{ef}	Length mm L	Head ∅ mm d_k	Box content FS	Outer carton SK	Quantity per pallet
12701504	M10	15	27	95	67	100	26	25 31	150 22	9000
12701803	M12	18	33	115	88	125	31	20 41	60 12	3600

MCS Concrete screw, ETA Option 1/Part 6

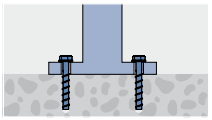
Features

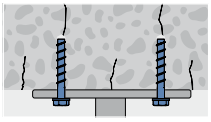
- European Technical Assessment Option 1 for cracked and non-cracked concrete
- ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications and in prestressed hollow core slabs
- Resistance under fire exposure F120 is part of the assessment
- The anchor may also be used under seismic influence for performance category C1 + C2
- Automatic hole cleaning with the innovative 2in1 Hollow Drill Bit (part of the assessment Ø8-14)
- User-friendly, time-saving installation
- 3 Setting depths
- Allows adjustment or dismantling
- All possible head version in range
- Small edge and spacing distances
- High loads
- Guarantees a clean and uniform appearance
- Through fixing
- Indoor applications

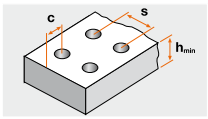
Option 1 | Teil/Part 6 | F120 | C1 | C2 | 2in1

Applications

railings, hand-rails, consoles, profiles, substructures, steel constructions, wooden constructions, ventilation systems, pipes, high-racks





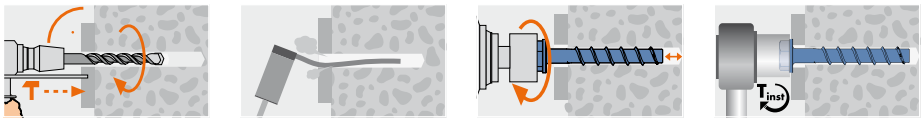


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Non-cracked concrete C20/25 shear load (kN)	Cracked concrete C20/25 shear load (kN)	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}	Clearance hole in fixture mm d_f	Installation torque (Nm) T_{inst}	Wrench size SW	Drive
Ø 5	0.6	0.6	2.0	2.0	35	35	80	7	8	10	T25 / T30*
Ø 6	0.6/1.9/4.3	0.6/1.0/1.9	3.2/4.0/4.0	2.4/2.8/4.0	35/40/40	35/40/40	80/80/80	8	10	13	T30
Ø 8	3.6/5.7/7.6	2.4/4.3/5.7	4.9/6.6/8.8	3.4/4.6/6.1	40/50/50	40/50/50	80/80/80	12	20	13	T40
Ø 10	5.7/9.5/12.4	4.3/7.6/9.2	6.6/19.4/19.4	4.6/15.2/18.4	50/50/50	50/50/50	80/90/102	14	40	15	T50
Ø 12	7.6/12.8/16.8	5.7/9.0/11.7	8.3/24.0/24.0	5.8/18.0/23.5	50/50/70	50/50/70	80/101/120	16	60	17	-
Ø 14	10.3/16.4/20.7	7.2/11.5/14.5	10.3/32.0/32.0	7.2/23.0/28.9	50/70/70	50/70/70	87/119/138	18	80	21	-

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to assessment / 1 kN ≈ 100 kg / European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50) / ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6) / * Concrete Screw with pan head

Installation



MCS-S Concrete Screw with hexagon head with washer, zinc flake-coated steel

Article code	Drill ∅ mm	Length mm	Length of screw in building material mm	Drilling depth mm	Usable length mm	Head ∅ mm	Box content		Outer carton		Quantity per pallet
	d_0	L	h_{nom1} / h_{nom2} / h_{nom3}	$h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	t_{fix1} / t_{fix2} / t_{fix3}	d_k	FS		SK		
5500504	5	40	35/-/-	40/-/-	5/-/-	12.5	100	21	900	22	54000
5500505	5	50	35/-/-	40/-/-	15/-/-	12.5	100	21	900	22	54000
5500506	5	60	35/-/-	40/-/-	25/-/-	12.5	100	21	900	22	54000
5500604	6	40	35/-/-	40/-/-	5/-/-	15	100	21	900	22	32400
5500605	6	50	35/40/-	40/45/-	15/10/-	15	100	31	600	22	36000
5500606	6	60	35/40/55	40/45/60	25/20/5	15	100	31	600	22	21600
5500608	6	80	35/40/55	40/45/60	45/40/25	15	100	31	600	22	36000
5500610	6	100	35/40/55	40/45/60	65/60/45	15	100	31	600	22	21600
5500805	8	50	45/-/-	55/-/-	5/-/-	16	50	31	300	22	18000
5500806	8	60	45/55/-	55/65/-	15/5/-	16	50	31	300	22	18000
5500807	8	70	45/55/65	55/65/75	25/15/5	16	50	31	300	22	10800
5500808	8	80	45/55/65	55/65/75	35/25/15	16	50	31	300	22	10800
5500809	8	90	45/55/65	55/65/75	45/35/25	16	50	31	300	22	10800
5500810	8	100	45/55/65	55/65/75	55/45/35	16	50	41	150	12	9000
5500812	8	120	45/55/65	55/65/75	75/65/55	16	50	41	150	12	9000
5500814	8	140	45/55/65	55/65/75	95/85/75	16	50	41	150	12	9000
5501006	10	60	55/-/-	65/-/-	5/-/-	20	50	41	150	12	9000
5501007	10	70	55/-/-	65/-/-	15/-/-	20	50	41	150	12	9000
5501008	10	80	55/75/-	65/85/-	25/5/-	20	50	41	150	12	9000
5501009	10	90	55/75/85	65/85/95	35/15/5	20	50	41	150	12	5400
5501010	10	100	55/75/85	65/85/95	45/25/15	20	50	51	150	22	5400
5501012	10	120	55/75/85	65/85/95	65/45/35	20	50	51	150	22	5400
5501014	10	140	55/75/85	65/85/95	85/65/55	20	50	51	150	22	5400
5501015	10	150	55/75/85	65/85/95	95/75/65	20	50	51	150	22	5400
5501016	10	160	55/75/85	65/85/95	105/85/75	20	50	51	150	22	5400
11) 5501018	10	180	55/75/85	65/85/95	125/105/95	20	25	51	75	22	2700
11) 5501020	10	200	55/75/85	65/85/95	145/125/115	20	25	51	75	22	2700
11) 5501024	10	240	55/75/85	65/85/95	185/165/155	20	15		-		-
11) 5501028	10	280	55/75/85	65/85/95	225/205/195	20	15		-		-
11) 5501032	10	320	55/75/85	65/85/95	265/245/235	20	15		-		-
11) 5501036	10	360	55/75/85	65/85/95	305/285/275	20	15		-		-
5501208	12	80	65/-/-	75/-/-	15/-/-	23.5	25	31	150	22	5400
5501211	12	110	65/85/100	75/95/110	45/25/10	23.5	25	31	150	22	5400
5501213	12	130	65/85/100	75/95/110	65/45/30	23.5	25	41	75	12	4500
5501215	12	150	65/85/100	75/95/110	85/65/50	23.5	25	41	75	12	4500
5501408	14	80	75/-/-	85/-/-	5/-/-	28.25	25	41	75	12	4500
5501411	14	110	75/100/-	85/110/-	35/10/-	28.25	25	41	75	12	2700
5501413	14	130	75/100/115	85/110/125	55/30/15	28.25	25	51	75	22	2700
5501415	14	150	75/100/115	85/110/125	75/50/35	28.3	25	51	75	22	2700

11) Washer DIN440

MCS-SK Concrete Screw with countersunk head

Article code	Drill ∅ mm	Length mm	Length of screw in building material mm	Drilling depth mm	Usable length mm	Head ∅ mm	Box content		Outer carton		Quantity per pallet
	d_0	L	h_{nom1} / h_{nom2} / h_{nom3}	$h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	t_{fix1} / t_{fix2} / t_{fix3}	d_k	FS		SK		
5510504	5	40	35/-/-	40/-/-	5/-/-	12	100	21	900	22	54000
5510505	5	50	35/-/-	40/-/-	15/-/-	12	100	21	900	22	54000
5510506	5	60	35/-/-	40/-/-	25/-/-	12	100	21	900	22	54000
5510604	6	40	35/-/-	40/-/-	5/-/-	13	100	21	900	22	54000
5510605	6	50	35/40/-	40/45/-	15/10/-	13	100	31	600	22	36000
5510606	6	60	35/40/55	40/45/60	25/20/5	13	100	31	600	22	36000
5510608	6	80	35/40/55	40/45/60	45/40/25	13	100	31	600	22	21600
5510610	6	100	35/40/55	40/45/60	65/60/45	13	100	31	600	22	21600
5510612	6	120	35/40/55	40/45/60	85/80/65	13	100	31	600	22	21600
5510614	6	140	35/40/55	40/45/60	105/100/85	13	100	41	300	12	10800
5510808	8	80	45/55/65	55/65/75	35/25/15	19.5	50	31	300	22	10800
5511009	10	90	55/75/85	65/85/95	35/15/5	21.5	50	41	150	12	9000

MCS-P Concrete Screw with pan head

Article code	Drill ∅ mm	Length mm	Length of screw in building material mm	Drilling depth mm	Usable length mm	Head ∅ mm	Box content		Outer carton		Quantity per pallet
	d_0	L	h_{nom1} / h_{nom2} / h_{nom3}	$h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	t_{fix1} / t_{fix2} / t_{fix3}	d_k	FS		SK		
5520504	5	40	35/-/-	40/-/-	5/-/-	14	100	21	900	22	54000
5520604	6	40	35/-/-	40/-/-	5/-/-	14.4	100	21	900	22	54000
5520605	6	50	35/40/-	40/45/-	15/10/-	14.4	100	31	600	22	36000
5520606	6	60	35/40/55	40/45/60	25/20/5	14.4	100	31	600	22	36000
5520608	6	80	35/40/55	40/45/60	45/40/25	14.4	100	31	600	22	36000
5520610	6	100	35/40/55	40/45/60	65/60/45	14.4	100	31	600	22	21600

MCS-PG Concrete Screw with large pan head

Article code	Drill ∅ mm	Length mm	Length of screw in building material mm	Drilling depth mm	Usable length mm	Head ∅ mm	Box content		Outer carton		Quantity per pallet
	d_0	L	h_{nom1} / h_{nom2} / h_{nom3}	$h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	t_{fix1} / t_{fix2} / t_{fix3}	d_k	FS		SK		
5530604	6	40	35/-/-	40/-/-	5/-/-	18	100	21	900	22	32400
5530606	6	60	35/40/55	40/45/60	25/20/5	18	100	21	900	22	32400

MCS-I Concrete Screw with countersunk socket head with metric internal thread, M8-M10

Article code	Drill ∅ mm	Length mm	Length of screw in building material mm	Drilling depth mm	Usable length mm	Head ∅ mm	Box content		Outer carton		Quantity per pallet
	d_0	L	h_{nom1} / h_{nom2} / h_{nom3}	$h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	t_{fix1} / t_{fix2} / t_{fix3}	d_k	FS		SK		
5540603	6	35	35/-/-	40/-/-	0/-/-	25	50	41	150	12	9000
5540605	6	55	35/40/55	40/45/60	20/15/0	25	50	41	150	12	9000

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCSr Concrete Screw, stainless steel A4/316, ETA Option 1/Part 6

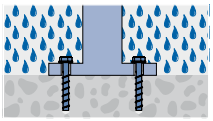
Features

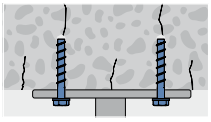
- European Technical Assessment Option 1 for cracked and non-cracked concrete
- ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications and in prestressed hollow core slabs
- Resistance under fire exposure F120 is part of the assessment
- The anchor may also be used under seismic influence for performance category C1 + C2
- Automatic hole cleaning with the innovative 2in1 Hollow Drill Bit (part of the assessment Ø8-14)
- User-friendly, time-saving installation
- 3 Setting depths
- Allows adjustment or dismantling
- All possible head version in range
- Small edge and spacing distances
- High loads
- Guarantees a clean and uniform appearance
- Through fixing
- Outdoor applications

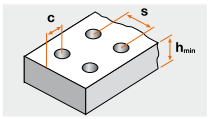
Option 1 | Teil/Part 6 | F120 | C1 | C2 | 2in1

Applications

railings, hand-rails, consoles, profiles, substructures, steel constructions, wooden constructions, ventilation systems, pipes, high-racks





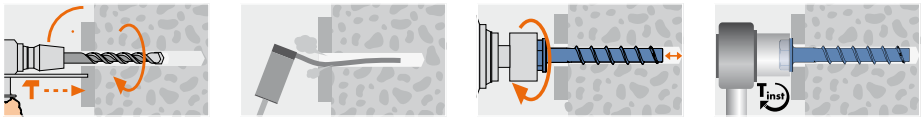


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Non-cracked concrete C20/25 shear load (kN)	Cracked concrete C20/25 shear load (kN)	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}	Clearance hole in fixture mm d_f	Installation torque (Nm) T_{inst}	Wrench size SW	Drive
Ø 6	0.6/1.9/4.3	0.6/1.0/1.9	3.2/4.0/4.0	2.4/2.8/4.0	35/40/40	35/40/40	80/80/80	8	10	13	T30
Ø 8	3.6/5.7/7.6	2.4/4.3/5.7	4.9/6.6/8.8	3.4/4.6/6.1	40/50/50	40/50/50	80/80/80	12	20	13	T40
Ø 10	5.7/9.5/12.4	4.3/7.6/9.2	6.6/19.4/19.4	4.6/15.2/18.4	50/50/50	50/50/50	80/90/102	14	40	15	T50

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to assessment / 1 kN ≈ 100 kg / European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50) / ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

Installation



MCSr-S Concrete Screw with hexagon head with washer, stainless steel A4/316

Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Head ∅ mm d_k	Box content FS	Outer carton SK	Quantity per pallet
5600605	6	50	35/40/-	40/45/-	15/10/-	15	100 31	600 22	36000
5600606	6	60	35/40/55	40/45/60	25/20/5	15	100 31	600 22	21600
5600807	8	70	45/55/65	55/65/75	25/15/5	16	50 31	300 22	10800
5600808	8	80	45/55/65	55/65/75	35/25/15	16	50 31	300 22	10800
5601009	10	90	55/75/85	65/85/95	35/15/5	20	50 41	150 12	5400
5601010	10	100	55/75/85	65/85/95	45/25/15	20	50 51	150 22	5400
5601012	10	120	55/75/85	65/85/95	65/45/35	20	50 51	150 22	5400

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCSr-SK Concrete Screw with countersunk head, stainless steel A4/316

Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Head ∅ mm d_k	Box content FS	Outer carton SK	Quantity per pallet
5610605	6	50	35/40/-	40/45/-	15/10/-	13	100 31	600 22	36000
5610606	6	65	35/40/55	40/45/60	30/25/10	13	100 31	600 22	36000
5610608	6	85	35/40/55	40/45/60	50/45/30	13	100 31	600 22	36000
5610610	6	105	35/40/55	40/45/60	70/65/50	13	100 31	600 22	21600
5610808	8	80	45/55/65	55/65/75	35/25/15	19	50 31	300 22	10800
5611009	10	90	55/75/85	65/85/95	35/15/5	21.5	50 41	150 12	9000

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCSr-P Concrete Screw with pan head, stainless steel A4/316

Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Head ∅ mm d_k	Box content FS	Outer carton SK	Quantity per pallet
5620605	6	50	35/40/-	40/45/-	15/10/-	15	100 31	600 22	36000
5620606	6	60	35/40/55	40/45/60	25/20/5	15	100 31	600 22	36000
5620608	6	80	35/40/55	40/45/60	45/40/25	15	100 31	600 22	21600
5620610	6	100	35/40/55	40/45/60	65/60/45	15	100 31	600 22	21600

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

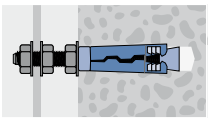
MSS Shield Anchor

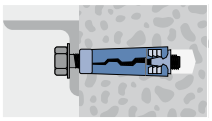
Features

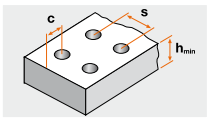
- Torque controlled expansion
- Zinc plated > 5µm
- Pre installation
- Indoor applications

Applications

pipes, steel constructions





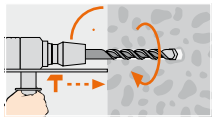


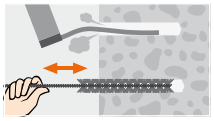
Technical Data

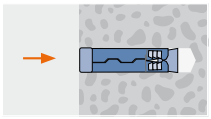
	Concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Distance betw. anchors mm s	Distance to edge tension load mm c	Distance to edge shear load mm c	Minimum thickness of concrete member mm h_{min}	Installation torque concrete (Nm) T_{inst}	Wrench size SW
M6	2.7	4.6	7.0	120	80	100	70	6.5	10
M8	4.8	8.7	17.1	150	100	120	80	15	13
M10	6.2	13.7	34.2	180	120	160	100	27	17
M12	9.7	19.9	60	250	160	180	120	50	19
M16	13.0	35.9	152	290	190	260	190	120	24

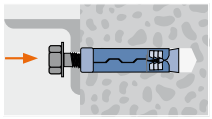
Safety factor: breakage of concrete of 3 is included / of steel of 2.2 is included / The technical data is only valid for single fixings without consideration of edge and anchor distances / 1 kN ≈ 100 kg

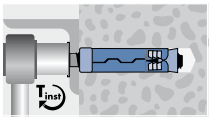
Installation

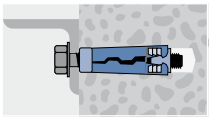












Article code	Internal thread d	Drill ∅ mm d_0	Clearance hole in fixture mm d_f	Length mm L	Drilling depth mm h_0	Box content FS	Outer carton SK
1240604	M6	11	7	45	50	50 11	600 22
1240805	M8	13	9	50	55	50 21	450 22
1241006	M10	16	12	60	65	50 31	300 22
1241207	M12	18	14	75	80	25 31	150 22
1241611	M16	25	18	115	120	10 21	90 22

MSS Shield Anchor

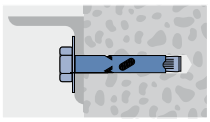
MHA Sleeve Anchor

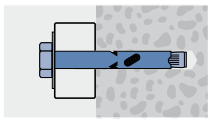
Features

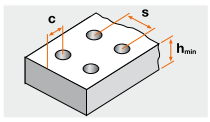
- Small edge and spacing distances
- Torque controlled expansion
- Zinc plated > 5µm
- Through fixing
- Indoor applications

Applications

steel constructions, profiles





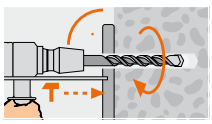


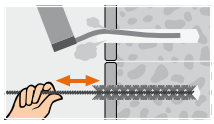
Technical Data

	Concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Bending moment (Nm)	Distance betw. anchors mm s	Edge distance mm c	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size MHA-S SW	Wrench size MHA-B SW
M6	2	3.2	4.2	105	55	70	8	10	10
M8	3	3.5	5.3	120	60	80	15	13	13
M10	5	6.0	12.8	150	75	100	30	17	15
M12	7.5	8.5	25	225	115	150	40	-	19

Safety factor of 3 is included / 1 kN ≈ 100 kg

Installation





MHA-S Sleeve Anchor with hexagon screw

Article code	Drill ∅ mm d_0	Length mm L	Thread d	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Box content FS	Outer carton SK
1590804	8	45	M6	55	5	35	50 11	600 22
1590806	8	60	M6	55	20	35	100 21	900 22
1591006	10	60	M8	60	15	40	50 21	450 22
1591008	10	80	M8	60	35	40	50 31	300 22
1591207	12	70	M10	70	15	50	50 31	300 22
1591210	12	100	M10	70	45	50	25 31	150 22

MHA-B Sleeve Anchor with threaded bolt and nut

Article code	Drill ∅ mm d_0	Length mm L	Thread d	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Box content FS	Outer carton SK
1580804	8	40	M6	50	5	30	100 11	1200 22
1580806	8	65	M6	55	25	35	50 11	600 22
1581005	10	50	M8	60	5	40	50 11	600 22
1581007	10	75	M8	60	30	40	50 21	450 22
1581009	10	95	M8	60	50	40	25 11	300 22
1581012	10	125	M8	60	80	40	25 21	225 22
1581014	10	145	M8	60	100	40	25 31	150 22
1581207	12	75	M10	70	15	50	25 11	300 22
1581210	12	100	M10	70	40	50	20 11	240 22
1581213	12	130	M10	70	70	50	20 21	180 22
1581215	12	150	M10	70	90	50	20 31	120 22
1581606	16	65	M12	70	5	50	20 11	240 22
1581611	16	110	M12	95	25	75	10 11	120 22
1581614	16	145	M12	95	60	75	20 41	60 12
1581617	16	170	M12	95	85	75	15 41	45 12

MEA Drop in Anchor, ETA Option 7/Part 6

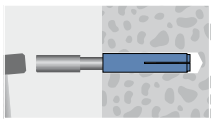
Option 7 | Teil/Part 6 | F120

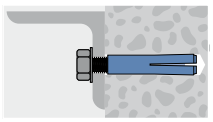
Features

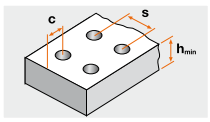
- European Technical Assessment Option 7 for non-cracked concrete
- ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications
- Resistance under fire exposure F120 is part of the assessment
- Use in reinforced or non reinforced concrete
- Suitable for metric screws and rods
- Quick and simple installation
- Low edge and anchor distances
- Short drilling depth
- Zinc plated > 5µm
- Stainless steel A4/316
- Pre installation

Applications

pipes, ventilation systems, cable trays





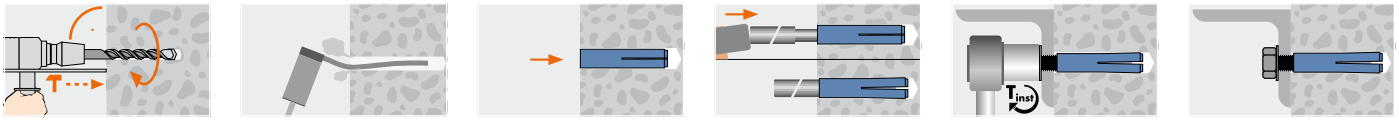


Technical Data

	Concrete C20/25 tension load (kN) ETA-001/Part 6	Concrete C20/25 tension load (kN) ETA Option 7	Concrete C20/25 tension load (kN)	Min. distance betw. anchors mm ETA-001/Part 6, s_{min}	Min. distance betw. anchors mm ETA Option 7, s_{min}	Min. edge distance mm ETA-001/Part 6, c_{min}	Min. edge distance mm ETA Option 7, c_{min}	Minimum thickness mm ETA-001/Part 6, h_{min}	Minimum thickness mm ETA Option 7, h_{min}	Installation torque (Nm) T_{inst}
MEA M6x25	2	5	-	120	120	110	90	100	100	4
MEA M8x25	0.9	-	-	100	-	50	-	100	-	8
MEA M8x30	2	3.5	-	130	90	140	120	100	100	8
MEA M8x40	-	6	-	-	120	-	80	-	100	8
MEA M10x25	1.5	-	-	110	-	55	-	100	-	15
MEA M10x30	3	5.5	-	150	150	60	90	100	100	15
MEA M10x40	4	7	-	120	120	90	140	120	120	15
MEA M12x25	2	-	-	200	-	100	-	100	-	35
MEA M12x50	3.5	10	-	130	150	140	175	140	140	35
MEA M12x50/D16	-	-	2) 9	-	-	-	-	-	-	35
MEA M16x65	6	12	-	140	200	125	120	160	160	60
MEAr M8x30	5	1)	-	60	60	95	95	100	100	8
MEAr M10x40	6	1)	-	100	100	135	135	130	130	15
MEAr M12x50	6	1)	-	120	120	165	165	140	140	35

Characteristic values according to assessment / 2) Not part of the assessment, Mungo lab tested / 1) See assessment / 1 kN ≈ 100 kg

Installation



MEA Drop in Anchor

Article code	ETA-001/Part 6	ETA Option 7	Internal thread d	Min. internal thread length mm L_{tmin}	Plug and drill ∅ mm $d_{nom} = d_0$	Drilling depth mm h_0	Box content	Outer carton	Quantity per pallet
1740625	■	■	M6	8	8	25	100	2000	120000
1740825	■		M8	10	10	25	100	1600	72000
1740830	■	■	M8	10	10	30	100	1600	72000
1740840		■	M8	12	10	40	100	1600	72000
1741025	■		M10	12	12	25	50	1000	36000
1741030	■	■	M10	12	12	30	50	1000	36000
1741040	■	■	M10	15	12	40	50	1000	36000
1741225	■		M12	11	15	25	50	500	28000
1741250	■	■	M12	16	15	50	50	500	20000
1) 1741251			M12	16	16	50	50	500	20000
1741665	■	■	M16	22	20	65	25	200	9000

#1741251 for use with diamond drill rigs and saws
1) Not part of the assessment

MEAr (E A4) Drop in Anchor, stainless steel A4/316

Article code	Internal thread d	Internal thread length mm L_{th}	Plug and drill ∅ mm $d_{nom} = d_0$	Drilling depth mm h_0	Box content FS	Outer carton SK	Quantity per pallet
1750830	M8	13	10	30	100 11	1200 22	72000
1751040	M10	15	12	40	50 11	600 22	36000
1751250	M12	18	15	50	50 21	450 22	27000

MEA-WZ Setting Tool for MEA with hand guard

Article code	For	Box content
1770625	M6 x 25	1
1770825	M8 x 25	1
1770830	M8 x 30	1
1770840	M8 x 40	1
1771025	M10 x 25	1
1771030	M10 x 30	1
1771040	M10 x 40	1
1771225	M12 x 25	1
1771250	M12 x 50	1
1771665	M16 x 65	1

MEAr-WZ Setting Tool for MEAr with hand guard

Article code	For	Box content
1780830	M8 x 30	1
1781040	M10 x 40	1
1781250	M12 x 50	1

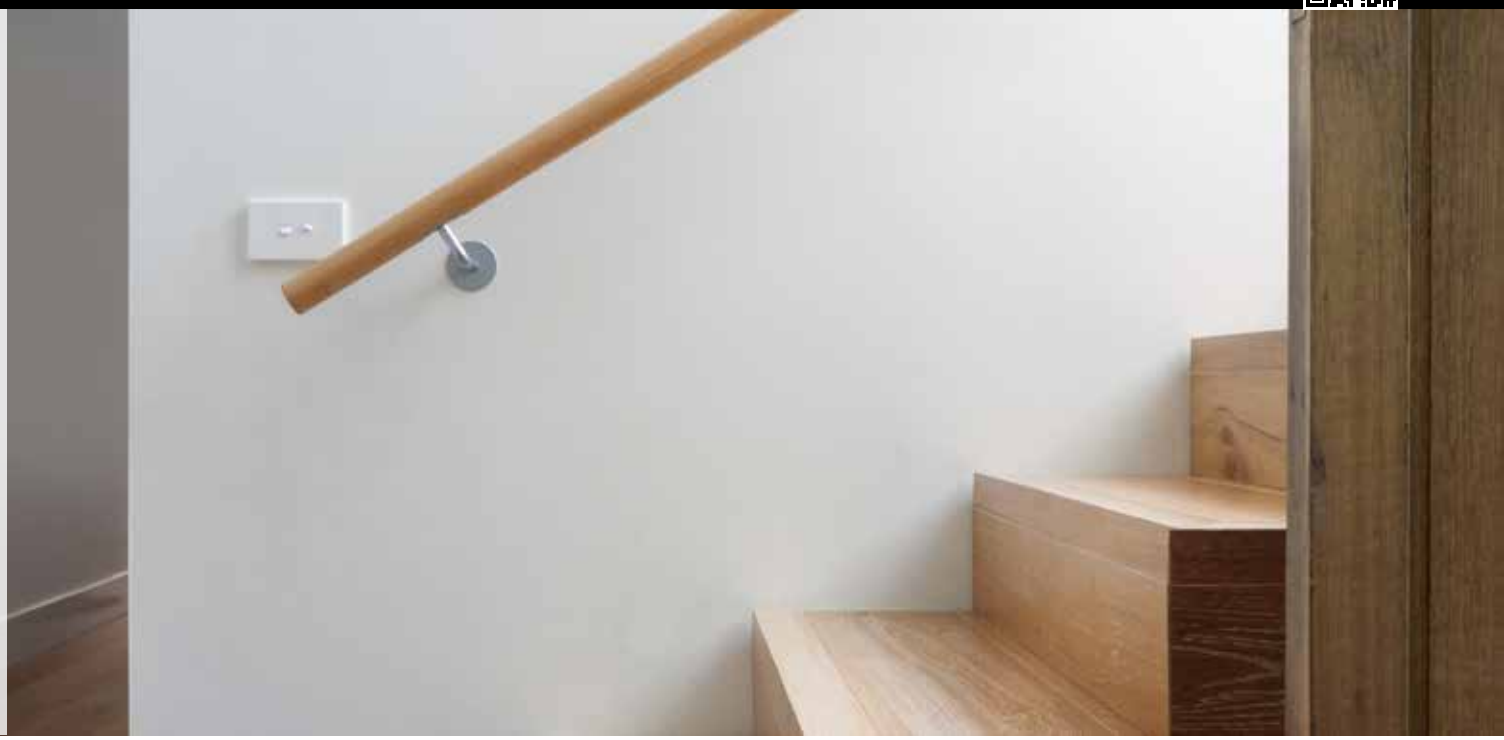
MEA-SDS Setting Tool for MEA, SDS-Plus

Article code	For	Box content
1772625	M6 x 25	1
1772825	M8 x 25	1
1772830	M8 x 30	1
1772840	M8 x 40	1
1772025	M10 x 25	1
1772030	M10 x 30	1
1772040	M10 x 40	1
1772225	M12 x 25	1
1772250	M12 x 50	1
1772665	M16 x 65	1

MEA-BB Stop Drill Bit

Article code	For	Drilling hole ∅ mm d_0	Drilling depth mm h_0	Box content
1773625	M6 x 25	8	25	1
1773825	M8 x 25	10	25	1
1773830	M8 x 30	10	30	1
1773840	M8 x 40	10	40	1
1773025	M10 x 25	12	25	1
1773030	M10 x 30	12	30	1
1773040	M10 x 40	12	40	1
1773225	M12 x 25	15	25	1
1773250	M12 x 50	15	50	1
1773251	M12 x 50	16	50	1
1773665	M16 x 65	20	65	1

MMD Brass Anchor

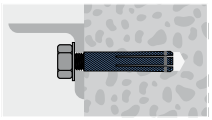


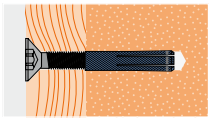
Features

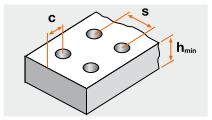
- Corrosion resistant
- Pre installation
- For light applications indoor and outdoor

Applications

substructures, rails





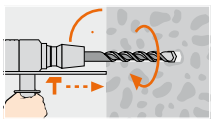


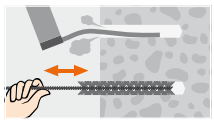
Technical Data

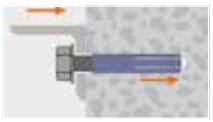
	Concrete C20/25 tension load (kN)	Brick tension load (kN)	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}
M5	0.7	0.55	50	35	30
M6	0.85	0.7	60	40	35
M8	1.5	1.2	65	45	40
M10	2.5	1.6	70	50	45
M12	3.5	2.0	75	55	50

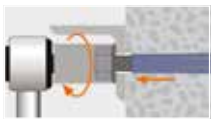
Safety factor of 3 is included / 1 kN ≈ 100 kg

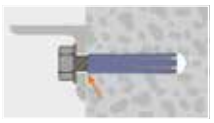
Installation











MMD Brass Anchor

Article code	Internal thread d	Internal thread length mm L_{th}	Plug and drill ∅ mm $d_{nom} = d_0$	Drilling depth mm h_0	Box content FS	Outer carton SK
1730005	M5	14	6	25	100 01	2400 22
1730006	M6	15	8	28	100 01	2400 22
1730008	M8	18	10	35	100 11	1200 22
1730010	M10	22	12	40	100 11	1200 22
1730012	M12	21	15	45	50 11	600 22

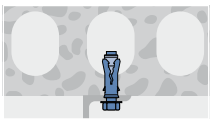
MHDA Hollow Ceiling Anchor

Features

- Suitable for screws or bolts with metric thread
- Zinc plated > 5µm
- Pre installation
- Indoor applications

Applications

pipes, ventilation systems, cable trays, substructures, gates



Technical Data

	Non-cracked concrete C40/50 tension load (kN) thickness of concrete member ≥25mm	Non-cracked concrete C40/50 tension load (kN) thickness of concrete member ≥30mm	Non-cracked concrete C40/50 tension load (kN) thickness of concrete member ≥40mm	Distance betw. anchors mm s	Edge distance mm c	Installation torque (Nm) T_{inst}
M6	1.2	1.6	-	300	150	10
M8	1.4	1.9	2.5	300	150	10
M10	2.0	3.0	4.0	300	150	20

Single fixing / Safety factor of 5 is included / 1 kN ≈ 100 kg

Installation

Article code	Internal thread d	Thread length mm l_s	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Box content FS	Outer carton SK
1300006	M6	11	10	37	50	100 11	1200 22
1300008	M8	14	12	43	60	50 11	600 22
1300010	M10	19	16	52	65	25 11	300 22

MHDA Hollow Ceiling Anchor

gv

MAN Ceiling Anchor, ETA Part 6

Teil/Part 6

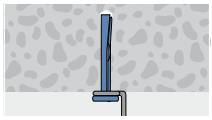
F120

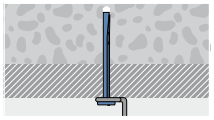
Features

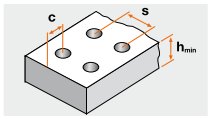
- Approved for multiple fixings of light weight suspended ceilings according to DIN 18168, also in cracked concrete
- Resistance under fire exposure F120 is part of the assessment
- Suitable for overhead fixings
- Simple setting process by flush hitting of overlaying pin
- For fast to install ceiling systems
- Head of ceiling anchor rests wide and covers neatly
- Top load values
- Zinc plated > 5µm / Stainless steel A4/316
- Through fixing
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

suspended ceilings, wire hanger, substructures, profiles, ventilation systems





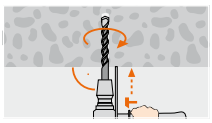


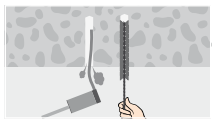
Technical Data

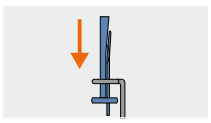
	Concrete C20/25 - C50/60 tension load (kN)	Bending moment (Nm)	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}
MAN	1.4	3.0	200	150	80
MANr	1.27	-	200	100	80

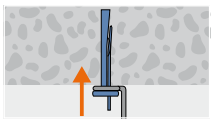
The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / 1 kN ≈ 100 kg

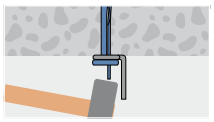
Installation

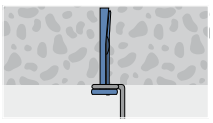












MAN Ceiling Anchor

Article code	Drill ∅ mm d_0	Drilling depth mm h_0	Length mm L	Usable length mm t_{fix}	Box content FS	Outer carton SK	Quantity per pallet
1127064	6	40	40	5	100 11	1200 22	72000
1127067	6	40	70	35	100 31	600 22	36000

Available in up to 35 mm usable length for applications with wooden slats

MANr (MND) Ceiling Anchor, stainless steel A4/316

Article code	Drill ∅ mm d_0	Drilling depth mm h_0	Length mm L	Usable length mm t_{fix}	Box content FS	Outer carton SK	Quantity per pallet
1127645	6	48	45	5	100 11	1200 22	72000

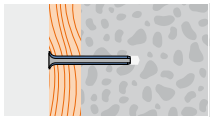
MEN Express Nail

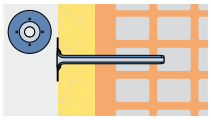
Features

- Economical installation
- No screw and plug required
- Through fixing with the Metal Disc, the MEN is appropriate for overhead installation of insulation
- Zinc plated > 5µm
- Through fixing
- Indoor applications

Applications

squared timbers, substructures, profiles



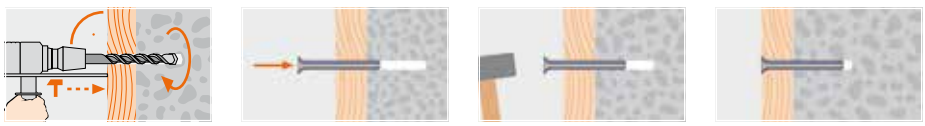


Technical Data

	Concrete C20/25 tension load (kN)	Brick tension load (kN)
MEN 5	0.3	-
MEN 6	0.7	0.5
MEN 8	1.0	0.8

Safety factor of 3 is included / 1 kN ≈ 100 kg / Perforated Brick: The pull-out values should be determined on the bases of the application as they are dependend on the pull-out values in the brick/block

Installation



MEN Express Nail

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Drilling depth mm h_0	Usable length mm t_{fix}	Effective anchorage depth mm h_{ef}	Box content FS	Outer carton SK	Quantity per pallet
1125026	5	26	30	3	23	100 01	2400 22	57600
1126030	6	30	35	3	27	100 01	2400 22	57600
1126060	6	60	40	30	30	100 11	2400 32	57600
1126080	6	80	40	50	30	100 21	1800 32	43200
1128070	8	70	50	30	40	100 31	1200 32	28800
1128090	8	90	50	50	40	100 31	1200 32	28800
1128110	8	110	50	70	40	100 41	900 32	21600
1128130	8	130	50	90	40	100 41	900 32	21600
1128150	8	150	50	110	40	100 41	900 32	21600
1128180	8	180	50	140	40	100 41	900 32	21600

MDB-M Metal Disc, Ø 38mm

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120867	38	9.0	metal	MNA-S 8 / MEN 8 / MRS	200 21	3600 32	86400

MDB-M Metal Disc, Ø 38mm, white

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120875	38	9.0	metal	MNA-S 8 / MEN 8 / MRS	200 21	3600 32	86400

MDB-M Metal Disc, Ø 70mm

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120860	70	8.5	metal	MNA-S 8 / MEN 8	100 31	1200 32	28800
1120862	70	10.5	metal	MNA-S 10 / MEN 8	100 31	1200 32	28800

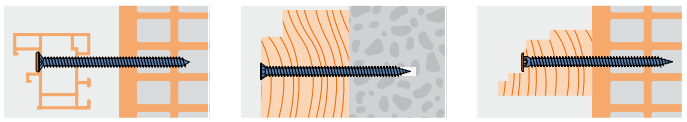
MRS Wall Screw

Features

- Only 6mm pre-drilling required
- User-friendly, time-saving installation
- Small edge and spacing distances
- Stress-free fastening
- Low torque required
- Also suitable for wood-wood connection
- MRS-U in combination with disc to fix ceiling insulation and acoustic insulation in concrete and masonry, also suitable for overhead installations
- Zinc plated > 5µm
- Through fixing
- Indoor applications

Applications

wooden constructions, windows, frames, ceiling insulation, acoustic insulation

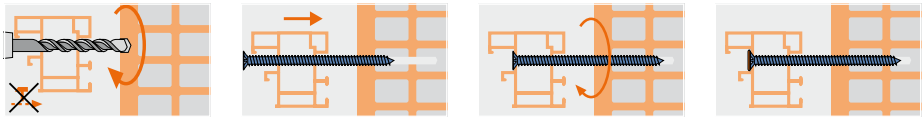


Technical Data

	Tension load (kN) edge distance > 30mm	Shear load (kN) edge distance > 30mm	Shear load (kN) edge distance > 60mm	Bending moment (Nm)	Installation torque (Nm) T_{inst}	Drilling hole ∅ mm d_0	Drilling depth mm h_0	Setting depth mm h_{nom}
MRS Concrete	1.2	0.8	1.6	17	20	6	40	30
MRS Brick	0.8	0.5	1.2	17	15	6	50	40
MRS Perforated Brick	0.2	0.2	0.5	17	10	6	70	60
MRS L'weight concrete	0.2	0.1	0.3	17	5	-	-	60

1 kN ≈ 100 kg / Safety factor of 5 is included / Rotating drill in perforated brick / No pre-drilling in lightweight concrete / Thickness of concrete member; screw length minus setting depth

Installation



MRS-H Wall Screw Wood with head Ø 8.3mm, T30

Article code	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
5137204	7.5	40	T30	100 21	900 22	32400
5137205	7.5	50	T30	100 21	900 22	32400
5137206	7.5	60	T30	100 21	900 22	32400
5137207	7.5	70	T30	100 21	900 22	32400
5137208	7.5	80	T30	100 21	900 22	32400
5137209	7.5	90	T30	100 21	900 22	32400
5137210	7.5	100	T30	100 41	900 32	32400
5137211	7.5	110	T30	50 21	450 22	16200
5137212	7.5	120	T30	50 21	450 22	16200
5137213	7.5	130	T30	50 21	450 22	16200
5137214	7.5	140	T30	50 21	450 22	16200
5137215	7.5	150	T30	50 21	450 22	16200
5137218	7.5	180	T30	50 41	450 32	16200
5137221	7.5	210	T30	50 41	450 32	16200
5137224	7.5	240	T30	50 41	450 32	16200
5137227	7.5	270	T30	50 61	300 32	10800
5137232	7.5	320	T30	50	-	5500

MRS-U Wall Screw Universal with head Ø 11.5mm, T30

Article code	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
5137104	7.5	40	T30	100 21	900 22	32400
5137105	7.5	50	T30	100 21	900 22	32400
5137106	7.5	60	T30	100 21	900 22	32400
5137107	7.5	70	T30	100 21	900 22	32400
5137108	7.5	80	T30	100 41	900 32	32400
5137109	7.5	90	T30	100 41	900 32	32400
5137110	7.5	100	T30	100 41	900 32	32400
5137111	7.5	110	T30	50 21	450 22	16200
5137112	7.5	120	T30	50 21	450 22	16200
5137113	7.5	130	T30	50 21	450 22	16200
5137114	7.5	140	T30	50 21	450 22	16200
5137115	7.5	150	T30	50 21	450 22	16200
5137118	7.5	180	T30	50 41	450 32	16200
5137121	7.5	210	T30	50 41	450 32	16200
5137124	7.5	240	T30	50 41	450 32	16200
5137127	7.5	270	T30	50 61	300 32	10800
5137132	7.5	320	T30	50	-	5500

AKT End Cap T30 for MRS-U/MRS-H

Article code	Shape	Colour	RAL	Box content FS	Outer carton SK	Quantity per pallet
1121046	flat	white	9010	200 ½	7200 22	172800
1121037	flat	light brown	1001	200 ½	7200 22	172800
1121047	flat	dark brown	8017	200 ½	7200 22	172800
1121087	flat	black	9005	200 ½	7200 22	172800
1121039	flat	grey	7001	200 ½	7200 22	172800

MDB-M Metal Disc, Ø 38mm

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120867	38	9.0	metal	MNA-S 8 / MEN 8 / MRS	200 21	3600 32	86400

MDB-M Metal Disc, Ø 38mm, white

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120875	38	9.0	metal	MNA-S 8 / MEN 8 / MRS	200 21	3600 32	86400

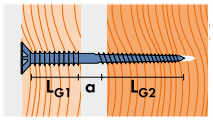
MDB Nylon Disc, white

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120865	45	8.5	Nylon	MNA-S 6/8 / MRS-U	100 31	1200 32	28800
1120877	60	8.5	Nylon	MNA-S 6/8 / MRS-U	100 51	600 32	14400

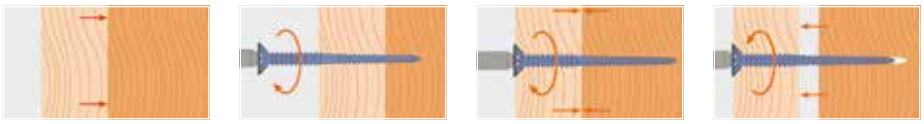
MJB Adjustable Screw

Features
- Continuously adjustable screw for wooden substructures
- Also suitable for wood-wood connection
- Stress-free fastening
- No drilling required
- Incl. 1 Bit per box
- Zinc plated > 5µm
- Through fixing
- Indoor applications

Applications
substructures



Installation



Article code	Screw ∅ mm d_s	Screw length mm L_s	Upper thread length mm L_{G1}	Adjustable part mm a	Lower thread length mm L_{G2}	Drive	Box content FS	Outer carton SK	Quantity per pallet
5153060	6	60	18	12	30	T25	100 11	2400 32	57600
5153070	6	70	18	22	30	T25	100 11	2400 32	57600
5153080	6	80	18	12	50	T25	100 21	1800 32	43200
5153090	6	90	18	22	50	T25	100 21	1800 32	43200
5153100	6	100	18	32	50	T25	100 21	1800 32	43200
5153110	6	110	18	42	50	T25	100 31	1200 32	28800
5153120	6	120	18	22	80	T25	100 41	900 32	21600
5153130	6	130	18	32	80	T25	100 41	900 32	21600
5153145	6	145	18	47	80	T25	100 41	900 32	21600

MJB Adjustable Screw T25

Article code	Shape	Colour	RAL	Box content FS	Outer carton SK	Quantity per pallet
1121048	flat	white	9010	200 ½	7200 22	172800
1121049	flat	dark brown	8017	200 ½	7200 22	172800
1121088	flat	black	9005	200 ½	7200 22	172800

AKT End Cap for MJB, T25

SBS Drywall Screw

Features
- Hardened, Philips head screw
- Phosphated
- Incl. 1 Bit per box
- Indoor applications

SBS-FG Drywall Screw with fine screw thread for fixing plasterboard to metal stud framing up to 1.0 mm

Article code	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
5230100	3.5	25	PH2	1000 21	9000 22	324000
5230101	3.5	35	PH2	1000 41	9000 32	324000
5230102	3.5	45	PH2	1000 41	9000 32	324000
5230112	3.9	25	PH2	1000 21	9000 22	324000
5230113	3.9	35	PH2	1000 41	9000 32	324000
5230114	3.9	45	PH2	1000 41	9000 32	324000
5230103	3.9	55	PH2	500 41	4500 32	162000
5230104	4.2	65	PH2	200 21	1800 22	64800
5230105	4.2	75	PH2	200 21	1800 22	64800
5230106	4.2	90	PH2	200 21	1800 22	64800

SBS-GG Drywall Screw with coarse screw thread for fixing plasterboard to wooden stud framing

Article code	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
5230108	3.9	25	PH2	1000 21	9000 22	324000
5230115	3.9	35	PH2	1000 41	9000 32	324000
5230116	3.9	45	PH2	1000 41	9000 32	324000
5230109	4.2	55	PH2	500 41	4500 32	162000
5230110	4.2	75	PH2	200 21	1800 22	64800
5230111	4.2	90	PH2	200 21	1800 22	64800

SBS-HG Drywall Screw with Hi-Lo-thread for gypsum fibre boards

Article code	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
5230160	3.9	19	PH2	1000 21	9000 22	324000
5230159	3.9	22	PH2	1000 21	9000 22	324000
5230161	3.9	30	PH2	1000 41	9000 32	324000
5230164	3.9	39	PH2	1000 41	9000 32	324000
5230162	3.9	45	PH2	1000 41	9000 32	324000
5230163	3.9	55	PH2	500 41	4500 32	162000

Article code	Screw ∅ mm d_1	Screw length mm L_1	Drive	Box content FS	Outer carton SK	Quantity per pallet
5230140	3.5	25	PH2	1000 21	9000 22	324000
5230141	3.5	35	PH2	1000 41	9000 32	324000
5230142	3.5	45	PH2	1000 41	9000 32	324000
5230143	3.5	55	PH2	500 41	4500 32	162000

SBS-TE Drywall Screw with Teks-point for fixing plasterboard to metal stud framing up to 2.25 mm

Article code	Screw ∅ mm d_1	Screw length mm L_1	Drive	Box content FS	Outer carton SK	Quantity per pallet
5230171	4.2	35	PH2	1000 41	9000 32	324000

SBS-FK Drywall Screw with a flat top for fixing of ceiling eyelets and ceiling wires

Article code	Screw ∅ mm d_1	Screw length mm L_1	Drive	Box content FS	Outer carton SK	Quantity per pallet
5230151	4.2	13	PH2	1000 21	9000 22	432000

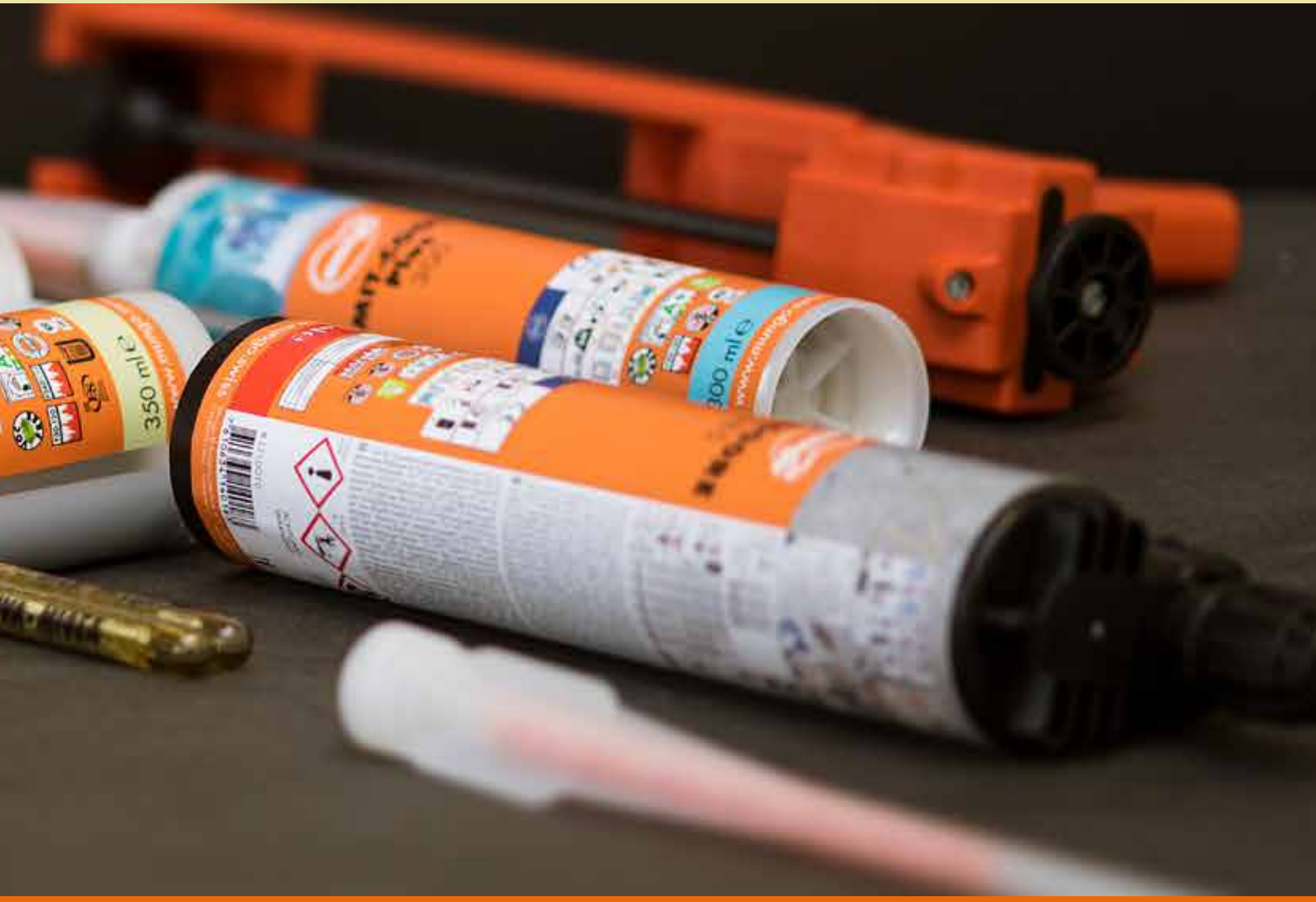
SBS-ZK Metal to metal screw

Article code	Screw ∅ mm d_1	Screw length mm L_1	Drive	Box content FS	Outer carton SK	Quantity per pallet
5230121	5.5	38	PH2	500 21	4500 22	162000
5230122	5.5	60	PH2	500 41	4500 32	162000

SBS-GS Screw for gypsum board to gypsum board


MPU-P
50/B1
MIT-SP
300
MIT-SF
Plus
350

Chemical Products



MIT Compatibility of Mungo Injection Technology

MIT700RE	MIT-Hybrid Plus	MIT-SE Plus	MIT-SP	MIT-Rock
Pure Epoxy	Vinylester urethane mortar, styrene free	Vinylester mortar, styrene free	Polyester mortar, styrene free	Epoxy-Acrylate mortar
440 ml 585 ml 1400 ml	280 ml 350 ml 400 ml 825 ml	165 ml 280 ml 300 ml 350 ml 400 ml 825 ml	300 ml 350 ml 400 ml	400 ml
Option 1, REBAR	Option 1, REBAR	Option 1, REBAR, ETAG 029	ETAG 029, Option 7	
C1, C2	C1, C2	C1		
F30-120, REBAR	F30-120, REBAR	F30-120, F180, REBAR		
NSF	NSF	NSF		
A+, VOC FREE, LEED tested	A+, VOC FREE, LEED tested	A+, VOC FREE, LEED tested	A+, VOC FREE, LEED tested	
2in1, Working life 100 years ETA	2in1			
kN	kN	kN	kN	kN
t_{gel}, t_{cure}	t_{gel}, t_{cure}	t_{gel}, t_{cure}	t_{gel}, t_{cure}	t_{gel}, t_{cure}
fix hef, 8.20 rd	fix hef, 4.20 rd	fix hef, 4.20 rd	fix hef, 4.20 rd	fix hef, 4.20 rd
MUNGO STAR	MUNGO STAR	MUNGO STAR	✓	
✓		✓	MUNGO STAR	
			MUNGO STAR	
				MUNGO STAR

MUNGO STAR recommended

✓ suitable

Filling volume (ml) for fixings with threaded rods

	Drilling hole ∅ mm d_0	60 h_{ef}	64 h_{ef}	70 h_{ef}	80 h_{ef}	90 h_{ef}	96 h_{ef}	100 h_{ef}	108 h_{ef}	110 h_{ef}	120 h_{ef}	128 h_{ef}	144 h_{ef}	160 h_{ef}	192 h_{ef}	200 h_{ef}	240 h_{ef}	288 h_{ef}	300 h_{ef}	324 h_{ef}	360 h_{ef}	500 h_{ef}
M8	10	2.3	2.4	2.7	3.0	3.4	3.6	3.8	4.1	4.2	4.6	4.9	5.5	6.1	7.3	7.6	9.1	10.9	11.4	12.3	-	-
M10	12	2.9	3.1	3.4	3.9	4.4	4.7	4.9	5.3	5.4	5.9	6.3	7.1	7.9	9.4	9.8	11.8	14.1	14.7	15.9	17.7	-
M12	14	-	-	4.3	4.9	5.5	5.9	6.1	6.6	6.7	7.4	7.8	8.8	9.8	11.8	12.3	14.7	17.6	18.4	19.8	22.1	30.6
M16	18	-	-	-	6.8	7.6	8.1	8.5	9.2	9.3	10.2	10.8	12.2	13.6	16.3	16.9	20.3	24.4	25.4	27.5	30.5	42.4
M20	24	-	-	-	-	16.8	18.0	18.7	20.2	20.6	22.5	24.0	27.0	29.9	35.9	37.4	44.9	53.9	56.2	60.6	67.4	93.6
M24	28	-	-	-	-	-	22.5	23.4	25.3	25.7	28.1	29.9	33.7	37.4	44.9	46.8	56.1	67.4	70.2	75.8	84.2	116.9
M27	32	-	-	-	-	-	-	-	34.7	35.3	38.5	41.1	46.2	51.4	61.6	64.2	77.1	92.5	96.3	104.0	115.6	160.5
M30	35	-	-	-	-	-	-	-	-	-	44.4	47.3	53.3	59.2	71.0	74.0	88.8	106.5	110.9	119.8	133.1	184.9

For the change of mixers and cartridges an additional quantity has to be calculated

Filling volume (ml) for fixings with rebar

	Drilling hole ∅ mm d_0	60 h_{ef}	70 h_{ef}	75 h_{ef}	80 h_{ef}	90 h_{ef}	96 h_{ef}	100 h_{ef}	112 h_{ef}	120 h_{ef}	128 h_{ef}	144 h_{ef}	150 h_{ef}	160 h_{ef}	168 h_{ef}	192 h_{ef}	240 h_{ef}	300 h_{ef}	336 h_{ef}	384 h_{ef}	500 h_{ef}
Ø 8	12	3.8	4.4	4.7	5.0	5.7	6.0	6.3	7.0	7.5	8.0	9.0	9.4	10.1	10.6	12.1	15.1	18.8	21.1	24.1	-
Ø 10	14	4.5	5.3	5.7	6.0	6.8	7.2	7.5	8.4	9.0	9.7	10.9	11.3	12.1	12.7	14.5	18.1	22.6	25.3	29.0	37.7
Ø 12	16	-	6.2	6.6	7.0	7.9	8.4	8.8	9.9	10.6	11.3	12.7	13.2	14.1	14.8	16.9	21.1	26.4	29.6	33.8	44.0
Ø 14	18	-	-	7.5	8.0	9.0	9.7	10.1	11.3	12.1	12.9	14.5	15.1	16.1	16.9	19.3	24.1	30.2	33.8	38.6	50.3
Ø 16	20	-	-	-	9.0	10.2	10.9	11.3	12.7	13.6	14.5	16.3	17.0	18.1	19.0	21.7	27.1	33.9	38.0	43.4	56.5
Ø 20	24	-	-	-	-	12.4	13.3	13.8	15.5	16.6	17.7	19.9	20.7	22.1	23.2	26.5	33.2	41.5	46.4	53.1	69.1
Ø 25	32	-	-	-	-	-	-	31.3	35.1	37.6	40.1	45.1	47.0	50.1	52.6	60.2	75.2	94.0	105.3	120.3	156.7
Ø 28	35	-	-	-	-	-	-	-	38.8	41.6	44.3	49.9	52.0	55.4	58.2	66.5	83.1	103.9	116.4	133.0	173.2
Ø 32	40	-	-	-	-	-	-	-	-	-	57.9	65.1	67.9	72.4	76.0	86.9	108.6	135.7	152.0	173.7	226.2

For the change of mixers and cartridges an additional quantity has to be calculated

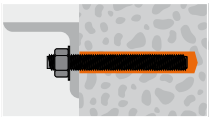
MIT7OORE Pure Epoxy

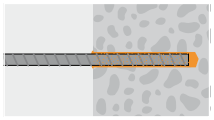
Features

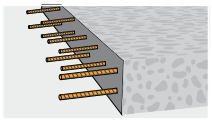
- Automatic hole cleaning with the innovative 2in1 Hollow Drill Bit (part of the assessment)
- European Technical Assessment guarantees a working life of at least 100 years
- European Technical Assessment Option 1 for cracked and non-cracked concrete with anchor rod and with rebar used as anchor
- European Technical Assessment for diamond drilled holes in non-cracked concrete
- European Technical Assessment for post-installed rebar connections
- Assessment of resistance under fire exposure F30-F120
- Assessment of resistance under fire exposure (Rebar)
- VOC free according to Swiss legislation and certified A+ according to DEVL 1101903D / DEVL 1104875A
- LEED - Test Report
- Certification for drinking water systems
- The anchor may also be used under seismic influence for performance category C1 + C2
- High Performance
- High loads
- Long working time for filling of big and deep drill holes
- Variable setting depth
- Application also in wet and water-filled drill holes
- Suitable for overhead fixings
- Colour of mortar: grey
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

post-installed rebar connections, steel constructions, profiles, closing of ceilings, repair works



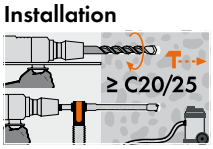


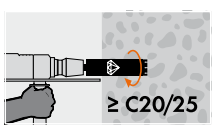


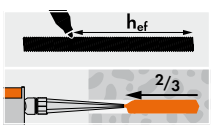
Temperatures

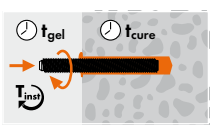
	0÷4°C	5÷9°C	10÷14°C	15÷19°C	20÷24°C	25÷34°C	35÷39°C	≥ 40°C
Working time, in minutes (t_{gel})	90	80	60	40	30	12	8	8
Curing time, dry in hours (t_{cure})	144	48	28	18	12	9	6	4
Curing time, wet in hours (t_{cure})	288	96	56	36	24	18	12	8

Installation



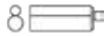






MIT700RE Pure Epoxy, 440 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710160	Cartridge incl. 1 mixer, in two parts	DE/GB	440	12	840



MIT700RE Pure Epoxy, 585 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710161	Cartridge incl. 1 mixer, in two parts	DE/GB	585	12	672

MIT700RE Pure Epoxy, 1400 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710162	Cartridge incl. 1 mixer, in two parts	DE/GB	1400	5	200

MIT-K System-case

Article code	Content	For	Box content	Quantity per pallet
1710110	Drilling aid Piston plugs Infrared thermometer Brushes Brush measure Cleaning accessories	MIT-SE Plus/MIT700RE (REBAR)	1	20

MIT700RE with MIT-S(r) and MGS(r) according to European Technical Assessment 19/0203

	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Clearance hole in fixture mm d_f	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
Hammer drilling, M8	10	60	160	= hef	≤ 9	10.5-12	40	35	10
Hammer drilling, M10	12	60	200	= hef	≤ 12	12.5-14	50	40	20
Hammer drilling, M12	14	70	240	= hef	≤ 14	14.5-16	60	45	40
Hammer drilling, M16	18	80	320	= hef	≤ 18	18.5-20	75	50	60
Hammer drilling, M20	22	90	400	= hef	≤ 22	22.5-26	95	60	100
Hammer drilling, M24	28	96	480	= hef	≤ 26	28.5-30	115	65	170
Hammer drilling, M27	30	108	540	= hef	≤ 30	30.5-34	125	75	250
Hammer drilling, M30	35	120	600	= hef	≤ 33	35.5-37	140	80	300

MIT700RE with rebar used as anchor according to European Technical Assessment 19/0203

	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}
Hammer drilling, Ø 8	12	60	160	= hef	12.5-14	40	35
Hammer drilling, Ø 10	14	60	200	= hef	14.5-16	50	40
Hammer drilling, Ø 12	16	70	240	= hef	16.5-18	60	45
Hammer drilling, Ø 14	18	75	280	= hef	18.5-20	70	50
Hammer drilling, Ø 16	20	80	320	= hef	20.5-22	75	50
Hammer drilling, Ø 20	25	90	400	= hef	25.5-26	95	60
Hammer drilling, Ø 24	32	96	480	= hef	30.5-34	120	70
Hammer drilling, Ø 25	32	100	500	= hef	32.5-34	120	70
Hammer drilling, Ø 28	35	112	560	= hef	35.5-37	130	75
Hammer drilling, Ø 32	40	128	640	= hef	40.5-41.5	150	85

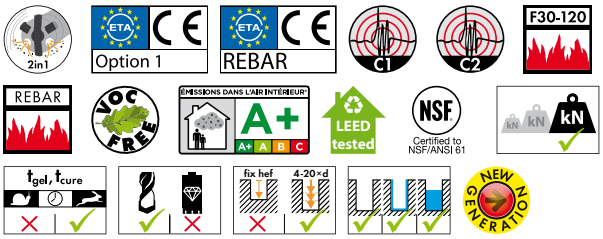
MIT700RE with MIG-M according to European Technical Assessment 19/0203

	Inside ∅ mm d_2	Outside ∅ mm d_1	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Brush ∅ mm d_b	Clearance hole in fixture mm d_f	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
Hammer drilling, MIG-M6	6	10	12	60	200	= hef	12.5-14	7	50	40	10
Hammer drilling, MIG-M8	8	12	14	70	240	= hef	14.5-16	9	60	45	10
Hammer drilling, MIG-M10	10	16	18	80	320	= hef	18.5-20	12	75	50	20
Hammer drilling, MIG-M12	12	20	22	90	400	= hef	22.5-26	14	95	60	40
Hammer drilling, MIG-M16	16	24	28	96	480	= hef	28.5-30	18	115	65	60
Hammer drilling, MIG-M20	20	30	35	120	600	= hef	35.5-37	22	140	80	100

MIT-Hybrid Plus Vinylester urethane mortar, styrene free

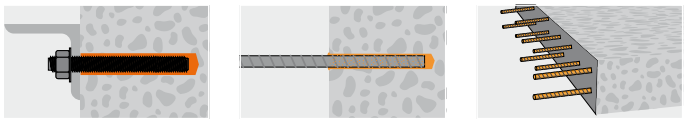
Features

- Automatic hole cleaning with the innovative 2in1 Hollow Drill Bit (part of the assessment)
- European Technical Assessment Option 1 for cracked and non-cracked concrete with anchor rod and with rebar used as anchor
- European Technical Assessment for post-installed rebar connections
- Assessment of resistance under fire exposure F30-F120
- Assessment of resistance under fire exposure (Rebar)
- The anchor may also be used under seismic influence for performance category C1 + C2 (Option 1)
- VOC free according to Swiss legislation and certified A+ according to DEVL 1101903D / DEVL 1104875A
- LEED - Test Report
- Highest productivity
- Certification for drinking water systems
- High loads
- Fast curing
- Variable setting depth
- Dry, wet and water-filled drill holes
- Suitable for overhead fixings
- Styrene free and low odour
- Colour of mortar: grey
- Indoor (zinc plated) and outdoor (stainless steel) applications



Applications

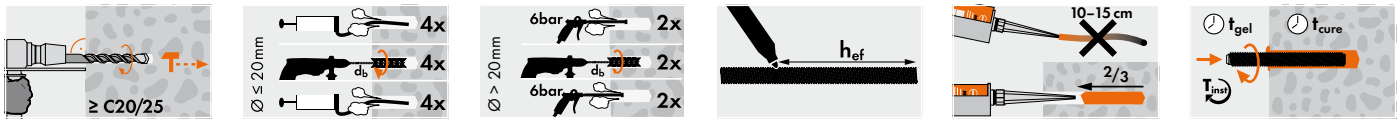
steel constructions, wooden constructions, façades, façade scaffolds, railings, high-racks, machines, staircases, ladders, cable trays, canopies, hand-rails, consoles



Temperatures

	-5÷-1°C	0÷4°C	5÷9°C	10÷14°C	15÷19°C	20÷29°C	30÷40°C
Working time, in minutes (t_{gel})	50	25	15	10	6	3	2
Curing time, dry in minutes (t_{cure})	5 h	3.5 h	2 h	1 h	40	30	30
Curing time, wet in minutes (t_{cure})	10 h	7 h	4 h	2 h	80	60	60

Installation



MIT-Hybrid Plus Vinylester urethane mortar, styrene free, 280 ml cartridge, self opening

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710092	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	280	12	1152
17100920	Cartridge incl. 2 mixers	GB/RU/SLO/HR/HU/BG/RO	280	12	1152

Application with silicone gun

MIT-Hybrid Plus Vinylester urethane mortar, styrene free, 350 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710096	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	350	12	1152

MIT-Hybrid Plus Vinylester urethane mortar, styrene free, 400 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710097	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	400	12	840
17100970	Cartridge incl. 2 mixers	GB/RU/SLO/HR/HU/BG/RO	400	12	840

MIT-Hybrid Plus Vinylester urethane mortar, styrene free, 825 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710098	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	825	6	312

Application with pneumatic injection gun only

MIT-Hybrid Plus with MIT-S(r) and MGS(r) according to European Technical Assessment 17/0128

Option 1

	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Clearance hole in fixture mm d_f	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
M8	10	60	160	= hef	9	10.5-11.5	40	35	10
M10	12	60	200	= hef	12	12.5-13.5	50	40	20
M12	14	70	240	= hef	14	14.5-15.5	60	45	40
M16	18	80	320	= hef	18	18.5-20	75	50	60
M20	22	90	400	= hef	22	22.5-24	95	60	100
M24	28	96	480	= hef	26	28.5-30	115	65	170
M27	30	108	540	= hef	30	30.5-31.8	125	75	250
M30	35	120	600	= hef	33	35.5-37	140	80	300

MIT-Hybrid Plus with rebar used as anchor according to European Technical Assessment 17/0128

Option 1

	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}
Ø 8	12	60	160	= hef	12.5-13.5	40	35
Ø 10	14	60	200	= hef	14.5-15.5	50	40
Ø 12	16	70	240	= hef	16.5-17.5	60	45
Ø 14	18	75	280	= hef	18.5-20	70	50
Ø 16	20	80	320	= hef	20.5-22	75	50
Ø 20	25	90	400	= hef	25.5-27	95	60
Ø 25	32	100	500	= hef	32.5-34	120	70
Ø 28	35	112	560	= hef	35.5-37	130	75
Ø 32	40	128	640	= hef	40.5-43.5	150	85

MIT-Hybrid Plus with MIG-M according to European Technical Assessment 17/0128

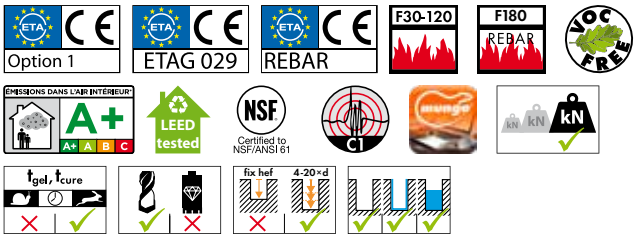
Option 1

	Inside ∅ mm d_2	Outside ∅ mm d_1	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Brush ∅ mm d_b	Clearance hole in fixture mm d_f	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
MIG-M6	6	10	12	60	200	= hef	12.5-13.5	7	50	40	10
MIG-M8	8	12	14	70	240	= hef	14.5-15.5	9	60	45	10
MIG-M10	10	16	18	80	320	= hef	18.5-20	12	75	50	20
MIG-M12	12	20	22	90	400	= hef	22.5-24	14	95	60	40
MIG-M16	16	24	28	96	480	= hef	28.5-30	18	115	65	60
MIG-M20	20	30	35	120	600	= hef	35.5-37	22	125	75	100

MIT-SE Plus Vinylester mortar, styrene free

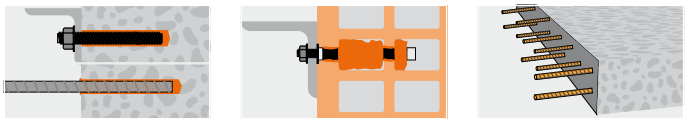
Features

- European Technical Assessment Option 1 for cracked and non-cracked concrete with anchor rod and with rebar used as anchor
- European Technical Assessment according to ETAG 029 for use in masonry
- European Technical Assessment for post-installed rebar connections
- Assessment of resistance under fire exposure F30-F120
- Assessment of resistance under fire exposure F180 (Rebar)
- VOC free according to Swiss legislation and certified A+ according to DEVL 1101903D / DEVL 1104875A
- LEED - Test Report
- Certification for drinking water systems
- The anchor may also be used under seismic influence for performance category C1
- Universal mortar for highest loads in almost all building materials
- Fast curing
- Variable setting depth
- Application also in wet and water-filled drill holes
- Suitable for overhead fixings
- Styrene free and low odour
- Colour of mortar: grey
- Indoor (zinc plated) and outdoor (stainless steel) applications



Applications

post-installed rebar connections, steel constructions, wooden constructions, façades, façade scaffolds, railings, high-racks, machines, staircases, ladders, cable trays, canopies, hand-rails, consoles



Temperatures

	-10÷-6°C	-5÷-1°C	0÷4°C	5÷9°C	10÷19°C	20÷29°C	30÷34°C	35÷39°C	>40°C
Working time, in minutes (t_{gel})	90	90	45	25	15	6	4	2	1.5
Curing time, dry in minutes (t_{cure})	24 h	14 h	7 h	2 h	80	45	25	20	15
Curing time, wet in minutes (t_{cure})	48 h	28 h	14 h	4 h	160	90	50	40	30

Installation

MIT-SE Plus Vinylester mortar, styrene free, 165 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710024	Cartridge incl. 2 mixers	DE/GB	165	12	1260

Not part of the rebar assessment
Application with silicone gun

MIT-SE Plus Vinylester mortar, styrene free, 280 ml cartridge, self opening

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710015	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	280	12	1152

Application with silicone gun

MIT-SE Plus Vinylester mortar, styrene free, 300 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710017	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	300	12	1152
17100170	Cartridge incl. 2 mixers	GB/RU/SLO/HR/HU/BG/RO	300	12	1152

Not part of the rebar assessment
Application with silicone gun

MIT-KE System-case MIT-SE Plus 300 ml

Article code	Content	Languages	Content	Box content	Quantity per pallet
1710102	22 x Cartridge incl. 2 mixers 1 x System-case IV with cartridge insert	DE/GB/FR/IT/PL/NL	300	1	16

MIT-SE Plus Vinylester mortar, styrene free, 350 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710025	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	350	12	1152

MIT-BE Maxi-Box MIT-SE Plus 350 ml

Article code	Content	Languages	Content	Box content	Quantity per pallet
1710118	20 x MIT-SE Plus 350 ml Cartridge incl. 2 mixers 1 x Maxi-Box	DE/GB/FR/IT/PL/NL	350	1	24

MIT-SE Plus Vinylester mortar, styrene free, 400 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710026	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	400	12	840
17100260	Cartridge incl. 2 mixers	GB/RU/SLO/HR/HU/BG/RO	400	12	840

MIT-SE Plus Vinylester mortar, styrene free, 825 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710022	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	825	6	312

Application with pneumatic injection gun only

MIT-K System-case

Article code	Content	For	Box content	Quantity per pallet
1710110	Drilling aid Piston plugs Infrared thermometer Brushes Brush measure Cleaning accessories	MIT-SE Plus/MIT700RE (REBAR)	1	20

MIT-SE Plus with MIT-S(r) and MGS(r) according to European Technical Assessment 10/0130

	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Usable length mm t_{fix}	Clearance hole in fixture mm d_f	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
M8	10	60	160	= hef	0 - 1500	≤ 9	10.5-12	40	40	10
M10	12	60	200	= hef	0 - 1500	≤ 12	12.5-14	50	50	20
M12	14	70	240	= hef	0 - 1500	≤ 14	14.5-16	60	60	40
M16	18	80	320	= hef	0 - 1500	≤ 18	18.5-20	80	80	80
M20	24	90	400	= hef	0 - 1500	≤ 22	24.5-26	100	100	120
M24	28	96	480	= hef	0 - 1500	≤ 26	28.5-30	120	120	160
M27	32	108	540	= hef	0 - 1500	≤ 30	32.5-34	135	135	180
M30	35	120	600	= hef	0 - 1500	≤ 33	35.5-37	150	150	200

MIT-SE Plus with rebar used as anchor according to European Technical Assessment 10/0130

	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}
Ø 8	12	60	160	= hef	12.5-14	40	40
Ø 10	14	60	200	= hef	14.5-16	50	50
Ø 12	16	70	240	= hef	16.5-18	60	60
Ø 14	18	75	280	= hef	18.5-20	70	70
Ø 16	20	80	320	= hef	20.5-22	80	80
Ø 20	24	90	400	= hef	24.5-26	100	100
Ø 25	32	100	480	= hef	32.5-34	125	125
Ø 28	35	112	540	= hef	35.5-37	140	140
Ø 32	40	128	640	= hef	40.5-41.5	160	160

MIT-SE Plus with MIT-S(r) and MGS(r) according to European Technical Assessment 12/0544

	Sleeve mm	Drilling hole ∅ mm d_0	Effective anchorage depth mm h_{ef}	Drilling depth mm h_0	Clearance hole in fixture mm d_f	Installation torque (Nm) T_{inst} max
Without sleeve, M8	-	10	80	80	≤ 9	2*
Without sleeve, M10	-	12	90	90	≤ 12	2*
Without sleeve, M12	-	14	100	100	≤ 14	2*
Without sleeve, M16	-	18	100	100	≤ 18	2*
Without sleeve, MIG-M6	-	12	90	90	≤ 7	2*
Without sleeve, MIG-M8	-	14	100	100	≤ 9	2*
Without sleeve, MIG-M10	-	18	100	100	≤ 12	2*
With sleeve, M8	12x80	12	80	85	≤ 9	2
With sleeve, M8/M10/MIG-M6	16x85	16	85	90	≤ 7 (MIG-M6) / ≤ 9 (M8) / ≤ 12 (M10)	2
With sleeve, M8/M10/MIG-M6	16x130	16	130	135	≤ 7 (MIG-M6) / ≤ 9 (M8) / ≤ 12 (M10)	2
With sleeve, M12/M16/MIG-M8/MIG-M10	20x85	20	85	90	≤ 9 (MIG-M8) / ≤ 12 (MIG-M10) / ≤ 14 (M12) / ≤ 18 (M16)	2
With sleeve, M12/M16/MIG-M8/MIG-M10	20x130	20	130	135	≤ 9 (MIG-M8) / ≤ 12 (MIG-M10) / ≤ 14 (M12) / ≤ 18 (M16)	2
With sleeve, M12/M16/MIG-M8/MIG-M10	20x200	20	200	205	≤ 9 (MIG-M8) / ≤ 12 (MIG-M10) / ≤ 14 (M12) / ≤ 18 (M16)	2

* For brick = 14 Nm

MIT-SP Polyester mortar, styrene free

ETAG 029 | Option 7 | VOC FREE | A+ | LEED tested | kN

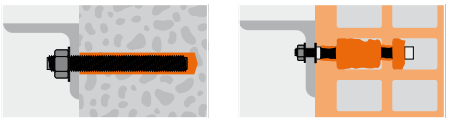
t_{gel}, t_{cure} | fix hef | 4-20×d

Features

- European Technical Assessment according to ETAG 029 for use in masonry
- European Technical Assessment Option 7 for non-cracked concrete with anchor rod and with rebar used as anchor
- VOC free according to Swiss legislation and certified A+ according to DEVL 1101903D / DEVL 1104875A
- LEED - Test Report
- Suitable for assemblies in perforated brick with sleeve
- Medium duty fastening
- Fast curing
- Variable setting depth in concrete
- Dry, wet and water-filled drill holes
- Styrene free and low odour
- Colour of mortar: grey
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

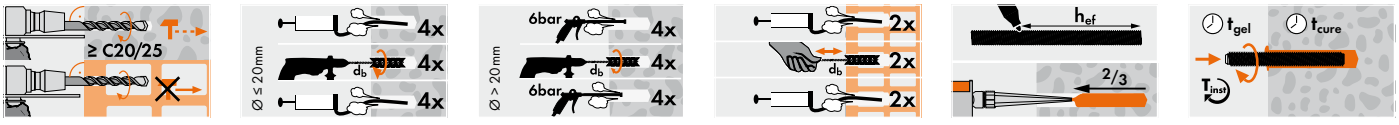
light steel constructions, frames, gates, light duty applications, façades, consoles



Temperatures

	-5÷-1°C	0÷4°C	5÷9°C	10÷14°C	15÷19°C	20÷29°C	30÷34°C	35÷39°C
Working time, in minutes (t_{gel})	90	45	25	20	15	6	4	2
Curing time, in minutes (t_{cure})	360	180	120	100	80	45	25	20

Installation



Article code	Description	Languages	Content	Box content	Quantity per pallet
1710050	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	300	12	1152
17100500	Cartridge incl. 2 mixers	GB/RU/SLO/HR/HU/BG/RO	300	12	1152

Application with silicone gun

MIT-SP Polyester mortar, styrene free, 300 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710057	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	350	12	1152

MIT-SP Polyester mortar, styrene free, 350 ml cartridge

Article code	Description	Languages	Content	Box content	Quantity per pallet
1710052	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	400	12	840
17100520	Cartridge incl. 2 mixers	GB/RU/SLO/HR/HU/BG/RO	400	12	840

MIT-SP Polyester mortar, styrene free, 400 ml cartridge

MIT-SP with MIT-S(r) and MGS(r) according to European Technical Assessment 13/0032

Option 7

	Drilling hole ∅ mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Usable length mm t_{fix}	Clearance hole in fixture mm d_f	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
M8	10	60	160	= hef	0 - 1500	≤ 9	10.5-12	40	40	10
M10	12	60	200	= hef	0 - 1500	≤ 12	12.5-14	50	50	20
M12	14	70	240	= hef	0 - 1500	≤ 14	14.5-16	60	60	40
M16	18	80	320	= hef	0 - 1500	≤ 18	18.5-20	80	80	80
M20	24	90	400	= hef	0 - 1500	≤ 22	24.5-26	100	100	120
M24	28	96	480	= hef	0 - 1500	≤ 26	28.5-30	120	120	160

MIT-SP with MIT-S(r) and MGS(r) according to European Technical Assessment 13/0033

ETAG 029

	Sleeve mm	Drilling hole ∅ mm d_0	Effective anchorage depth mm h_{ef}	Drilling depth mm h_0	Clearance hole in fixture mm d_f	Installation torque (Nm) T_{inst}
Without sleeve, M8	-	10	80	80	≤ 9	1)
Without sleeve, M10	-	12	90	90	≤ 12	1)
Without sleeve, M12	-	14	100	100	≤ 14	1)
Without sleeve, M16	-	18	100	100	≤ 18	1)
With sleeve, M8	12x80	12	80	85	≤ 9	1)
With sleeve, M8/M10	16x85	16	85	90	≤ 9 (M8) / ≤ 12 (M10)	1)
With sleeve, M8/M10	16x130	16	130	135	≤ 9 (M8) / ≤ 12 (M10)	1)
With sleeve, M8/M10	16x130/330	16	130	135+tfix<200 mm	≤ 9 (M8) / ≤ 12 (M10)	1)
With sleeve, M12/M16	20x85	20	85	90	≤ 14 (M12) / ≤ 18 (M16)	1)
With sleeve, M12/M16	20x130	20	130	135	≤ 14 (M12) / ≤ 18 (M16)	1)
With sleeve, M12/M16	20x200	20	200	205	≤ 14 (M12) / ≤ 18 (M16)	1)

1) according to European Technical Assessment 13/0033

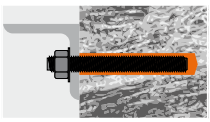
MIT-Rock Epoxy-Acrylate mortar

Features

- Suitable for use with natural stone - does not leave any stains
- Ideal for grouting and gluing natural stone
- Optimum long term behaviour
- Resistant against acid and solvents
- Stress-free fastening
- Low edge and anchor distances
- Medium duty fastening
- Fast curing
- Variable setting depth
- Application also in wet drill holes
- Colour of mortar: dark grey
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

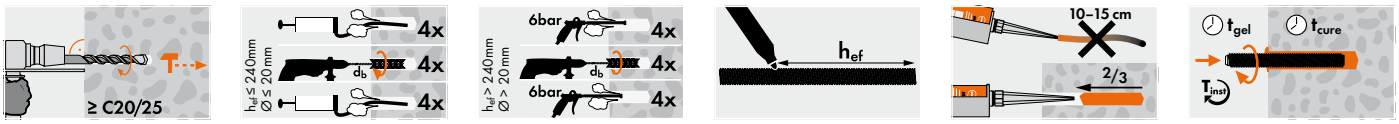
steel constructions, wooden constructions, façades, façade scaffolds



Temperatures

	≥ +5°C	≥ +10°C	≥ +20°C	≥ +30°C	≥ +35°C
Working time, in minutes (t_{gel})	25	15	6	4	2
Curing time, dry in minutes (t_{cure})	120	80	45	25	20
Curing time, wet in minutes (t_{cure})	240	160	90	50	40

Installation



Article code	Description	Languages	Content	Box content	Quantity per pallet
1710005	Cartridge incl. 2 mixers	DE/GB/FR/IT/PL/NL	400	12	840
17100050	Cartridge incl. 2 mixers	GB/RU/SLO/HR/HU/BG/RO	400	12	840

MIT-Rock Epoxy-Acrylate mortar, 400 ml cartridge

MIT-Rock with MIT-S(r) and MGS(r)

	Drilling hole ∅ mm d_0	Effective anchorage depth mm h_{ef}	Drilling depth mm h_0	Brush ∅ mm d_b	Min. distance betw. anchors mm s_{min} (h_{ef} = 5d)	Min. edge distance mm c_{min} (h_{ef} = 5d)	Installation torque (Nm) T_{inst}
M8	10	80	= hef	10.5-12	40	40	10
M10	12	90	= hef	12.5-14	50	50	20
M12	14	110	= hef	14.5-16	60	60	40
M16	18	125	= hef	18.5-20	80	80	60
M20	24	170	= hef	24.5-26	100	100	120

MIT-PP-H Manual Injection Gun

Easy-Press
- Sporadic and frequent applications
- Easy and smooth grout injection
- Effortless application
- Automatic release
- Ergonomic, lightweight and robust
- Comfortable grip even when wearing gloves

MIT-PP-H0 Injection Gun 12 in 1 for MIT

Article code	For	Box content
1710047	MIT 150/165/280/300/330/380/385/400/410/420/440/585	1

Suitable for use with silicone cartridge

MIT-PP-H1 Easy-Press for MIT 165/280/300

Article code	For	Box content
1710034	MIT 165/280/300	1

Suitable for use with silicone cartridge

MIT-PP-H1 Easy-Press for MIT 350

Article code	For	Box content
1710035	MIT 350	1

Suitable for use with silicone cartridge

MIT-PP-H1 Easy-Press for MIT 400

Article code	For	Box content
1710036	MIT 400	1

MIT-PP-HK System-case Easy-Press for MIT 165/280/300

40 × 30 × 16 cm

Article code	Content	For	Box content	Quantity per pallet
1710201	1 x Easy-Press 1 x Purging Pump 1 x Steel Brush 10/80/300 1 x Steel Brush 16/80/300 1 x Steel Brush 20/80/300 1 x System-case II with insert	MIT 165/280/300	1	16

MIT-PP-HK System-case Easy-Press for MIT 350

40 × 30 × 16 cm

Article code	Content	For	Box content	Quantity per pallet
1710202	1 x Easy-Press 1 x Purging Pump 1 x Steel Brush 10/80/300 1 x Steel Brush 16/80/300 1 x Steel Brush 20/80/300 1 x System-case II with insert	MIT 350	1	16

MIT-PP-HK System-case Easy-Press for MIT 400

40 × 30 × 16 cm

Article code	Content	For	Box content	Quantity per pallet
1710203	1 x Easy-Press 1 x Purging Pump 1 x Steel Brush 10/80/300 1 x Steel Brush 16/80/300 1 x Steel Brush 20/80/300 1 x System-case II with insert	MIT 400	1	16

MIT-PP-H2 Injection Gun for MIT 165/280/300

Article code	Description	For	Box content
1710029	Metal	MIT 165/280/300	1

Suitable for use with silicone cartridge

MIT-PP-H2 Injection Gun for MIT 350

Article code	Description	For	Box content
1710033	Metal	MIT 350	1

Suitable for use with silicone cartridge

MIT-PP-H2 Injection Gun for MIT 385/440/585

Article code	Description	For	Box content
1710019	Metal	MIT 385/440/585	1

Article code	Description	For	Box content
1710009	Metal	MIT 400	1

MIT-PP-H2 Injection Gun for MIT 400

MIT-PP-A Cordless Injection Gun

Features

- Frequent and repetitive applications
- Dosing function for accurate, controlled injection
- Effortless injecting even at low temperatures or deep anchor holes
- Ergonomic, lightweight and robust
- Lithium ion battery 18 V / 2.0 Ah
- Recharges in 65 minutes

Article code	Content	For	Box content
1710046	2 x Batteries 1 x Charger 1 x Case	MIT 165/280/300	1

Suitable for use with silicone cartridge
Lithium ion battery 14.4 V / 3.0 Ah
Recharges in 40 minutes

MIT-PP-A Cordless Injection Gun for MIT 165/280/300

Article code	Content	For	Box content
1710222	1 x Battery 1 x Charger 1 x Case	MIT 350	1

Additional battery available on request

MIT-PP-AD Cordless Injection Gun with dosing function for MIT 350

Article code	Content	For	Box content
1710225	1 x Battery 1 x Charger 1 x Case	MIT 385/440/585	1

Additional battery available on request

MIT-PP-AD Cordless Injection Gun with dosing function for MIT 385/440/585

Article code	Content	For	Box content
1710223	1 x Battery 1 x Charger 1 x Case	MIT 400	1

Additional battery available on request

MIT-PP-AD Cordless Injection Gun with dosing function for MIT 400

Article code	Content	For	Box content
1710224	1 x Battery 1 x Charger 1 x Case	MIT 825	1

Additional battery available on request

MIT-PP-AD Cordless Injection Gun with dosing function for MIT 825

MIT-PP-P Pneumatic Injection Gun

Features

- Repetitive applications
- For increased productivity on large sites
- Effortless application
- Lightweight and easy to use
- Automatic release
- Low air consumption

MIT-PP-P Pneumatic Injection Gun for MIT 165/280/300/350

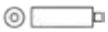
Article code	For	Box content
1710040	MIT 165/280/300/350	1

Suitable for use with silicone cartridge

MIT-PP-P Pneumatic Injection Gun for MIT 385/440/585

Article code	For	Box content
1710048	MIT 385/440/585	1

MIT-PP-P Pneumatic Injection Gun for MIT 400



Article code	For	Box content
1710020	MIT 400	1

MIT-PP-P Pneumatic Injection Gun for MIT 825

Article code	For	Box content
1710037	MIT 825	1

MIT-PP-P Pneumatic Injection Gun for MIT 1400

Article code	For	Box content
1710049	MIT 1400	1

MIT-R Accessories for cleaning drill holes

MIT-BS-HO Universal Steel Brush

Article code	Anchor rod mm	Rebar BST500 ∅ mm	Drilling hole ∅ mm d_0	Brush ∅ mm d_b	Length mm L	Box content
1690018	M6		8	10	300	1
1690014	M8		10	12	300	1
1690023	M10	8	12	14	300	1
1690015	M12	10	14	16	300	1
1690016	M16	14	18	20	300	1
1690017	M20		24	26	300	1
1690019	M24		28	30	300	1

Brush extension on request

MIT-BS-M1 Steel Brush

Article code	Anchor rod mm	Rebar BST500 ∅ mm	Anchor Sleeve with internal thread MIG	Drill ∅ mm d_0	Brush ∅ mm d_b	MIT-Hybrid Plus	MIT700RE	MIT-SE Plus	MIT-SP	MIT-Rock	MVA	Box content
1690040	M8			10	12	■	■	■	■	□	■	1
1690041	M10	8	M6	12	14	■	■	■	■	□	■	1
1690042	M12	10	M8	14	16	■	■	■	■	□	■	1
1690043		12		16	18	■	■	■				1
1690044	M16	14	M10	18	20	■	■	■	■	□	■	1
1690045		16		20	22	■	■	■				1
1690046	M20	20	M12	24*	26	■	■	■	■	□	■	1
1690047	M24	22	M16	28	30	■	■	■	■		■	1
1690048	M27	24/25		32*	34	■	■	■				1
1690049	M30	28	M20	35	37	■	■	■			□	1
1690050		32/34		40	41	■	■	■				1
1690053		36		45	47		■					1
1690054		40		52**	54		■					1
1690055		40		55*	58		■					1

■ Part of the assessment
□ Not part of the assessment
* MIT-Hybrid Plus/MIT700RE M20 & MIG-M12 (d_0 = 22) / MIT-Hybrid Plus Ø20 (d_0 = 25) / MIT-Hybrid Plus M27 (d_0 = 30) / MIT700RE Rebar Ø40 (d_0 = 55) / ** MIT700RE for diamond drilled holes

MIT-BS-MV Brush Extension

Article code	Length mm L	For	Box content
1690051	300	MIT-BS-M1	1

MIT-BS-MA SDS-Plus Adapter M6

Article code	Description	For	Box content
1690052	M6	MIT-BS-M1	1

MIT-AP-HG1 Purging Pump

Article code	Volume ml	MIT-Hybrid Plus	MIT700RE	MIT-SE Plus	MIT-SP	MIT-Rock	MVA	Box content
1690011	840	■	□	■	■	□	■	1

■ Part of the assessment
□ Not part of the assessment

MIT-AP-HKO Purging Pump

Article code	Volume ml	MIT-Hybrid Plus	MIT700RE	MIT-SE Plus	MIT-SP	MIT-Rock	MVA	Box content
1690002	320	□	□	□	□	□	□	1

□ Not part of the assessment

MIT-AP-D1 Compressed air tool, metal

Article code	Description	MIT-Hybrid Plus	MIT700RE	MIT-SE Plus	MIT-SP	MIT-Rock	Box content
1690008	1/4" internal thread, til 16 bar	■	■	■	■	□	1

■ Part of the assessment
□ Not part of the assessment

MIT-V Accessories for filling drill holes

MIT-VS Piston plugs

Article code	Anchor rod mm	Rebar BST500 ∅ mm	Drill ∅ mm d_0	MIT-Hybrid Plus	MIT700RE	MIT-SE Plus	MIT-SP	MIT-Rock	Box content
1710075	M12	10	14		■	■	□	□	1
1710076		12	16		■	■			1
1710077	M16	14	18	■	■	■	□	□	1
1710078		16	20	■	■	■			1
1710082	M20		22		■				1
1710084	M20		24	■		■	□	□	1
1710079		20	25	■	■	■			1
1710080	M24	22	28	■	■	■	□		1
1710081	M27	24/25	32	■	■	■	□		1
1710085	M30	28	35	■	■	■	□		1
1710086		32/34	40	■	■	■			1
1710087		36	45		■				1
1710088		40	52		■				1
1710089		40	55		■				1

■ Part of the assessment
□ Not part of the assessment

MIT-MI-1 Mixer, in two parts

Article code	MIT700RE	MIT-SE Plus	Box content
1710064	□	■	1

■ Part of the assessment
□ Not part of the assessment
MIT-SE PLUS: if h_0 > 1000mm with MIT-MI-V1

MIT-MI-2 Mixer

Article code	MIT-Hybrid Plus	MIT-SE Plus	MIT-SP	MIT-Rock	Box content
1710014	□	■	■	□	1

■ Part of the assessment
□ Not part of the assessment

MIT-MI-4 Mixer

Article code	MIT-Hybrid Plus	MIT700RE	Box content
1710018	■	■	1

■ Part of the assessment

MIT-MI-V1 Mixer Extension

Article code	Anchor rod mm	Rebar BST500 ∅ mm	Length mm L	MIT700RE	MIT-SE Plus	MIT-SP	MIT-Rock	Box content
1710065	M8-M24	8-25	500	■	■	□	□	1

■ Part of the assessment
□ Not part of the assessment

MIT-MI-V2 Extension (PVC), 1m

Article code	Anchor rod mm	Rebar BST500 ∅ mm	Length mm L	MIT700RE	MIT-SE Plus	MIT-SP	MIT-Rock	Box content
1690037	M8-M24	8-25	1000	■	■	□	□	1

■ Part of the assessment
□ Not part of the assessment

MIT-SH-K2 Sleeve

Article code	For	Outside ∅ mm d_{nom}	Drill ∅ mm d_0	Length mm L	MIT-SE Plus	MIT-SP	Box content
1710141	M8	12	12	50	□	□	20
1710145	M8	12	12	80	■	■	20
1710146	M8/M10	16	16	85	■	■	20
1710150	M8/M10	16	16	130	■	■	20
1710154	M8/M10	16	16	130/330	□	■	20
1710147	M12/M16	20	20	85	■	■	20
1710148	M12/M16	20	20	130	■	■	20
1710149	M12/M16	20	20	200	■	■	20

■ Part of the assessment
□ Not part of the assessment

MIT-SH-SO Metal Sleeve, 1m

Article code	For	∅ mm d	Drill ∅ mm d_0	Length mm L	MIT-SE Plus	MIT-SP	Box content
1710151	M8	11	12	1000	□	□	1
1710152	M10-M12	15	16	1000	□	□	1
1710153	M16	20	22	1000	□	□	1

□ Not part of the assessment

MIT-GS Threaded rod, Anchor rod, Anchor Sleeve with internal thread

Article code	Thread d	Length mm L	Box content
7460510	M5	1000	1
7460610	M6	1000	1
7460810	M8	1000	1
7461010	M10	1000	1
7461210	M12	1000	1
7461610	M16	1000	1

MGS 4.6 Threaded Rod, zinc plated, steel quality 4.6, 1m

Article code	Thread d	Length mm L	Box content
7880510	M5	1000	1
7880610	M6	1000	1
7880810	M8	1000	1
7881010	M10	1000	1
7881210	M12	1000	1
7881610	M16	1000	1
7882010	M20	1000	1
7882410	M24	1000	1
7883010	M30	1000	1

MGS 8.8 Threaded Rod, zinc plated, steel quality 8.8, 1m

Article code	Thread d	Length mm L	Box content
7040510	M5	1000	1
7040610	M6	1000	1
7040810	M8	1000	1
7041010	M10	1000	1
7041210	M12	1000	1
7041610	M16	1000	1
7042010	M20	1000	1
7042410	M24	1000	1
7043010	M30	1000	1

MGSr A4 Threaded Rod, stainless steel A4-70/316, 1m

Article code	Thread ∅ mm d_{nom}	Length mm L	Drill ∅ concrete mm d_0	Box content
1) 1720607	M6	70	8	10
1720811	M8	110	10	10
1720813	M8	130	10	10
1720815	M8	150	10	10
1720817	M8	170	10	10
1721011	M10	110	12	10
1721013	M10	130	12	10
1721015	M10	150	12	10
1721017	M10	170	12	10
1721213	M12	130	14	10
1721217	M12	170	14	10
1721221	M12	210	14	10
1721226	M12	260	14	10
1721618	M16	180	18	10
1721622	M16	220	18	10
1721626	M16	260	18	10
1721633	M16	330	18	10
1722027	M20	270	22/24	5
1722030	M20	300	22/24	5
1722432	M24	320	28	5
1722436	M24	360	28	5

Further dimensions and materials on request
1) Not part of the assessment

MIT-S Anchor Rod, zinc plated, steel quality 5.8 with hex-nut and washer DIN 125A

Article code	Thread ∅ mm d_{nom}	Length mm L	Drill ∅ concrete mm d_0	Box content
1) 1790607	M6	70	8	10
1790811	M8	110	10	10
1790813	M8	130	10	10
1790815	M8	150	10	10
1790817	M8	170	10	10
1791011	M10	110	12	10
1791013	M10	130	12	10
1791015	M10	150	12	10
1791017	M10	170	12	10
1791213	M12	130	14	10
1791217	M12	170	14	10
1791221	M12	210	14	10
1791226	M12	260	14	10
1791618	M16	180	18	10
1791622	M16	220	18	10
1791626	M16	260	18	10
1791633	M16	330	18	10
1792027	M20	270	22/24	5
1792030	M20	300	22/24	5
1792432	M24	320	28	5
1792436	M24	360	28	5

Further dimensions and materials on request
1) Not part of the assessment

MIT-S Anchor Rod, zinc plated, steel quality 8.8 with hex-nut and washer DIN 125A

MIT-Sr Anchor Rod, stainless steel A4-70/316 with hex-nut and washer DIN 125A

Article code	Thread ∅ mm d_{nom}	Length mm L	Drill ∅ concrete mm d_0	Box content
1730811	M8	110	10	10
1730813	M8	130	10	10
1730815	M8	150	10	10
1730817	M8	170	10	10
1731011	M10	110	12	10
1731013	M10	130	12	10
1731015	M10	150	12	10
1731017	M10	170	12	10
1731213	M12	130	14	10
1731217	M12	170	14	10
1731221	M12	210	14	10
1731226	M12	260	14	10
1731618	M16	180	18	10
1731622	M16	220	18	10
1731626	M16	260	18	10
1731633	M16	330	18	10
1732027	M20	270	22/24	5
1732030	M20	300	22/24	5
1732432	M24	320	28	5
1732436	M24	360	28	5

Further dimensions and materials on request

MIT-IGH Anchor Sleeve with internal thread

Article code	Internal thread d	Outside ∅ mm d_{nom}	Length mm L	Drill ∅ concrete mm d_0	Box content
1710060	M6	8	48	10	10
1710061	M8	12	80	14	10
1710062	M10	14	80	16	10
1710063	M12	16	80	18	10

MIG-M Anchor Sleeve with internal thread, steel quality 5.8

Article code	Internal thread d	Outside ∅ mm d_{nom}	Drill ∅ (without sleeve) mm d_0	Drill ∅ (with sleeve) mm d_0	Drilling depth mm h_0	Sleeve ∅ mm S_d	Length mm L	MIT-Hybrid Plus	MIT700RE	MIT-SE Plus Concrete	MIT-SE Plus Masonry	MIT-SP	Box content FS
1711101	M6	10	12	16	85	16	80	■	■	□	■	□	10 01
1711102	M6	10	12	16	98	16	90	■	■	□	■	□	10 01
1711103	M8	12	14	20	85	20	80	■	■	□	■	□	10 01
1711104	M8	12	14	20	110	20	100	■	■	□	■	□	10 11
1711105	M10	16	18	20	85	20	80	■	■	□	■	□	10 01
1711106	M10	16	18	20	110	20	100	■	■	□	■	□	10 11

■ Part of the assessment
□ Not part of the assessment

MIGr-M Anchor Sleeve with internal thread, stainless steel A4-70/316

Article code	Internal thread d	Outside ∅ mm d_{nom}	Drill ∅ (without sleeve) mm d_0	Drill ∅ (with sleeve) mm d_0	Drilling depth mm h_0	Sleeve ∅ mm S_d	Length mm L	MIT-Hybrid Plus	MIT700RE	MIT-SE Plus Concrete	MIT-SE Plus Masonry	MIT-SP	Box content FS
1711201	M6	10	12	16	85	16	80	■	■	□	■	□	10 01
1711202	M6	10	12	16	98	16	90	■	■	□	■	□	10 01
1711203	M8	12	14	20	85	20	80	■	■	□	■	□	10 01
1711204	M8	12	14	20	110	20	100	■	■	□	■	□	10 11
1711205	M10	16	18	20	85	20	80	■	■	□	■	□	10 01
1711206	M10	16	18	20	110	20	100	■	■	□	■	□	10 11

■ Part of the assessment
□ Not part of the assessment

MIT-AKH Anchor Sleeve, stainless steel A2/304

Article code	For	∅ mm d	Length mm L	Box content
1710041	DW15	22	125	100

MIT-ESH Insert Anchor, stainless steel A2/304

Article code	For	∅ mm d	Drilling hole ∅ mm d_0	Drilling depth mm h_0	Length mm L	Thread length mm L_G	Box content
1710045	DW15	22	25	160	155	65	100

DW20 on request
Related products:
Piston plugs, # 1710079
Extension (PVC), 1m, # 1690037
Steel Brush, # 1690046/1690052

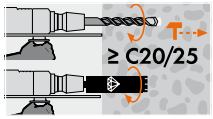
MIT-ESH

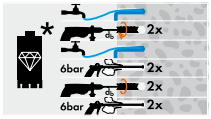
Technical Data

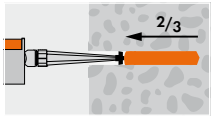
	Concrete C20/25 tension load (kN)
MIT-ESH	5.0

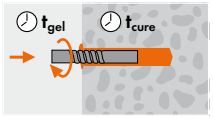
With MIT-SE Plus / * For applications with MIT700RE please consult your local Mungo application engineer / Safety factor of 2.5 is included / 1 kN ≈ 100 kg

Installation









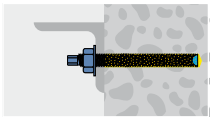
MVA Resin Capsule

Option 8

Features

- European Technical Assessment Option 8 for non-cracked concrete
- The European Technical Assessment for the MVA resin capsule only applies in combination with the MVA-S/MVA-Sr anchor rods
- Quick and simple installation
- Small edge and spacing distances
- Temperature range short term: -40 °C - +80 °C
- Temperature range long term: -40 °C - +50 °C
- Anchor rod with 45° end
- Setting depth mark for correct installation
- Indoor (zinc plated) and outdoor (stainless steel) applications





Applications

steel constructions, cable trays, guard rails, substructures, machines

Technical Data

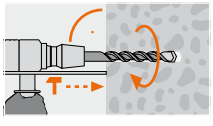
	Non-cracked concrete C20/25 tension load (kN) galv. 5.8	Non-cracked concrete C20/25 tension load (kN) A4-70	Non-cracked concrete C20/25 tension load (kN) MVA-I/MVA-Ir	Non-cracked concrete C20/25 shear load (kN) galv. 5.8	Non-cracked concrete C20/25 shear load (kN) A4-70	Bending moment (Nm) galv. 5.8	Bending moment (Nm) A4-70	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}	Installation torque (Nm) T_{inst}	Wrench size SW
M8	8	8	6.2	5	6	10.8	11.9	40	40	110	10	13
M10	12	12	8.2	8	9	21.1	23.8	45	45	120	20	17
M12	16	16	10.3	12	13	37.1	42.1	55	55	140	40	19
M14	18	18	-	16	18	51.8	58.1	60	60	150	60	22
M16	24	24	17.9	22	25	94.9	106.7	65	65	160	80	24
M20/135	24	24	-	35	39	185.7	207.9	85	85	220	120	30
M20/175	36	36	30	35	39	185.7	207.9	85	85	220	120	30
M24	48	48	-	50	57	320.6	359.4	105	105	260	180	36
M30	60	60	-	80	90	642	720	140	140	340	300	46

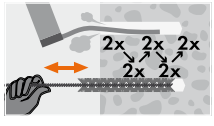
The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / M14 + M20/135 + M30 + MVA-I/MVA-Ir; Not part of the assessment / The technical data is only valid for single fixings without consideration of edge and anchor distances / 1 kN ≈ 100 kg

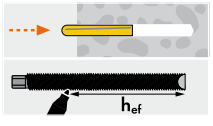
Temperatures

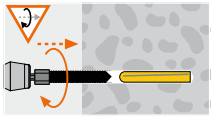
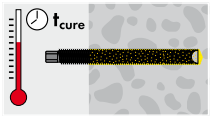
	≥ +0°C	≥ +5°C	≥ +10°C	≥ +20°C	≥ +30°C	≥ +35°C
Curing time, dry in minutes (t_{cure})	5 h	1 h	1 h	20	10	10
Curing time, wet in minutes (t_{cure})	10 h	2 h	2 h	40	20	20

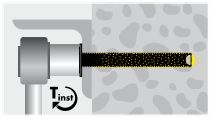
Installation









Article code	Thread d	Thread length mm L_G	Drill ∅ mm d_0	Drilling depth mm h_0	Usable length mm t_{fix}	Hex-nut SW	Drive SW	Box content
1611108	M8	110	10	80	15	13	5	10
1611508	M8	150	10	80	55	13	5	10
1611310	M10	130	12	90	20	17	6	10
1611710	M10	170	12	90	65	17	6	10
1611612	M12	160	14	110	30	19	8	10
1612212	M12	220	14	110	90	19	8	10
1612612	M12	260	14	110	130	19	8	10
1613012	M12	300	14	110	170	19	8	10
1611916	M16	190	18	125	40	24	10/12	10
1612316	M16	230	18	125	80	24	10/12	10
1612616	M16	260	18	125	110	24	10/12	10
1613016	M16	300	18	125	15	24	10/12	10
1612320	M20	230	24	170	40	30		6
1612620	M20	260	24	170	70	30		6
1613024	M24	300	28	210	65	36		6

Each box of Anchor Rods incl. a setting tool (M8-M16)
M8 to M16 with external hexagon socket

MVA-Set Resin Capsule, Epoxy-Acrylate with Anchor Rod, zinc plated, steel quality 5.8 with hex-nut and washer DIN 125A

Article code	Thread d	Thread length mm L_G	Drill ∅ mm d_0	Drilling depth mm h_0	Usable length mm t_{fix}	Hex-nut SW	Drive SW	Box content
1621108	M8	110	10	80	15	13	5	10
1621508	M8	150	10	80	55	13	5	10
1621310	M10	130	12	90	20	17	6	10
1621710	M10	170	12	90	65	17	6	10
1621622	M12	160	14	110	30	19	8	10
1622212	M12	220	14	110	90	19	8	10
1622612	M12	260	14	110	130	19	8	10
1623012	M12	300	14	110	170	19	8	10
1621916	M16	190	18	125	40	24	10/12	10
1622316	M16	230	18	125	80	24	10/12	10
1622616	M16	260	18	125	110	24	10/12	10
1623016	M16	300	18	125	15	24	10/12	10
1622320	M20	230	24	170	40	30		6
1622620	M20	260	24	170	70	30		6
1623024	M24	300	28	210	65	36		6

Each box of Anchor Rods incl. a setting tool (M8-M16)
M8 to M16 with external hexagon socket

MVAr-Set Resin Capsule, Epoxy-Acrylate with Anchor Rod, stainless steel A4-70/316 with hex-nut and washer DIN 125A

Article code	For MVA-S(t)	Capsule length mm L	Drilling hole ∅ mm d_0	Drilling depth mm h_0	Box content	Outer carton
1610008	M8	80	10	80	10	500
1610010	M10	80	12	90	10	500
1610012	M12	95	14	110	10	200
1610014	M14	95	16	120	10	200
1610016	M16	95	18	125	10	200
1602211	M20	135	24	140	6	60
1610020	M20	175	25	170	6	60
1610024	M24	210	28	210	6	60
1610030	M30	270	35	280	6	30

MVA Resin Capsule, Epoxy-Acrylate

Article code	Thread d	Thread length mm L_G	Usable length mm t_{fix}	Hex-nut SW	Drive SW	Box content
1650008	M8	110	15	13	5	10
1651508	M8	150	55	13	5	10
1650010	M10	130	20	17	6	10
1651710	M10	170	65	17	6	10
1650012	M12	160	30	19	8	10
1652212	M12	220	90	19	8	10
1652612	M12	260	130	19	8	10
1653012	M12	300	170	19	8	10
1650014	M14	170	40	22	10	10
1650016	M16	190	40	24	10/12	10
1652316	M16	230	80	24	10/12	10
1652616	M16	260	110	24	10/12	10
1653016	M16	300	150	24	10/12	10
1652020	M20	230	40	30		6
1652026	M20	260	70	30		6
1652430	M24	300	65	36		6
1653038	M30	380	70	46		1

Each box of Anchor Rods incl. a setting tool (M8-M16)
M8 to M16 with external hexagon socket
Further dimensions and materials on request

MVA-S Anchor Rod, zinc plated, steel quality 5.8 with hex-nut and washer DIN 125A

MVA-Sr Anchor Rod, stainless steel A4-70/316 with hex-nut and washer DIN 125A

Article code	Thread d	Thread length mm L_G	Usable length mm t_{fix}	Hex-nut SW	Drive SW	Box content
1660008	M8	110	15	13	5	10
1661508	M8	150	55	13	5	10
1660010	M10	130	20	17	6	10
1661710	M10	170	65	17	6	10
1660012	M12	160	30	19	8	10
1662212	M12	220	90	19	8	10
1662612	M12	260	130	19	8	10
1663012	M12	300	170	19	8	10
1660016	M16	190	40	24	10/12	10
1662316	M16	230	80	24	10/12	10
1662616	M16	260	110	24	10/12	10
1663016	M16	300	150	24	10/12	10
1662020	M20	230	40	30		6
1662026	M20	260	70	30		6
1662430	M24	300	65	36		6
1663038	M30	380	70	46		1

Each box of Anchor Rods incl. a setting tool (M8-M16)
M8 to M16 with external hexagon socket
Further dimensions and materials on request

MVA-WZ Setting Tool for rods without drive

Article code	For	Box content
1665008	M8	1
1665010	M10	1
1665012	M12	1
1665014	M14	1
1665016	M16	1
1665020	M20	1
1665024	M24	1
1665030	M30	1

MVA-I Anchor Sleeve with internal thread, steel quality 5.8

Article code	Internal thread d	Capsule d_{nom}	Drilling hole ∅ mm d_0	Drilling depth mm h_0	Min. screw in mm hs_{min}	Max. screw in mm hs_{max}	Installation torque (Nm) T_{inst} max	Box content FS
1670008	M8	M12	15	90	12	30	6	10 01
1670010	M10	M16	18	90	15	35	12	10 01
1670012	M12	M16	22	90	18	40	20	10 21
1670016	M16	M20/135	28	125	24	40	45	10 21
1670020	M20	M24	35	180	40	60	100	10 51

MVA-Ir Anchor Sleeve with internal thread, stainless steel A4/316

Article code	Internal thread d	Capsule d_{nom}	Drilling hole ∅ mm d_0	Drilling depth mm h_0	Min. screw in mm hs_{min}	Max. screw in mm hs_{max}	Installation torque (Nm) T_{inst} max	Box content FS
1670108	M8	M12	15	90	12	30	6	10 01
1670110	M10	M16	18	90	15	35	12	10 01
1670112	M12	M16	22	90	18	40	20	10 21
1670116	M16	M20/135	28	125	24	40	45	10 21
1670120	M20	M24	35	180	40	60	100	10 51

MPU-P50/B1 Fire Rated Dispenser Foam, up to 50 litres yield

Features

- Class B1 according to DIN 4102-1
- Fire resistance up to 240 minutes; EI240 according to EN 13501-2
- Flame resistant B1 (DIN 4102)
- Emicode EC1 Plus - very low emission
- Special formula for high fire resistance
- Application in environments where high fire resistance is required, such as public buildings, hospitals, industrial buildings, etc.
- Rapid curing, reduces the processing time
- High yield up to 50 litres

Applications

filling and sealing of cavities, air spaces and joints, fixing of fireproof door frames, sealing of pipe crossings in plumbing, cooling and air conditioning, sealing and insulation of pipes penetrating walls

Technical Data

	Tack-free time in min.	Cutting time in min.	Full cure time in h
MPU-P50/B1	6-9	25-35	24

At a temperature +20°C and humidity of 50% (30mm line)

Article code	Description	Content	Box content	Quantity per pallet
1713504	B1/for dispenser	750	12	624

MPU-P50/B1 Fire Rated Dispenser Foam, up to 50 litres yield

MPU-P50 Dispenser Foam, up to 50 litres yield

LITER LITRE 50l

EMICODE EC1 PLUS VERY LOW EMISSION

Features

- Universal use
- Emicode EC1 Plus - very low emission
- Fast curing
- Strong adhesion and no shrinkage once hardened
- High thermal and acoustic insulation values
- High yield up to 50 litres

Applications

backfilling, filling and sealing of cavities, air spaces and joints, sealing of concrete shutter boxes, fixing of window and door frames, installation of roof panels, tile laying, sealing of pipe crossings in plumbing, cooling and air conditioning, sealing and insulation of pipes penetrating walls, sealing gaps between prefabricated elements, sealing around manhole covers

Technical Data

	Tack-free time in min.	Cutting time in min.	Full cure time in h
MPU-P50	6-9	40-45	24

At a temperature +20° C and humidity of 50% (30mm line)

MPU-P50 Dispenser Foam, up to 50 litres yield

Article code	Description	Content	Box content	Quantity per pallet
1713511	for dispenser	750	12	624

MPU-M50 Hand Held PU Foam, up to 50 litres yield

Features

- Universal use
- Emicode EC1 Plus - very low emission
- Fast curing
- Strong adhesion and no shrinkage once hardened
- High thermal and acoustic insulation values
- High yield up to 50 litres

LITER LITRE 50l

Applications

backfilling, filling and sealing of cavities, air spaces and joints, sealing of concrete shutter boxes, fixing of window and door frames, installation of roof panels, tile laying, sealing of pipe crossings in plumbing, cooling and air conditioning, sealing and insulation of pipes penetrating walls, sealing gaps between prefabricated elements, sealing around manhole covers

Technical Data

	Tack-free time in min.	Cutting time in min.	Full cure time in h
MPU-M50	6-9	40-45	24

At a temperature +20°C and humidity of 50% (30mm line)

Article code	Description	Content	Box content	Quantity per pallet
1713510	manual	750	12	624

MPU-M50 Hand Held PU Foam, up to 50 litres yield

MPU-PS50 Dispenser Foam for concrete formwork, up to 50 litres yield

LITER
LITRE
50*l*

Features

- Is suitable for sealing of joints and connectors in concrete formwork as well as for integrating recesses into areas to be filled with concrete
- Simple and speedy working
- Resistant to decay
- High yield up to 50 litres

Applications

use for sealing leaks in concrete formwork, integration of recesses into areas not to be covered with concrete, fixation of loose parts prior to pouring concrete

Technical Data

	Tack-free time in min.	Cutting time in min.	Full cure time in h
MPU-PS50	6-9	40-45	24

At a temperature +20°C and humidity of 50% (30mm line)

MPU-PS50 Dispenser Foam for concrete formwork, up to 50 litres yield

Article code	Description	Content	Box content	Quantity per pallet
1713513	for dispenser	750	12	624

MPU-PP Perifix Gun Grade Perimeter Adhesive

40m
12m²

Features

- MPU-PP Perifix is a ready to use one component polyurethane adhesive for bonding of perimeter insulation panels
- Simple and speedy working
- Strong initial tack
- High level of adhesion
- Excellent adhesion to many common building substrates; such as concrete, masonry, stone, plaster, wood, fibre cement, metal and many plastics
- Resistant to decay
- Excellent insulating properties
- Class F according to EN 13501-1 (B3)
- High yield (up to 12 m² panels)

Applications

bonding of perimeter panels in the outdoor environment for insulation and structural protection, filling and patching of voids between panels

Technical Data

	Adhesive open time, in minutes	Curing time in h	Full cure time in h
MPU-PP Perifix	6	3-5	24

At a temperature +20°C and humidity of 50% (30mm line)

Article code	Description	Content	Box content	Quantity per pallet
1712581	for dispenser	750	12	624

MPU-PP Perifix Gun Grade Perimeter Adhesive

MPU-P45/B2 Dispenser Foam, up to 45 litres yield

DIN 4102 B2

LITER LITRE 45*l*

Features

- Small can for easier handling and storage
- Universal use
- Class E according to EN 13501-1
- Fast curing
- Simple and speedy working
- High yield up to 45 litres

Applications

backfilling, filling and sealing of cavities, air spaces and joints, sealing of concrete shutter boxes, fixing of window and door frames, installation of roof panels, tile laying, sealing of pipe crossings in plumbing, cooling and air conditioning, sealing and insulation of pipes penetrating walls, sealing gaps between prefabricated elements, sealing around manhole covers

Technical Data

	Tack-free time in min.	Cutting time in min.	Full cure time in h
MPU-P45/B2	8-10	20-25	1.5-5

At a temperature +20°C and humidity of 50% (30mm line)

MPU-P45/B2 Dispenser Foam, up to 45 litres yield

Article code	Description	Content	Box content	Quantity per pallet
1713514	B2/for dispenser	560	12	780

MRM-PU Cleaner for PU-Foam and dispenser

Features

- Suitable for cleaning objects stained with polyurethane foam, tools, foam dispenser and foam cans

Article code	Description	Content	Box content	Quantity per pallet
1713521	for PU-Foam/dispenser	500	12	780

MRM-PU Cleaner for PU-Foam and dispenser

Article code	Description	Box content
1713522	for PU-Foam	1

MPP-M Metal dispenser

Article code	Description	Box content
1713523	for PU-Foam	1

MPP-K Nylon/Metal dispenser

MSI-NP Silicone

UV proof

ADHESION X PROMOTER

Features

- Universal use
- Non-corrosive
- Fungus-inhibiting
- UV resistant, weather proof and non-ageing
- With adhesion promoter
- Polysiloxane base
- Indoor and outdoor applications

Applications

sanitary places, joints around windows, connection joints

MSI-NP Neutral Silicone, fungus-inhibiting

Article code	Colour	Content	Box content	Quantity per pallet
1712531	transparent	310	24	1440
1712532	white	310	24	1440

MDA Acrylic Sealant

Features
- The sealant hardens by means of water evaporation
- Acrylic dispersion base
- Low odour, suitable for indoor applications
- Paintable
- UV resistant, weather proof and non-ageing

UV proof

Applications
joints in interior and exterior areas, joints with little movement

Article code	Colour	Content	Box content	Quantity per pallet
1712562	white	310	24	1440

MDA Acrylic Sealant

MMK-U Universal Adhesive

DIN 4102 B2 | UV proof | ADHESION X PROMOTER

Features

- Very high initial tack
- Class B2 according to DIN 4102
- High level of adhesion
- Permanently elastic
- Fungus-inhibiting
- UV resistant, weather proof and non-ageing
- With adhesion promoter

Applications

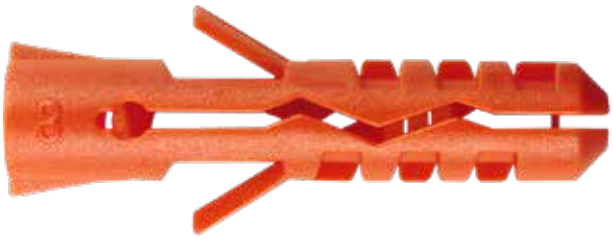
universal use, structural elastic bonding in the building and metal working industry, bonding of window sills and panels, suitable for sanitary applications

MMK-U Universal Adhesive

Article code	Colour	Content	Box content	Quantity per pallet
1712536	grey	290	12	1560
1712538	transparent	290	12	1560

Nylon Products

MN Nylon Plug



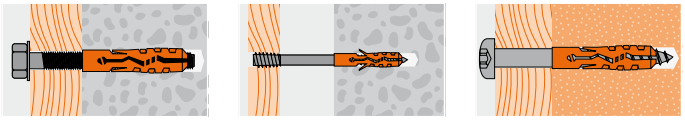
Nylon Quality lasts for ever

Features

- Can be used with wood screws, chipboard screws and metric screws
- Suitable for use in most kinds of building materials, especially in solid building materials
- Knock-in protection prevents premature expansion while installing
- Holds the plug firm in the hole against rotation; guarantees immediate grip as the plug expands
- M-Teeth ensuring a complete radial expansion during screw insertion
- Prevent the plug from breaking open while inserting into the hole
- Made from high-quality polyamide PA6
- Pre installation or through fixing
- Indoor and outdoor applications

Applications

pictures, lamps, holders, profiles, substructures, electric switches, rails

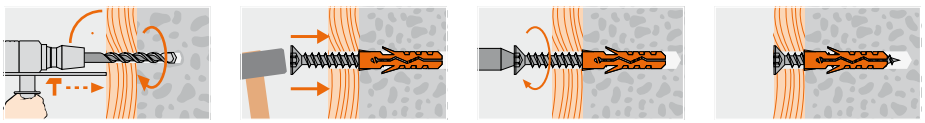


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Brick tension load (kN)	Lightweight Concrete tension load (kN)
MN 4	0.25	0.1	0.02
MN 5	0.35	0.2	0.04
MN 6	0.6	0.4	0.06
MN 7	0.7	0.55	0.07
MN 8	0.85	0.6	0.09
MN 10	1.4	0.8	0.2
MN 12	1.8	1.0	0.4
MN 14	2.6	1.3	0.5
MN 15	2.9	1.5	0.6
MN 16	3.2	1.7	0.6
MN 20	5.2	1.9	1.0

Reached with max. diameter wood screw / Safety factor of 5 is included / 1 kN ≈ 100 kg

Installation



MN Nylon Plug

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1000040	4	20	2.2-3	-	100 ½	3600 22	216000
1000050	5	25	2.6-4	M3	100 ½	3600 22	216000
1000060	6	30	3.5-5	M4	100 ½	3600 22	216000
1000070	7	35	4.5-5	M4	100 ½	3600 32	216000
1000080	8	40	4.5-6	M5	100 ½	3600 32	216000
1000100	10	50	6-8	M6	50 ½	1800 32	108000
1000120	12	60	8-10	M8	25 ½	900 32	54000
1000140	14	70	10-12	M10	20 ½	720 32	43200
1000150	15	75	10-12	M10	10 ½	360 32	21600
1000160	16	80	12-14	-	10 ½	360 32	21600
1000200	20	90	14-16	-	5 ½	180 32	10800

MN Nylon Plug in Maxi-Box

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Unit content	Quantity per pallet
1000041	4	20	2.2-3	-	100 ½	5600	134400
1000051	5	25	2.6-4	M3	100 ½	5600	134400
1000061	6	30	3.5-5	M4	100 ½	5600	134400
1000071	7	35	4.5-5	M4	100 ½	2800	67200
1000081	8	40	4.5-6	M5	100 ½	2800	67200
1000101	10	50	6-8	M6	50 ½	1400	33600
1000121	12	60	8-10	M8	25 ½	700	16800
1000141	14	70	10-12	M10	20 ½	560	13440
1000151	15	75	10-12	M10	10 ½	280	6720
1000161	16	80	12-14	-	10 ½	280	6720
1000201	20	90	14-16	-	5 ½	140	3360

MN Nylon Plug in outer carton, bulk packed

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Outer carton SK	Quantity per pallet
1000055	5	25	2.6-4	M3	20000 32	1200000
1000065	6	30	3.5-5	M4	15000 32	900000
1000085	8	40	4.5-6	M5	5000 32	300000
1000105	10	50	6-8	M6	2500 32	150000
1000125	12	60	8-10	M8	2000 32	120000
1000145	14	70	10-12	M10	1000 32	60000

MNK Nylon Plug with collar

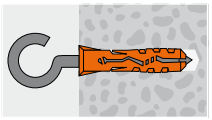
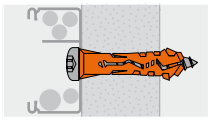
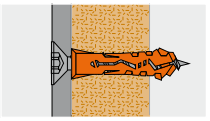
Nylon Quality lasts for ever

Features

- Collar prevents the plug from being pushed into deeper holes
- Clean cover of the drill hole
- Knock-in protection prevents premature expansion while installing
- Holds the plug firm in the hole against rotation; guarantees immediate grip as the plug expands
- M-Teeth ensuring a complete radial expansion during screw insertion
- Prevent the plug from breaking open while inserting into the hole
- Made from high-quality polyamide PA6
- Pre installation
- Indoor and outdoor applications

Applications

pictures, lamps, holders, profiles, substructures, electric switches, rails

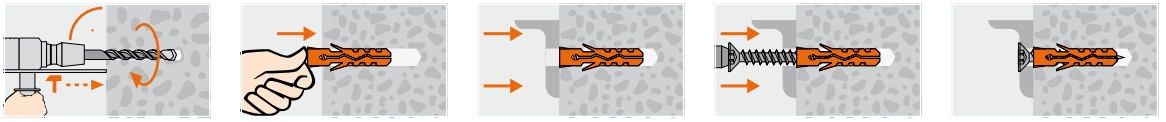




Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Brick tension load (kN)	Lightweight Concrete tension load (kN)
MNK 5	0.35	0.2	0.04
MNK 6	0.6	0.4	0.06
MNK 8	0.85	0.6	0.09
MNK 10	1.4	0.8	0.2
MNK 12	1.8	1.0	0.4

Reached with max. diameter wood screw / Safety factor of 5 is included / 1 kN ≈ 100 kg

Installation



MNK Nylon Plug with collar

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1040520	5	25	2.6-4	M3	100 ½	3600 22	86400
1040630	6	30	3.5-5	M4	100 ½	3600 22	86400
1040840	8	40	4.5-6	M5	100 ¼	3600 32	86400
1041050	10	50	6-8	M6	50 ¼	1800 32	43200
1041250	12	60	8-10	M8	25 ¼	900 32	21600

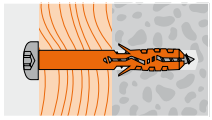
MNL Nylon Plug long

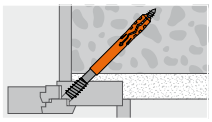
Features

- Long shank reduces lateral movements
- Knock-in protection prevents premature expansion while installing
- Holds the plug firm in the hole against rotation; guarantees immediate grip as the plug expands
- M-Teeth ensuring a complete radial expansion during screw insertion
- Prevent the plug from breaking open while inserting into the hole
- For bridging of thick layers of plaster
- Made from high-quality polyamide PA6
- Through fixing
- Indoor and outdoor applications

Applications

frames



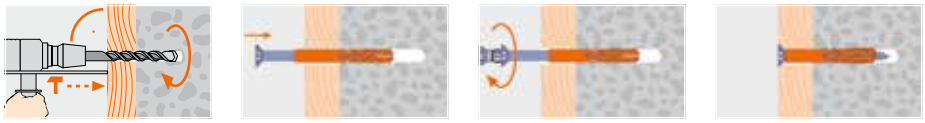


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Brick tension load (kN)	Lightweight Concrete tension load (kN)
MNL 6	0.6	0.4	0.06
MNL 8	0.85	0.6	0.09

Reached with max. diameter wood screw / Safety factor of 5 is included / 1 kN ≈ 100 kg

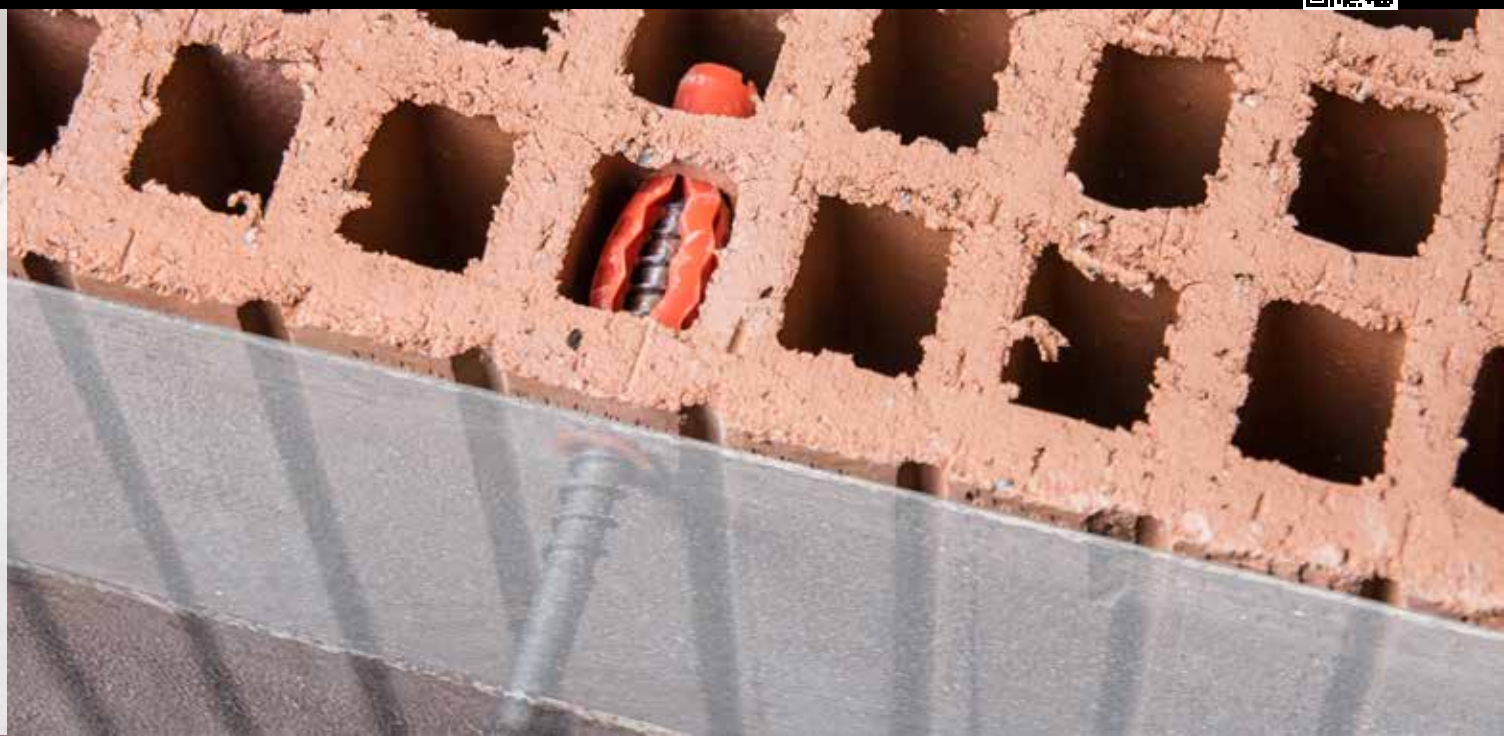
Installation



Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1000600	6	50	3.5-5	M4	100 ½	1800 22	43200
1000800	8	65	4.5-6	M5	50 ½	900 22	21600

MNL Nylon Plug long

MQ Quattro® Nylon Plug



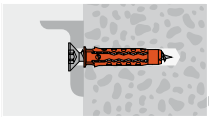
Nylon Quality lasts for ever

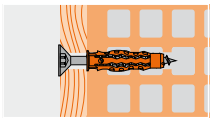
Features

- Quattro® Technology
- Highest possible retaining values in the lower and middle load area, particularly suitable for applications with chipboard screws
- For use in all kinds of building materials
- Collar prevents the plug from being pushed into deeper holes
- Knock-in protection prevents premature expansion while installing
- Rotation resistance stops the plug rotating in the drill hole
- Special plug geometry allows ease of entry into the drill hole
- Made from high-quality polyamide PA6
- Pre installation
- Indoor and outdoor applications

Applications

holders, electric switches, pictures, lamps, profiles, substructures, rails



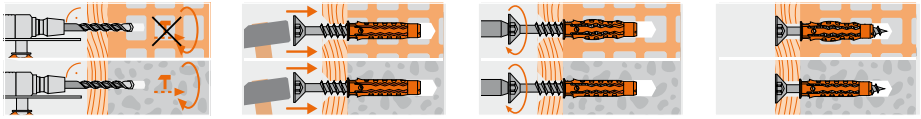


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Brick tension load (kN)	Aerated Concrete tension load (kN)	Calcium silicate brick tension load (kN)	Perforated Brick tension load (kN)
MQ 5	0.45	0.45	0.12	0.45	1) 0.15
MQ 6	1.1	0.90	0.12	0.70	1) 0.20
MQ 8	1.2	1.00	0.19	1.00	1) 0.40
MQ 10	1.9	1.10	0.30	1.80	1) 0.45
MQ 12	2.7	1.50	0.40	2.10	0.50
MQ 14	3.0	1.80	0.55	2.30	0.60

Reached with max. diameter wood screw / Safety factor of 5 is included / 1 kN ≈ 100 kg / 1) Chipboard screw

Installation



MQ Quattro® Nylon Plug

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1050050	5	25	2.6-4	M3	100 ½	3600 22	216000
1050060	6	30	3.5-5	M4	100 ½	3600 22	216000
1050080	8	40	4.5-6	-	100 ½	3600 32	216000
1050100	10	50	6-8	-	50 ¼	1800 32	108000
1050120	12	60	8-10	-	25 ¼	900 32	54000
1050140	14	70	10-12	-	10 ¼	360 32	21600

MQ Quattro® Nylon Plug in Mini-Box, bulk packed

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Unit content	Quantity per pallet
1380532	5	25	2.6-4	M3	3500	280000
1380533	6	30	3.5-5	M4	2000	160000
1380534	8	40	4.5-6	-	1000	80000
1380535	10	50	6-8	-	500	40000

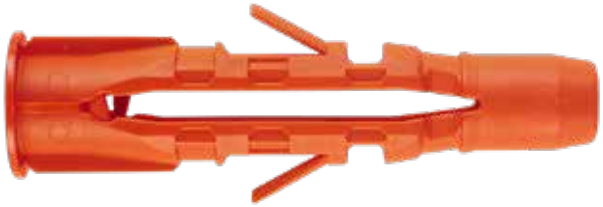
MQ Quattro® Nylon Plug in Maxi-Box

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Unit content	Quantity per pallet
1050051	5	25	2.6-4	M3	100 ½	5600	134400
1050061	6	30	3.5-5	M4	100 ½	5600	134400
1050081	8	40	4.5-6	-	100 ½	2800	67200
1050101	10	50	6-8	-	50 ¼	1400	33600
1050121	12	60	8-10	-	25 ¼	700	16800
1050141	14	70	10-12	-	10 ¼	280	6720

MQ Quattro® Nylon Plug in outer carton, bulk packed

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Outer carton SK	Quantity per pallet
1050055	5	25	2.6-4	M3	20000 32	1200000
1050065	6	30	3.5-5	M4	12000 32	720000
1050085	8	40	4.5-6	-	5000 32	300000
1050105	10	50	6-8	-	2500 32	150000
1050125	12	60	8-10	-	1500 32	90000
1050145	14	70	10-12	-	1000 32	60000

MU Multi Plug Nylon



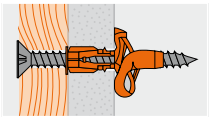
Nylon Quality lasts for ever

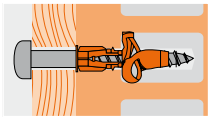
Features

- The knot leads to high performance in hollow walls
- Automatic collar detachment makes the plug multifunctional
- Knock-in protection prevents premature expansion while installing
- Self tensioning stops the plug rotating in the drill hole
- Made from high-quality polyamide PA6
- Pre installation or through fixing
- Indoor and outdoor applications

Applications

holders, electric switches, rails, pictures, lamps, substructures, profiles



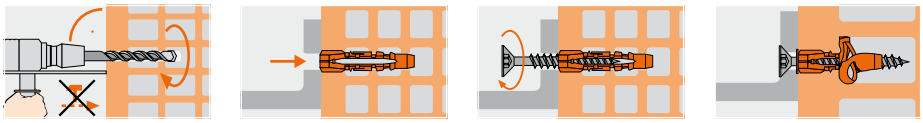


Technical Data

	Perforated Brick tension load (kN)	Plasterboard tension load (kN)	Chipboard tension load (kN)
MU 6	0.2	1) 0.15	1) 0.4
MU 8	0.3	1) 0.18	1) 0.45
MU 10	0.4	1) 0.2	1) 0.6
MU 12	0.6	-	-
MU 14	0.8	-	-

Reached with max. diameter wood screw / Safety factor of 5 is included / 1 kN ≈ 100 kg / 1) Chipboard screw

Installation



MU Multi Plug Nylon

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1010630	6	35	3-4	100	3600 32	216000
1010640	6	45	3-4	100	3600 32	216000
1010850	8	50	4.5-6	50	1800 32	108000
1011060	10	60	6-8	25	900 32	54000
1011270	12	70	8-10	20	720 32	43200
1011470	14	75	10-12	10	360 32	21600

MU Multi Plug Nylon in Maxi-Box

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Box content FS	Unit content	Quantity per pallet
1010631	6	35	3-4	100	2800	67200
1010641	6	45	3-4	100	2800	67200
1010851	8	50	4.5-6	50	1400	33600
1011061	10	60	6-8	25	700	16800
1011271	12	70	8-10	20	560	13440
1011471	14	75	10-12	10	280	6720

MU Multi Plug Nylon in outer carton, bulk packed

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Outer carton SK	Quantity per pallet
1010635	6	35	3-4	7500 32	450000
1010645	6	45	3-4	6000 32	360000
1010855	8	50	4.5-6	3500 32	210000
1011065	10	60	6-8	1800 32	108000
1011275	12	70	8-10	1000 32	60000
1011475	14	75	10-12	500 32	30000

ML Hollow Brick Plug

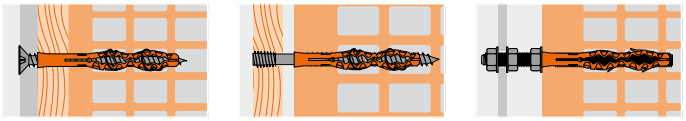
Nylon Quality lasts for ever

Features

- Ideal for use in brickwork
- Can be used with wood screws, chipboard screws and metric screws
- For use with anchor rod M10 (ML14)
- Special plug end geometry, ML6 and ML8, causes a knotting of the plug shanks
- Rotation resistance stops the plug rotating in the drill hole
- Knock-in protection prevents premature expansion while installing
- Collar prevents the plug from being pushed into deeper holes (MLK)
- Made from high-quality polyamide PA6
- Pre installation or through fixing
- Indoor and outdoor applications

Applications

facings, squared timbers, roller blinds (only MLK), frames, distance fixing

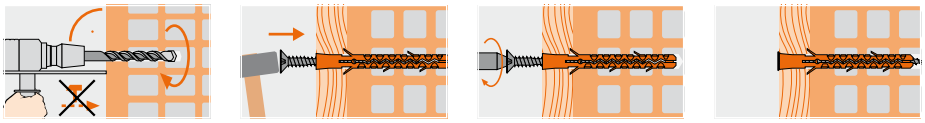


Technical Data

	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)
ML 6	0.4	0.15
ML/MLK 8	0.6	0.25
ML 10	0.8	0.4
ML 14	1.0	0.6

Without hammer drilling in perforated brick and lightweight concrete / Safety factor of 5 is included / Reached with max. diameter wood screw / 1 kN ≈ 100 kg

Installation



ML Hollow Brick Plug Ø 6/8

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1100606	6	60	3.5-5	M4	100 11	2400 32	57600
1100808	8	80	5-6	M5	100 31	1200 32	28800

ML Hollow Brick Plug Ø 10/14

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1101009	10	90	7	M6	100 51	600 32	14400
1101012	10	120	7	M6	50 41	450 32	10800
1101409	14	90	10	M10	50 41	450 32	10800
1101412	14	120	10	M10	50 51	300 32	7200

MLK Hollow Brick Plug with collar Ø 8

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Screwtype wood/chipboard ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1100808K	8	80	12.5	5-6	100 31	1200 32	28800

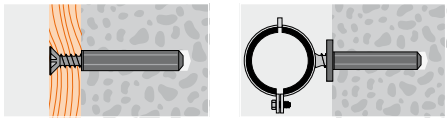
SD Sound Insulation Plug

Features

- Greatly reduced sound transmission once installed, due to integrated plug
- Sound reduction up to 15.5 dB (structure-borne noise), tested by IFB, Mülheim
- Can be used with most types of wood screws
- Integrated MN Nylon Plug made from polyamide 6
- Pre installation or through fixing (SD)
- Pre installation (SDK)
- Indoor and outdoor applications

Applications

substructures, sound insulation constructions, cable clips, pipe clips

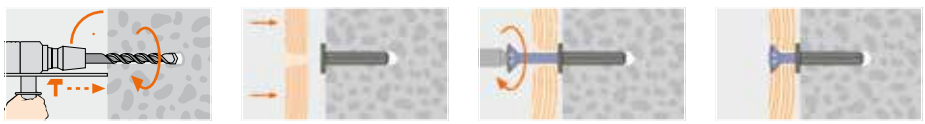


Technical Data

	Non-cracked concrete C20/25 tension load (N)	Brick tension load (N)	Lightweight Concrete tension load (N)	Value of sound insulation dB	Drilling depth mm h_0	Screw ∅ mm d_s	MN Nylon Plug
SD/SDK 6	220	170	60	12.5	40	3.5-5.0	6
SD/SDK 8	420	330	80	10.5	50	4.5-6.0	8
SD/SDK 10	700	560	150	13.5	60	6.0-8.0	10
SD/SDK 12	1100	880	250	15	75	8.0-10.0	12
SD/SDK 14	1600	1280	300	15.5	80	10.0-12.0	14

Safety factor of 5 is included / Reached with max. diameter wood screw / 10 N ≈ 1 kg / Screw in depth: In order to avoid solid-borne-sound-bridges the screw must not be screwed-in further than the plug depth

Installation



SD Sound Insulation Plug

Article code	Description	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Box content FS	Outer carton SK	Quantity per pallet
1880006	SD6	10	30	100 11	2400 32	57600
1880008	SD8	12	40	100 21	1800 32	43200
1880010	SD10	14	50	50 21	900 32	21600
1880012	SD12	16	60	50 31	600 32	14400
1880014	SD14	18	70	50 51	300 32	7200

SDK Sound Insulation Plug with collar

Article code	Description	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Effective anchorage depth mm h_{ef}	Collar ∅ mm d_k	Collar thickness mm L_k	Box content FS	Outer carton SK	Quantity per pallet
1880106	SDK6	10	34	30	22	4	100 31	1200 32	28800
1880108	SDK8	12	44	40	30	4	100 51	600 32	14400
1880110	SDK10	14	56	50	34	6	50 51	300 32	7200
1880112	SDK12	16	67	60	42	7	25 51	150 32	3600
1880114	SDK14	18	77	70	42	7	25 51	150 32	3600

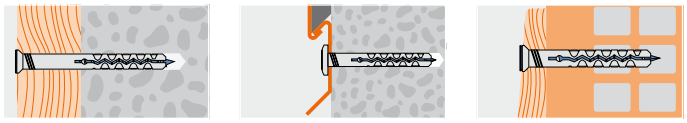
MNA Hammer Screw

Features

- Quick and simple installation
- Available with 3 different styles of head
- The long expansion zone guarantees optimum stability
- Easy and reliable installation
- The buttress thread allows adjustment or dismantling
- Plug made from high-quality polyamide PA6
- Through fixing
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

wooden constructions, skirtings, profiles, frames

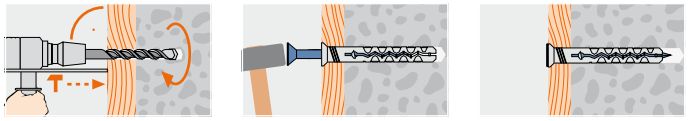


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Brick tension load (kN)	Calcium silicate brick tension load (kN)
MNA 5	0.25	0.2	0.15
MNA 6	0.3	0.25	0.2
MNA 8	0.4	0.3	0.25
MNA 10	0.5	0.4	0.3

Safety factor of 5 is included / 1 kN ≈ 100 kg

Installation



MNA-S Hammer Screw with countersunk collar

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1122502S	5	25	7	2	PZ2	100 11	2400 32	144000
1122503S	5	30	7	5	PZ2	100 11	2400 32	144000
1122504S	5	40	7	15	PZ2	100 11	2400 32	144000
1122505S	5	50	7	25	PZ2	100 11	2400 32	144000
1122603S	6	35	9	5	PZ2	100 21	1800 32	108000
1122604S	6	40	9	10	PZ2	100 21	1800 32	108000
1122605S	6	50	9	20	PZ2	100 21	1800 32	108000
1122606S	6	60	9	30	PZ2	100 31	1200 32	72000
1122607S	6	70	9	40	PZ2	100 31	1200 32	72000
1122608S	6	80	9	50	PZ2	100 31	1200 32	72000
1122805S	8	50	12	10	PZ3	100 41	900 32	54000
1122806S	8	60	12	20	PZ3	100 41	900 32	54000
1122808S	8	80	12	40	PZ3	100 51	600 32	36000
1122810S	8	100	12	60	PZ3	100 51	600 32	36000
1122812S	8	120	12	80	PZ3	100 51	600 32	36000
1122814S	8	140	12	100	PZ3	100 51	600 32	36000

MNA-S Hammer Screw with countersunk collar, not pre-assembled

NEW GENERATION

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
11229081S	10	80	13	30	PZ3	50 31	600 32	36000
11229101S	10	100	13	50	PZ3	50 51	300 32	18000
11229121S	10	120	13	70	PZ3	50 51	300 32	18000
11229141S	10	140	13	90	PZ3	50 51	300 32	18000
11229161S	10	160	13	110	PZ3	50 51	300 32	18000

Not pre-assembled

MNA-Z Hammer Screw with cylindrical collar

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1122502Z	5	25	8	2	PZ2	100 11	2400 32	144000
1122503Z	5	30	8	5	PZ2	100 11	2400 32	144000
1122504Z	5	40	8	15	PZ2	100 11	2400 32	144000
1122505Z	5	50	8	25	PZ2	100 11	2400 32	144000
1122603Z	6	35	12	5	PZ2	100 21	1800 32	108000
1122604Z	6	40	12	10	PZ2	100 21	1800 32	108000
1122605Z	6	50	12	20	PZ2	100 21	1800 32	108000
1122606Z	6	60	12	30	PZ2	100 31	1200 32	72000
1122607Z	6	70	12	40	PZ2	100 31	1200 32	72000
1122608Z	6	80	12	50	PZ2	100 31	1200 32	72000
1122805Z	8	50	15	10	PZ3	100 41	900 32	54000
1122806Z	8	60	15	20	PZ3	100 41	900 32	54000
1122808Z	8	80	15	40	PZ3	100 51	600 32	36000
1122810Z	8	100	15	60	PZ3	100 51	600 32	36000
1122812Z	8	120	15	80	PZ3	100 51	600 32	36000
1122814Z	8	140	15	100	PZ3	100 51	600 32	36000

MNA-G Hammer Screw with large collar PZ2

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1122502G	5	25	11	2	PZ2	100 11	2400 32	57600
1122503G	5	30	11	5	PZ2	100 11	2400 32	57600
1122504G	5	40	11	15	PZ2	100 11	2400 32	57600
1122604G	6	40	13	10	PZ2	100 21	1800 32	43200

MNA-G Hammer Screw with large collar T25

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1122805G	8	50	17	10	T25	100 41	900 32	21600
1122806G	8	60	17	20	T25	100 51	600 32	14400
1122808G	8	80	17	40	T25	100 51	600 32	14400
1122810G	8	100	17	60	T25	100 51	600 32	14400

MNAr-S Hammer Screw with countersunk collar, stainless steel A2/304

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1125503S	5	30	7	5	PZ2	100 11	2400 32	57600
1125505S	5	50	7	25	PZ2	100 11	2400 32	57600
1125603S	6	35	9	5	PZ2	100 21	1800 32	43200
1125604S	6	40	9	10	PZ2	100 21	1800 32	43200
1125605S	6	50	9	20	PZ2	100 21	1800 32	43200
1125606S	6	60	9	30	PZ2	100 31	1200 32	28800
1125607S	6	70	9	40	PZ2	100 31	1200 32	28800
1125805S	8	50	12	10	PZ3	100 41	900 32	21600
1125806S	8	60	12	20	PZ3	100 41	900 32	21600
1125808S	8	80	12	40	PZ3	100 51	600 32	14400
1125810S	8	100	12	60	PZ3	100 51	600 32	14400
1125812S	8	120	12	80	PZ3	100 51	600 32	14400
1125814S	8	140	12	100	PZ3	100 51	600 32	14400

MNAr-Z Hammer Screw with cylindrical collar, stainless steel A2/304

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Collar ∅ mm d_k	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1125503Z	5	30	8	5	PZ2	100 11	2400 32	57600
1125505Z	5	50	8	25	PZ2	100 11	2400 32	57600
1125603Z	6	35	12	5	PZ2	100 21	1800 32	43200
1125604Z	6	40	12	10	PZ2	100 21	1800 32	43200
1125605Z	6	50	12	20	PZ2	100 21	1800 32	43200
1125606Z	6	60	12	30	PZ2	100 31	1200 32	28800
1125607Z	6	70	12	40	PZ2	100 31	1200 32	28800
1125805Z	8	50	15	10	PZ3	100 41	900 32	21600
1125806Z	8	60	15	20	PZ3	100 41	900 32	21600
1125808Z	8	80	15	40	PZ3	100 51	600 32	14400
1125810Z	8	100	15	60	PZ3	100 51	600 32	14400
1125812Z	8	120	15	80	PZ3	100 51	600 32	14400
1125814Z	8	140	15	100	PZ3	100 51	600 32	14400

MDB Nylon Disc, white

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120864	45	5.1	Nylon	MNA-S 5	100 31	1200 32	28800
1120865	45	8.5	Nylon	MNA-S 6/8 / MRS-U	100 31	1200 32	28800
1120877	60	8.5	Nylon	MNA-S 6/8 / MRS-U	100 51	600 32	14400
1120878	60	10.5	Nylon	MNA-S 10	100 51	600 32	14400

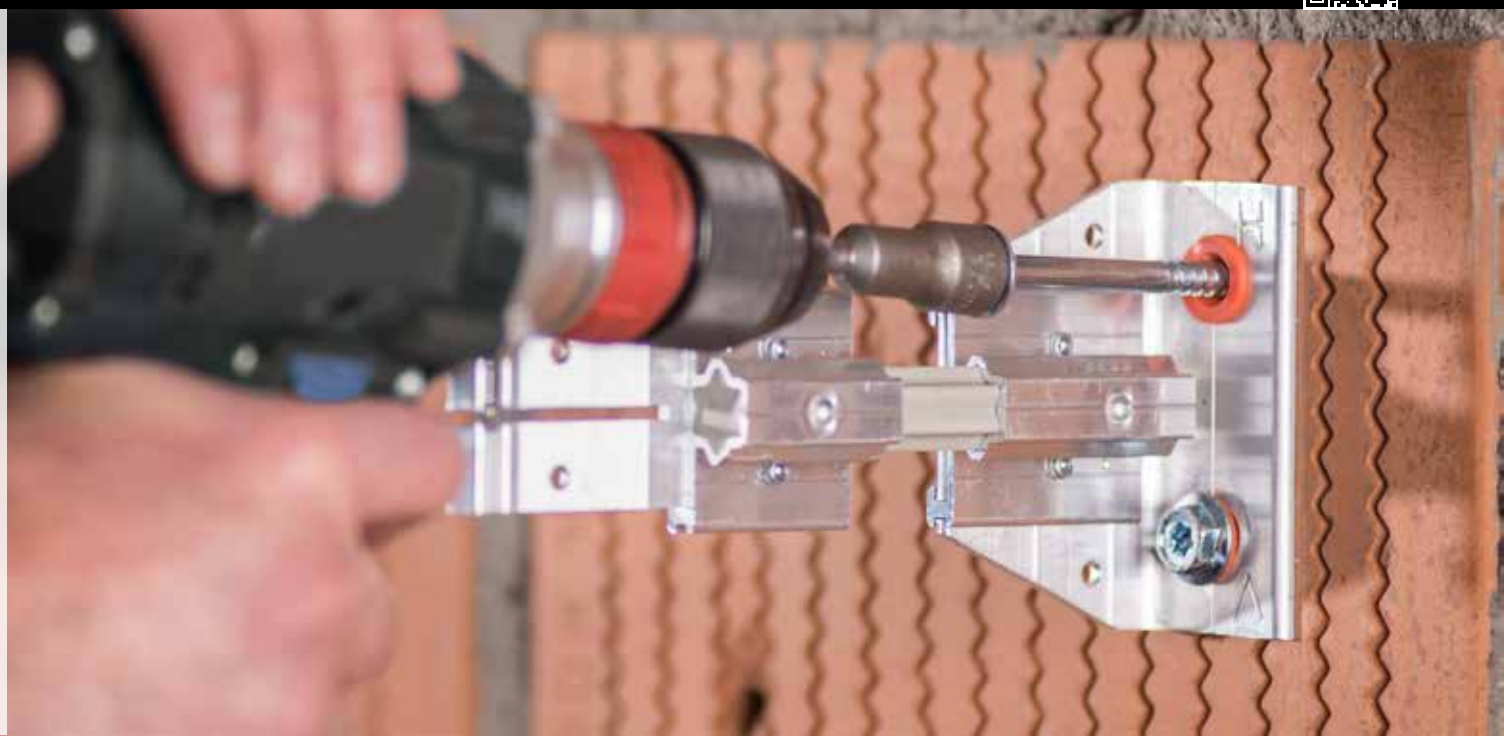
MDB-M Metal Disc, white, Ø 38mm

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120875	38	9.0	metal	MNA-S 8 / MEN 8 / MRS	200 21	3600 32	86400

MDB-M Metal Disc, Ø 38mm

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	For	Box content FS	Outer carton SK	Quantity per pallet
1120867	38	9.0	metal	MNA-S 8 / MEN 8 / MRS	200 21	3600 32	86400

MQL Universal Nylon Frame Plug, ETAG 020



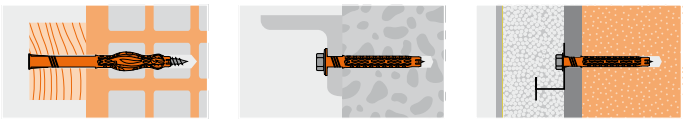
ETAG 020 F90 Nylon Quality lasts for ever

Features

- ETAG 020 - Approved for multiple use in concrete and masonry for non-structural applications
- Assessment of resistance under fire exposure F90 for fastening of façade systems
- Quattro® Technology
- Increased load capacity due to 4 expansion zones
- Universal use
- Setting depth of 70mm results in higher loadings
- Knot forming leads to high resistance in cavities
- Longer plugs with reinforced shank
- 3-times rotation resistance stops the plug rotating in the drill hole (especially in softer materials)
- Knock-in protection prevents premature expansion while installing
- Oversize plugs moulded in one-piece up to the overall length of 300mm
- Made from high-quality polyamide PA6
- Through fixing
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

façade and roof substructures, ventilated façades, fixing for insulation, substructures, profiles

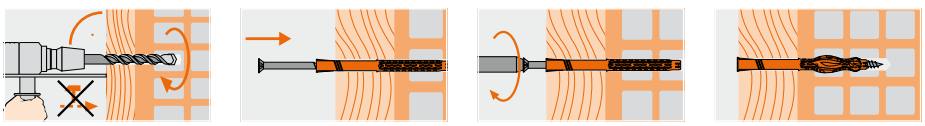


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Brick tension load (kN)	Calcium silicate brick tension load (kN)	Perforated Brick tension load (kN)	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)	Aerated Concrete tension load (kN)	Bending moment (Nm) galv. steel	Bending moment (Nm) stainl. steel
MQL 8	1) 6) 1.8	-	-	-	2) 6) 0.9	-	2) 6) 0.3	2) 6) 0.4	-	-
MQL 10	1) 6) 2.0	5) 1.0	5) 0.9	5) 0.7	2) 6) 1.2	5) 0.6	2) 6) 0.4	2) 6) 0.5	5) 9.2	5) 8.6

Values only valid when using Mungo safety screws / 1 kN ≈ 100 kg / 1) Safety factor of 3 is included / 2) Safety factor of 3.5 is included / 5) European Technical Assessment / 6) Mungo lab tested

Installation



Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1060100	8	80	10	6	85	T30	100 51	600 32	14400
1) 1060101	8	100	30	6	105	T30	100 51	600 32	14400
1) 1060102	8	120	50	6	125	T30	100 51	600 32	14400
1) 1060104	8	140	70	6	145	T30	100 51	600 32	14400
1) 1060106	8	160	90	6	165	T30	50 51	300 32	7200
1060108	10	80	10	7	85	T40	100 51	600 32	14400
1060110	10	100	30	7	105	T40	50 51	300 32	7200
1060112	10	120	50	7	125	T40	50 51	300 32	7200
1060114	10	140	70	7	145	T40	50 51	300 32	7200
1060116	10	160	90	7	165	T40	50 51	300 32	7200
1060118	10	180	110	7	185	T40	50 51	300 32	7200
1060120	10	200	130	7	205	T40	50 51	300 32	7200
1060124	10	240	170	7	245	T40	25 61	50 12	3000
1060128	10	280	210	7	285	T40	25	-	-
1060130	10	300	230	7	305	T40	25	-	-

Setting depth of 70mm
1) Not part of the assessment

MQL-ST Universal Nylon Frame Plug with screw T30/T40

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1060208	10	80	10	7	85	13	100 51	600 32	14400
1060210	10	100	30	7	105	13	50 51	300 32	7200
1060212	10	120	50	7	125	13	50 51	300 32	7200
1060214	10	140	70	7	145	13	50 51	300 32	7200
1060216	10	160	90	7	165	13	50 51	300 32	7200
1060218	10	180	110	7	185	13	50 51	300 32	7200
1060220	10	200	130	7	205	13	50 51	300 32	7200
1060224	10	240	170	7	245	13	25 61	50 12	3000
1060228	10	280	210	7	285	13	25	-	-
1060230	10	300	230	7	305	13	25	-	-

Stainless steel A4 on request
Setting depth of 70mm

MQL-SS Universal Nylon Frame Plug with hexagon screw

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1060308	10	80	10	7	85	13	50 51	300 32	7200
1060310	10	100	30	7	105	13	50 51	300 32	7200
1060312	10	120	50	7	125	13	50 51	300 32	7200

Setting depth of 70mm

MQLK-STB Universal Nylon Frame Plug with collar and hexagon screw, T40, collar

T40

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1070100	8	80	10	6	85	T30	100 51	600 32	14400
1) 1070101	8	100	30	6	105	T30	100 51	600 32	14400
1) 1070102	8	120	50	6	125	T30	100 51	600 32	14400
1) 1070104	8	140	70	6	145	T30	100 51	600 32	14400
1) 1070106	8	160	90	6	165	T30	50 51	300 32	7200
1070108	10	80	10	7	85	T40	100 51	600 32	14400
1070110	10	100	30	7	105	T40	50 51	300 32	7200
1070112	10	120	50	7	125	T40	50 51	300 32	7200
1070114	10	140	70	7	145	T40	50 51	300 32	7200
1070116	10	160	90	7	165	T40	50 51	300 32	7200
1070118	10	180	110	7	185	T40	50 51	300 32	7200
1070120	10	200	130	7	205	T40	50 51	300 32	7200
1070124	10	240	170	7	245	T40	25 61	50 12	3000
1070128	10	280	210	7	285	T40	25	-	-
1070130	10	300	230	7	305	T40	25	-	-

Setting depth of 70mm
1) Not part of the assessment

MQL-STr Universal Nylon Frame Plug with screw T30/T40, stainless steel A4/316

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1070308	10	80	10	7	85	13	50 51	300 32	7200
1070310	10	100	30	7	105	13	50 51	300 32	7200

Setting depth of 70mm

MQLK-STBr Universal Nylon Frame Plug with collar and hexagon screw, T40, collar, stainless steel A4/316

T40

MB Nylon Frame Plug for softer materials, ETAG 020

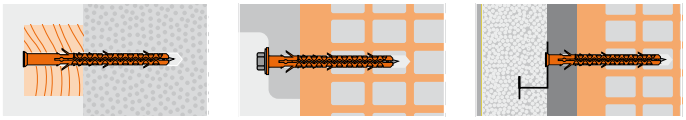
ETAG 020 F90 Nylon Quality lasts for ever

Features

- ETAG 020 - Approved for multiple use in concrete and masonry for non-structural applications
- Assessment of resistance under fire exposure F90 for fastening of façade systems
- Approved and suitable for applications in perforated brick, masonry and aerated concrete
- Aerated Concrete: Drill-Ø 9mm, setting depth 90mm
- MB with extended expansion zone for optimum applications in low density materials and hollow brick
- Knock-in protection prevents premature expansion while installing
- Wings stop the plug rotating in the drill hole
- Oversize plugs moulded in one-piece up to the overall length of 300mm
- Plug made from high-quality polyamide PA6
- Through fixing
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

façade fixings, profiles, substructures, frames

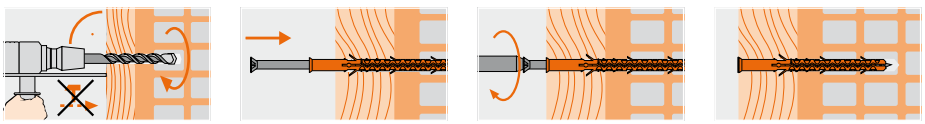


Technical Data

	Perforated Brick app. load (kN)	Lightweight Concrete app. load (kN)	Aerated Concrete app. load (kN)	Bending moment (Nm) galv. steel	Bending moment (Nm) stainl. steel
MB 8	1) 0.3	1) 0.4	1) 0.3	1) 3.4	1) 3.2
MB 10	0.3	0.5	1) 0.3	1) 11.1	1) 10.4

Important: Recommended loads / The approved loads and detailed specifications of stones can be found in the European Technical Assessment 15/0068 / Approved loads: Tension, shear and combined loads / Without hammer drilling in perforated brick and lightweight concrete / 1 kN ≈ 100 kg / Safety factor of 2.5 is included / Values only valid when using Mungo safety screws / 1) Mungo lab tested

Installation



MB-ST Nylon Frame Plug with screw T30/T40

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1122100	8	80	10	6	85	T30	100 51	600 32	14400
1) 1122101	8	100	30	6	105	T30	100 51	600 32	14400
1) 1122102	8	120	50	6	125	T30	100 51	600 32	14400
1) 1122104	8	140	70	6	145	T30	100 61	600 32	14400
1122108	10	80	10	7	85	T40	100 51	600 32	14400
1122110	10	100	30	7	105	T40	50 51	300 32	7200
1122112	10	120	50	7	125	T40	50 51	300 32	7200
1122114	10	140	70	7	145	T40	50 51	300 32	7200
1122116	10	160	90	7	165	T40	50 51	300 32	7200
1122120	10	200	130	7	205	T40	50 51	300 32	7200
1122124	10	240	170	7	245	T40	25 61	50 12	3000
1122128	10	280	210	7	285	T40	25	-	-
1122130	10	300	230	7	305	T40	25	-	-

1) Not part of the assessment

MB-SS Nylon Frame Plug with hexagon screw

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1121908	10	80	10	7	85	13	100 51	600 32	14400
1121910	10	100	30	7	105	13	50 51	300 32	7200
1121912	10	120	50	7	125	13	50 51	300 32	7200
1121914	10	140	70	7	145	13	50 51	300 32	7200
1121916	10	160	90	7	165	13	50 51	300 32	7200
1121920	10	200	130	7	205	13	50 51	300 32	7200
1121924	10	240	170	7	245	13	25 61	50 12	3000
1121928	10	280	210	7	285	13	25	-	-
1121930	10	300	230	7	305	13	25	-	-

MB-S Nylon Frame Plug with screw Pozi 3

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1122300	8	80	10	6	85	PZ3	100 51	600 32	14400
1) 1122301	8	100	30	6	105	PZ3	100 51	600 32	14400
1) 1122302	8	120	50	6	125	PZ3	100 51	600 32	14400
1) 1122304	8	140	70	6	145	PZ3	100 61	600 32	14400
1122308	10	80	10	7	85	PZ3	100 51	600 32	14400
1122310	10	100	30	7	105	PZ3	50 51	300 32	7200
1122312	10	120	50	7	125	PZ3	50 51	300 32	7200
1122314	10	140	70	7	145	PZ3	50 51	300 32	7200
1122316	10	160	90	7	165	PZ3	50 51	300 32	7200
1122320	10	200	130	7	205	PZ3	50 51	300 32	7200

while stocks last, replacement product MB-ST
1) Not part of the assessment

MBK-STB Nylon Frame Plug with collar and hexagon screw, T40, collar

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1120608	10	80	10	7	85	13	50 51	300 32	7200
1120610	10	100	30	7	105	13	50 51	300 32	7200
1120612	10	120	50	7	125	13	50 51	300 32	7200

T40

MB-STr Nylon Frame Plug with screw T30/T40, stainless steel A4/316

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1136908	8	80	10	6	85	T30	100 51	600 32	14400
1) 1136910	8	100	30	6	105	T30	100 51	600 32	14400
1) 1136912	8	120	50	6	125	T30	100 51	600 32	14400
1) 1136914	8	140	70	6	145	T30	100 61	600 32	14400
1137208	10	80	10	7	85	T40	100 51	600 32	14400
1137210	10	100	30	7	105	T40	50 51	300 32	7200
1137212	10	120	50	7	125	T40	50 51	300 32	7200
1137214	10	140	70	7	145	T40	50 51	300 32	7200
1137216	10	160	90	7	165	T40	50 51	300 32	7200
1137220	10	200	130	7	205	T40	50 51	300 32	7200
1137224	10	240	170	7	245	T40	25 61	50 12	3000
1137228	10	280	210	7	285	T40	25	-	-
1137230	10	300	230	7	305	T40	25	-	-

1) Not part of the assessment

MB-SSr Nylon Frame Plug with hexagon screw, stainless steel A4/316

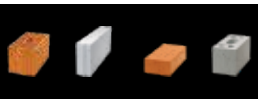
Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1135208	10	80	10	7	85	13	100 51	600 32	14400
1135210	10	100	30	7	105	13	50 51	300 32	7200
1135212	10	120	50	7	125	13	50 51	300 32	7200
1135214	10	140	70	7	145	13	50 51	300 32	7200
1135216	10	160	90	7	165	13	50 51	300 32	7200
1135220	10	200	130	7	205	13	50 51	300 32	7200

MBK-STBr Nylon Frame Plug with collar and hexagon screw, T40, collar, stainless steel A4/316

T40

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1136208	10	80	10	7	85	13	50 51	300 32	7200
1136210	10	100	30	7	105	13	50 51	300 32	7200

MB-SK Nylon Frame Plug with head hole



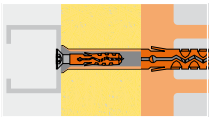
Nylon Quality lasts for ever

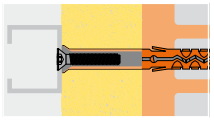
Features

- With head hole MN5 (screwtype wood/chipboard) or M5 (screwtype metric)
- Suitable for light duty insulation applications
- MB with extended expansion zone for optimum applications in low density materials and hollow brick
- Knock-in protection prevents premature expansion while installing
- Wings stop the plug rotating in the drill hole
- Universal use
- Plug made from high-quality polyamide PA6
- Through fixing

Applications

thermal insulation on façades, lamps, roller blinds, rails, wardrobes, letter boxes



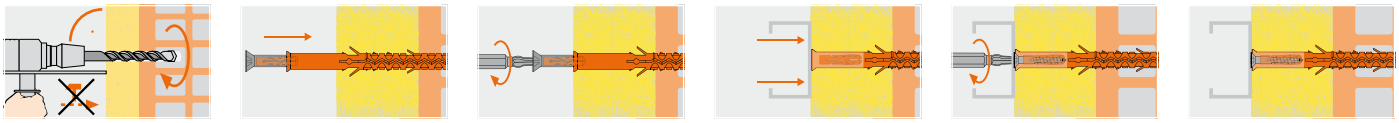


Technical Data

	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)	Aerated Concrete tension load (kN)	Head hole tension load (kN) screw ∅ 4mm	Head hole shear load (kN) screw: steel quality 4.6
MB-SK 10	0.25	0.25	0.25	0.1	-
MB-SKm 10	0.25	0.25	0.25	-	1.68

Without hammer drilling in perforated brick and lightweight concrete / Safety factor (ground) of 5 is included / Safety factor (head hole) of 2 is included / Shear load: without consideration of edge and anchor distances / 1 kN ≈ 100 kg

Installation



MB-SK Nylon Frame Plug incl. screw with head hole/MN5/T40

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1121808	10	80	10	T40	100 51	600 32	14400
1121810	10	100	30	T40	50 51	300 32	7200
1121812	10	120	50	T40	50 51	300 32	7200
1121814	10	140	70	T40	50 51	300 32	7200
1121816	10	160	90	T40	50 51	300 32	7200
1121820	10	200	130	T40	50 51	300 32	7200
1121824	10	240	170	T40	25 61	50 12	3000
1121828	10	280	210	T40	25	-	-
1121830	10	300	230	T40	25	-	-

MB-SKm Nylon Frame Plug incl. screw with head hole/M5/T40

NEW GENERATION

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Drive	Internal thread d	Internal thread length mm L_{th}	Box content FS	Outer carton SK	Quantity per pallet
1123010	10	100	30	T40	M5	18	50 51	300 32	7200
1123012	10	120	50	T40	M5	18	50 51	300 32	7200
1123014	10	140	70	T40	M5	18	50 51	300 32	7200
1123016	10	160	90	T40	M5	18	50 51	300 32	7200
1123020	10	200	130	T40	M5	18	50 51	300 32	7200
1123024	10	240	170	T40	M5	18	25 61	50 12	3000
1123028	10	280	210	T40	M5	18	25	-	-
1123030	10	300	230	T40	M5	18	25	-	-

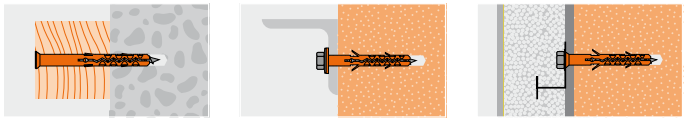
MBR Nylon Frame Plug for solid materials, ETAG 020

Features

- ETAG 020 - Approved for multiple use in concrete and masonry for non-structural applications
- Assessment of resistance under fire exposure F90 for fastening of façade systems
- Approved and particularly suitable for applications in solid materials
- Knock-in protection prevents premature expansion while installing
- Less drilling - faster installation
- MBR with an expansion zone of 50mm for a faster installation
- Helps to avoid cold transmission and contact corrosion between different materials
- Wings stop the plug rotating in the drill hole
- Plug made from high-quality polyamide PA6
- Through fixing
- Indoor (zinc plated) and outdoor (stainless steel) applications

Applications

façade fixings, profiles, substructures, frames



Technical Data

	Concrete ≥ C12/15 app. load (kN)	Calcium silicate brick app. load (kN)	Brick app. load (kN)	Bending moment (Nm) galv. steel	Bending moment (Nm) stainl. steel
MBR 6	1) 0.3	1) 0.25	1) 0.25	-	-
MBR 8	1) 0.5	1) 0.4	1) 0.4	1) 3.4	1) 3.2
MBR 10	1) 2) 0.8	0.6	1) 0.5	1) 9.2	1) 8.6
MBR 10x60	1) 2) 0.8	0.6	1) 0.5	1) 7.9	1) 7.4

Important: Recommended loads / The approved loads and detailed specifications of stones can be found in the European Technical Assessment 15/0068 / Approved loads: Tension, shear and combined loads / 1 kN ≈ 100 kg / Safety factor of 2.5 is included / Values only valid when using Mungo safety screws / 1) Mungo lab tested / 2) Partial safety factor 1.8

Installation

MBR-ST Nylon Frame Plug with screw T30/ T40

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1122000	8	80	30	6	85	T30	100 51	600 32	14400
1) 1122001	8	100	50	6	105	T30	100 51	600 32	14400
1) 1122002	8	120	70	6	125	T30	100 51	600 32	14400
1) 1122004	8	140	90	6	145	T30	100 61	600 32	14400
1122006	10	60	10	7	65	T40	100 51	600 32	14400
1122008	10	80	30	7	85	T40	100 51	600 32	14400
1122010	10	100	50	7	105	T40	50 51	300 32	7200
1122012	10	120	70	7	125	T40	50 51	300 32	7200
1122014	10	140	90	7	145	T40	50 51	300 32	7200
1122016	10	160	110	7	165	T40	50 51	300 32	7200
1122020	10	200	150	7	205	T40	50 61	300 32	7200
1122024	10	240	190	7	245	T40	25 61	50 12	3000

1) Not part of the assessment

MBR-SS Nylon Frame Plug with hexagon screw

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1121506	10	60	10	7	65	13	100 51	600 32	14400
1121508	10	80	30	7	85	13	100 51	600 32	14400
1121510	10	100	50	7	105	13	50 51	300 32	7200
1121512	10	120	70	7	125	13	50 51	300 32	7200
1121514	10	140	90	7	145	13	50 51	300 32	7200
1121516	10	160	110	7	165	13	50 51	300 32	7200
1121520	10	200	150	7	205	13	50 61	300 32	7200
1121524	10	240	190	7	245	13	25 61	50 12	3000

MBR-S Nylon Frame Plug with screw Pozi

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1120906	6	55	25	4	60	PZ2	100 21	1800 32	43200
1) 1120907	8	60	10	6	65	PZ3	100 31	1200 32	28800
1) 1120908	8	80	30	6	85	PZ3	100 51	600 32	14400
1) 1120910	8	100	50	6	105	PZ3	100 51	600 32	14400
1) 1120912	8	120	70	6	125	PZ3	100 51	600 32	14400
1) 1120914	8	140	90	6	145	PZ3	100 61	600 32	14400
1121006	10	60	10	7	65	PZ3	100 51	600 32	14400
1121008	10	80	30	7	85	PZ3	100 51	600 32	14400
1121010	10	100	50	7	105	PZ3	50 51	300 32	7200
1121012	10	120	70	7	125	PZ3	50 51	300 32	7200
1121014	10	140	90	7	145	PZ3	50 51	300 32	7200
1121016	10	160	110	7	165	PZ3	50 51	300 32	7200
1121018	10	200	150	7	205	PZ3	50 61	300 32	7200

while stocks last, replacement product MBR-ST

1) Not part of the assessment

MBRK-STB Nylon Frame Plug with collar and hexagon screw, T40, collar

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1120706	10	60	10	7	65	13	100 51	600 32	14400
1120708	10	80	30	7	85	13	50 51	300 32	7200
1120710	10	100	50	7	105	13	50 51	300 32	7200

MBR-STr Nylon Frame Plug with screw T30/ T40, stainless steel A4/316

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1) 1125908	8	80	30	6	85	T30	100 51	600 32	14400
1) 1125910	8	100	50	6	105	T30	100 51	600 32	14400
1) 1125912	8	120	70	6	125	T30	100 51	600 32	14400
1) 1125914	8	140	90	6	145	T30	100 61	600 32	14400
1137106	10	60	10	7	65	T40	100 51	600 32	14400
1137108	10	80	30	7	85	T40	100 51	600 32	14400
1137110	10	100	50	7	105	T40	50 51	300 32	7200
1137112	10	120	70	7	125	T40	50 51	300 32	7200
1137114	10	140	90	7	145	T40	50 51	300 32	7200
1137116	10	160	110	7	165	T40	50 51	300 32	7200
1137120	10	200	150	7	205	T40	50 61	300 32	7200
1137124	10	240	190	7	245	T40	25 61	50 12	3000

1) Not part of the assessment

MBR-SSr Nylon Frame Plug with hexagon screw, stainless steel A4/316

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Screw ∅ mm d_s	Screw length mm L_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1135106	10	60	10	7	65	13	100 51	600 32	14400
1135108	10	80	30	7	85	13	100 51	600 32	14400
1135110	10	100	50	7	105	13	50 51	300 32	7200
1135112	10	120	70	7	125	13	50 51	300 32	7200
1135114	10	140	90	7	145	13	50 51	300 32	7200
1135116	10	160	110	7	165	13	50 51	300 32	7200
1135120	10	200	150	7	205	13	50 61	300 32	7200

MBR-SK Nylon Frame Plug with head hole

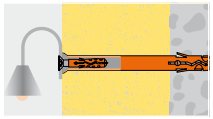
Features

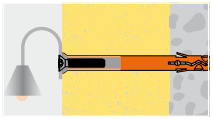
- With head hole MN5 (screwtype wood/chipboard) or M5 (screwtype metric)
- Suitable for light duty insulation applications
- Knock-in protection prevents premature expansion while installing
- Less drilling - faster installation
- MBR with an expansion zone of 50mm for a faster installation
- Wings stop the plug rotating in the drill hole
- Universal use
- Plug made from high-quality polyamide PA6
- Through fixing

Nylon Quality lasts for ever

Applications

thermal insulation on façades, lamps, roller blinds, rails, wardrobes, letter boxes



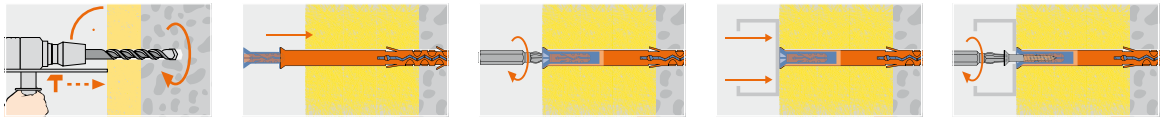


Technical Data

	Concrete C20/25 tension load (kN)	Calcium silicate brick tension load (kN)	Brick tension load (kN)	Head hole tension load (kN) screw ∅ 4mm	Head hole shear load (kN) screw: steel quality 4.6
MBR-SK 10	0.25	0.25	0.25	0.1	-
MBR-SKm 10	0.25	0.25	0.25	-	1.68

Safety factor (ground) of 5 is included / Safety factor (head hole) of 2 is included / Shear load: without consideration of edge and anchor distances / 1 kN ≈ 100 kg

Installation



Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Drive	Box content FS	Outer carton SK	Quantity per pallet
1121208	10	80	30	T40	100 51	600 32	14400
1121210	10	100	50	T40	50 51	300 32	7200
1121220	10	120	70	T40	50 51	300 32	7200
1121240	10	140	90	T40	50 51	300 32	7200
1121260	10	160	110	T40	50 51	300 32	7200
1121290	10	200	150	T40	50 61	300 32	7200
1121294	10	240	190	T40	25 61	50 12	3000

MBR-SK Nylon Frame Plug incl. screw with head hole/MN5/T40

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Usable length mm t_{fix}	Drive	Internal thread d	Internal thread length mm L_{th}	Box content FS	Outer carton SK	Quantity per pallet
1123110	10	100	50	T40	M5	18	50 51	300 32	7200
1123112	10	120	70	T40	M5	18	50 51	300 32	7200
1123114	10	140	90	T40	M5	18	50 51	300 32	7200
1123116	10	160	110	T40	M5	18	50 51	300 32	7200
1123120	10	200	150	T40	M5	18	50 61	300 32	7200
1123124	10	240	190	T40	M5	18	25 61	50 12	3000

MBR-SKm Nylon Frame Plug incl. screw with head hole/M5/T40

NEW GENERATION

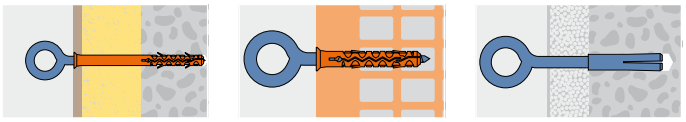
MGD Scaffold Plug

Features

- Economical solution for light scaffolds
- Welded screw for safe fixing according to DIN 4420
- Tension force of eyelet: 26 kN (DIN EN 10002-1: 1991-04)
- Setting depth mark for correct installation
- Easy installation due to knock-in protection and plug collar
- End Cap for clean closure after dismantling
- Plug made from high-quality polyamide PA6
- Temporary outdoor applications

Applications

façade scaffolds, climbing scaffolds, tensioning ropes

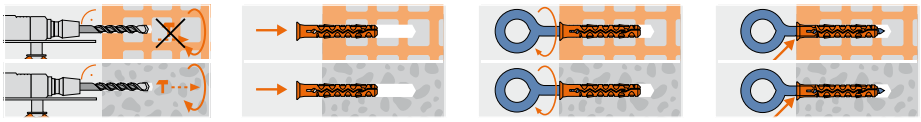


Technical Data

	Non-cracked concrete C20/25 tension load (kN)	Brick tension load (kN)	Perforated Brick tension load (kN)
MGD	5	4.5	1.6
MGVm (with MEA)	5.3	-	-

Without hammer drilling in perforated brick and lightweight concrete / Safety factor of 3 is included / 1 kN ≈ 100 kg

Installation



MGD Scaffold Plug

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Fit to MGV Scaffold Screw in mm L_s	Box content FS	Outer carton SK	Quantity per pallet
1131407	14	70	90-550	50 41	450 32	27000
1131410	14	100	120-550	50 51	300 32	18000
1131414	14	140	160-550	25 51	150 32	9000

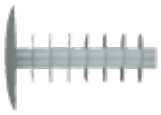
MGV Scaffold Screw

Article code	Shank ∅ mm d_s	Length mm L_s	Usable length mm t_{fix}	Hole ∅ mm d_w	Box content	Outer carton	Quantity per pallet
1131209	12	90	15	25	25	75	4500
1131212	12	120	45	25	25	75	4500
1131216	12	160	85	25	25	75	4500
1131219	12	190	115	25	20	60	3600
1131223	12	230	155	25	10	20	2400
1131227	12	270	195	25	10	-	-
1131230	12	300	225	25	10	-	-
1131235	12	350	275	25	10	-	-
1131240	12	400	325	25	10	-	-
1131245	12	450	375	25	10	-	-
1131250	12	500	425	25	10	-	-
1131255	12	550	475	25	10	-	-

Further dimensions on request

MVS End Cap for Scaffold Plug

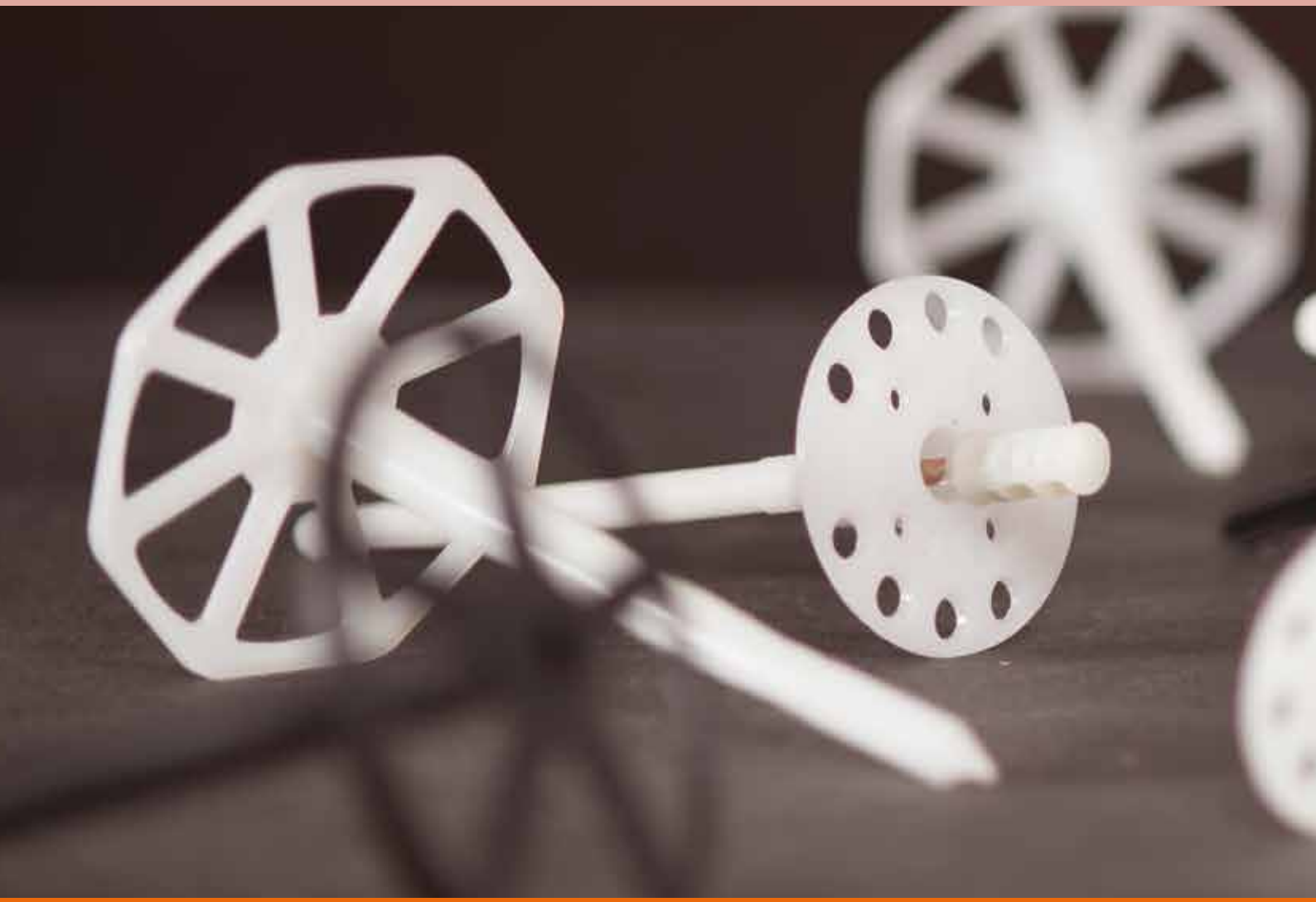
Article code	Inner plug ∅ of the installed plug mm	Length mm L	Box content FS	Outer carton SK	Quantity per pallet
1121090	10-12	40	100 41	900 32	54000



MGVm Scaffold Screw with metric thread, steel quality 5.8

Article code	Shank ∅ mm d_s	Length mm L_s	Usable length with MEA mm t_{fix}	Hole ∅ mm d_w	Box content	Outer carton	Quantity per pallet
1131508	12	80	65	23	25	75	4500
1131510	12	100	85	23	25	75	4500
1131512	12	120	105	23	25	75	4500
1131522	12	220	205	23	10	20	2400

In connection with Drop in Anchor MEA M12, corresponding DIN 4420



Insulation Fixings

MDD-S Insulation Fixing, steel nail

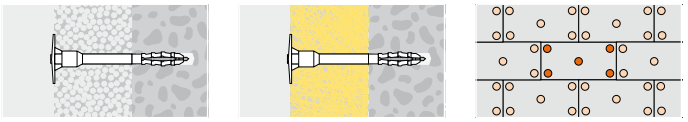
ETAG014

Features

- European Technical Assessment according to ETAG014- A/B/C/D/E - (L ≥ 135mm)
- European Technical Assessment according to ETAG014- A/B/C - (L ≤ 115mm)
- Reduced point thermal transmittance to 0.001 W/K thanks to high steel nail overmould, which decreases facade heat losses
- For all insulating materials
- For the fixings in all substrates (according to ETICS)
- Fixing system consisting of expansion plug with retaining disc (Ø 60mm) and expansion nail with special head
- Excellent disc stiffness of 1.0 kN/mm
- In combination with MDD-VZ discs (Ø90mm) for soft insulating material
- Suitable for insulation thicknesses up to 270 mm
- Short setting depth (ABCD = 25mm, E = 65mm)
- Shock resistant material
- For overhead applications please consult your local Mungo application engineer
- Through fixing

Applications

soft insulating materials, thermal insulation composite systems, thermal insulation composite systems with rendering

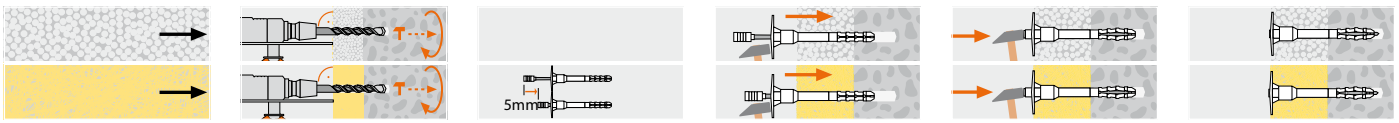


Technical Data

	Concrete C12/15 tension load (kN)	Concrete C16/20 - C50/60 tension load (kN)	Brick tension load (kN)	Calcium silicate brick tension load (kN)	Perforated calcium silicate brick tension load (kN)	Vertically perforated brick (Hlz 12) tension load (kN)	Aerated Concrete tension load (kN)	Drilling depth mm h0 A, B, C	Drilling depth mm h0 A, B, C, D	Drilling depth mm h_0 E	Effective anchorage depth mm h_{ef} A, B, C	Effective anchorage depth mm h_{ef} A, B, C, D	Effective anchorage depth mm h_{ef} E
MDD-S (L ≤ 115mm)	0.43	0.43	0.43	0.43	0.32	0.21	-	35	-	-	25	-	-
MDD-S (L ≥ 135mm)	0.4	0.43	0.43	0.43	0.4	0.18	0.36	-	35	75	-	25	65

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / 1 kN ≈ 100 kg

Installation



MDD-S Insulation Fixing, steel nail, Ø 60mm

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness mm t_{fix} A, B, C	Insulation thickness mm t_{fix} A, B, C, D	Insulation thickness mm t_{fix} E	Tolerance mm t_{tol}	Head ∅ mm d_k	Outer carton	Quantity per pallet
1190809	8	95	60-70			10	60	200	9600
1190811	8	115	70-90			10	60	200	6400
1191813	8	135		90-110	50-70	20	60	200	6400
1191815	8	155		110-130	70-90	20	60	200	4800
1191817	8	175		130-150	90-110	20	60	200	4800
1191819	8	195		150-170	110-130	20	60	200	4800
1191821	8	215		170-190	130-150	20	60	100	3200
1191823	8	235		190-210	150-170	20	60	100	3200
1191825	8	255		210-230	170-190	20	60	100	3200
1191827	8	275		230-250	190-210	20	60	100	3200
1191829	8	295		250-270	210-230	20	60	100	3200

MDD-VZ Disc for MDD-S, MDD-CE

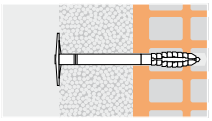
Article code	Outside ∅ mm d_{nom}	Box content
1180701	90	200

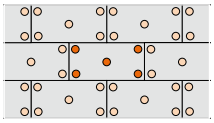
MDD-CE Insulation Fixing, plastic nail

ETAG014

Features

- European Technical Assessment according to ETAG014-A/B/C/D/E
- For the fixings in all substrates (according to ETICS)
- Fixing system consisting of expansion plug with retaining disc (Ø 60mm) and expansion nail with special head
- In combination with MDD-VZ discs (Ø90mm) for soft insulating material
- Shock resistant material
- With glass-fibre reinforced plastic pin
- Stable against influences of the weather
- Resistant to cold and heat
- For overhead applications please consult your local Mungo application engineer
- Through fixing





Applications

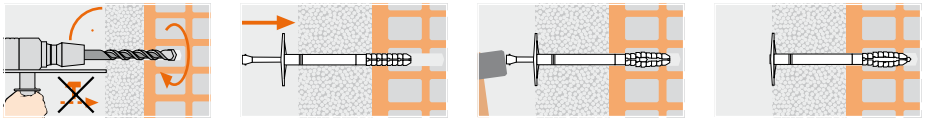
pressure-resistant insulating materials, soft insulating materials, thermal insulation composite systems, thermal insulation composite systems with rendering, polyurethane rigid foam panels, polystyrenes, mineral wools

Technical Data

	Concrete C20/25 tension load (kN)	Brick tension load (kN)	Calcium silicate brick tension load (kN)	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)	Aerated Concrete tension load (kN)	Drilling depth mm h_0 A, B, C	Drilling depth mm h_0 D	Drilling depth mm h_0 E	Setting depth mm h_{nom} A, B, C	Setting depth mm h_{nom} D	Setting depth mm h_{nom} E	Effective anchorage depth mm h_{ef} A, B, C	Effective anchorage depth mm h_{ef} D	Effective anchorage depth mm h_{ef} E
MDD-CE	0.18	0.18	0.14	0.14	0.18	0.04	35	50	70	25	40	60	25	40	60

The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / 1 kN ≈ 100 kg

Installation



MDD-CE Insulation Fixing, plastic nail, Ø 60mm

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness mm t_{fix} A, B, C	Insulation thickness mm t_{fix} D	Insulation thickness mm t_{fix} E	Tolerance mm t_{tol}	Head ∅ mm d_k	Outer carton	Quantity per pallet
1191009	10	90	55-65	40-50	20-30	10	60	250	12000
1191012	10	120	85-95	70-80	50-60	10	60	250	8000
1191014	10	140	105-115	90-100	70-80	10	60	250	6000
1191016	10	160	125-135	110-120	90-100	10	60	250	6000
1191018	10	180	145-155	130-140	110-120	10	60	250	4500
1191020	10	200	165-175	150-160	130-140	10	60	250	4500
1191022	10	220	185-195	170-180	150-160	10	60	250	4500

MDD-VZ Disc for MDD-S, MDD-CE

Article code	Outside ∅ mm d_{nom}	Box content
1180701	90	200

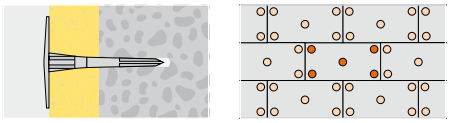
MDS Insulation Fixing

Features

- Reduced installation time, without screws and nails
- Low reduction of insulation level
- Shock resistant material
- For overhead applications please consult your local Mungo application engineer
- Through fixing

Applications

soft insulating materials, glass wools, wood-wool building slabs, mineral wools, ventilated façades

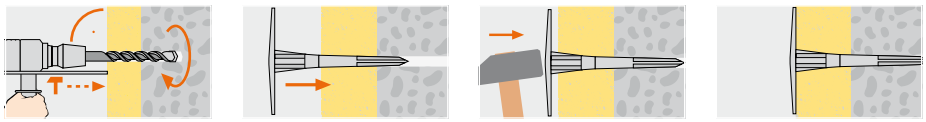


Technical Data

	Concrete C20/25 tension load (kN)	Perforated Brick tension load (kN)	Calcium silicate brick tension load (kN)	Drilling depth mm h_0	Setting depth mm h_{nom}	Effective anchorage depth mm h_{ef}
MDS	0.15	0.13	0.12	35	30	20

Safety factor of 3 is included / 1 kN ≈ 100 kg

Installation



Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness mm t_{fix}	Head ∅ mm d_k	Outer carton SK	Quantity per pallet
1180211	8	60	30	90	250 64	7500
1180212	8	80	50	90	250 64	7500
1180213	8	100	70	90	200 64	6000
1180214	8	120	90	90	200 64	6000
1180215	8	140	110	90	150 64	4500
1180216	8	160	130	90	150 64	4500

MDS Insulation Fixing, Ø 90mm

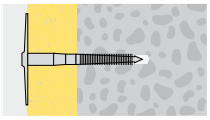
MIS Insulation Fixing for lightweight panel

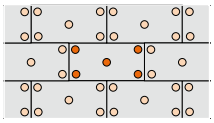
Features

- Large star shaped plug head for soft insulation boards
- Low reduction of insulation level
- Shock resistant material
- Reduced installation time, without screws and nails
- For overhead applications please consult your local Mungo application engineer
- Through fixing

Applications

soft insulating materials, glass wools, wood-wool building slabs, mineral wools





Technical Data

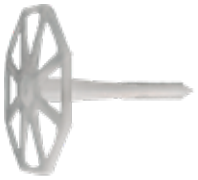
	Concrete C20/25 tension load (kN)	Brick tension load (kN)	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)	Drilling depth concrete mm h_0	Drilling depth perforated brick mm h_0	Setting depth concrete mm h_{nom}	Setting depth perforated brick mm h_{nom}	Effective anchorage depth min. concrete mm h_{ef}	Effective anchorage depth min. perforated brick mm h_{ef}
MIS	0.15	0.15	0.13	0.12	40	50	30	40	30	40

Safety factor of 3 is included / 1 kN ≈ 100 kg

Installation

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton SK	Quantity per pallet
1150001	8	75	45	35	88	250 64	7500
1150002	8	95	65	55	88	250 64	7500
1150003	8	115	85	75	88	250 64	7500
1150004	8	135	105	95	88	200 64	6000
1150005	8	155	125	115	88	200 64	6000

MIS Insulation Fixing for lightweight panel, Ø 88mm



Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton	Quantity per pallet
1150018	8	180	150	140	60	100	6000
1150020	8	200	170	160	60	100	6000
1150022	8	220	190	180	60	100	6000
1150024	8	240	210	200	60	100	6000

MIS Insulation Fixing for lightweight panel in black, Ø 60mm

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton	Quantity per pallet
1150101	8	75	45	35	88	700	8400
1150102	8	95	65	55	88	650	7800
1150103	8	115	85	75	88	600	7200
1150104	8	135	105	95	88	550	6600
1150105	8	155	125	115	88	500	6000

MIS-GP Insulation Fixing for lightweight panel, Ø 88mm, in industrial carton

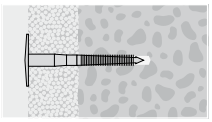
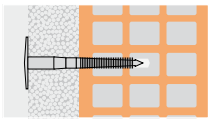
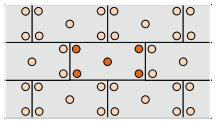
MIP Insulation Fixing for mineral wool

Features

- Provides optimal bonding conditions for plaster
- Low reduction of insulation level
- Shock resistant material
- Reduced installation time, without screws and nails
- For overhead applications please consult your local Mungo application engineer
- Through fixing

Applications

pressure-resistant insulating materials, polyurethane rigid foam panels, polystyrenes

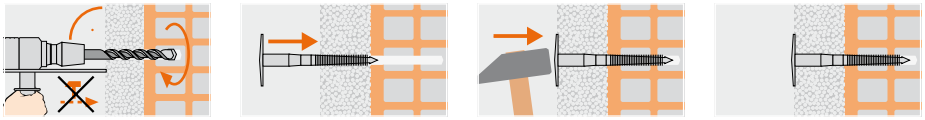




Technical Data

	Concrete C20/25 tension load (kN)	Brick tension load (kN)	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)	Drilling depth concrete mm h_0	Drilling depth perforated brick mm h_0	Setting depth concrete mm h_{nom}	Setting depth perforated brick mm h_{nom}	Effective anchorage depth min. concrete mm h_{ef}	Effective anchorage depth min. perforated brick mm h_{ef}
MIP	0.15	0.15	0.13	0.12	40	50	30	40	30	40

Safety factor of 3 is included / 1 kN ≈ 100 kg

Installation



MIP Insulation Fixing for mineral wool, Ø 45mm

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton SK	Quantity per pallet
1180001	8	70	40	30	45	250 32	15000
1180002	8	90	60	50	45	250 32	15000
1180003	8	105	75	65	45	250 32	15000
1180004	8	125	95	85	45	250 32	15000
1180005	8	155	125	115	45	250 32	15000

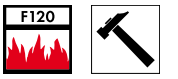
MIP-GP Insulation Fixing for mineral wool, Ø 45mm, in industrial carton


Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton	Quantity per pallet
1180101	8	70	40	30	45	3000	36000
1180102	8	90	60	50	45	2500	30000
1180103	8	105	75	65	45	2000	24000
1180104	8	125	95	85	45	1600	19200
1180105	8	155	125	115	45	1300	15600

MIDS Insulation Nail

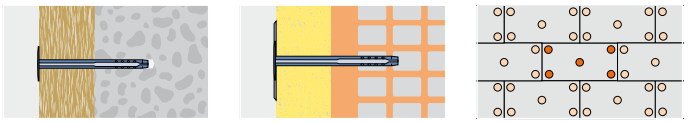
Features

- MIDS: Assessment of resistance under fire exposure F120
- Cap reduces thermal transmission
- In combination with MDB discs for soft insulating material
- Stainless steel for outdoor applications
- Suitable for overhead fixings
- Through fixing



Applications

soft insulating materials, pressure-resistant insulating materials, mineral wools, glass wools, wood-wool building slabs



Technical Data

	Concrete C20/25 tension load (kN)	Brick tension load (kN)	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)	Drilling depth concrete mm h_0	Drilling depth concrete mm (F120) h_0	Drilling depth perforated brick mm h_0	Setting depth concrete mm h_{nom}	Setting depth concrete mm (F120) h_{nom}	Setting depth perforated brick mm h_{nom}	Effective anchorage depth min. concrete mm h_{ef}	Effective anchorage depth min. concrete mm (F120) h_{ef}	Effective anchorage depth min. perforated brick mm h_{ef}
MIDS 8x50	0.3	0.3	0.1	0.1	35	-	45	30	-	40	25	-	35
MIDS 8x80	0.3	0.3	0.1	0.1	35	45	45	30	40	40	25	35	35
MIDS 8x90-8x300	0.3	0.3	0.1	0.1	40	50	50	30	40	40	25	35	35
MIDSr 8x90-8x300	0.3	0.3	0.1	0.1	40	-	50	30	-	40	25	-	35
MIDS-K 8x80	0.3	0.3	0.1	0.1	35	-	45	30	-	40	25	-	35
MIDS-K 8x90-8x300	0.3	0.3	0.1	0.1	40	-	50	30	-	40	25	-	35

Safety factor of 3 is included / 1 kN ≈ 100 kg

Installation

MIDS Metal Insulation Nail, Ø 30/35mm

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness concrete mm (F120) t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton	Quantity per pallet
[1] 1180508	8	50	20	-	10	35	500	18000
1180509	8	80	50	40	40	35	250	9000
1180501	8	90	60	50	50	30	250	12000
1180502	8	110	80	70	70	30	250	12000
1180503	8	140	110	100	100	35	250	9000
1180504	8	170	140	130	130	35	250	9000
1180505	8	200	170	160	160	35	250	9000
1180506	8	250	220	210	210	35	125	6000
1180507	8	300	270	260	260	35	125	6000

[1] Not part of the assessment

MDB Metal Disc for soft insulation

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	Outer carton	Quantity per pallet
1120874	80	14.5	zinc plated	250	12000

MIDSr Metal Insulation Nail, Ø 30/35mm, stainless steel A2/304

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness concrete mm (F120) t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton	Quantity per pallet
1180511	8	90	60	-	50	30	250	12000
1180512	8	110	80	-	70	30	250	12000
1180513	8	140	110	-	100	35	250	9000
1180514	8	170	140	-	130	35	250	9000
1180515	8	200	170	-	160	35	250	9000
1180516	8	250	220	-	210	35	125	6000
1180517	8	300	270	-	260	35	125	6000

MDBr Metal Disc for soft insulation, stainless steel A2/304

Article code	Disc ∅ mm d_{nom}	Hole ∅ mm d_w	Description	Outer carton	Quantity per pallet
1120876	80	14.5	stainless steel A2	250	6000

MIDS-K Metal Insulation Nail with insulated head cap, Ø 54mm, can be plastered over

Article code	Plug and drill ∅ mm $d_{nom} = d_0$	Length mm L	Insulation thickness concrete mm t_{fix}	Insulation thickness concrete mm (F120) t_{fix}	Insulation thickness perforated brick mm t_{fix}	Head ∅ mm d_k	Outer carton	Quantity per pallet
1180528	8	80	50	-	40	54	250	6000
1180521	8	90	60	-	50	54	125	6000
1180522	8	110	80	-	70	54	125	6000
1180523	8	140	110	-	100	54	125	4500
1180524	8	170	140	-	130	54	125	4500
1180525	8	200	170	-	160	54	125	4500
1180526	8	250	220	-	210	54	80	3840
1180527	8	300	270	-	260	54	80	3840

MDI Insulation Plug

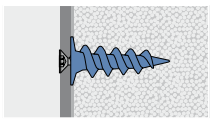
Features

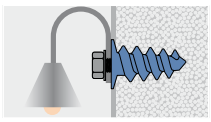
- Fixing in ETICS, polystyrene boards and polyurethane foam panels
- Top load values
- Quick and simple installation
- No pressure load on the façade
- Usually without pre-drilling
- Low reduction of insulation level
- Made from high-quality polyamide PA6
- Pre installation
- Indoor and outdoor applications

Nylon Quality lasts for ever

Applications

lamps, electric switches, letter boxes, rails, pictures, holders



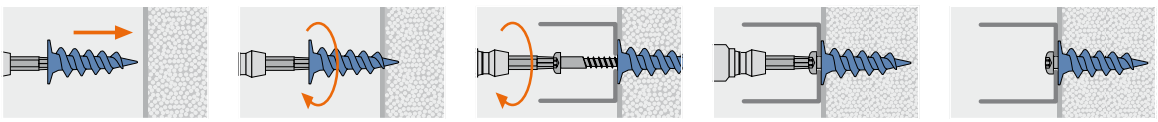


Technical Data

	EPS 20 tension load (N)	XPS 20 tension load (N)	PUR tension load (N)	Effective anchorage depth mm h_{ef}	Screw in mm
MDI 50	20	30	40	50	≤ 30
MDI 85	40	40	60	85	≤ 40
MDIm 50	30	60	-	50	≤ 50
MDIm 85	80	10	-	85	≤ 50

Use certified fixings for safety-relevant fastenings / 10 N ≈ 1 kg

Installation



Article code	Plug-∅ mm d_{nom}	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Hanger bolt d_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
1182550	25	50	4.5-5.0	-	T40	100 51	300 22	18000
1182585	25	85	4.5-5.0	-	T40	50 51	150 22	9000

MDI Insulation Plug

Article code	Plug-∅ mm d_{nom}	Length mm L	Screwtype wood/chipboard ∅ mm d_s	Hanger bolt d_s	Wrench size SW	Box content FS	Outer carton SK	Quantity per pallet
1183350	33	50	8.0-10.0	M8-M10	12	50 51	150 22	9000
1183385	33	85	8.0-10.0	M8-M10	12	50 51	150 22	9000

MDIm Insulation Plug for hanger bolt M8-M10

Special Products

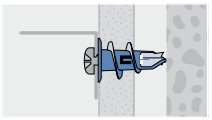
MJP Jet Plug metal

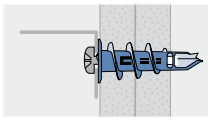
Features

- MJP39 - For single, double drywall, plasterboard and gypsum fibre board
- MJP32 - For single, double drywall, plasterboard, gypsum fibre board and reduced cavities
- MJP25 - For single plasterboard and reduced cavities where the point breaks off
- Thin cutting thread; easy and reliable installation in drywall
- Back twist lock permits the disassembly of screws without the movement of the plug
- Center point ensures an easy setting and drilling in the plate
- Pre installation
- Indoor applications

Applications

lamps, pictures, rails, skirtings, small wall-mounted shelves



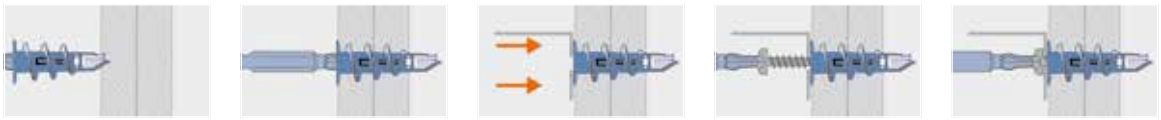


Technical Data

	Plasterboard d = 12.5mm tension load (N)	Lightweight Concrete tension load (N)	Gypsum 6mm pre-drilling tension load (N)	Gypsum fibre board tension load (N)	Chipboard 6mm pre-drilling tension load (N)
MJP	100	100	[1] 220	150	450

Safety factor of 3 is included / 10 N ≈ 1 kg / 1) Only MJP39

Installation



MJP39 Jet Plug metal 39mm

Article code	Length mm L	Screw d_s	Screwtype metric ∅ mm d_s	Description	Box content FS	Outer carton SK	Quantity per pallet
1801012	39	4.0-4.5	M4		100 11	2400 32	57600
18010122	39	4.0-4.5	M4	bulk packed	-	2000	96000

MJP32 Jet Plug metal 32mm

Article code	Length mm L	Screw d_s	Screwtype metric ∅ mm d_s	Collar ∅ mm	Description	Box content FS	Outer carton SK	Quantity per pallet
1801022	32	4.0-4.5	M4			100 11	2400 32	57600
18010222	32	4.0-4.5	M4	14	bulk packed	-	3000	72000

MJP25 Jet Plug metal 25mm

Article code	Length mm L	Screw d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1801042	25	4.0-4.5	M4	100 11	2400 32	57600

MJP39-S Jet Plug metal 39mm with pan head screw Pozi 2

Article code	Length mm L	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
18010124	39	4.5	30	PZ2	100 21	1800 32	43200

MJP32-S Jet Plug metal 32mm with pan head screw Pozi 2

Article code	Length mm L	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
18010224	32	4.5	30	PZ2	100 11	2400 32	57600

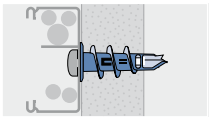
BIT Duo-bit for MJP/MFJ

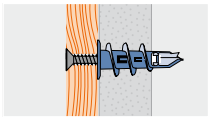
Article code	For	Drive	Box content
4001201L	MJP/MFJ	PZ2	1

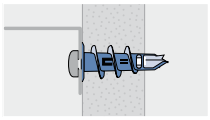
MFJ Fibre Jet polyamide

Features

- Glass-fibre reinforced
- Electrically insulated
- For single and double plasterboards
- For reduced cavities (Fibre Jet 32 or 25mm)
- Thin cutting thread; easy and reliable installation in drywall
- Back twist lock permits the disassembly of screws without the movement of the plug
- Center point ensures an easy setting and drilling in the plate
- Pre installation
- Indoor and outdoor applications







Applications

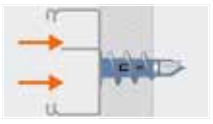
electric switches, pictures, lamps, rails

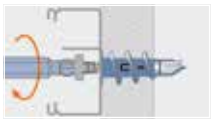
Technical Data

	Plasterboard d = 12.5mm tension load (N)
MFJ	90

Safety factor of 3 is included / 10 N ≈ 1 kg

Installation





Article code	Length mm L	Screw d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1801112	32	4.0-4.5	M4	100 ½	3600 32	86400

MFJ32 Fibre Jet polyamide 32mm

Article code	Length mm L	Screw L_s	Screwtype metric ∅ mm d_s	Box content FS	Unit content	Quantity per pallet
18011127	32	4.0-4.5	M4	100 ½	2800	67200

MFJ32 Fibre Jet polyamide 32mm in Maxi-Box

Article code	Length mm L	Screw ∅ mm d_s	Screw length mm L_s	Drive	Box content FS	Outer carton SK	Quantity per pallet
18011124	32	4.5	30	PZ2	100 11	2400 32	57600

MFJ32-S Fibre Jet polyamide 32mm with pan head screw Pozi 2

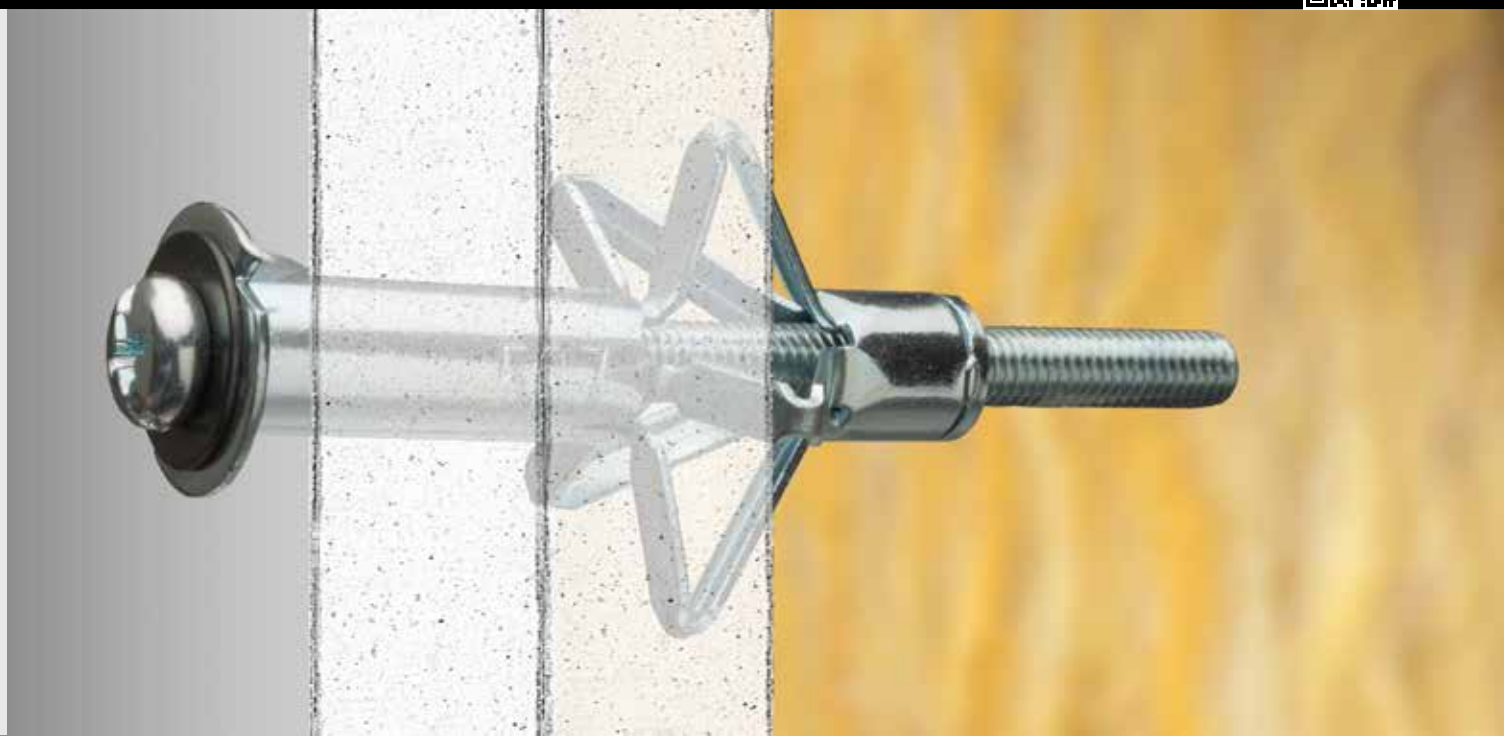
Article code	Length mm L	Screw d_s	Screwtype metric ∅ mm d_s	Box content FS	Outer carton SK	Quantity per pallet
1801142	25	4.0-4.5	M4	100 ½	3600 32	86400

MFJ25 Fibre Jet polyamide 25mm

Article code	For	Drive	Box content
4001201L	MJP/MFJ	PZ2	1

BIT Duo-bit for MJP/MFJ

MHD Cavity Wall Anchor

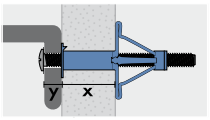


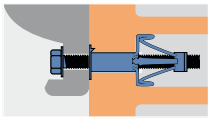
Features

- Controlled, quick and simple installation with the setting tool
- Anchor fully assembled
- Combined screw setting recess to accept all types of screw bits
- Increased load-bearing capability and security
- Through fixing
- Indoor applications

Applications

lamps, pictures, small wall-mounted shelves, lightweight mirror cabinets, rails



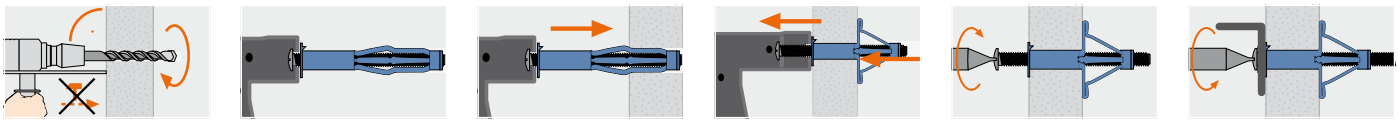


Technical Data

	Plasterboard d = 12.5mm tension load (kN)	Chipboard d = 13mm tension load (kN)	Cement fibre board d = 12mm tension load (kN)	Vertically perforated brick (Hlz 12) tension load (kN)
M4	0.15	0.20	0.35	-
M5	0.18	0.25	0.40	-
M6	0.20	0.28	0.42	0.70
M8	0.20	0.30	0.45	0.70

Safety factor of 2 is included / 1 kN ≈ 100 kg

Installation



MHD-S Cavity Wall Anchor

Article code	Type	Screwtype metric ∅ mm d_s	Sleeve length mm h_s	Drilling hole ∅ mm d_0	Panel thickness (x) mm d_p	Max. fixture thickness (y) mm t_{fix}	Box content FS	Outer carton SK	Quantity per pallet
1870140	4x23/4	M4	23.5	8	0-4	12	100 01	2400 22	115200
1870141	4x35/9	M4	35	8	4-9	16	100 11	1200 22	57600
1870142	4x46/20	M4	46	8	3-20	21	100 11	1200 22	57600
1870143	4x46/21	M4	46	8	15-21	16	100 11	1200 22	57600
1870144	4x60/38	M4	60	8	30-38	16	100 21	900 22	43200
1870161	5x37/13	M5	37	10	5-13	20	100 11	1200 22	57600
1870162	5x50/18	M5	50	10	5-18	26	100 21	900 22	43200
1870163	5x63/32	M5	63	10	18-32	26	100 31	600 22	28800
1870164	5x80/49	M5	80	10	35-49	22	100 41	300 12	18000
1870181	6x37/13	M6	37	12	4-13	19	100 21	900 22	43200
18) 1870182	6x50/18	M6	50	12	5-18	27	100 31	600 22	28800
1870183	6x63/32	M6	63	12	16-32	28	100 41	300 12	18000
1870184	6x80/49	M6	80	12	33-49	24	100 51	300 22	14400
1870191	8x37/12	M8	37	14	4-12	19	100 31	600 22	28800
18) 1870192	8x53/18	M8	53	14	5-18	23	100 41	300 12	18000
1870193	8x66/32	M8	66	14	18-32	24	100 51	300 22	21600

18) For use in vertically perforated brick (Hlz 12)

MHD-WZ Setting tool M4-M6, with ratchet action

Article code	Description	Box content
1870502	M4-M6	1

MHD-WZ Setting tool M4-M6 strong, for use in confined areas

Article code	Description	Box content
1870503	M4-M6 strong	1

MHD-WZ Setting tool M4-M8, in-line version, especially for overhead application

Article code	Description	Box content
1870504	M4-M8	1

MSN Steel Nail

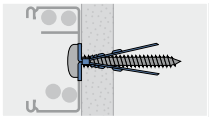
NEW GENERATION

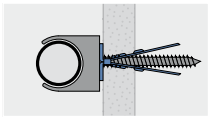
Features

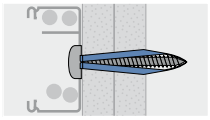
- Suitable for plasterboard
- The center point ensures an easy setting and drilling in the plate
- Collar prevents the plug from being pulled through
- Hassle-free screwing because of the centric lead
- Plug anchors when screw is screwed in (mechanical interlock)
- MSN-Duo for double plasterboards
- No drilling required
- Fire resistant
- Pre installation
- Indoor applications

Applications

pipes, lamps, small wall-mounted shelves, pictures, rails, skirtings





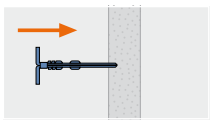


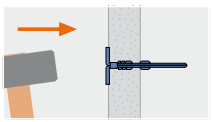
Technical Data

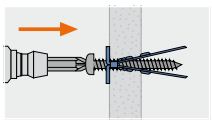
	Plasterboard d = 9.5mm tension load (N)	Plasterboard d = 9.5mm shear load (N)	Plasterboard d = 12.5mm tension load (N)	Plasterboard d = 12.5mm shear load (N)
MSN	130	110	25	390
MSN-Duo	140	370	190	480

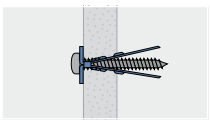
Reached with wood screw diameter 5 mm / Safety factor of 2 is included / 10 N ≈ 1 kg

Installation









MSN Steel Nail

Article code	Length mm L	Collar ∅ mm d_k	Screw d_s	Box content FS	Outer carton SK	Quantity per pallet
1810002	30	12	3.5-5.0	400 11	9600 32	230400
1810002L	30	12	3.5-5.0	-	3000 12	180000

MSN-Duo Steel Nail for double plasterboards

Article code	Length mm L	Collar ∅ mm d_k	Screw d_s	Box content FS	Outer carton SK	Quantity per pallet
1810003	40	12	3.5-5.0	100 11	1200 22	72000
1810003L	40	12	3.5-5.0	-	1500 12	90000

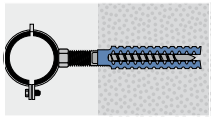
MEF Easy-Fix

Features

- No pre-drilling in aerated concrete
- For use with wood, self-tapping and hexagon screws
- Pre installation
- Indoor applications

Applications

pipes, water conduits, gas conduits

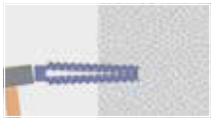


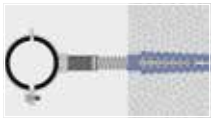
Technical Data

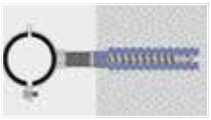
	Aerated Concrete tension load (N)
MEF 6/32	220
MEF 8/38	400
MEF 8/60	470
MEF 10/60	520

Safety factor of 3 is included / 10 N ≈ 1 kg / Separate drill Ø needed to overcome the resistance in the various building materials. The harder the material, the larger the drill Ø.

Installation







Article code	Plug-Ø mm d_{nom}	Length mm L	Screw d_s	Drilling hole Ø mm d_0	Box content FS	Outer carton SK	Quantity per pallet
1127074	6	32	5-6	7-9	100 01	2400 22	57600
1127075	8	38	6-8	10-12	100 11	1200 22	28800
1127076	8	60	6-8	10-12	100 31	600 22	14400
1127077	10	60	8-10	12-14	100 31	600 22	14400

MEF Easy-Fix

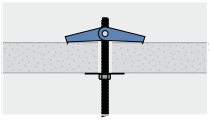
MF Cavity Toggle

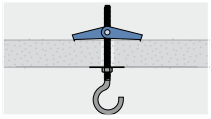
Features

- Quick and simple installation
- With threaded rod (-M) or hook (-H)
- Small hollow wall thickness
- Through fixing
- Indoor applications

Applications

suspended ceilings, cable trays, lightweight mirror cabinets, rails



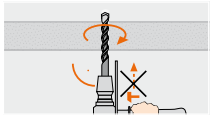


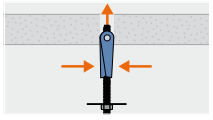
Technical Data

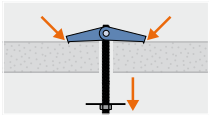
	Plasterboard d = 12.5mm tension load (N)	Chipboard d = 13mm tension load (N)	Cement fibre board d = 12mm tension load (N)	MF-H (Hook deformation) (N)
MF M3	160	300	330	25
MF M4	200	350	570	75
MF M5	210	360	600	150
MF M6	220	380	620	200
MF M10	240	410	680	250

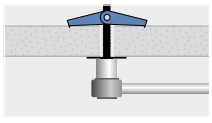
Safety factor of 3 is included / 10 N ≈ 1 kg / Values are dependent on base materials

Installation









MF-M Cavity Toggle with threaded rod

Article code	Thread d	Drill ∅ mm d_0	Panel thickness mm d_p	Cavity depth min. mm h_s	Thread length mm L_G	Box content FS	Outer carton SK
1825320	M3	11	50	35	85	100 31	600 22
1825410	M4	14	50	35	90	50 31	300 22
1825510	M5	16	60	46	100	25 31	150 22
1825610	M6	16	60	46	100	25 31	150 22
1825910	M10	30	150	90	180	10 51	30 22

MF-H Cavity Toggle with hook

Article code	Thread d	Drill ∅ mm d_0	Panel thickness mm d_p	Cavity depth min. mm h_s	Thread length mm L_G	Box content FS	Outer carton SK
1825340	M3	11	30	35	70	50 31	300 22
1825430	M4	14	30	35	70	50 31	300 22
1825530	M5	16	30	46	70	25 31	150 22
1825630	M6	16	50	46	90	25 31	150 22

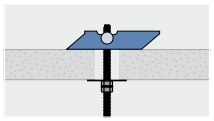
MK Cavity Toggle

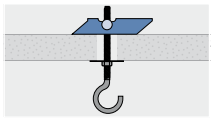
Features

- With threaded rod (-M) or hook (-H)
- A large contact area for soft base materials
- Through fixing
- Indoor applications

Applications

suspended ceilings, cable trays, lightweight mirror cabinets, rails





Technical Data

	Plasterboard d = 12.5mm tension load (N)	Chipboard d = 13mm tension load (N)	Cement fibre board d = 12mm tension load (N)	MK-H (Hook deformation) (N)
MK M5	230	400	650	200
MK M6	250	450	700	250
MK M8	300	500	750	350
MK M10	330	770	920	-

Safety factor of 3 is included / 10 N ≈ 1 kg / Values are dependent on base materials

Installation

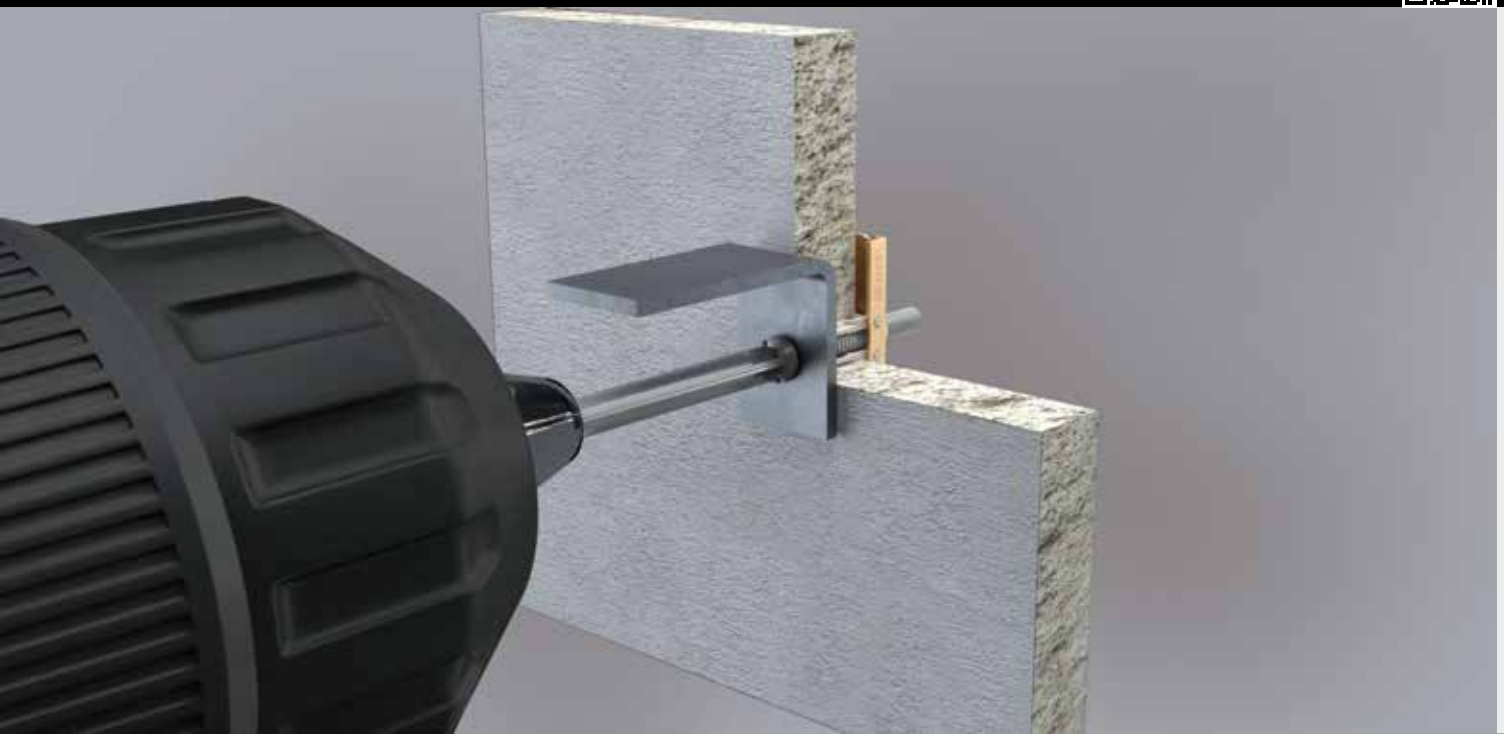
MK-M Cavity Toggle with threaded rod

Article code	Thread d	Drill ∅ mm d_0	Panel thickness mm d_p	Cavity depth min. mm h_s	Thread length mm L_G	Box content FS	Outer carton SK
1826510	M5	15	50	70	100	50 51	150 22
1826610	M6	18	60	70	100	50 51	150 22
1826810	M8	20	50	70	100	50 51	150 22
1826910	M10	30	100	100	200	10 51	30 22

MK-H Cavity Toggle with hook

Article code	Thread d	Drill ∅ mm d_0	Panel thickness mm d_p	Cavity depth min. mm h_s	Thread length mm L_G	Box content FS	Outer carton SK
1826520	M5	15	30	70	70	50 51	150 22
1826620	M6	18	50	70	90	50 51	150 22
1826820	M8	20	25	70	90	25 51	75 22

MST Snaptoggle® Hollow Wall Anchor

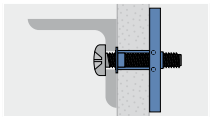


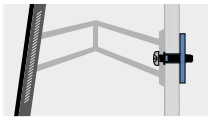
Features

- Increased load-bearing capability and security
- Quick and simple installation
- No special setting tool needed
- Free choice of bolts regarding length, head geometry, steel quality and drive
- Small hollow wall thickness
- Installs in a significantly smaller hole
- Does not fall behind wall when bolt is removed; fixture can be removed and reinstalled as often as desired
- Through fixing
- Indoor applications

Applications

suspended ceilings, cable trays, lightweight mirror cabinets, rails, lamps, small wall-mounted shelves, pipes



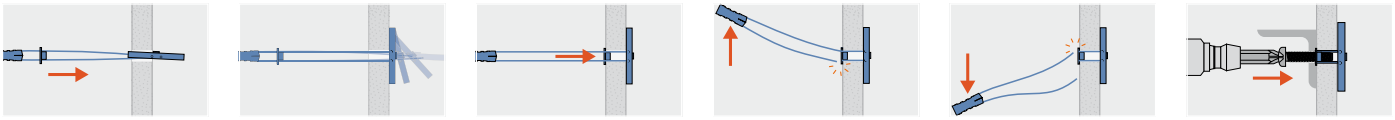


Technical Data

	Plasterboard d = 12.5mm tension load (kN)	Plasterboard d = 12.5mm shear load (kN)
M5	0.25	0.26
M6	0.3	0.26

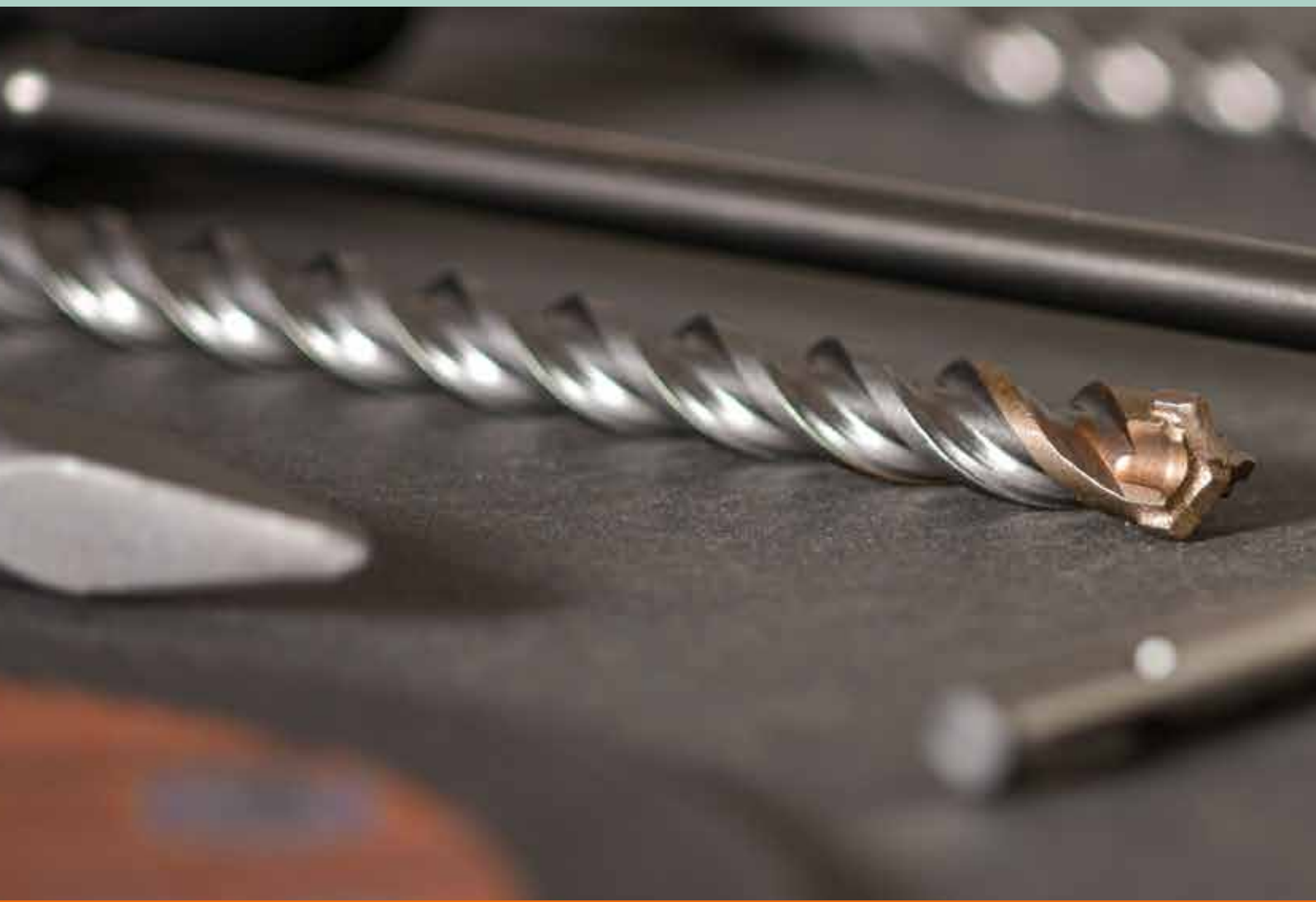
Safety factor of 4 is included / 1 kN ≈ 100 kg

Installation



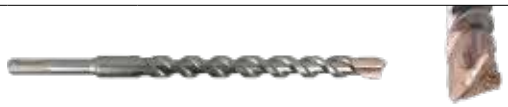
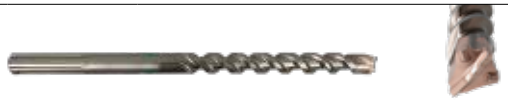
Article code	Thread d	Drill ∅ mm d_0	Cavity depth min. mm h_e	Usable length mm d_2	Box content FS	Outer carton SK	Quantity per pallet
1828005	M5	13	48	9.5-92	25 41	225 32	13500
1828006	M6	13	48	9.5-92	25 41	225 32	13500

MST Snaptoggle® Hollow Wall Anchor



Drill Bits, Abrasive Discs, Accessories

Suitability Chart Drills & Chisels

Product	Features	Available sizes
MHP-T Hammer Drill Bit, SDS-Plus, 3-cutter 		ø5-16 mm WL: 50-550 mm
MHP-Y Hammer Drill Bit, SDS-Plus, Y-cutter 		ø18-20 mm WL: 200-550 mm
MHP-D Hammer Drill Bit, SDS-Plus, 2-cutter 		ø4-26 mm WL: 50-950 mm
MHX-T Hammer Drill Bit, SDS-Max, 3-cutter 		ø12-16 mm WL: 200-800 mm
MHX-Y Hammer Drill Bit, SDS-Max, Y-cutter 		ø18-45 mm WL: 200-1200 mm
MHP-Clean Hollow Drill Bit, SDS-Plus, 2-cutter 		ø8-18 mm WL: 150-250 mm
MHX-Clean Hollow Drill Bit, SDS-Max, Y-cutter 		ø18-35 mm WL: 400 mm
MSZ Drill Bit, cylindrical 		ø3-20 mm WL: 45-350 mm
MDZ Allmat Drill Bit, cylindrical 		ø5-14 mm WL: 50-310 mm
MMP SDS-Plus Chisel 		L: 250 mm
MMX SDS-Max Chisel 		L: 175-600 mm
HSS Drill Bit, cylindrical 		ø2,5-16 mm WL: 30-120 mm
HSS-D Drill Bit, double sided, cylindrical 		ø3,2-5,2 mm WL: 11-17 mm
MFB Diamond Drill Bit, M14 		ø6-20 mm WL: 12 mm

WL = Working length
L = Length

Reinforced concrete	Concrete	Masonry	Calcium silicate brick	Brick	Granite	Marble	Iron	Steel	Wall tiles	Roof tiles	Benefits
●	●	●	●	●	●	●	–	–	–	–	■ Hammer drilling ■ Particularly powerful and rugged multi-cutter ■ Optimum extraction of drill dust promotes high drilling performance ■ Recessed carbide tip for extreme resilience in reinforcement steel
●	●	●	●	●	●	●	–	–	–	–	
○	●	●	●	○	○	○	–	–	–	–	■ Hammer drilling ■ Optimum extraction of drill dust promotes high drilling performance ■ Recessed carbide tip for extreme resilience in reinforcement steel
●	●	●	●	●	●	●	–	–	–	–	■ Hammer drilling ■ Particularly powerful and rugged multi-cutter ■ Optimum extraction of drill dust promotes high drilling performance ■ Recessed carbide tip for extreme resilience in reinforcement steel
●	●	●	●	●	●	●	–	–	–	–	
●	●	●	●	●	○	○	–	–	–	–	■ Hammer drilling ■ Innovative 2-in-1 drill bit: drilling and dust extraction in a single step ■ Particularly suitable for setting chemical anchors ■ Saves cleaning of the surroundings and drill hole
●	●	●	●	●	○	○	–	–	–	–	
–	○	●	●	●	○	○	–	–	–	–	■ Impact drilling ■ High durability even in the hardest materials ■ Fast drilling speed
–	○	○	●	○	○	●	–	–	○	○	■ Rotary drilling, impact drilling ■ Performant, resistant and accurate ■ Easy drilling also in smooth and hard surfaces
–	●	●	●	●	●	●	–	–	–	–	■ For all popular applications ■ Effortless chiseling and faster penetration ■ Anti-lock
–	●	●	●	●	●	●	–	–	–	–	■ For the toughest tasks ■ Effortless chiseling and faster penetration ■ Anti-lock
–	–	–	–	–	–	–	●	●	–	–	■ For metal solutions ■ Ideal for unalloyed steels ■ Long life
–	–	–	–	–	–	–	●	●	–	–	■ Quick change possible due to double end ■ For metal solutions ■ Ideal for unalloyed steels
–	–	–	–	–	–	–	–	–	●	●	■ Easy drilling also in smooth and hard surfaces ■ Clean and accurate holes ■ Simple and speedy working

● Optimal ○ Occasional

MHP-T Drill Bit, SDS-Plus, 3-cutter

Features

- Hammer drilling
- Concrete and reinforced concrete
- Particularly powerful and rugged multi-cutter
- Optimum extraction of drill dust promotes high drilling performance
- With recessed carbide tip for extreme resilience in reinforcement steel
- No jamming with reinforcement hits
- Particularly easy positioning and high speed
- Low vibration
- No signs of fatigue due to a low surface pressure
- Long life
- Excellent break resilience

MHP-T Drill Bit, SDS-Plus, 3-cutter in Quadro-Box

Article code	∅ mm d	Length mm L	Working length mm L_1	Unit content
2260505	5	110	50	12
2260510	5	160	100	12
2260605	6	110	50	12
2260610	6	160	100	12
2260615	6	210	150	12
2260651	6.5	210	150	12
2260805	8	110	50	12
2260810	8	160	100	12
2260815	8	210	150	12
2260820	8	260	200	12
2261010	10	160	100	12
2261015	10	210	150	12
2261020	10	260	200	12
2261210	12	160	100	12
2261215	12	210	150	12
2261220	12	260	200	12
2261410	14	160	100	12
2261415	14	210	150	12
2261425	14	310	250	12
2261620	16	260	200	12

MHP-T Drill Bit, SDS-Plus, 3-cutter

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2140505	5	110	50	1
2140510	5	160	100	1
2140605	6	110	50	1
2140610	6	160	100	1
2140615	6	210	150	1
2140620	6	260	200	1
2140625	6	310	250	1
2140655	6.5	110	50	1
2146510	6.5	160	100	1
2146515	6.5	210	150	1
2146520	6.5	260	200	1
2146523	6.5	290	230	1
2140653	6.5	360	300	1
2140654	6.5	460	400	1
2140715	7	210	150	1
2140805	8	110	50	1
2140810	8	160	100	1
2140815	8	210	150	1
2140820	8	260	200	1
2140825	8	310	250	1
2140840	8	460	400	1
2141005	10	110	50	1
2141010	10	160	100	1
2141015	10	210	150	1
2141020	10	260	200	1
2141025	10	310	250	1
2141040	10	460	400	1
2141055	10	600	550	1
2141210	12	160	100	1
2141215	12	210	150	1
2141220	12	260	200	1
2141225	12	310	250	1
2141240	12	450	400	1
2141255	12	600	550	1
2141410	14	160	100	1
2141415	14	200	150	1
2141420	14	250	200	1
2141425	14	300	250	1
2141440	14	450	400	1
2141455	14	600	550	1
2141510	15	160	100	1
2141520	15	250	200	1
2141525	15	300	250	1
2141610	16	160	100	1
2141615	16	200	150	1
2141620	16	250	200	1
2141625	16	300	250	1
2141640	16	450	400	1
2141655	16	600	550	1

MHP-Y Drill Bit, SDS-Plus, Y-cutter

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2141820	18	250	200	1
2141825	18	300	250	1
2141840	18	450	400	1
2141855	18	610	550	1
2142020	20	260	200	1
2142025	20	300	250	1
2142040	20	450	400	1

MHP-D Drill Bit, SDS-Plus, 2-cutter

Features

- Hammer drilling
- Concrete and reinforced concrete
- Optimum extraction of drill dust promotes high drilling performance
- With recessed carbide tip for extreme resilience in reinforcement steel
- No jamming with reinforcement hits
- Particularly easy positioning and high speed
- Low vibration
- No signs of fatigue due to a low surface pressure
- Long life
- Excellent break resilience

MHP-D Drill Bit, SDS-Plus, 2-cutter in Quadro-Box

Article code	∅ mm d	Length mm L	Working length mm L_1	Unit content
2280505	5	110	50	10
2280510	5	160	100	10
2280605	6	110	50	10
2280610	6	160	100	10
2280805	8	110	50	10
2280810	8	160	100	10
2280815	8	210	150	10
2281010	10	160	100	10
2281015	10	210	150	10
2281020	10	260	200	10
2281210	12	160	100	10
2281215	12	210	150	10
2281220	12	260	200	10
2281410	14	160	100	5
2281415	14	200	150	5
2281420	14	250	200	5
2281610	16	160	100	5
2281615	16	200	150	5
2281620	16	250	200	5

MHP-D Drill Bit, SDS-Plus, 2-cutter in Multi Package

Article code	∅ mm d	Length mm L	Working length mm L_1	Unit content
2290610	6	160	100	50
2290615	6	210	150	50
2290805	8	110	50	50
2290810	8	160	100	50
2290815	8	210	150	50

MHP-D Drill Bit, SDS-Plus, 2-cutter

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2150405	4	110	50	1
2150505	5	110	50	1
2150510	5	160	100	1
2150515	5	210	150	1
2150530	5	360	300	1
2150551	5.5	160	100	1
2150605	6	110	50	1
2150610	6	160	100	1
2150615	6	210	150	1
2150620	6	260	200	1
2150625	6	310	250	1
2156510	6.5	160	100	1
2156515	6.5	210	150	1
2156520	6.5	260	200	1
2156523	6.5	290	230	1
2150710	7	160	100	1
2150715	7	210	150	1
2150805	8	110	50	1
2150810	8	160	100	1
2150815	8	210	150	1
2150820	8	260	200	1
2150825	8	310	250	1
2150840	8	460	400	1
2150910	9	160	100	1
2150915	9	210	150	1
2151005	10	110	50	1
2151010	10	160	100	1
2151015	10	210	150	1
2151020	10	260	200	1
2151025	10	310	250	1
2151040	10	460	400	1
2151055	10	600	550	1
2151115	11	210	150	1
2151210	12	160	100	1
2151215	12	210	150	1
2151220	12	260	200	1
2151240	12	450	400	1
2151255	12	600	550	1
2151295	12	1000	950	1
2151310	13	160	100	1
2151410	14	160	100	1
2151415	14	200	150	1
2151420	14	260	200	1
2151425	14	300	250	1
2151440	14	450	400	1
2151455	14	600	550	1
2151495	14	1000	950	1
2151510	15	160	100	1
2151520	15	250	200	1
2151610	16	160	100	1
2151615	16	200	150	1
2151620	16	250	200	1
2151625	16	300	250	1
2151640	16	450	400	1
2151655	16	600	550	1
2151695	16	1000	950	1
2151815	18	200	150	1
2151820	18	250	200	1
2151825	18	300	250	1
2151840	18	450	400	1
2151855	18	600	550	1
2151895	18	1000	950	1
2152015	20	200	150	1
2152025	20	300	250	1
2152040	20	450	400	1
2152055	20	600	550	1
2152095	20	1000	950	1
2152220	22	250	200	1
2152240	22	450	400	1
2152255	22	600	550	1
2152420	24	250	200	1
2152440	24	450	400	1
2152520	25	250	200	1
2152540	25	450	400	1
2152640	26	450	400	1

MHX Drill Bit, SDS-Max

Features

- Hammer drilling
- Concrete and reinforced concrete
- Particularly powerful and rugged multi-cutter
- Optimum extraction of drill dust promotes high drilling performance
- With recessed carbide tip for extreme resilience in reinforcement steel
- No jamming with reinforcement hits
- Particularly easy positioning and high speed
- Low vibration
- No signs of fatigue due to a low surface pressure
- Long life
- Excellent break resilience

MHX-T Drill Bit, SDS-Max, 3-cutter

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2161220	12	340	200	1
2161240	12	540	400	1
2161440	14	540	400	1
2161520	15	340	200	1
2161540	15	540	400	1
2161620	16	340	200	1
2161640	16	540	400	1
2161680	16	940	800	1

MHX-Y Drill Bit, SDS-Max, Y-cutter

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2161820	18	340	200	1
2161840	18	540	400	1
2161860	18	740	600	1
2161880	18	940	800	1
2162020	20	320	200	1
2162040	20	520	400	1
2162060	20	720	600	1
2162080	20	920	800	1
2162220	22	320	200	1
2162240	22	520	400	1
2162260	22	720	600	1
2162280	22	920	800	1
2162212	22	1320	1200	1
2162420	24	320	200	1
2162440	24	520	400	1
2162560	25	720	600	1
2162520	25	320	200	1
2162540	25	520	400	1
2162580	25	920	800	1
2162512	25	1320	1200	1
2162620	26	320	200	1
2162640	26	520	400	1
2162820	28	320	200	1
2162840	28	520	400	1
2162860	28	720	600	1
2163040	30	520	400	1
2163060	30	720	600	1
2163220	32	320	200	1
2163240	32	520	400	1
2163280	32	920	800	1
2163520	35	320	200	1
2163560	35	720	600	1
2163820	38	320	200	1
2163840	38	520	400	1
2164020	40	320	200	1
2164540	45	520	400	1

MHP-Clean/MHX-Clean Hollow Drill Bit

Features

- Hammer drilling
- The innovative 2-in-1 drill bit: drilling and dust extraction in a single step
- Particularly suitable for setting chemical anchors
- Saves cleaning of the surroundings and drill hole
- High performance and long life
- Simple and speedy working
- Excellent break resilience

MHP-Clean Hollow Drill Bit SDS-Plus, 2-cutter

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2240815	8	270	150	1
2241015	10	270	150	1
2241220	12	320	200	1
2241425	14	370	250	1
2241625	16	370	250	1
2241825	18	370	250	1

MHP-Clean Hollow Drill Bit SDS-Plus Adapter

Article code	For	∅ mm d	Box content
2240001	SDS-Plus	6-10	1
2240003	SDS-Plus	12-24	1

MHX-Clean Hollow Drill Bit SDS-Max, Y-cutter

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2241840	18	600	400	1
2242040	20	600	400	1
2242240	22	600	400	1
2242440	24	600	400	1
2242540	25	600	400	1
2242840	28	600	400	1
2243040	30	600	400	1
2243240	32	600	400	1
2243540	35	600	400	1

MHX-Clean Hollow Drill Bit SDS-Max Adapter

Article code	For	∅ mm d	Box content
2240002	SDS-Max	18-40	1

MSZ Drill Bit

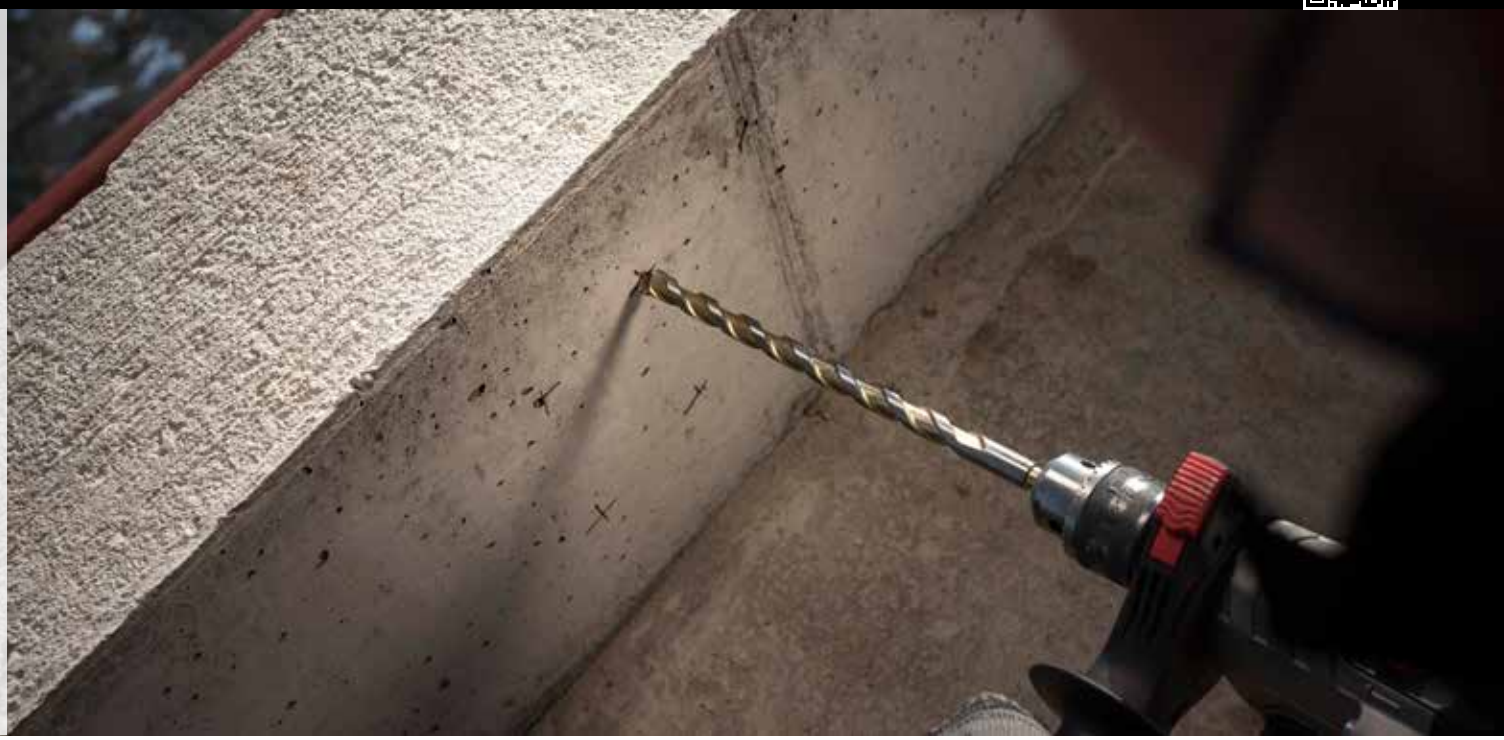
Features

- Impact drilling
- Cylindrical
- High durability even in the hardest materials
- Fast drilling speed
- Optimum extraction of drill dust promotes high drilling performance
- Excellent break resilience

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2170304	3	85	45	1
2170404	4	85	45	1
2170505	5	90	50	1
2170511	5	150	110	1
2170606	6	100	60	1
2170611	6	150	110	1
2176506	6.5	100	60	1
2170706	7	100	60	1
2170808	8	120	80	1
2170815	8	200	150	1
2170835	8	400	350	1
2170908	9	120	80	1
2171008	10	120	80	1
2171015	10	200	150	1
2171035	10	400	350	1
2171209	12	130	90	1
2171215	12	200	150	1
2171409	14	150	90	1
2172010	20	160	100	1

MSZ Drill Bit

MDZ Allmat Drill Bit



Features

- Rotary drilling
- Cylindrical
- Universal use
- Performant, resistant and accurate
- Easy drilling also in smooth and hard surfaces
- Optimum extraction of drill dust promotes high drilling performance

MDZ Allmat Drill Bit

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2180505	5	95	50	1
2180606	6	100	60	1
2180611	6	150	110	1
2180626	6	300	260	1
2180808	8	120	80	1
2180831	8	350	310	1
2181008	10	120	80	1
2181013	10	200	135	1
2181209	12	150	90	1
2181215	12	220	150	1
2181420	14	260	200	1

MMP SDS-Plus Chisel

Features

- For all popular applications
- Long life
- Effortless chiseling and faster penetration
- Optimal force transmission
- All possible head version in range
- Anti-lock

Article code	Description	Width mm B	Length mm L	Box content
4210101	Pointed Chisel	-	250	1
4210102	Flat Chisel	20	250	1
4210103	Spade Chisel, straight	40	250	1
4210104	Hollow Chisel	22	250	1
4210105	Tile Chisel, cranked	40	250	1

MMP SDS-Plus Chisel

MMX SDS-Max Chisel

Features

- For the toughest tasks
- Long life
- Effortless chiseling and faster penetration
- Optimal force transmission
- All possible head version in range
- Anti-lock

MMX SDS-Max Chisel

Article code	Description	Width mm B	Length mm L	Box content
4210200	Pointed Chisel	-	280	1
4210201	Pointed Chisel	-	400	1
4210202	Pointed Chisel	-	600	1
4210203	Flat Chisel, straight	25	280	1
4210204	Flat Chisel, straight	25	400	1
4210205	Flat Chisel, straight	25	600	1
4210206	Spade Chisel, straight	50	400	1
4210207	Spade Chisel, straight	75	300	1
4210208	Spade Chisel, straight	100	350	1
4210209	Channel Chisel	32	300	1
4210210	Wing Chisel	35	380	1
4210211	Slotting Chisel	32	300	1
4210212	Seam Tool	10	300	1
4210213	Hollow Chisel	26	300	1
4210214	Bushing Tool	45	175	1

HSS Drill Bit

Features

- Cylindrical
- For metal solutions
- Ideal for unalloyed steels
- Quick change possible due to double end (HSS-D)
- Long life

HSS Drill Bit DIN 338, cold rolled

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2220253	2.5	57	30	10
2220303	3	61	33	10
2220323	3.2	65	36	10
2220353	3.5	70	39	10
2220404	4	75	43	10
2220424	4.2	75	43	10
2220454	4.5	80	47	10
2220505	5	86	52	10
2220525	5.2	86	52	10
2220555	5.5	93	57	10
2220605	6	93	57	10
2220656	6.5	101	63	10
2220706	7	109	69	10
2220756	7.5	109	69	10
2220807	8	117	75	10
2220857	8.5	117	75	10
2220908	9	125	81	10
2220958	9.5	125	81	10
2221008	10	134	87	10
2221109	11	142	94	5
2221210	12	151	101	5
2221310	13	151	101	5
2221410	14	160	109	5
2221511	15	169	114	5
2221612	16	178	120	5

HSS-D Drill Bit, double sided, ground

Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2230321	3.2	49	11	10
2230331	3.3	49	11	10
2230351	3.5	52	12	10
2230411	4.1	55	14	10
2230421	4.2	55	14	10
2230501	5	62	17	10
2230521	5.2	62	17	10

HSS-BX Drill Bit DIN 338 in box

Article code	∅ mm d	Pieces per set	Box content
2220001	1-10 x 0.5	19	1
2220002	1-13 x 0.5	25	1

BIT Screwdriver

BIT Screwdriver Pozidrive

Article code	Description	Length mm L	Box content
4001006	PZ2	25	25
4001056	PZ2	50	10
4001106	PZ2	70	5
4001007	PZ3	25	25
4001057	PZ3	50	10
4001107	PZ3	70	5

BIT Screwdriver Phillips

Article code	Description	Length mm L	Box content
4001002	PH2	25	25
4001052	PH2	50	10
4001102	PH2	70	5
4001004	PH4	25	25

BIT Screwdriver T15-T40

Article code	Description	Length mm L	Box content
4001133	T15	70	5
4001034	T20	25	25
4001044	T20	50	10
4001134	T20	70	5
4001035	T25	25	25
4001045	T25	50	10
4001135	T25	70	5
4001037	T30	25	25
4001047	T30	50	10
4001137	T30	70	5
4001038	T40	25	25
4001048	T40	50	10
4001138	T40	70	5

MMH Bitholder

Article code	Description	Box content
4001013	Adapter 1/4" / 1/4"	1

MMH Bitholder

Article code	Description	Box content
4001016	Adapter SDS-Plus 1/4"	1

BIT-SET Set (19 pcs)

Article code	Description	Pieces per set	Box content
4001900	Ph1-3, Pz1-3, T10-40, Hex3-5, SL4.5-6.5, Fox1/4"	19	1

MPC Pro Cut Cutting Disc, 1.0 - 1.9

Features

- Cutting
- Profi cutting discs for fast and comfortable operations
- Discs fulfill highest requirements of work safety
- High performance and long life
- Burr free cutting reduces post-cut operation
- Latest developments of grain and bonding technology
- Free of iron, sulphur and chlorine (prevents contamination of stainless steel material)

Applications

for cutting sheets, small diameter profiles and bars, optimised for cutting steel and stainless steel

MPC Pro Cut Cutting Disc, 1.0 - 1.9

Article code	∅ mm d	Thickness mm H	Inside ∅ mm d_w	Box content
2311510	115	1.0	22.23	25
2312510	125	1.0	22.23	25
2313019	230	1.9	22.23	25

MPC Pro Cut Cutting Disc, 2.5 - 3.0

Features
- Cutting
- Profi cutting discs for fast and comfortable operations
- Discs fulfill highest requirements of work safety
- High performance and long life
- Burr free cutting reduces post-cut operation
- Latest developments of grain and bonding technology
- Free of iron, sulphur and chlorine (prevents contamination of stainless steel material)

Applications
for cutting profiles, solid materials, thicker sheets

Article code	∅ mm d	Thickness mm H	Inside ∅ mm d_w	Box content
2311525	115	2.5	22.23	25
2312525	125	2.5	22.23	25
2313030	230	3.0	22.23	25

MPC Pro Cut Cutting Disc, 2.5 - 3.0

MPG Pro Grind Grinding Disc, 6.5

Features
- Grinding
- Easy way of handling, high workplace convenience
- No signs of fatigue due to a low surface pressure
- Aggressive and controlled bite with fast removal rate
- Free of iron, sulphur and chlorine (prevents contamination of stainless steel material)

Applications
for deburring, weld cleaning, surface cleaning, angle and corner dressing

MPG Pro Grind Grinding Disc, 6.5

Article code	∅ mm d	Thickness mm H	Inside ∅ mm d_w	Box content
2312570	125	6.5	22.23	10
2313070	230	6.5	22.23	10

MDC Compatibility of Diamond Blades

	MDC Laser Beton	**MDC Performer**	**MDC Power M**	**MDC Cobra**	**MDC Viper**
	Laser welded diamond segments for a long durability	Laser welded diamond segments for a long durability and a fast cutting speed	Laser welded diamond segments with M-shape for an extra long durability and an ultrafast cutting speed	Persistent diamond blade for a long durability, a high cutting speed and silent working	Superfine diamond blades for a high cutting speed and silent working
	Ø 125 mm  Ø 230 mm 	Ø 125 mm  Ø 230 mm 	Ø 125 mm  Ø 230 mm 	Ø 125 mm  Ø 230 mm 	Ø 125 mm 
Reinforced concrete	✓✓	✓✓	MUNGO STAR	✓	–
Clinker brick	✓✓	✓✓	MUNGO STAR	✓✓	–
Pebble stone plates	✓	✓	✓✓	✓✓	–
Cement fibre board	✓✓	✓✓	✓	✓	–
Brick	✓✓	✓✓	MUNGO STAR	✓✓	–
Vertically perforated brick	✓✓	✓✓	MUNGO STAR	✓✓	–
Concrete agglomerate	✓✓	✓✓	✓✓	✓✓	–
Aerated concrete Ytong	✓	✓	✓	–	–
Façade element	–	✓	–	✓	–
Quartz, basalt, porphyry	✓	✓	MUNGO STAR	MUNGO STAR	MUNGO STAR
Granite	✓	✓	✓	MUNGO STAR	✓✓
Marble	✓	✓	–	MUNGO STAR	✓✓
Sand-lime brick	✓	✓	–	✓✓	–
Sandstone	✓	✓	–	✓	–
Sandware	–	–	–	✓✓	MUNGO STAR
Ceramic tile	–	–	–	✓✓	MUNGO STAR
Terracotta tile	✓	✓	✓	✓	✓✓
Ceramic product	✓	✓✓	✓✓	MUNGO STAR	✓
Concrete tile	✓	✓✓	✓✓	MUNGO STAR	✓
Clay tile	✓	✓	✓	MUNGO STAR	✓

MUNGO STAR recommended ✓✓ well suitable ✓ suitable

MDC Laser Beton Diamond Blade

Features

- Laser welded diamond segments for a long durability
- For use with grinding machine and wall chaser
- Use without water cooling
- oSa certified, complying EN13236 safety standards

Applications

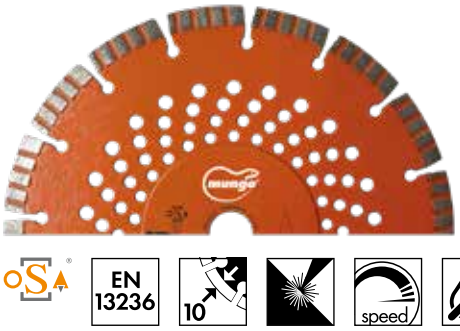
concrete, masonry, natural stone, rock, red bricks

MDC Laser Beton Diamond Blade

Article code	Dimension mm	Width of layer in mm	Height of layer in mm	Box content
2320125	125x22.2	2.2	10	1
2320230	230x22.2	2.6	10	1

MDC Performer Diamond Blade

Features
- Laser welded diamond segments for a long durability and a fast cutting speed
- For use with grinding machine and wall chaser
- Use without water cooling
- oSa certified, complying EN13236 safety standards



Applications
concrete and reinforced concrete, masonry, natural stone, rock, red bricks

Article code	Dimension mm	Width of layer in mm	Height of layer in mm	Box content
2321125	125x22.2	2.4	10	1
2321230	230x22.2	2.8	10	1

MDC Performer Diamond Blade

MDC Power M Diamond Blade

Features
- Laser welded diamond segments with M-shape for an extra long durability and an ultrafast cutting speed
- For use with grinding machine and wall chaser
- Use without water cooling
- oSa certified, complying EN13236 safety standards

Applications
concrete and reinforced concrete, masonry, natural stone, rock, red bricks

Article code	Dimension mm	Width of layer in mm	Height of layer in mm	Box content
2322125	125x22.2	2.6	10	1
2322230	230x22.2	2.6	10	1

MDC Power M Diamond Blade

MDC Cobra Diamond Blade

Features
- Persistent diamond blade for a long durability, a high cutting speed and silent working
- For use with grinding machine and wall chaser
- Use without water cooling
- oSa certified, complying EN13236 safety standards

Applications
natural stone, rock, tiles, roof tiles

MDC Cobra Diamond Blade

Article code	Dimension mm	Width of layer in mm	Height of layer in mm	Box content
2324125	125x22.2	2.5	10	1
2324230	230x22.2	2.8	12	1

MDC Viper Diamond Blade

Features
- Superfine diamond blades for a high cutting speed and silent working
- For use with grinding machine
- Use without water cooling
- oSa certified, complying EN13236 safety standards

Applications
sandware, ceramic products

MDC Viper Diamond Blade

Article code	Dimension mm	Width of layer in mm	Height of layer in mm	Box content
2323125	125x22.2	1.4	10	1

MDG GC-Hard Diamond Grinding Disc

Features
- Diamond segments for fast grinding and a long durability
- For use with grinding machine
- Use without water cooling
- One disc for fine and rough finishing
- oSa certified, complying EN13236 safety standards

Applications
concrete, hard materials

Article code	Dimension mm	Width of layer in mm	Height of layer in mm	Box content
2420125	125x22.2	4.5	8.3	1

MDG GC-Hard Diamond Grinding Disc

MFB Diamond Drill Bit

Features

- Easy drilling also in smooth and hard surfaces
- Clean and accurate holes
- Simple and speedy working
- Do not press strongly on the tool - let it work
- Use without water cooling
- For use with grinding machine

MFB Diamond Drill Bit

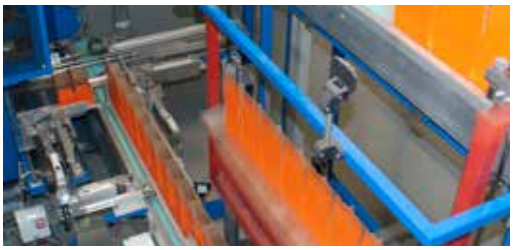
Article code	∅ mm d	Length mm L	Working length mm L_1	Box content
2300612	6	66	12	1
2300812	8	66	12	1
2301012	10	66	12	1
2301212	12	66	12	1
2301412	14	66	12	1
2301512	15	66	12	1
2302012	20	90	12	1

Index abbreviations and article codes

Index abbreviations and article codes

Index abbreviations and article codes

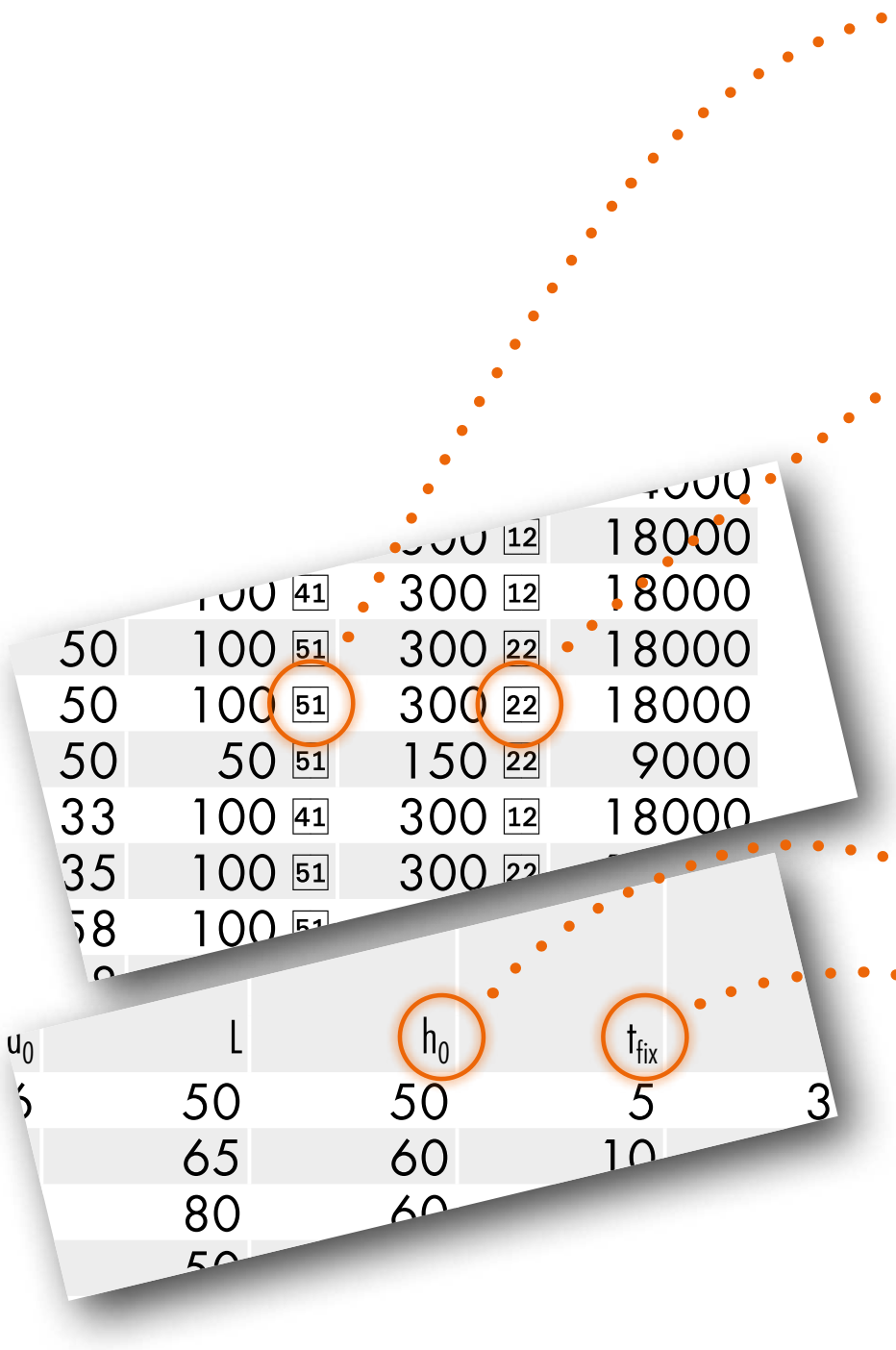
Modular packing system

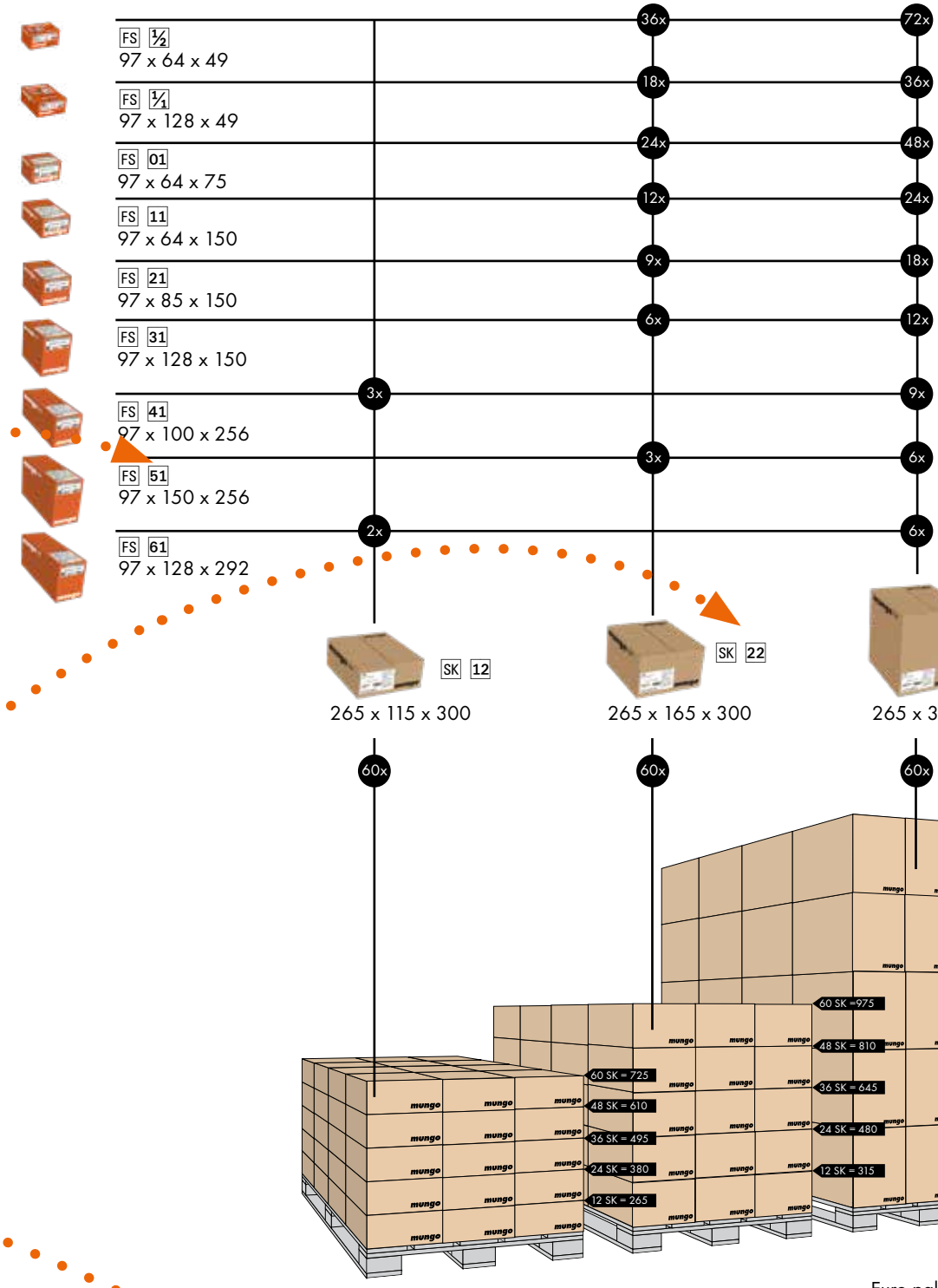


The majority of our products are packed in only 9 different folding boxes. You can find an overview of the possible combinations on the folding page in the back of the catalogue. All packing quantities are coded so that the dimensions and quantities can easily be determined.

The advantages are:

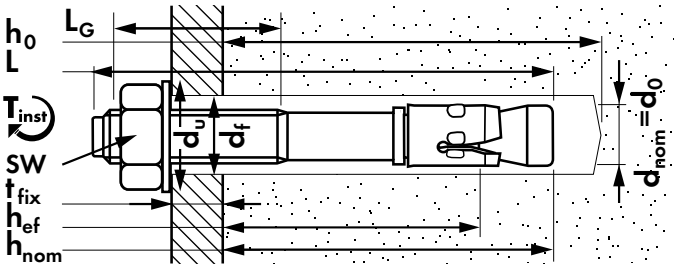
- Optimised appearance in uniform boxes
- Increased stability due to smart and reinforced box design
- Co-ordinated packing of all products
- Folding boxes are always compatible with at least two larger outer cartons



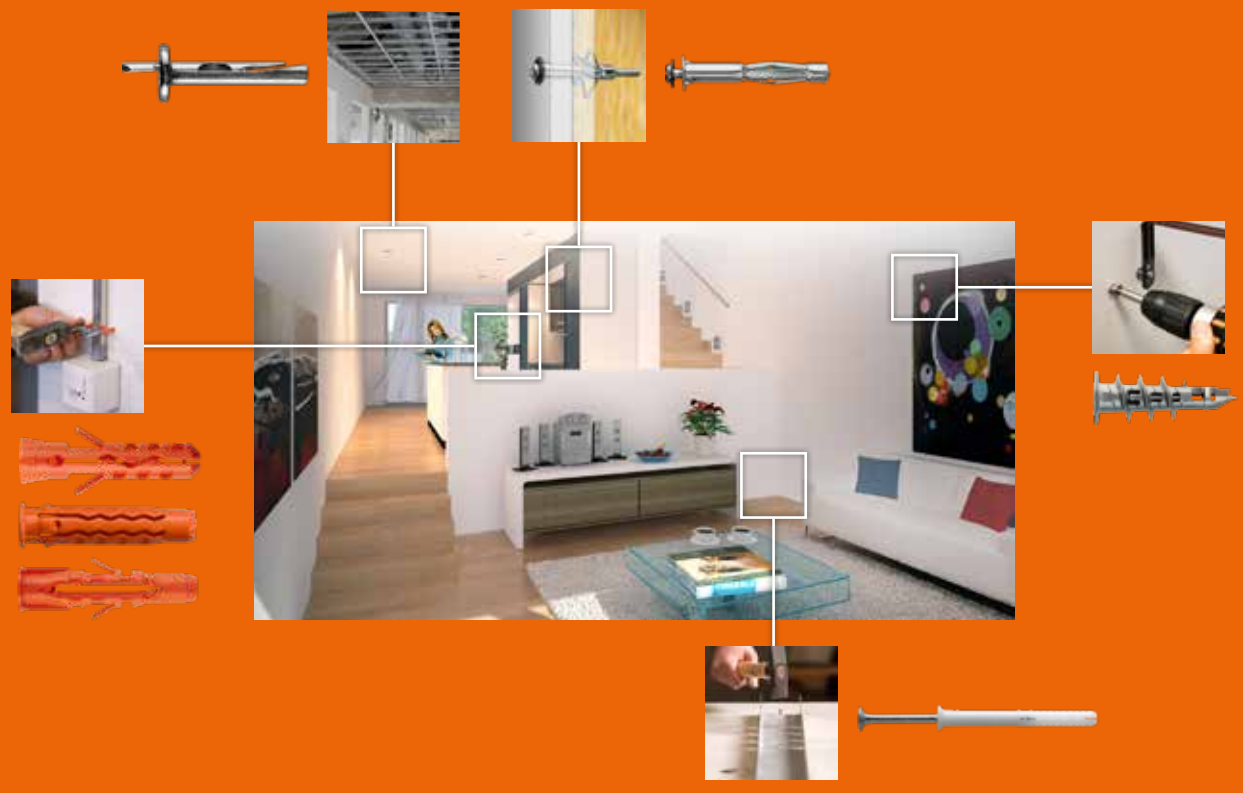


Euro pallet 800 x 1200

All dimensions are external dimensions in mm



Tailored solutions for every situation



Mungo head office in Olten, Switzerland

www.mungo.swiss

SWITZERLAND

Mungo Befestigungstechnik AG
Bornfeldstrasse 2
CH-4600 Olten
Phone +41 62 206 75 75
Fax +41 62 206 75 85
mungo@mungo.swiss
www.mungo.swiss

GERMANY

Mungo Befestigungstechnik
GmbH & Co. KG
Airport-Stadt Mitte
Hanna-Kunath-Strasse 19
D-28199 Bremen
Phone +49 421 69 69 33 00
Fax +49 421 69 69 33 01
germany@mungo.swiss
www.mungo.swiss

AUSTRIA

Mungo Befestigungstechnik
GmbH & Co. KG
Airport-Stadt Mitte
Hanna-Kunath-Strasse 19
D-28199 Bremen
Phone 0800 206 068
Fax 0800 206 069
austria@mungo.swiss
www.mungo.swiss

ITALY

Mungo S.r.l.
Via Germania 23 z.i.
I-35127 Padova
Phone +39 049 7623111
Fax +39 049 8705605
info@mungo.it

www.mungo.it