

FIXING TECHNOLOGY



International Catalogue

... better products, easier life



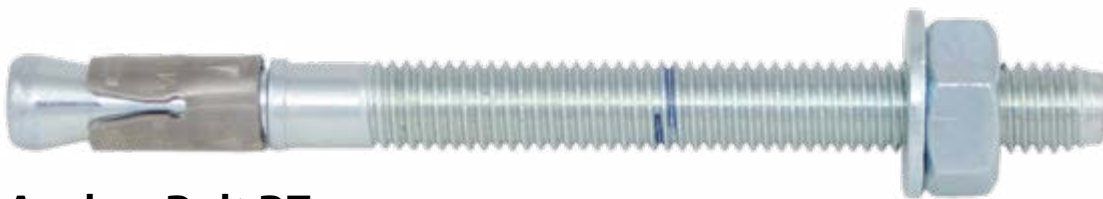
One anchor - simple universal.

ThermoScrew TS U8 Gecko

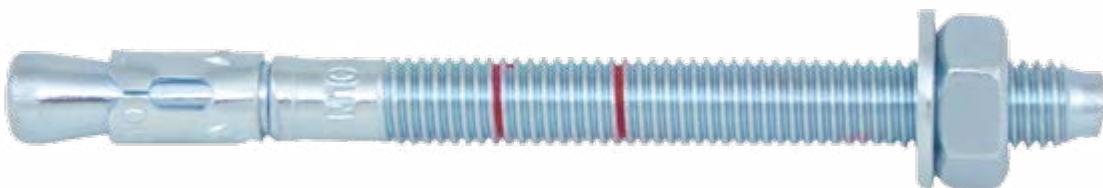
- > for all insulation thicknesses
- > for all building materials classes A, B, C, D, E
- > for all usual ETICS insulation materials
- > easy to use
- > a high degree of installation safety
- > saving time and costs



The new anchor bolts















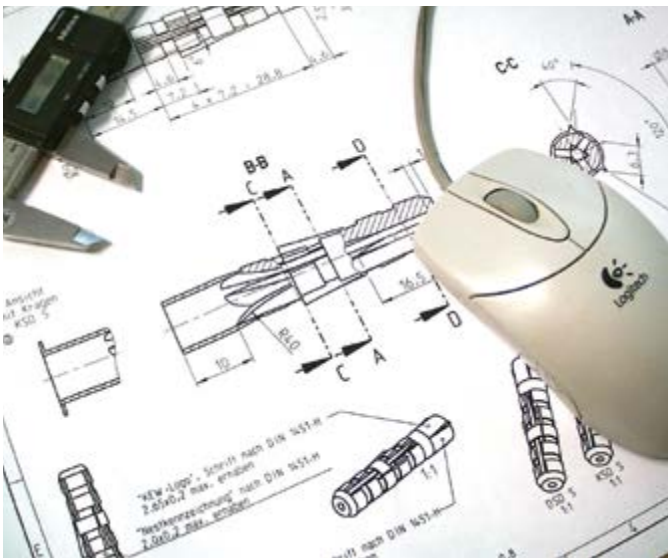
Anchor Bolt BZ



Anchor Bolt BN



General Fixings	Page 15 - 30		General Fixings
Frame Fixings	Page 31 - 46		Frame Fixings
Cavity Fixings	Page 47 - 54		Cavity Fixings
Heavy Duty Metal Fixings	Page 55 - 60		Heavy Duty Metal Fixings
Chemical Fixings	Page 61 - 70		Chemical Fixings
Insulation Material Fixings	Page 71 - 84		Insulation Material Fixings
Scaffold Fixings	Page 85 - 88		Scaffold Fixings
Remedial Fixings	Page 89 - 90		Remedial Fixings
Electrical Fixings	Page 91 - 94		Electrical Fixings
Heating and Sanitary Fixings	Page 95 - 98		Heating and Sanitary Fixings
Accessories	Page 99 - 102		Accessories
Self Service Range	Page 103 - 125		Self Service Range



Dear Business Partners,

for over 60 years, we have been developing, manufacturing and delivering to you fastening technology of the highest quality. The growing diversity of the framework conditions, e.g. building materials, is creating growing demands for further development of the fixing technology. Therefore, it is our constant goal and our daily challenge to deliver to you the optimal fastening solutions for your tasks.

In this respect, we are pleased to present our new products in this catalog. You find then the TS Gecko as an innovative screw dowel for thermal insulation systems with extensive certifications, which as a dowel with a length for all insulation thicknesses stands out due to its universality in building grounds and insulation materials and due to its easy handling. We also present to you our new heavy last product line of anchor bolt BZ with ETA certification for cracked and non-cracked concrete and BN with ETA certification for non-cracked concrete as well as the drop-in anchor EA in the EA, EA A4 and EA K versions with ETA certification for cracked and non-cracked concrete. You will also find extensive information about our new composite mortar VM VE as the first product of our new composite mortar series with ETA certification for concrete and masonry as well as reinforcements.

We are your reliable partner when it is about fastenings on building and our team will be happy to assist you with advice and help. Due to our own development department, we are also able to carry out individual developments on request. We look forward to a successful cooperation with you.

Your KEW Team



Comparison

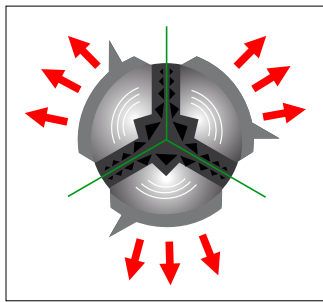
Expansion body of double and triple-split design

Double-split design



Expansion in **two** directions only

Load is directed into **two** directions only



- Evenly sharing high effect of the pressure-force
- Optimal and centric guidance of the screw low torque
- high safety against pulling

KEW triple-split design



Expansion in **three** directions and **two** areas

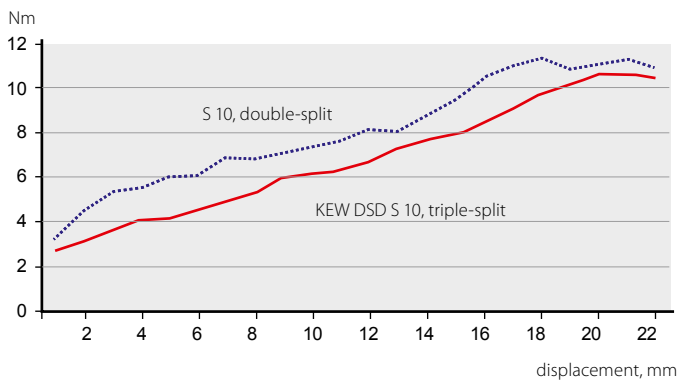
Contraction in **two** areas
Contraction plus forming a strong knot

Load distribution in **three** areas
Screw can be turned in easier and faster



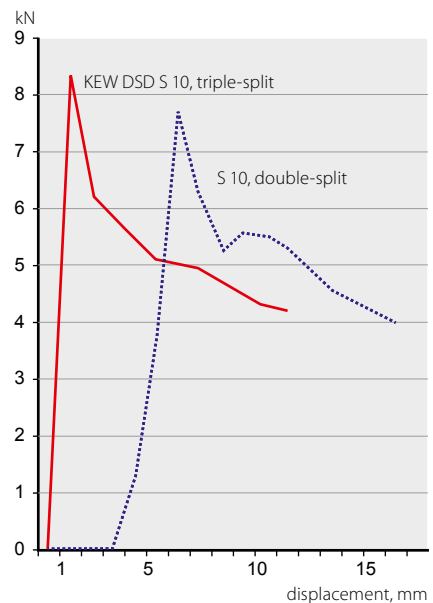
Influence of the double-split and triple-split design types on tightening of screw and pullout loadse

Tightening force required



It can clearly be seen that the KEW design combines the **lowest required tightening forces** with the **highest achieved pullout loads**. The values were found with plugs made of saturated (conditioned) polyamide (nylon) installed in concrete B25.

Pullout loads achieved

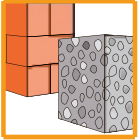




Basics of the Fixing Technology

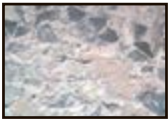
1. building materials

1.1 Concrete and Masonry (solid)



1.1.1 Concrete

Concrete is a mixture of cement, aggregate, and water. There are various types of concrete depending on composition, mode of production or usage. There are two basic types, i.e. normal concrete and light concrete. Different from normal concrete, light concrete contains aggregate such as pumice or styrofoam. Cement serves as binding agent and is contained in both types of concrete. Pumice/ styrofoam aggregate are often of lower strength than gravel aggregate which may lead to partly unfavourable conditions for an efficient anchorage. In addition, the European Technical Approval (ETA) differentiates between cracked and uncracked concrete.



(normal) concrete

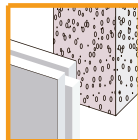
1.1.2 Masonry, Dense and Solid

These bricks normally are of limited size and do not have cavities. The group includes solid brick, clay bricks, as well as solid sand-lime stones. Being solid, without cavities and of high compressive strength this base material is very well suited for anchorings.



solid masonry
("clinker brick")

1.2.3 Masonry, Porous and Solid

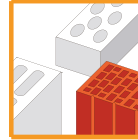


Due to their porous condition solid bricks made of light concrete or aircrete are of lower compressive strength. This requires a plug with long expansion area or an undercut anchor system.



aircrete ("Ytong", Siporex",
"Hebel", "Durox", "Greisel")

1.3 Perforated and Hollow Blocks



1.3.1 Dense Perforated and Hollow Blocks

Hollow blocks are perforated either vertically or horizontally. The base material is mainly the same as with solid blocks. The cavities are mostly of circular, square or elliptical shape whereby the total cross section of the cavities amounts to more than 15% of the loaded surface. This group includes perforated bricks, hollow and perforated blocks made of sand lime as well as hollow blocks made of concrete. To fix safely into such material it is advised to use plugs which can fill up or bridge the cavities.



Hollow sand-lime block/
Hollow clay block

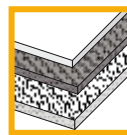
1.3.2 Porous Perforated and Hollow Blocks

Perforated bricks and hollow blocks made of light concrete may be porous and include cavities. Such low compressive strength base material requires the fixing element to be chosen very carefully. This is why it is recommended to use plugs with a long expansion area or undercutting injection systems.



porous perforated brick
("Unipor", "Poroton")

1.4 Boards/ Panels



This group comprises thin and quite often also relatively soft material such as gypsum board, plasterboard, chipboard, hardboard, plywood. The panels are either directly attached to the base material or fixed at a distance. Only special formlocking fixings can be used which deform to attach to the rear side of the panel.



prefabricated building materials
(plasterboard panels, gypsum fibreboard,
chipboard, hard particle board and plywood)



Basics of the Fixing Technology

2. The Right Drill Hole

It must be made sure to only drill perpendicularly to the surface of the base material and to use drill bits which do not exceed the standardized drill diameter tolerances. The drill dust must be removed and the hole be thoroughly cleaned. Given drill diameters and drill depths must be observed. Do not use percussion drill bits for boards and panels. Please note that the base material also determines the drilling method.

2.1 From the Drill Hole to the Base Material...

Often it is not known which base material is to be found below the render or the wall paper. In this case a small hole should be drilled at low speed and without percussion. The drilling resistance shows whether or not there is a hard material. Type and colour of the drill dust also may help to determine the base material.

- **Concrete:**
Dry, white or light grey powder.
- **Aircrete:**
White, granular, slightly greasy powder.
- **Brick, Masonry:**
Red powder, in case of hollow block the bit progresses in steps through cavities.
- **Sand-lime Stone:**
White, sandlike powder
- **Gypsum Plasterboard:**
White, light powder tending to stick to the drill bit.
- **Gypsum Fibreboard:**
Grey, light powder tending to stick to the drill bit.



■ **Hammer Drilling:**

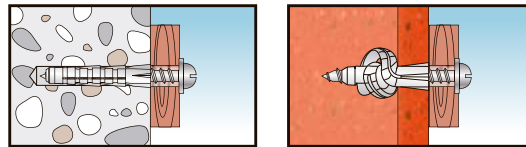
Hammer drilling is advised for concrete. High impact energy combined with less impacts ensure fast drilling progress.

3. Installation

3.1 Types of Installation:

■ **Pre-Installation:**

The anchor must be installed flush with the surface of the base material. The drill diameter is larger than the hole through the fixture to be attached. The drill hole is made first, then the anchor is installed and finally the fixture is attached.

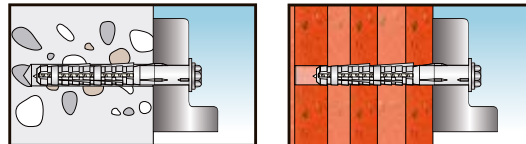


KEW SUPER Universal plug - SU

■ **Push-Through Installation:**

Drill hole is mostly drilled through the fixture, so that plug and drill diameter are identical which ensures faster installation and more accurate positioning of the drill hole.

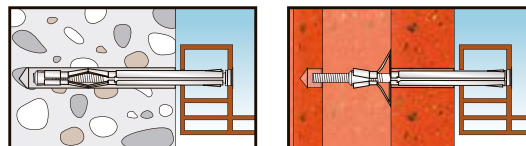
The plug is pushed through the fixture into the drill hole.



KEW frame plug, double expansion zone-RDD

■ **Stand-Off Installation**

The fixture is anchored at a certain distance from the base material and has to support push and pull-forces.



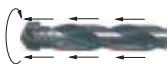
KEW window frameplug Combi-FRD C

2.2 ... from the Base Material to the Drilling Method



■ **Rotary Drilling:**

Advised for soft and porous base materials of low compressive strength (ex.: aircrete, perforated bricks). Turn off percussion/hammering action to avoid drilling too big or to damage inner sections of the base material.



■ **Rotary Percussion Drilling:**

Advised for solid and dense materials such as solid bricks and masonry. More frequent but low energy percussions are added to fast rotation.

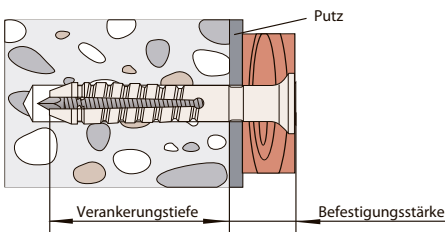
Basics of the Fixing Technology

3.2 Fixing Thickness

The fixing thickness generally corresponds to the thickness of the object to be fixed. If the plug is preinstalled sufficient flexibility is provided by choosing the length of the screw. In case of a through-fixing the length of the plug determines the fixing thickness. In case of substrates covered with render or insulating material the fixture thickness must be increased correspondingly.

3.3 Anchorage Depth

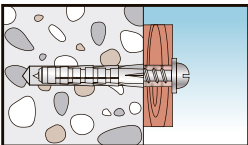
In general, the anchorage depth is the distance between the tip of the expansion part of the plug and the upper edge of the load bearing base material.



4. Types of Anchorage

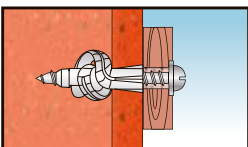
■ Anchorage by Friction:

The expansion part of the plug is firmly pressed against the based material. Axial loads applied to the plug are transmitted by friction.



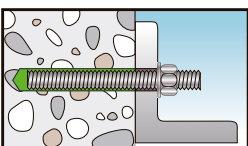
■ Anchorage by Form Locking:

The plug adopts the shape of the drill hole or interlocks with the materials' surface.



■ Anchorage by Bonding:

The fixture is firmly bonded to the base material by means of synthetic mortar or resin. This expansion and stress-free anchorage guarantees highest load bearing capacities.



KEW threaded stud - VG
KEW anchor capsule - VAP

5. Types of Failure

■ Anchor Pullout:

The anchor is pulled out of the drill hole without damaging the base material.

- Cause:
- too high load
 - ncorrect installation

■ Failure of the Base Material:

Depends mainly on the strength of the base material and the anchorage depth.

- Cause:
- too high load
 - insufficient strength of the base material
 - insufficient anchorage depth

■ Splitting of the Base Material:

Splitting is a special type of concrete failure.

- Cause:
- too small dimensions of base material part.
 - too small edge distances or axial spacings

■ Steel Failure:

Steel failure can be calculated based on steel strength and cross section of the steel part. Steel failure is the maximum anchor load that can be reached.

- Cause:
- insufficient strength of screw or threaded stud.

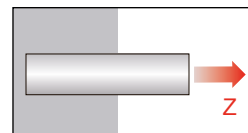
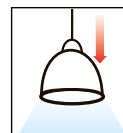
6. Types of Load

Dimensions and type of base material, type and direction of load determine the type of plug to be used.

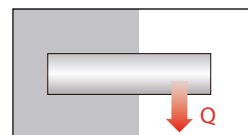
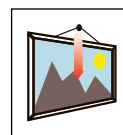
The loads are characterized by:

- actual load ■ load direction ■ point of load introduction

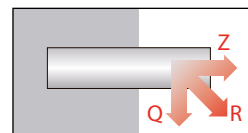
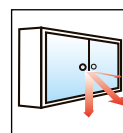
The forces are stated in kN (1 Kilonewton - 1 kN = 100 kg) bending moments are stated in Nm (1 Newtonmeter - 1 Nm= 0,1 kpm).



Tension Load
= 80 N



Shear Tension
= 30 N






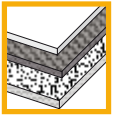















Oblique Tension
(Tension +
Shear Tension)
Z = 90 N, Q = 310 N
R = 323 N

Range of Applications

			page	concrete	natural stone	solid bricks Mz, KS	aircrete (aerated cement)	solid gypsum plates	hollow bricks Hz, KSL	hollow blocks Hbl	gypsum plasterboard	Plates / panels
Allgemeine Befestigungen												
Expansion plug SUPER	SD S		14	■	■	■	■	■	□	□		
Universal plug SUPER	SU		16	■	■	■	■	■	■	■	■	■
Universal plug	UD		19	■	■	■	■	■	■	■	■	■
Extended expansion plug	LSD		21	■	■	■	■	■	■	■		
Expansion socket	SP		22	■	■	■	□	□	■	■	■	■
Aircrete plug	GBD		23				■					
Aircrete plug	G7		24				■					
Brass plug	MSD		25	■	■	■	□	□				
Metal universal plug	MUD		26	■	■	■	■	■	□	□		
Ceiling nail	DN		27	■								
Resin plug	KND		28	■	■	■	■	■	■	■	■	■
Rahmen - Befestigungen												
Nail plug	ND		30	■	■	■	□	■	□	□		
Frame plug	RD		33	■	■	■	□	□				
Frame plug, Extended expansion area	RDD		35	■	■	■	■	■	■	■		
Window frame screw	FRS		39	■	■	■	□	■	■	■		
Window frame plug	FRD		40	■	■	■	□	■	□	□		
Window frame plug Combi	FRD C		42	■	■	■	■	■	■	■		
Adjusting wedge	BMK		43									
Spacer Unit	ASH		44									

■ geeignet □ bedingt geeignet ☐ geeignet in Kombination

Range of Applications

												
			page	concrete	natural stone	solid bricks MZ, KSV	aerated cement	solid gypsum plates	hollow bricks Hz, KSL	hollow blocks Hbn, KSL	gypsum plasterboard	Plates / panels
Cavity Fixings												
Metal hollow wall plug	MHD		46						□	□	■	■
Nylon hollow wall plug	KHD		48	□	□	□	□	□	□	□	■	■
Spring toggle	FK		49								■	■
Plasterboard plug	GKD		50								■	
Metal plasterboard plug	GKDM		51								■	□
Anchor bolts												
Anchor bolt	BZ		54	■								
Anchor bolt	BN		57	■								
Drop in anchor	EA		62	■								
Chemical anchors												
Injection mortar cartridge	VM		66	■	■	■	□	■	■	■		
Perforated sleeve	VG		67							■	■	
Threaded stud	VSH		68	□	□	□	□		□	□		
Threaded sleeve	VIG		68	□	□	□	□		□	□		
Dispenser guns	VKP		70									
Chemical anchor capsule	VAP		71	■	■							
Chemical anchor studs	VAS		71	□	□							




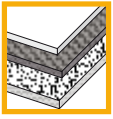












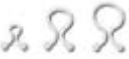

Range of Applications

			page	concrete	natural stone	solid bricks Mz, KS	aircrete (aerated cement)	solid gypsum plates	hollow bricks Hlz, KSL	hollow blocks Hbl	gypsum plasterboard	Plates / panels
Insulation Material Fixings												
Hammer fixing	TSDL-V		74	■	■	■	□		■	□		
Hammer fixing	TSD-V KN		75	■	■	■	□		■	□		
Hammer fixing	TSD-V		76	■	■	■	□		■	□		
Hammer fixing	TSD		77	■	■	■	□		■	■		
ThermoScrew Gecko U8	TS Gecko U8		78	■	■	■	■		■	■		
Screw fixing	TSBD		80	■	■	■	■		■	■		
Hammer fixing	DSH K		81	■	■	■	□		□	□		
Metal insulation fixings	MDSH		83	■	■	■	■		□	□		
Metal insulation disk	MDSB		84	▣	▣	▣	▣		▣	▣		
ISO Plug	ID		85									
Universal insulation disk	UDS		86	▣	▣	▣	▣		▣	▣		
Insulation disc	DSB		87	▣	▣	▣	▣	▣	▣	▣	▣	▣
Railsocket connector	SSV		87									

Scaffold Fixings												
Scaffold plug	GD		90	■	■	■	□		□	□		
Eye screw	GS		90	▣	▣	▣	▣		▣	▣		
Cover cap	GST		90									

■ geeignet □ bedingt geeignet ▣ geeignet in Kombination

Range of Applications

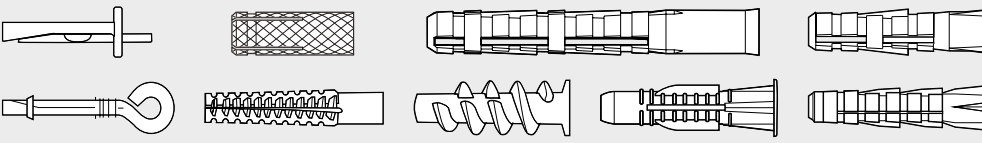
										
page	concrete	natural stone	solid bricks Mz, KS	aerated cement	solid gypsum plates	hollow bricks Hlz, KSL	hollow blocks Hbl	gypsum plasterboard	Plates / panels	
Sanierung										
Masonry wedge	MWK		94							
Masonry injector	MIN		94							
Elektro - Befestigungen										
Cable tie	KEW KB		96							
Fixing socket	BS D		96							
Kabelbinderauflage	KB A		96							
Kabelverbinder	KB V		96							
Tool for cable tie	KB Z		96							
Cable clasp	KKB		96	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Nail disc	NSB		96		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nail clamp	NS		97		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cable harness	KSH		97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pipe clamp	RS		97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cable tie loop	VV		97							
Cable strap	SS		97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Range of Applications

			page	concrete	natural stone	solid bricks MZ, KSV	aercrete (aerated cement)	solid gypsum plates	hollow bricks Hz, KSL	hollow blocks Hbn, KSL	gypsum plaster board	Plates / panels
Washbasin fixing	WTB		100	■	■	■	■	■	□	□		
Washbasin fixing	WTB		100						□	□		
Urinal fixing	UB		100	■	■	■	■	■	□	□		
Washbasin/urinal fixing	WTUB		100	■	■	■	■	■	□	□		
WC fixing	WCB		100	■	■	■	■	■	■	■	■	■
Mirror fixing	SB		100	■	■	■	■	■	□	□		
Pipe hook	RH		100	■	■							
Clip	Clip		100									
Stud screws	STS		101	▣	▣	▣	▣	▣	▣	▣		
Long hexagon nut	LM		101									
Threaded stud	GWS		101	▣	▣	▣	▣	▣	▣	▣	▣	▣
Pipe clamp PRAKTIC	RSP		101	▣	▣	▣	▣	▣	▣	▣	▣	▣
Pipe clamp PRAKTIC Gleit	RSP G		101	▣	▣	▣	▣	▣	▣	▣	▣	▣
Threaded pipe clamp	RSS		101	▣	▣	▣	▣	▣	▣	▣	▣	▣
Rail bracket	SK		103	▣	▣	▣	▣	▣	▣	▣	▣	▣
Bracket base plate	KGP		103	▣	▣	▣	▣	▣	▣	▣	▣	▣
Rail connector	SVB		103	▣	▣	▣	▣	▣	▣	▣	▣	▣
Angle	MW		103	▣	▣	▣	▣	▣	▣	▣	▣	▣
Retaining bracket	HK		103	▣	▣	▣	▣	▣	▣	▣	▣	▣
Hammerhead screw	HKS		103	▣	▣	▣	▣	▣	▣	▣	▣	▣
Sliding nut	SBM		103	▣	▣	▣	▣	▣	▣	▣	▣	▣

■ geeignet □ bedingt geeignet ▣ geeignet in Kombination

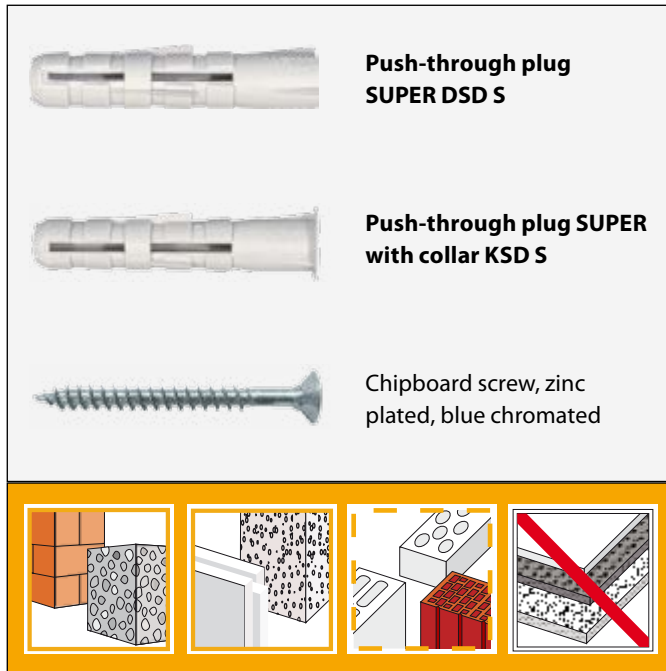
General Fixings



General Fixings

Expansion Plug SUPER - SD S

General Fixings

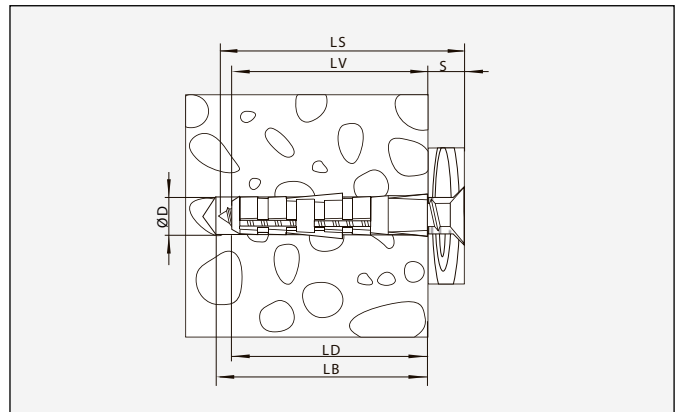


Advice

The maximum load can only be achieved if:

- the largest possible screw diameter is used
- the minimum screw length* is observed
- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer.

It is recommended to drill 1 mm smaller in case of aircrete and to drill without percussion in case of perforated bricks or hollow blocks.



* min. screw length

plug length	LD
+ render, tiles etc.	
+ fixture thickness	S
+ 1x screw diameter	ØS
= min. screw length	LS

Suitability

Base materials:

All types of concrete and solid bricks, limited suitability for hollow base materials

For fixing of:

All objects which can be fixed with wood screws or chipboard screws: picture frames, lamps, cup-boards, skirting boards, towel rails, soap dishes, letter boxes, alarm units, flower baskets, curtain rails

Characteristics

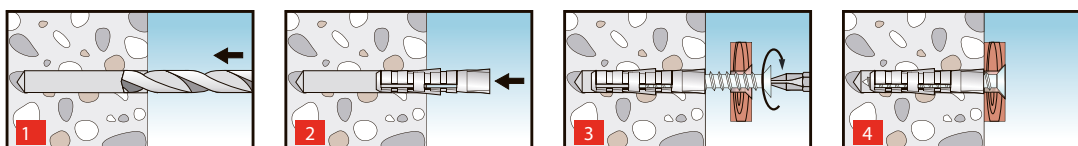
- Proven triple-split design ensures perfect screw guidance
- Faster setting and high load bearing capacity
- Retaining wedges prevent rotation in the drillhole
- Ideal expansion in both dense and soft base materials as well as in hollow blocks
- Open plug tip allows long screws to escape

Pullout loads in kN*

	Beton C20/25	Ziegel Mz15	Porenbeton P4
SD S 5 mm	1,2	1,1	0,4
SD S 6 mm	3,2	3,4	0,9
SD S 7 mm	4,1	3,9	1,0
SD S 8 mm	5,2	4,5	1,3
SD S 10 mm	8,4	7,1	2,0
SD S 12 mm	11,7	-	2,8
SD S 14 mm	20,0	-	4,1

* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, nonload bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

Installation



Expansion Plug SUPER - SD S

Technische Daten



DSD S - Push-through plug SUPER

type	ref.-no.	ØD Ø Plug Ø Bit [mm]	LD = LV plug length = min. ancho- rage depth, [mm]	LB drill depth [mm]	ØS Ø screw dia [mm]	qty. per box pcs.	outer carton pcs.
DSD S 5	32746	5	25	35	2,5 - 4,0	100	5400
DSD S 6	32747	6	30	40	3,5 - 5,0	100	5400
DSD S 7	32748	7	35	45	4,0 - 5,5	100	3600
DSD S 8	32749	8	40	50	4,5 - 6,0	100	2700
DSD S 10	32750	10	50	65	6,0 - 8,0	50	1350
DSD S 12	32751	12	60	75	8,0 - 10,0	25	675
DSD S 14	32752	14	70	85	10,0 - 12,0	20	540
DSD S 5	32725	5	25	35	2,5 - 4,0	200	10800
DSD S 6	32726	6	30	40	3,5 - 5,0	200	7200
DSD S 7	32727	7	35	45	4,0 - 5,5	200	5400
DSD S 8	32728	8	40	50	4,5 - 6,0	200	3200
DSD S 10	32729	10	50	65	6,0 - 8,0	100	1600
DSD S 12	32730	12	60	75	8,0 - 10,0	75	1200
DSD S 14	32731	14	70	85	10,0 - 12,0	50	800



KEW DSD S SP - Push-through plug SUPER with chipboard screws

DSD S 6 SP	36151	6	30	40	4,5 - 50,0	50	2700
DSD S 8 SP	36152	8	40	50	6,0 - 70,0	50	1350
DSD S 10 SP	36153	10	50	65	7,0 - 80,0	25	900



DSD S - Push-through plug SUPER with or without chipboard screws, packed in green stack

DSD S 6	33000	6	30	40	3,5 - 4,5	400	16000
DSD S 8	33001	8	40	50	4,5 - 6,0	200	8000
DSD S 10	33002	10	50	65	6,0 - 8,0	100	4000
DSD S 6 SP	33013	6	30	40	4,0 - 40,0	175	2625
DSD S 8 SP	33014	8	40	50	5,0 - 50,0	75	1125
DSD S 5 Box	37108	5	25	35	2,5 - 4,0	600	24000



KSD S 5 Box	37409	5	25	35	2,5 - 4,0	600	24000
KSD S 6 Box	37037	6	30	40	3,5 - 5,0	350	14000

Technische Daten



KSD S - Push-through plug SUPER with collar

type	ref.-no.	ØD Ø Plug Ø Bit [mm]	LD = LV plug length = min. ancho- rage depth, [mm]	LB drill depth [mm]	ØS Ø screw dia [mm]	qty. per box pcs.	outer carton pcs.
KSD S 5	32753	5	25	35	2,5 - 4,0	100	5400
KSD S 6	32754	6	30	40	3,5 - 5,0	100	5400
KSD S 7	32755	7	35	45	4,0 - 5,5	100	2700
KSD S 8	32756	8	40	50	4,5 - 6,0	50	900
KSD S 10	32757	10	50	65	6,0 - 8,0	25	900
KSD S 12	34356	12	60	75	8,0 - 10,0	25	675
KSD S 14	34357	14	70	85	10,0 - 12,0	20	540
KSD S 5	32741	5	25	35	2,5 - 4,0	200	10800
KSD S 6	32742	6	30	40	3,5 - 5,0	200	5400
KSD S 7	32743	7	35	45	4,0 - 5,5	200	3200
KSD S 8	32744	8	40	50	4,5 - 6,0	200	3200
KSD S 10	32745	10	50	65	6,0 - 8,0	100	1600
KSD S 12	34358	12	60	75	8,0 - 10,0	50	800
KSD S 14	34359	14	70	85	10,0 - 12,0	40	640



DSD S HWK L - Push-through plug SUPER in craftsman suitcase small (loose)

type	ref.-no.	ØD	LD = LV	LB	ØS	qty. per box pcs.	outer carton pcs.
DSD S 6 HWK L	35670	6	30	40	3,5 - 5,0	2500	
DSD S 8 HWK L	35671	8	40	50	4,5 - 6,0	1500	
DSD S 10 HWK L	35672	10	50	65	6,0 - 8,0	800	



DSD S HWK V - Push-through plug SUPER in the craftsman suitcase large (packaged)

DSD S 6 HWK V	35833	6	30	40	3,5 - 5,0	100	8000
DSD S 8 HWK V	35834	8	40	50	4,5 - 6,0	100	4000
DSD S 10 HWK V	35835	10	50	65	6,0 - 8,0	50	2000
DSD S 12 HWK V	35836	12	60	75	8,0 - 10,0	25	1000
DSD S 14 HWK V	35837	14	70	85	10,0 - 12,0	20	800
KSD S 6 HWK V	35838	6	30	40	3,5 - 5,0	100	8000
KSD S 8 HWK V	35839	8	40	50	4,5 - 6,0	50	3000
KSD S 10 HWK V	35840	10	50	65	6,0 - 8,0	25	2000
KSD S 12 HWK V	35841	12	60	75	8,0 - 10,0	25	1000
KSD S 14 HWK V	35842	14	70	85	10,0 - 12,0	20	800

Universal Plug SUPER - SU

General Fixings

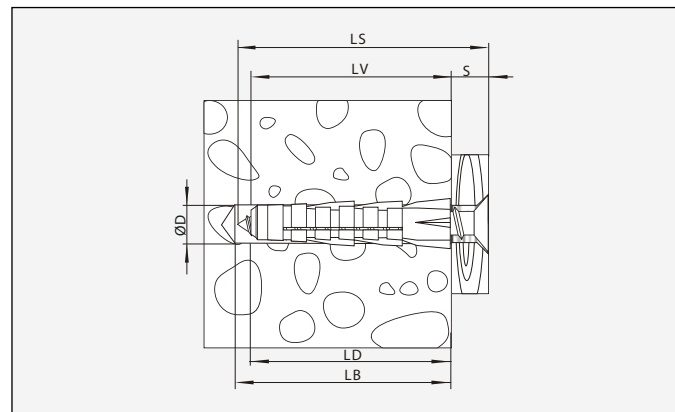


Advice

The maximum load can only be achieved if:

- the largest possible screw diameter is used
- the minimum screw length* is observed
- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer.

If installed in hollow bricks or boards/ panels hooks and eye screws with integral washer must be used to make sure that the plug form locks in the substrate (knocking down). In case of plasterboard pre-drill with a metal or wood drill bit to avoid damaging the panel.



Suitability

Base materials:

All types of concrete, masonry, hollow blocks and bricks, boards and panels

For fixing of:

All objects which can be fixed with wood screws or chipboard screws:

picture frames, lamps, cup-boards, skirting boards, towel rails, soap dishes, letter boxes, alarm units, flower baskets, curtain rails

* min. screw length

	plug length	LD
+	render, tiles etc..	
+	fixture thickness	S
+	1x screw diameter	ØS
=	min. screw length	LS

Characteristics

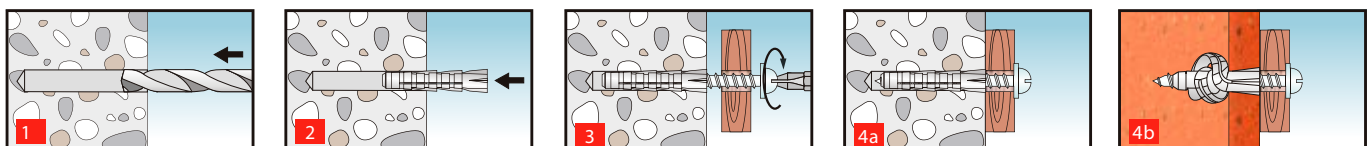
- universal use in nearly all materials
- besondere Eignung für Gipskarton
- proven triple-split design for perfect central screw guidance
- plug knots down in hollow material
- collar prevents the plug to slip into hole
- expansion free plug shank prevents damaging render or tiles

Pullout loads in kN*

	Beton C20/25	Hochlochziegel Hz12	Porenbeton P4	Gipskarton 12,5mm	Gipskarton 2x12,5mm
SU 5	2,1	1,0	1,0	0,5	0,8
SU 6	3,1	1,0	1,1	0,5	1,1
SU 6 L	6,2	1,3	1,3	0,7	1,3
SU 8	6,1	1,4	1,6	0,7	1,7
SU 10	6,9	1,5	2,8	0,8	1,8
SU 12	10,0	2,0	4,3	0,8	1,8
SU 14	12,5	2,7	5,0	-	-

* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, non load bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

Installation



Universal Plug SUPER - SU

Technical Data



SU D - push-through Universal plug Super

type	ref.-no.	ØD Ø Plug Ø Bit [mm]	LD = LV plug length = min. ancho- rage depth, [mm]	LB drill depth [mm]	ØS Ø screw dia [mm]	qty. per box pcs.	outer carton pcs.
SU D 5	36701	5	30	40	3,0 - 4,0	100	5400
SU D 6	35795	6	35	45	4,0 - 5,0	100	3600
SU D 6L	35845	6	50	60	4,0 - 5,0	100	2700
SU D 8	35796	8	50	60	5,0 - 6,0	50	1350
SU D 10	35797	10	60	75	7,0 - 8,0	25	900
SU D 12	36702	12	71	85	8,0 - 10,0	25	675
SU D 14	36703	14	75	90	10,0 - 12,0	20	540

Technical Data



SU K - Universal plug SUPER with collar

type	ref.-no.	ØD Ø Plug Ø Bit [mm]	LD = LV plug length = min. ancho- rage depth, [mm]	LB drill depth [mm]	ØS Ø screw dia [mm]	qty. per box pcs.	outer carton pcs.
SU K 5	36704	5	31	40	3,0 - 4,0	100	5400
SU K 6	35798	6	36	45	4,0 - 5,0	100	3600
SU K 6L	35846	6	51	60	4,0 - 5,0	100	2700
SU K 8	35799	8	51	60	5,0 - 6,0	50	1350
SU K 10	35800	10	61	75	7,0 - 8,0	25	900
SU K 12	36705	12	72	85	8,0 - 10,0	25	675
SU K 14	36706	14	76	90	10,0 - 12,0	20	540



SU D SP - Push-through Universal plug SUPER with chipboard screws

SU D 6SP	36148	6	35	45	5,0 x 50,0	50	1800
SU D 8SP	36149	8	50	60	6,0 x 70,0	25	900
SU D 10SP	36150	10	60	75	7,0 x 80,0	10	360



SU D - push-through Universal plug Super with or without chipboard screws, packed in green stack box

SU D 6L Box	35981	6	50	60	4,0 - 5,0	200	8000
SU D 10 Box	35983	10	60	75	7,0 - 8,0	80	3200

SU K - Universal plug SUPER with collar with or without chipboard screws, packed in green stack box

SU K 5 Box	37759	5	31	40	3,0 - 4,0	250	10000
SU K 6 Box	37760	6	36	45	4,0 - 5,0	200	8000
SU K 6L Box	37761	6	51	60	4,0 - 5,0	150	6000
SU K 8 Box	37762	8	51	60	5,0 - 6,0	100	4000
SU K 10 Box	37763	10	61	75	7,0 - 8,0	60	2400
SU K 12 Box	37764	12	72	85	8,0 - 10,0	30	1200



SU D HWK V - push-through Universal plug Super in the craftsman suitcase large (packaged)

type	ref.-no.	ØD	LD = LV	LB	ØS	qty. per box/pcs	outer carton/pcs
SU D 6 HWK	37600	6	35	45	4,0 - 5,0	100	4000
SU D 8 HWK	37601	8	50	60	5,0 - 6,0	50	2000
SU D 10 HWK	37602	10	60	75	7,0 - 8,0	25	1450
SU D 12 HWK	37603	12	71	85	8,0 - 10,0	25	1000
SU K 6 HWK	37604	6	36	45	4,0 - 5,0	100	5800
SU K 6L HWK	37605	6	51	60	4,0 - 5,0	50	4000
SU K 8 HWK	37606	8	51	60	5,0 - 6,0	50	2000
SU K 10 HWK	37607	10	61	75	7,0 - 8,0	25	1450



BOX SU K - Universal plug SUPER with collar in high quality steel box including one bit set PROFÍ

type	ref.-no.	qty. per box pack	qty. per pack pcs	contents
BOX SU K 6	36632	48	3600	SU K 6 + PROFÍ-Bit-Set
BOX SU K 6L	36633	32	1600	SU K 6L + PROFÍ-Bit-Set
BOX SU K 8	36634	32	1280	SU K 8 + PROFÍ-Bit-Set
BOX SU K 10	36635	32	800	SU K 10 + PROFÍ-Bit-Set
		8	400	SU K 6L
BOX SU K 6/8/10	36636	16	640	SU K 8 + PROFÍ-Bit-Set
		8	200	SU K 10

Universal Plug SUPER - SU

SU K Assortment kit



BOX SU K - Assortment box small

type	ref.-no.	qty.per box pcs.	outer carton pcs.	contents
SUK-BOX 160 pcs	37744	1	13	50 plug SU K 6, 50 chipboard screws 4,5 x 50, 30 plug SU K 8, 30 chipboard screws 6 x 70
SUK/DSD S-Box 155 pcs	38034	1	13	35 plug SU K 6, 20 plug SU K 8, 10 plug SU K 10, 50 plug DSD S 6, 30 plug DSD S 8, 10 plug DSD S 10
SUK/DSD S-Box 164 pcs	38035	1	13	20 plug U K 6, 12 plug SU K 8, 4 plug SU K 10, 25 plug DSD S 6, 15 plug DSD S 8, 6 plug DSD S 10, 45 chipboard screws 4,5 x 50, 27 chipboard screws 6,0 x 70, 10 chipboard screws 7,0 x 80
SUK/DSD S-Box 148 pcs	38040	1	13	25 plug SU K 6, 10 plug SU K 8, 25 plug DSD S 6, 13 plug DSD S 8, 39 chipboard screws 4,5 x 50, 21 chipboard screws 6 x 70, 4 round hook 3,5 x 70, 2 round hook white 4,2 x 65, 2 eye screw white 5,0 x 85, 5 angle hook 4,4 x 40, 1 masonry drill Ø 6, 1 masonry drill Ø 8

BOX SU K - Assortment box medium

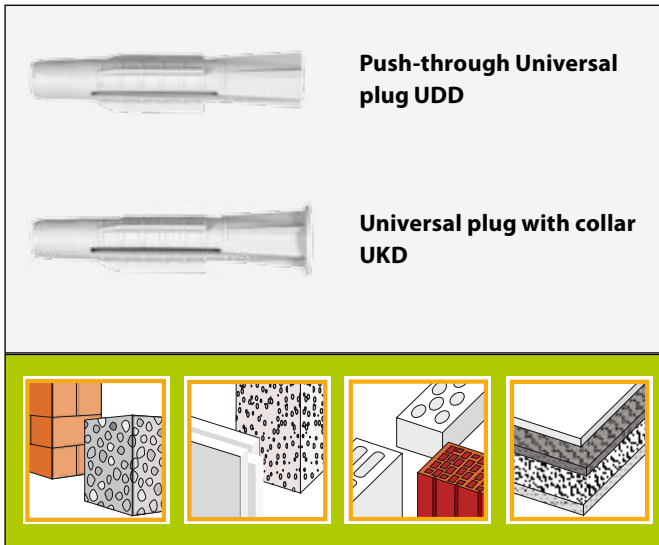
type	ref.-no.	qty.per box pcs.	outer carton pcs.	contents
SUK/DSD S-Box 300 pcs	38042	1	12	60 plug SU K 6, 30 plug SU K 6L, 20 plug SU K 8, 130 plug DSD S 6, 60 plug DSD S 8
SUK/DSD S-Box 340 pcs	38043	1	12	20 plug SU K 5, 30 plug SU K 6, 12 plug SU K 8, 8 plug SU K 10, 30 plug DSD S 5, 40 plug DSD S 6, 20 plug DSD S 8, 10 plug DSD S 10, 50 chipboard screws 3,5 x 45, 70 chipboard screws 4,0 x 40, 32 chipboard screws 5,0 x 50, 8 chipboard screws 6,0 x 70
SUK/DSD S-Box 194 pcs	38047	1	12	40 plug SU K 6, 15 plug SU K 8, 5 plug SU K 10, 70 plug DSD S 6, 30 plug DSD S 8, 6 plug DSD S 10, 8 round hook 3,5 x 70, 4 round hook 5,0 x 85, 2 eye screw 5,0 x 85, 6 angle hook 4,4 x 40, 2 round hook white 4,2 x 65, 2 round hook white 5,4 x 80, 2 Scaffold Screw 8,0 x 80, 1 masonry drill Ø 6, 1 masonry drill Ø 8



BOX SU K - Assortment box large

type	ref.-no.	qty.per box pcs.	outer carton pcs.	contents
SUK-BOX 608 pcs	37741	1	8	75 plug SU K 5, 350 plug SU K 6, 30 plug SU K 6L, 100 plug SU K 8, 35 plug SU K 10, 18 plug SU K 12
SUK/DSD S-Box 772 pcs	38048	1	8	150 plug SU K 6, 70 plug SU K 8, 20 plug SU K 10, 200 plug DSD S 6, 120 plug DSD S 8, 30 plug DSD S 10, 100 chipboard screws 4,5 x 50, 50 chipboard screws 6,0 x 70, 30 chipboard screws 7,0 x 80, 1 masonry drill Ø 6, 1 masonry drill Ø 8

Universal Plug - UD



Suitability

Base materials:

All types of concrete, masonry, hollow blocks and bricks, boards and panels

For fixing of:

All objects which can be fixed with wood screws or chip-board screws: picture frames, lamps, cup-boards skirting boards, towel rails, soap dishes, letter boxes, alarm units, flower baskets, curtain rails

Characteristics

- universal use in nearly all materials
- proven triple-split design for perfect central screw guidance
- plug knots down in hollow material
- collar prevents the plug to slip into hole
- expansion free plug shank prevents damaging render or tiles

Advice

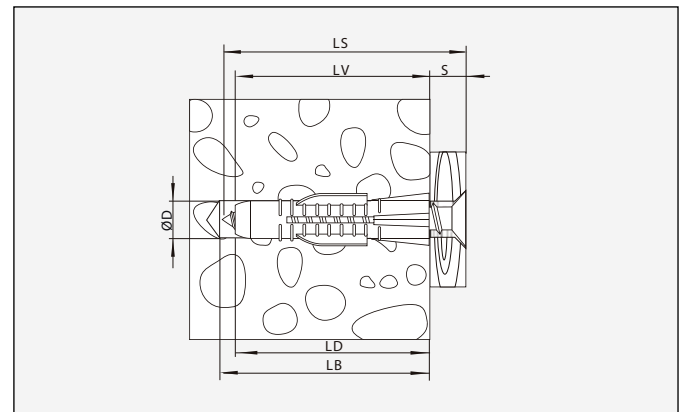
The maximum load can only be achieved if:

- the largest possible screw diameter is used
- the minimum screw length* is observed
- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer.

It is recommended to drill 1 mm smaller in aircrete and to drill with rotation only in case of hollow or perforated bricks.

If installed in hollow bricks or boards/ panels hooks and eye screws with integral washer must be used to make sure that the plug form locks in the substrate (knotting down).

In plasterboard panels use metal or wood drill bits.



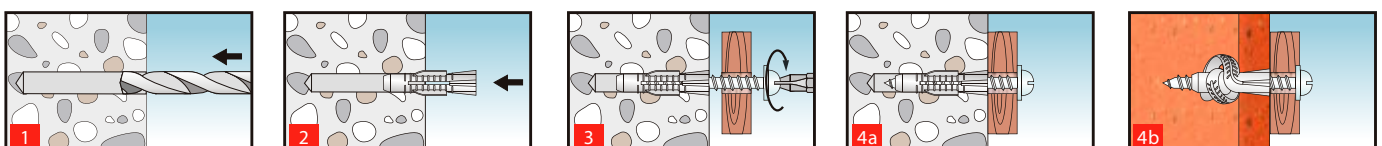
plug length	LD
+ render, tiles etc.	
+ fixture thickness	S
+ 1x screw diameter	ØS
= min. screw length	LS

Pullout loads in kN*

	concrete C20/25	hollow bricks HLz 12	gypsum plasterboard 12,5 mm	aircrete P4
UD 5 mm	0,70	0,70	0,60	0,60
UD 6 mm	1,50	0,85	0,70	0,90
UD 7 mm	1,80	0,98	0,80	1,08
UD 8 mm	3,40	1,20	1,00	1,60
UD 10 mm	3,75	1,30	1,00	2,10
UD 12 mm	4,70	1,35	1,10	2,10

* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, non load bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

Installation



Universal Plug - UD

General Fixings

Technical Data



UDD - Push-through Universal plug

type	ref.-no.	Ø Plug Ø Bit [mm]	LD = LV plug length = min. ancho- rage depth, [mm]	LB drill depth [mm]	ØS Ø screw dia [mm]	qty. per box pcs.	outer carton pcs.
UDD 5 x 31	32700	5	31	40	3,0 - 4,0	100	5400
UDD 6 x 36	32701	6	36	45	4,0 - 5,0	100	3600
UDD 6 x 51	35791	6	51	60	4,0 - 4,5	100	2700
UDD 8 x 51	32704	8	51	60	5,0 - 6,0	50	1350
UDD 10 x 61	32705	10	61	75	7,0 - 8,0	25	900
UDD 12 x 71	32706	12	71	85	8,0 - 10,0	25	900
UDD 14 x 75	32707	14	75	90	10,0 - 12,0	20	540

Technical Data



UKD - Universal plug with collar

type	ref.-no.	Ø Plug Ø Bit [mm]	LD = LV plug length = min. ancho- rage depth, [mm]	LB drill depth [mm]	ØS Ø screw dia [mm]	qty. per box pcs.	outer carton pcs.
UKD 5 x 32	32708	5	32	40	3,0 - 4,0	100	5400
UKD 6 x 37	32709	6	37	45	4,0 - 5,0	100	3600
UKD 6 x 52	35792	6	52	60	4,0 - 4,5	100	2700
UKD 8 x 52	32712	8	52	60	5,0 - 6,0	50	1350
UKD 10 x 62	32713	10	62	75	7,0 - 8,0	25	900
UKD 12 x 72	32714	12	72	85	8,0 - 10,0	25	675
UKD 14 x 76	32715	14	76	90	10,0 - 12,0	20	540

stack box and Assortment box



UD - Universal plug packed in green stack box with or without chipboard screws.

UDD 6 x 36 Box	36002	6	36	45	4,0 - 5,0	200	8000
UDD 6 x 51 Box	36045	6	51	60	4,0 - 5,0	150	6000
UDD 8 x 51 Box	36003	8	51	60	5,0 - 6,0	100	4000
UDD 10 x 61 Box	36004	10	61	75	6,0 - 8,0	50	2000
UKD 6 x 37	33007	6	37	45	4,0 x 5,0	200	8000
UKD 6 x 52 Box	36046	6	52	60	4,0 - 5,0	150	6000
UKD 8 x 52	33008	8	52	60	5,0 x 6,0	100	4000
UKD 6 x 37 SP	33015	6	37	45	4,5 x 5,0	75	3000
UKD 8 x 52 SP	33016	8	52	60	6,0 x 7,0	35	1400
UKD 10 x 62 Box	33009	10	62	75	7,0 - 8,0	50	2000



UDD HWK V - Universal plug in the craftsman suitcase large (packaged)

type	ref.-no.	ØD	LD = LV	LB	ØS	qty. per box pcs.	outer carton pcs.
UDD 6x36 HWK	35851	6	36	45	4,0 - 5,0	100	5.800
UDD 8x51 HWK	35852	8	51	60	5,0 - 6,0	50	2.000
UDD 10x61 HWK	35853	10	61	75	7,0 - 8,0	25	1.450
UDD 12x71 HWK	35854	12	71	85	8,0 - 10,0	25	1.450
UKD 6x37 HWK	36579	6	37	45	4,0 - 5,0	100	5.800
UKD 6x52 HWK	36580	6	52	60	4,0 - 5,0	100	4.000
UKD 8x52 HWK	37513	8	52	60	5,0 - 6,0	50	2.000
UKD 10x62 HWK	37514	10	62	75	7,0 - 8,0	25	1.450
UKD 12x72 HWK	37517	12	72	85	8,0 - 10,0	25	1.000



BOX UDD - Assortment box large

type	ref.-no.	contents	qty. per box pcs.	outer carton pcs.
UDD-BOX 800 pcs.	37740	90 plug UDD 5x31, 450 plug UDD 6x36, 35 plug UDD 6x51, 150 plug UDD 8x51, 50 plug UDD 10x61, 15 plug UDD 12x71, 10 plug UDD 14x75	1	8



BOX UDD - Assortment box medium

type	ref.-no.	contents	qty. per box pcs.	outer carton pcs.
UDD/ DSD S-BOX 275 tlg	38041	55 plug UDD 6x36, 40 plug UDD 6x51, 25 plug UDD 8x51, 15 plug UDD 10x61, 80 plug DSD S 6, 40 plug DSD S 8, 20 plug DSD S 10	1	12

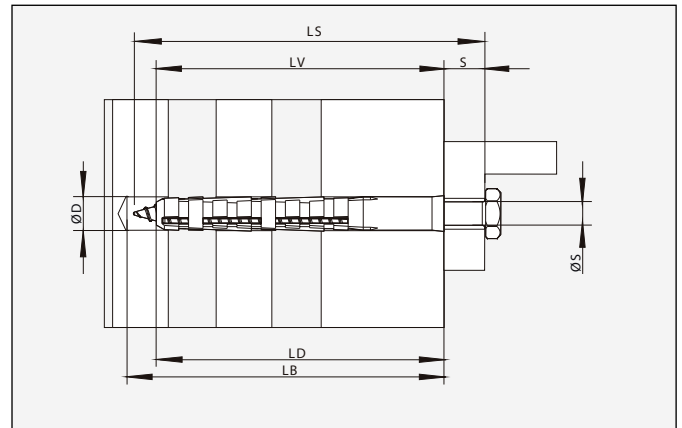
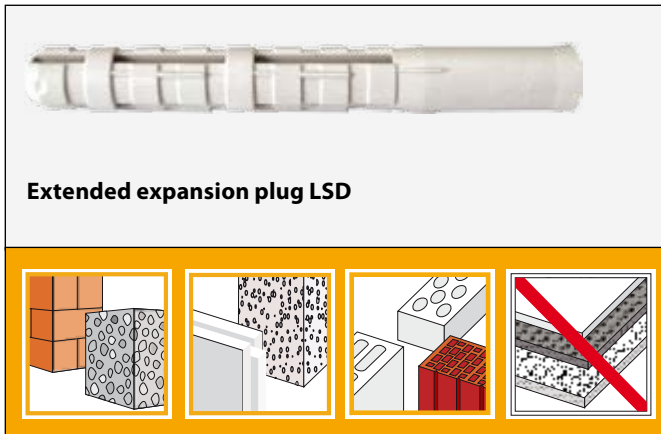


BOX UDD - Assortment box small

type	ref.-no.	contents	qty. per box pcs.	outer carton pcs.
UDD-BOX 190 pcs.	37743	60 plug UDD 6x36, 60 chipboard screws 4,5x50, 35 plug UDD 8x51, 35 chipboard screws 6 x 70	1	13
UDD-BOX 192 pcs.	37742	105 plug UDD 6x36, 20 plug UDD 6x51, 65 plug UDD 8x51, 1 masonry drill Ø 6, 1 masonry drill Ø 8	1	13



Extended Expansion Plug - LSD



Suitability

Base materials:
low density materials such as hollow blocks, bricks, sand lime stones, aircrete, light concrete as well as concrete and solid bricks

For fixing of:
balustrades, hand rails, gates, door frames, fireproof doors, windows, cup-boards, battens, linings, awnings, metal and wooden supporting constructions for facades or roofs

Characteristics

- extended expansion area to ensure an excellent grip also in soft base materials
- proven triple-split design for perfect central guidance of wood or metric screws
- solid collar prevents the plug to slip into the hole and ensures exact screw-in depth
- low tightening resistance ensures faster installation, high load bearing capacity

Advice

- The maximum load can only be achieved if:
- the correct screw diameter is used
 - the minimum screw length* is observed
 - the drill hole is cleaned (use brush and airpump)
 - the drill hole dimensions correspond to those stated by the manufacturer.

* min. screw length

plug length	LD
+ render, tiles etc.	
+ fixture thickness	S
+ 1x screw diameter	ØS
= min. screw length	LS

Technical Data



LSD - Extended expansion plug

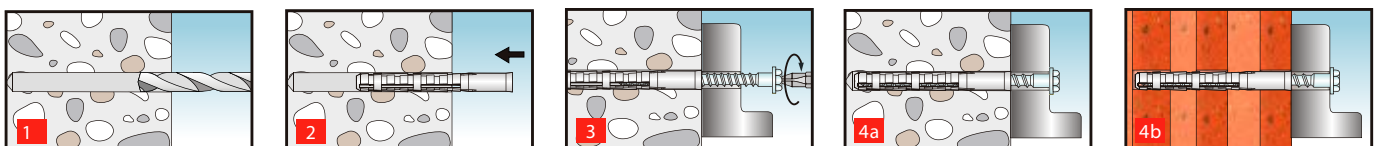
type	ref.-no.	ØD Ø plug Ø bit [mm]	LD = LV plug length = min. ancho- rage depth [mm]	LB min. drill depth [mm]	ØS srew dia. [mm]	qty. per box pcs.	outer carton pcs.
LSD 14 x 120	35521	14	120	135	10/M 10	50	400
LSD 14 x 120	35522	14	120	135	10/M 10	1000	-

Pullout loads in kN*

	hollow sand lime stone KSL
LSD 14 x 120	10,5

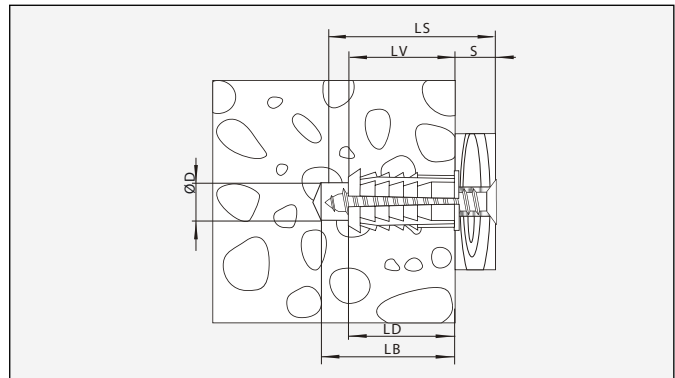
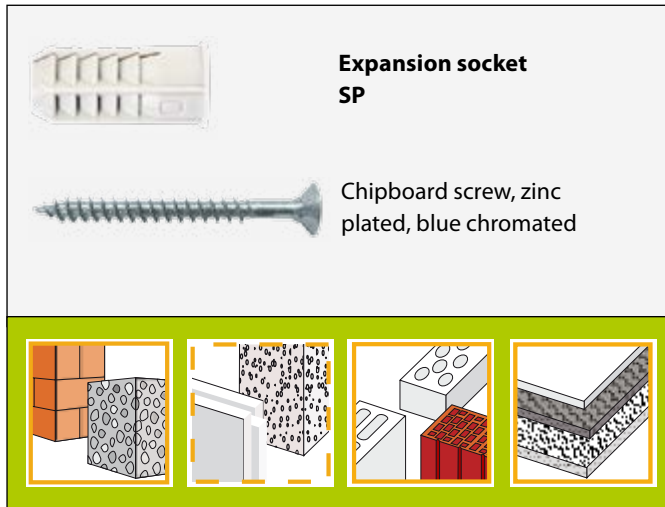
* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. An adequate safety factor should be applied.

Installation



Expansion Socket - SP

General Fixings



*** min. screw length**

plug length	LD
+ fixture thickness	S
= min. screw length	LS

Suitability

Base materials:

All types of concrete and masonry, thin panels, boards, metal sheeting, limited suitability for soft materials

For fixing of:

All objects which can be fixed with wood screws or chipboard screws: lamps, handles, wooden or metal supporting constructions, angles, fittings.

Characteristics

- specially suited for boards and panels
- ideal expansion to achieve high load bearing capacity
- collar prevents the socket to slip into the hole

Advice

The maximum load can only be achieved if:

- the largest screw diameter is used
- the minimum screw length* is observed
- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer.

Technical Data



SP - Expansion socket

type	ref.-no.	Ø plug Ø bit [mm]	LD plug length [mm]	LB min. drill depth [mm]	ØS screw dia. [mm]	qty. per box pcs.	outer carton pcs.
SP 5	36927	5	10	20	2,5 - 4,0	200	10800
SP 6	36186	6	12	20	3,5 - 4,5	200	10800
SP 7	36187	7	15	25	4,0 - 5,5	100	5400
SP 8	36188	8	18	30	4,5 - 6,0	100	5400



SP S - Expansion socket with chipboard screw

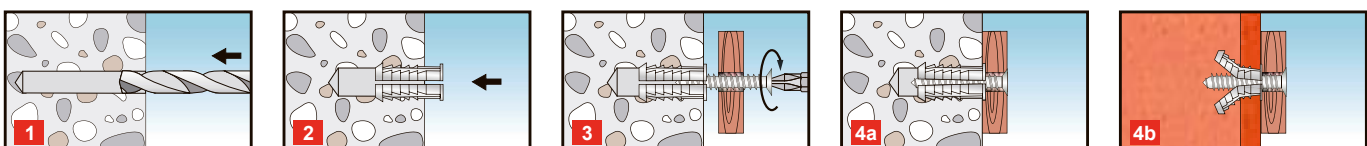
SP 6 S	36154	6	12	20	3,0 x 30,0	100	5400
SP 7 S	36155	7	15	20	4,0 x 40,0	50	2700
SP 8 S	36156	8	18	25	5,0 x 50,0	50	2700

Pullout loads in kN*

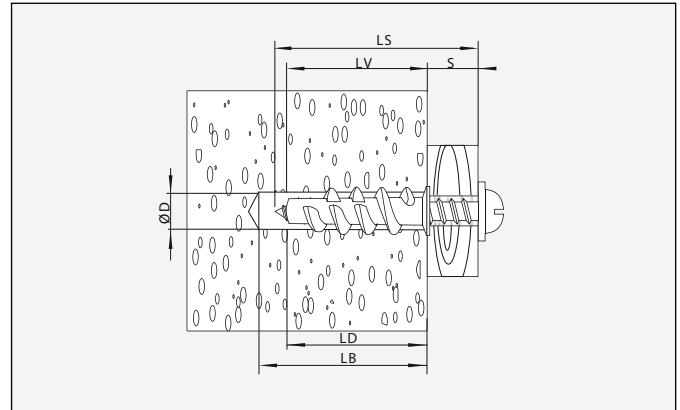
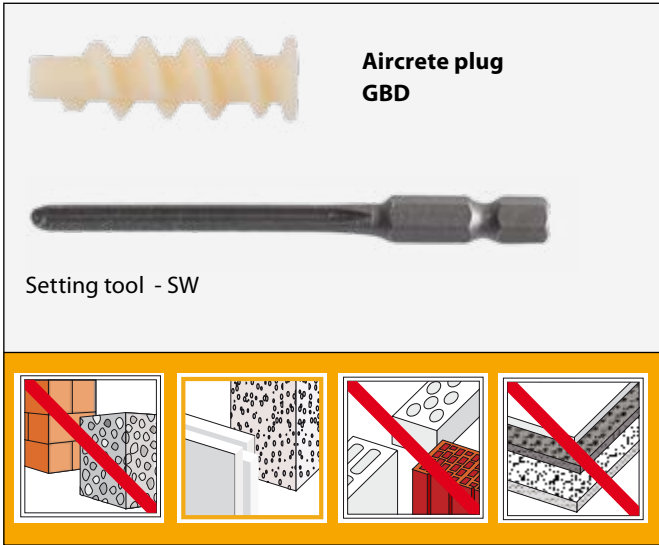
	Concrete C20/25	sheet metal (thickn. = 0,5 x LD)
SP 5	0,15	0,15
SP 6	0,20	0,20
SP 7	0,25	0,25
SP 8	0,30	0,30

* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. An adequate safety factor should be applied.

Installation



Aircrete Plug - GBD



*** min. screw length**

plug length	LD
+ fixture thickness	S
= min. screw length	LS

Suitability

Base materials:
Aircrete (aerated cement)

For fixing of:
All objects which can be fixed with wood, chipboard, tap or metric screws (M4): picture frames lamps, handles, shelves, cup-boards, towel rails, letter boxes, flower baskets, curtain rails, cable and pipe clamps, supporting constructions

Characteristics

- time saving fixing system
- self undercutting into aircrete ensures an expansion-free anchorage
- non-conductive plastic material to fix electrical appliances
- stable edge prevents slipping into the bore and guarantees exact screw-in depth
- reusable setting tool

Advice

- The maximum load can only be achieved if:
- the largest screw diameter is used
 - the minimum screw length* is observed
 - the drill hole is cleaned (use brush and airpump)
 - the drill hole dimensions correspond to those stated by the manufacturer

Technical Data



GBD - Aircrete plug

type	ref.-no.	ØD Ø plug Ø bit [mm]	LD = LV plug length = min. ancho- rage depth [mm]	LB min. drill depth [mm]	ØS srew dia. [mm]	qty. per box pcs.	outer carton pcs.
GBD 10 x 50	36581	10	50	60	4,0 - 6,0 / M4	50	800



SW -Setting tool

SW	32183	10	50
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GBD SW -Aircrete plug with setting tool

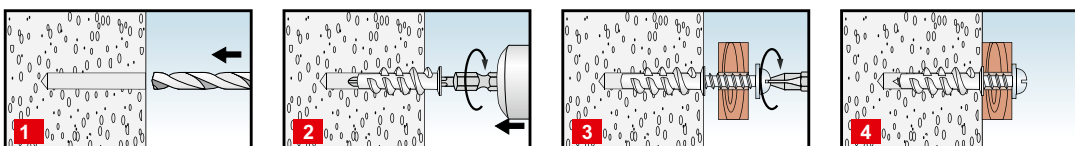
GBD 10 x 50 SW	36582	10	50	60	4,0 - 6,0 / M4	50+1	800+16
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Pullout loads in kN*

	aircrete P2	aircrete P4
GBD 10 x 50	1,0	1,4

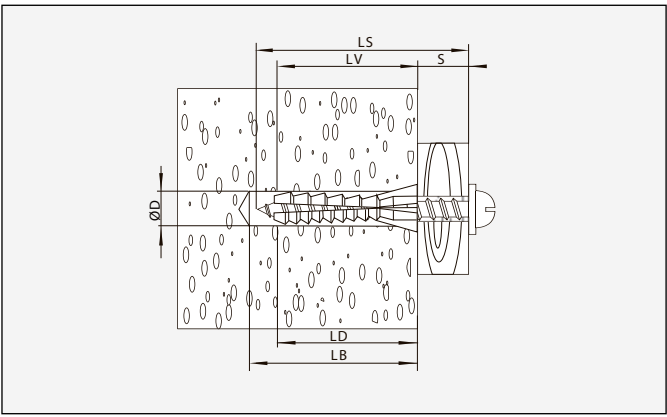
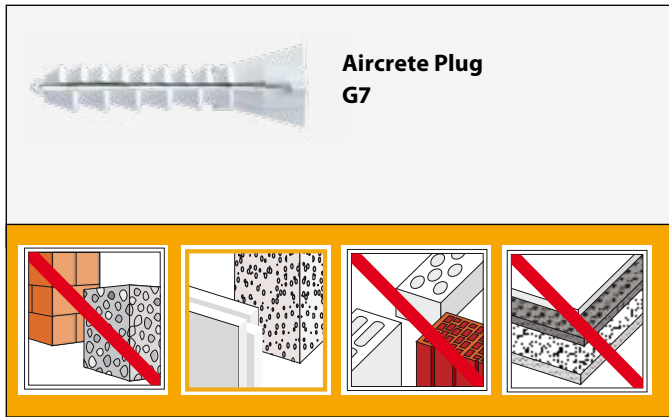
* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. The loads do not apply for anchorings subject to national approvals. An appropriate safety factor should be applied.

Installation



Aircrete Plug - G7

General Fixings



Suitability

Base materials:
Aircrete (aerated cement)

For fixing of:
All objects which can be fixed with wood screws or chip-board screws: picture frames, lamps, hand rails, wall mounted shelves, towel rails, letter boxes, flower baskets, curtain rails, cable clamps, pipe clamps, wooden and metal supporting constructions

Characteristics

- the special design allows for more expansion ensuring an extra strong anchorage
- effective anti-rotation system through two differently shaped expansion parts and square shaped shank

Advice

- The maximum load can only be achieved if:
- the largest screw diameter is used
 - the minimum screw length* is observed
 - the drill hole is cleaned (use brush and airpump)
 - the drill hole dimensions correspond to those stated by the manufacturer

* min. screw length

plug length	LD
+ fixture thickness	S
= min. screw length	LS

Technical Data



KEW - Aircrete plug

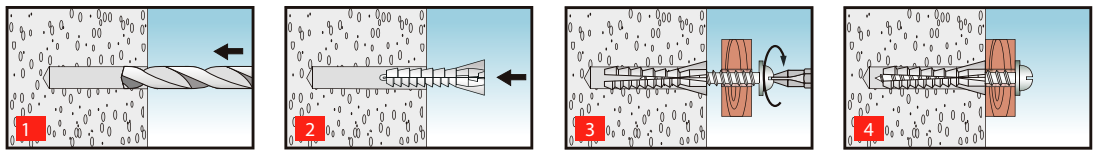
type	ref.-no.	ØD	LD = LV	LB	ØS	screw dia.	qty. per box	outer carton
		Ø plug bit [mm]	plug length = min. anchorage depth [mm]	min. drill depth [mm]	min. [mm]			
G7	32185	7	50	60	5	60	960	

Pullout loads in kN*

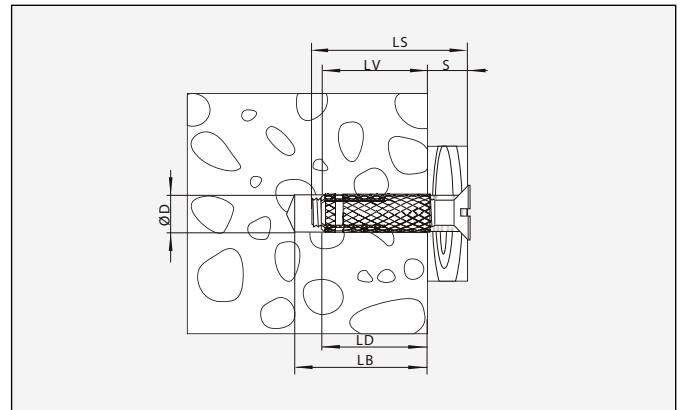
	aircrete P2	aircrete P4
G7	1,7	2,3

* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. The loads do not apply for anchorings subject to national approvals. An adequate safety factor should be applied.

Installation



Brass Plug - MSD



Suitability

Base materials:

Concrete and solid masonry, limited suitability for solid soft materials

For fixing of:

All objects which can be fixed with metric screws:
small wall mounted shelves, light cup boards, curtain rails, wardrobes, wooden and metal supporting constructions

Characteristics

- corrosion resistant expansion plug to be used with metric screws in solid base materials.

Advice

The maximum load can only be achieved if:

- the minimum screw length* is observed
- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer

* min. screw length

plug length	LD
+ fixture thickness	S
= min. screw length	LS

Technical Data



MSD - Brass plug

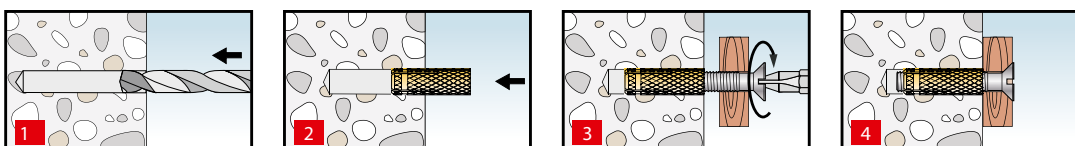
type	ref.-no.	ØD Ø plug Ø bit [mm]	LD = LV plug length = min. ancho- rage depth [mm]	LB min. drill depth [mm]	ØS srew dia. [mm]	qty. per box pcs.	outer carton pcs.
MSD M 5	36723	6	20	35	M 5	100	5400
MSD M 6	34931	8	25	40	M 6	100	5400
MSD M 8	34932	10	30	45	M 8	100	1600
MSD M 10	34933	12	35	50	M 10	100	1600
MSD M 12	36724	14	40	55	M 12	50	800

Pullout loads in kN*

	concrete C 20/25
MSD M 5	3,9
MSD M 6	4,9
MSD M 8	8,8
MSD M 10	17,3
MSD M 12	21,5

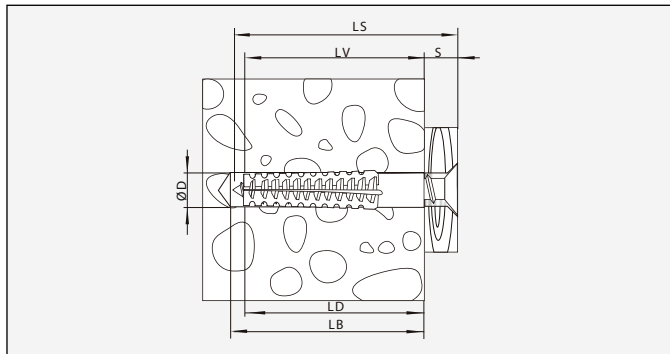
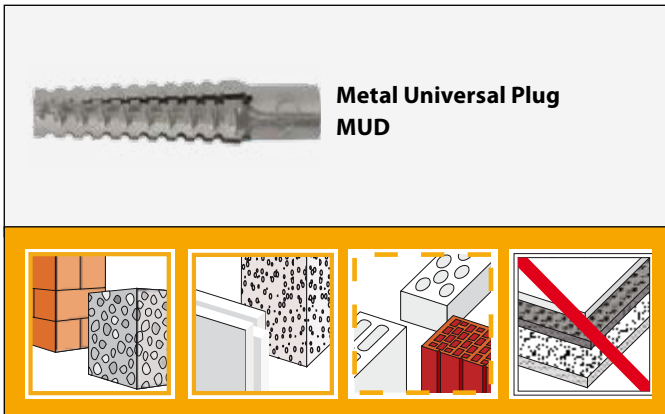
* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. The loads do not apply for anchorings subject to national approvals. An adequate safety factor should be applied.

Installation



Metal Universal Plug - MUD

General Fixings



*** min. screw length**

plug length	LD
+ fixture thickness	S
= min. screw length	LS

Suitability

Base materials:

Concrete, solid masonry, aircrete, limited suitability for hollow base materials

For fixing of:

All objects which can be fixed with wood screws and chipboard screws: sanitary appliances, cable clamps, pipe clamps, ducts

Characteristics

- perfect screw guidance through ribbed inner design
- fire resistant fixing as per German technical guidelines for gas pipe installations (TRGI 3.3.7.2.)
- anchorage in aircrete P2 and P4: plug may be hammered in without prior pre-drilling

Advice

The maximum load can only be achieved if:

- the maximum screw diameter is used
- the minimum screw length* is observed
- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer bohren.

Technical Data



MSD - Metall universal plug

type	ref.-no.	Ø plug Ø bit [mm]	LD = LV plug length = min. ancho- rage depth [mm]	LB min. drill depth [mm]	ØS screw dia. [mm]	qty. per box pcs.	outer carton pcs.
MUD 5x30	32187	5,0 - 7,0	30	40	4,0 - 5,0	200	5400
MUD 6x32	32188	7,0 - 9,0	32	40	5,0 - 6,0	200	3200
MUD 8x38	32189	10,0 - 12,0	38	50	6,0 - 8,0	100	1600
MUD 8x60	32190	10,0 - 12,0	60	70	6,0 - 8,0	100	1600
MUD 10x60	32191	12,0 - 14,0	60	75	8,0 - 10,0	100	800

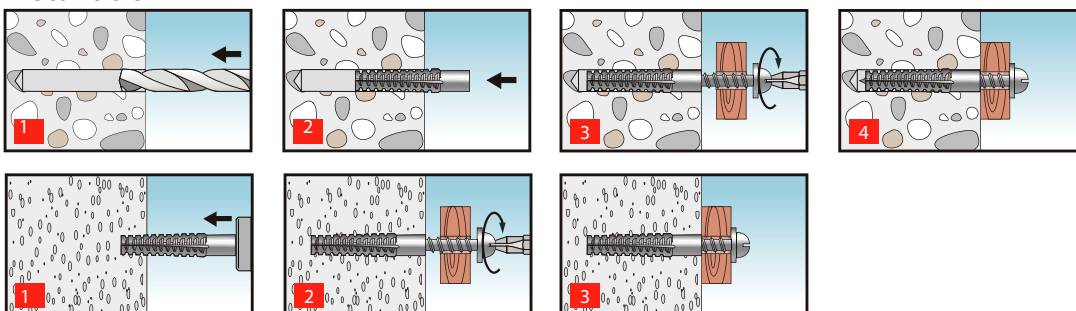
* the drill diameter depends on the base material: the harder the base material/ the higher the compressive strength, the larger the drill diameter required.

Pullout loads in kN*

	Ø Bit	aircrete P2	aircrete P4
MUD 5 x 30	3,0	0,5	1,4
MUD 6 x 32	4,0	0,8	1,9
MUD 8 x 38	6,0	2,0	3,9
MUD 8 x 60	6,0	2,6	4,4
MUD 10 x 60	8,0	5,1	6,3

* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, non load bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

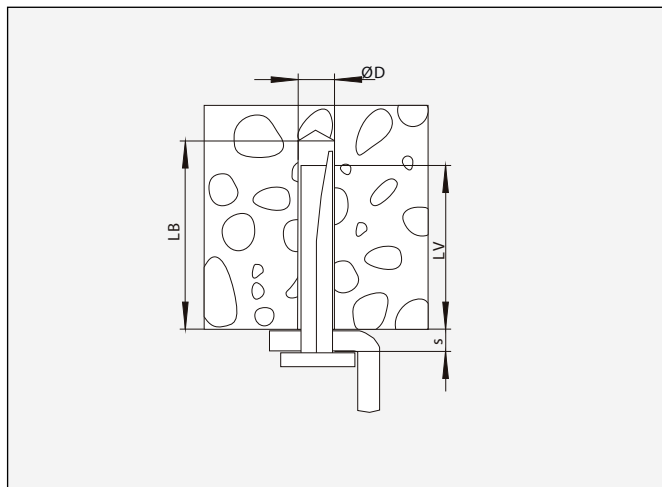
Installation



Ceiling Nail - DN



Ceiling Nail DN
steel, zinc plated



Suitability

Base materials:
Concrete

For fixing of:
timber battens, borders, metal profiles, wire suspensions, chains, ropes, punched tapes, ventilation channels, wooden or metal supporting constructions, ceiling covers

Characteristics

- fast-to-install ceiling anchor with high load bearing capacity
- reduced drilling effort needed combined with fast hammer-set installation
- official fire rating
- European Technical Approval(ETA-06/0259) for multiple use for non-structural applications in concrete

Advice

The ceiling nail is officially approved for loads up to 0,5 kN and may only be installed as push-through fixing for suspended ceilings as per DIN 4121 and DIN 18168 within the frame of acoustic constructions. It may only be used as stipulated in the approval.

Technical Data



DN - Ceiling nail

		ØD	LB	LV	S		
Type	ref.-no.	Ø plug Ø bit [mm]	min. drill depth [mm]	min. an- chorage depth [mm]	max. fixt. thickn. [mm]	qty. per box pcs.	outer carton pcs.
DN 35	32167	6	40	32	5	100	1600
DN 65	32168	6	40	32	35,0	100	1600

Characteristic values according to design method C*

Ceiling Nail - DN	DN 35	DN 65	
Any load direction			
Characteristic resistance (in concrete C20/25 to C50/60)	F_{Rk} [kN]	5	5
Partial safety factor ¹⁾	γ_{M} [-]	1,5	1,5
Spacing	S_{cr} [mm]	200	200
Edge distance	C_{cr} [mm]	150	150
Sher load with lever arm			
Characteristic bending moment ²⁾	$M_{Rk,s}^0$ [Nm]	5,4	5,4
Partial safety factor	γ_{Ms} [-]	1,25	1,25

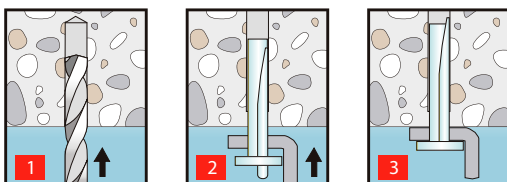
1) Installation safety factor $g = 1,0$ included 2

2) Characteristic bending moment according to ETAG 001, Annex C, 5.2.3.2 b

* The anchor is to be used only for multiple use for non-structural applications, the definition of multiple use according to the Member States is given in the informative Annex 1 of ETAG 001, Part 6.

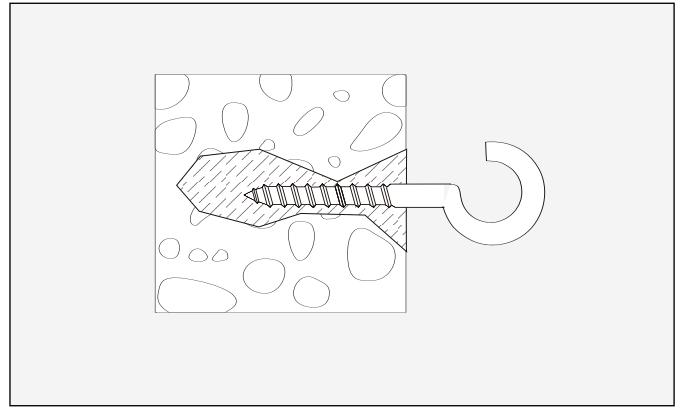
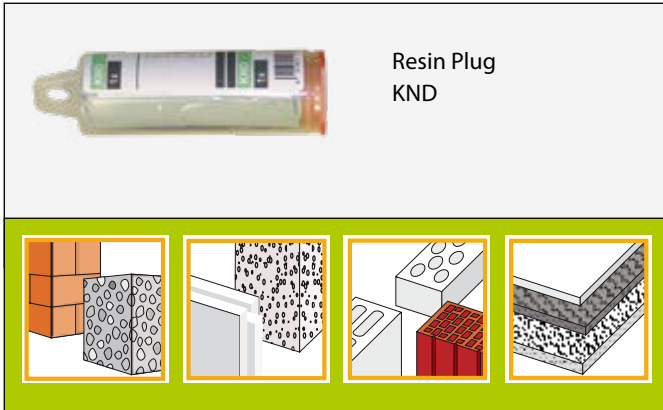
The fitness of the anchor for the intended use is given under the following conditions: The anchorages are designed in accordance with the »Guideline for European technical approval of Metal Anchors for Use in Concrete«, Annex C, Method C under the responsibility of an engineer experienced in anchorages and concrete work.

Installation



Resin Plug - KND

General Fixings



Suitability

Base materials:
concrete and masonry, hollow bricks, hollow blocks, boards and panels

For fixing of:
screws, bolts, hooks which can be easily screwed into the resin

Characteristics

- Highly efficient 2-component resin for fixing, sealing, filling, smoothing
- fills up aborted drill holes
- Perfect alternative to plugs: screws, hooks, etc. can be screwed into and removed easily from the resin.
- the KND forms a solid, durable, non shrinking and chemically resistant mass.

Advice

Xi

Reizend

N

Umweltgefährlich

warning notice:
contains epoxy compounds. irritates eyes and skin. Sensitising possible when skin contact. Immediately wash skin with water and soap when contact. Wear proper protective gloves. Keep out of children's reach.

Technical Data

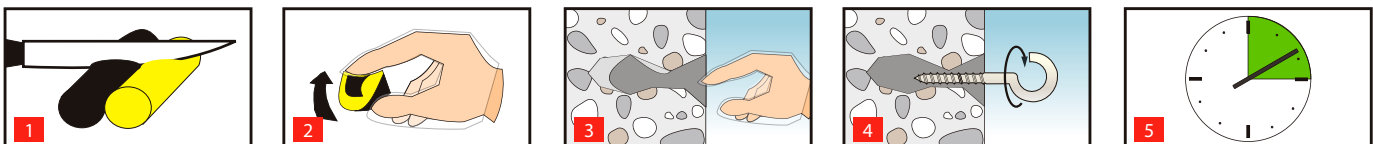


KND - Resin plug

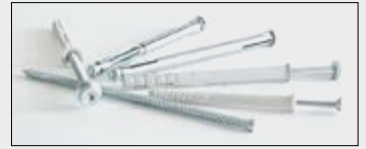
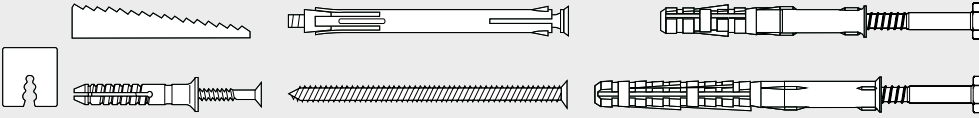
type	ref.-no.	content	sales unit	outer carton pcs.
KND 80	36459	resin, 80 g 1 glove 1 instruction paper	1	6

Curing times for KND

time	temperature	final strength
5 Min.	150°C	100 %
30 Min.	25°C	25 %
60 Min.	25°C	50 %
12 Std.	25°C	100 %



Frame Fixings



Frame Fixings

Nail Plug - ND

Frame Fixings

Nail plug, countersunk collar ND S

Nail plug, cylindrical collar ND Z

Nail plug, large cylindrical collar ND ZG

Nail plug with connecting thread ND M

Nail plug, mushroom ND P

shaped collar ND P

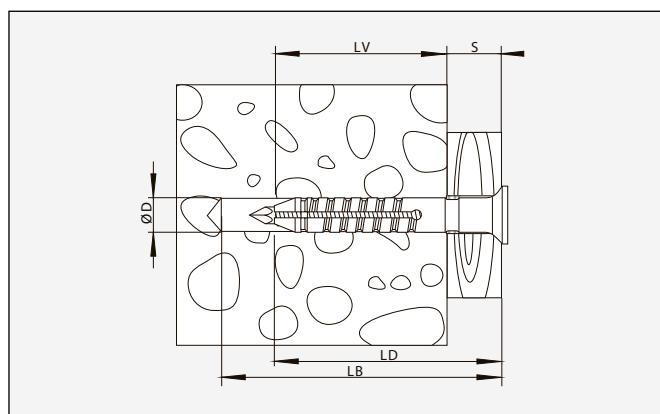
pre-assembled with zinc plated nailscrew

Characteristics

- time saving fixing system consisting of plug and nailscrew
- plug is pre-assembled: nailscrew is already pre-installed in plug
- Nailscrew is hammered in, no screw driver needed
- setting locks inside the plug prevent premature expansion during installation
- plug and fixture can easily be removed by turning out the screw

Advice

Nail plugs may only be installed as through-fixings; the fixture may not be positioned between screw head and plug collar. If installed in hollow base material the plug should be long enough to at least allow for expansion in the second brick chamber.



Suitability

Base materials:

concrete, solid materials, limited suitability for aircrete, hollow blocks, perforated bricks

For fixing of:

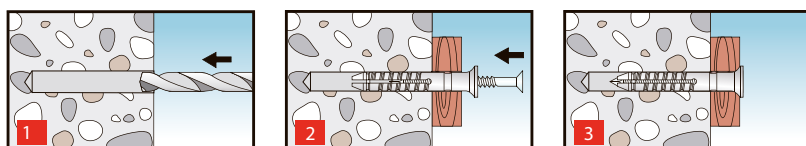
Render/connection profiles, skirting boards, metal sheets, battens, cable and pipe clamps, claddings, wooden and metal supporting constructions

Pullout loads in kN*

	concrete C20/25	solid bricks Mz 12	aircrete P2
ND 5 mm	0,9	0,8	0,2
ND 6 mm	1,3	1,1	0,3
ND 8 mm	1,8	1,7	0,4

* the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, non load bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

Installation



Nail Plug - ND

Technical Data



ND S - Nail plug with countersunk collar and pre-assembled nail-screw, zinc plated

type	ref.-no.	ØD Ø plug Ø bit [mm]	LD plug length [mm]	LB min. drill depth [m]	LV min. an- chorage depth [mm]	S max. fixt. thickn. [mm]	qty. per box pcs.	outer carton pcs.
ND 5x 30/ 5S	32682	5	30	40	25	5	100	3600
ND 5x 36/ 11S	32683	5	36	46	25	11	100	2700
ND 5x 40/ 15S	32684	5	40	50	25	15	100	2700
ND 5x 50/ 25S	32685	5	50	60	25	25	100	2700
ND 6x 35/ 5S	32686	6	35	45	30	5	50	1800
ND 6x 40/ 10S	32687	6	40	50	30	10	50	1800
ND 6x 50/ 20S	32688	6	50	60	30	20	50	1800
ND 6x 60/ 30S	32689	6	60	70	30	30	50	1800
ND 6x 75/ 45S	32690	6	75	85	30	45	50	1350
ND 6x 80/ 50S	32691	6	80	90	30	50	50	1350
ND 8x 40/ 5S	36707	8	40	50	35	5	50	800
ND 8x 60/ 20S	32692	8	60	70	40	20	50	800
ND 8x 80/ 40S	32693	8	80	90	40	40	50	800
ND 8x100/ 60S	32694	8	100	110	40	60	50	800
ND 8x120/ 80S	32695	8	120	130	40	80	50	400
ND 8x140/100S	32696	8	140	150	40	100	50	400
ND 8x160/120S	32697	8	160	170	40	120	50	300



ND S A2 - Nail plug with countersunk collar and pre-assembled nailscrew of stainless steel A4/ 316

ND 6x 40/10 S A2	36710	6	40	50	30	10	50	1800
ND 6x 60/30 S A2	36711	6	60	70	30	30	50	1800
ND 8x 60/20 S A2	36712	8	60	70	40	20	50	800
ND 8x 80/40 S A2	36713	8	80	90	40	40	50	800



ND M - Nail plug with cylindrical collar and pre-assembled nail-screw, zinc plated, with metric connecting thread

ND 6x 40 M6	32016	6	40	50	30		100	1600
ND 8x 60 M8	32017	8	60	70	40		100	800

Technical Data



ND Z - Nail plug with cylindrical collar and pre-assembled nail-screw, zinc plated

type	ref.-no.	ØD Ø plug Ø bit [mm]	LD plug length [mm]	LB min. drill depth [m]	LV min. an- chorage depth [mm]	S max. fixt. thickn. [mm]	qty. per box pcs.	outer carton pcs.
ND 5x 30/ 3Z	33171	5	30	40	25	3	100	3600
ND 5x 36/ 9Z	33172	5	36	46	25	9	100	2700
ND 5x 40/ 13Z	33173	5	40	50	25	13	100	2700
ND 5x 50/ 23Z	33174	5	50	60	25	23	100	1600
ND 6x 35/ 3Z	33175	6	35	45	30	3	50	1800
ND 6x 40/ 8Z	33176	6	40	45	30	8	50	1800
ND 6x 50/ 18Z	33177	6	50	60	30	18	50	1800
ND 6x 60/ 28Z	33178	6	60	70	30	28	50	1800
ND 6x 75/ 43Z	33179	6	75	85	30	43	50	1350
ND 6x 80/ 48Z	33180	6	80	90	30	48	50	1350
ND 8x 40/ 3Z	36708	8	40	50	35	3	50	800
ND 8x 60/ 18Z	33181	8	60	70	40	18	50	800
ND 8x 80/ 38Z	33182	8	80	90	40	38	50	800
ND 8x100/ 58Z	33183	8	100	110	40	58	50	800
ND 8x120/ 78Z	33184	8	120	130	40	78	50	800
ND 8x140/ 98Z	33185	8	140	150	40	98	50	800
ND 8x160/118Z	33186	8	160	170	40	118	50	300



ND ZG - Nail plug with large cylindrical collar and pre-assembled nailscrew with large head, zinc plated, specially suited to fix skirting boards

ND 6x 35/ 3ZG	36714	6	35	45	30	3	50	1800
ND 6x 50/18ZG	36715	6	50	60	30	18	50	1800
ND 6x 60/28ZG	36716	6	60	70	30	28	50	1800
ND 8x 80/38ZG	36717	8	80	90	40	38	50	800
ND 8x 100/58ZG	36718	8	100	110	40	58	50	800



ND P - Nail plug with mushroom shaped collar and pre-assembled nailscrew, zinc plated

ND 6x 35/ 3P	32012	6	35	45	30	3	100	1600
ND 6x 40/ 8P	32013	6	40	45	30	8	100	1600
ND 6x 50/18P	32014	6	50	60	30	18	100	1600
ND 6x 60/28P	32015	6	60	70	30	28	100	1600
ND 8x 40/ 3P	36709	8	40	50	35	3	50	800

Nail Plug - ND

Assortment box and

Frame Fixings



BOX ND S - Assortment box medium

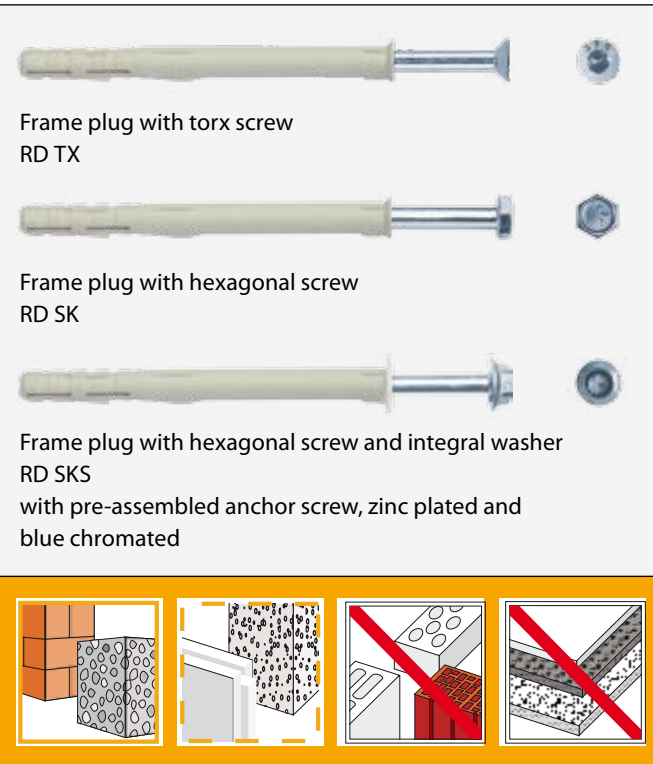
type	ref.-no.	qty.per box pcs.	outer carton pcs.	contents
Nailplug-Box 120 pcs	38046	1	12	50 plug ND 6x35/5 S, 25 plug ND 6x40/10 S, 16 plug ND 6x80/50 S, 16 plug ND 8x60/20 S, 8 plug ND 8x80/40 S, 8 plug ND 8x100/60 S

ND S HWK L - Nail plug with countersunk collar and preassembled nailscrew, zinc plated in craftsman suitcase small (packaged)

type	type	ØD Ø plug Ø bit [mm]	LD plug length [mm]	LB min drill depth [mm]	LV min anchorage depth [mm]	S max fixt. thickn. [mm]	qty. per box pcs.	outer carton pcs.
ND 6x40/10 S HWKL	35673	6	40	50	30	10	1.000	
ND 6x 60/ 30 S HWKL	35674	6	60	70	30	30	700	
ND 6x 80/ 50 S HWKL	37847	6	80	90	30	50	500	
ND 8x 60/ 20 S HWKL	37511	8	60	70	40	20	400	
ND 8x 80/ 40 S HWKL	35675	8	80	90	40	40	300	
ND 8x100/ 60 S HWKL	35676	8	100	110	40	60	250	
ND 8x120/ 80 S HWKL	37512	8	120	130	40	80	250	



Frame Plug - RD



- pre-assembled anchor unit for much safer and faster installation. Plug to be inserted into hole until plug collar is flush with fixture
- European technical approval (ETA) and approved by building authorities as multiple use for cladding

Advice

The frame plug should only be used as through-fixing. The fixture may not be positioned between screw head and plug collar. The maximum load bearing capacity can only be achieved if:

- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer

Suitability

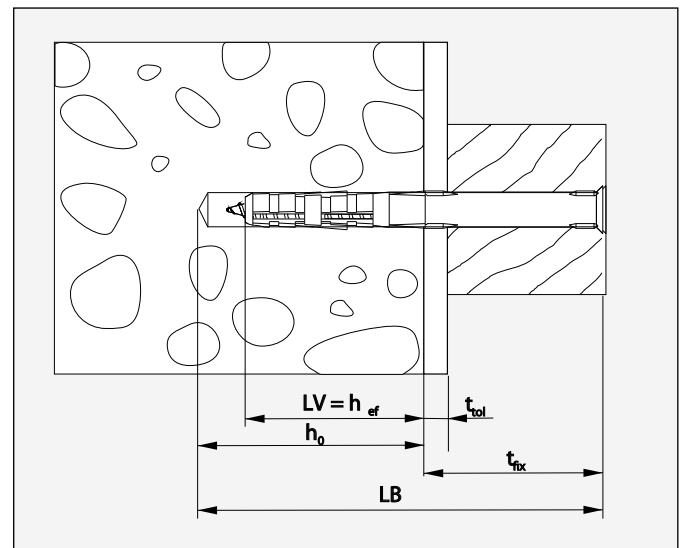
Use category a/b

Base materials:

concrete, natural stone, solid sand lime brick, solid brick, limited suitability for solid soft base materials

For fixing of:

gates, doors, fireproof doors, windows, wall mounted cupboards, wardrobes, battens, claddings, wooden or metal supporting constructions for facade and roof constructions.



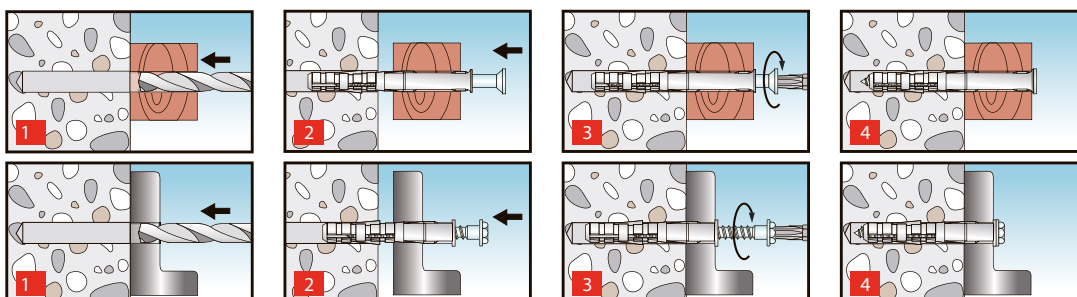
Characteristics

- fixing system consisting of an extended nylon plug together with a special screw
- At choice: special screw with countersunk head and torx drive T40, with hexagon head or with hexagon head and integral washer to anchor metal parts.

Permissible Loads

permissible loads and component dimensions see page 37/38.

Installation



Frame Plug - RD

Frame Fixings

Technical Data



RD TX - with special torx screw, zinc plated



type	ref.-no.	ØD Ø plug Ø bit [mm]	LD plug length [mm]	LB min. drill depth [mm]	LV min. an- chorage depth [mm]	S max. fixt. thickn. [mm]	bit/ SW	qty. per box pcs.
RD 8 x 60/ 20 TX ¹	36240	8	60	70	40	20	T30	50
RD 8 x 80/ 40 TX ¹	36241	8	80	90	40	40	T30	50
RD 8 x 100/ 60 TX ¹	36242	8	100	110	40	60	T30	50
RD 8 x 120/ 80 TX ¹	36243	8	120	130	40	80	T30	50
RD 8 x 140/100 TX ¹	36244	8	140	150	40	100	T30	50
RD 10 x 60/ 10 TX	36245	10	60	70	50	10	T40	50
RD 10 x 80/ 30 TX	36246	10	80	90	50	30	T40	50
RD 10 x 100/ 50 TX	36247	10	100	110	50	50	T40	50
RD 10 x 120/ 70 TX	36248	10	120	130	50	70	T40	50
RD 10 x 140/ 90 TX	36249	10	140	150	50	90	T40	50
RD 10 x 160/110 TX	36250	10	160	170	50	110	T40	50
RD 10 x 180/130 TX	36251	10	180	190	50	130	T40	50
RD 10 x 200/150 TX	36252	10	200	210	50	150	T40	50
RD 10 x 230/180 TX	36253	10	230	240	50	180	T40	50
RD 10 x 260/210 TX	36254	10	260	270	50	210	T40	50



RD SKS - with cylindrical collar and special hexagonal screw with integral washer, zinc plated, to anchor metal profiles



type	ref.-no.	ØD	LD	LB	LV	S	bit/ SW	qty. per box pcs.
RD 10 x 60/ 10 SKS	36256	10	60	70	50	10	SW13/T40	50
RD 10 x 80/ 30 SKS	36257	10	80	90	50	30	SW13/T40	50
RD 10 x 100/ 50 SKS	36258	10	100	110	50	50	SW13/T40	50
RD 10 x 120/ 70 SKS	36259	10	120	130	50	70	SW13/T40	50
RD 10 x 140/ 90 SKS	36260	10	140	150	50	90	SW13/T40	50
RD 10 x 160/110 SKS	36261	10	160	170	50	110	SW13/T40	50
RD 10 x 180/130 SKS	36262	10	180	190	50	130	SW13/T40	50



RD SK - with special hexagonal screw, zinc plated



type	ref.-no.	ØD	LD	LB	LV	S	bit/ SW	qty. per box pcs.
RD 8 x 80/ 40 SK ¹	36225	8	80	90	40	40	SW10	50
RD 8 x 100/ 60 SK ¹	36226	8	100	110	40	60	SW10	50
RD 8 x 120/ 80 SK ¹	36227	8	120	130	40	80	SW10	50
RD 8 x 140/100 SK ¹	36228	8	140	150	40	100	SW10	50
RD 10 x 200/150 SK	36236	10	200	210	50	150	SW13	50
RD 10 x 230/180 SK	36237	10	230	240	50	180	SW13	50
RD 10 x 260/210 SK	36238	10	260	270	50	210	SW13	50



RD PZ - with special pozidrive screw, zinc plated

type	ref.-no.	ØD	LD	LB	LV	S	bit/ SW	qty. per box pcs.
RD 6 x 60/30 PZ ¹	36221	6	60	70	30	30	PZ3	50
RD 8 x 60/20 PZ ¹	36222	8	60	70	40	20	PZ4	50
RD 8 x 80/40 PZ ¹	36223	8	80	90	40	40	PZ4	50

Technical Data



RD TX A4 - with special torx screw made of stainless Steel A4/316



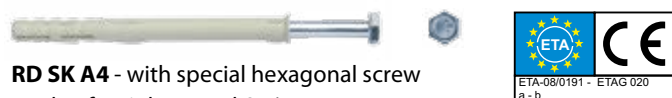
type	ref.-no.	ØD Ø plug Ø bit [mm]	LD plug length [mm]	LB min. drill depth [mm]	LV min. an- chorage depth [mm]	S max. fixt. thickn. [mm]	bit/ SW	qty. per box pcs.
RD 10 x 60/ 10 TX A4	36558	10	60	70	50	10	T40	50
RD 10 x 80/ 30 TX A4	36559	10	80	90	50	30	T40	50
RD 10 x 100/ 50 TX A4	36560	10	100	110	50	50	T40	50
RD 10 x 120/ 70 TX A4	36561	10	120	130	50	70	T40	50
RD 10 x 140/ 90 TX A4	36562	10	140	150	50	90	T40	50
RD 10 x 160/110 TX A4	36563	10	160	170	50	110	T40	50
RD 10 x 180/130 TX A4	36564	10	180	190	50	130	T40	50
RD 10 x 200/150 TX A4	36565	10	200	210	50	150	T40	50
RD 10 x 230/180 TX A4	36566	10	230	240	50	180	T40	50
RD 10 x 260/210 TX A4	36567	10	260	270	50	210	T40	50



RD SKS A4 - with cylindrical collar and special hexagonal screw with integral washer, stainless steel A4/ 316, to anchor metal profiles



type	ref.-no.	ØD	LD	LB	LV	S	bit/ SW	qty. per box pcs.
RD 10 x 60/ 10 SKS A4	36568	10	60	70	50	10	SW13/T40	50
RD 10 x 80/ 30 SKS A4	36569	10	80	90	50	30	SW13/T40	50
RD 10 x 100/ 50 SKS A4	36570	10	100	110	50	50	SW13/T40	50
RD 10 x 120/ 70 SKS A4	36571	10	120	130	50	70	SW13/T40	50
RD 10 x 140/ 90 SKS A4	36572	10	140	150	50	90	SW13/T40	50
RD 10 x 160/110 SKS A4	36573	10	160	170	50	110	SW13/T40	50
RD 10 x 180/130 SKS A4	36574	10	180	190	50	130	SW13/T40	50



RD SK A4 - with special hexagonal screw made of stainless steel A4/316



type	ref.-no.	ØD	LD	LB	LV	S	bit/ SW	qty. per box pcs.
RD 10 x 200/150 SK A4	36550	10	200	210	50	150	SW13	50
RD 10 x 230/180 SK A4	36551	10	230	240	50	180	SW13	50
RD 10 x 260/210 SK A4	36552	10	260	270	50	210	SW13	50



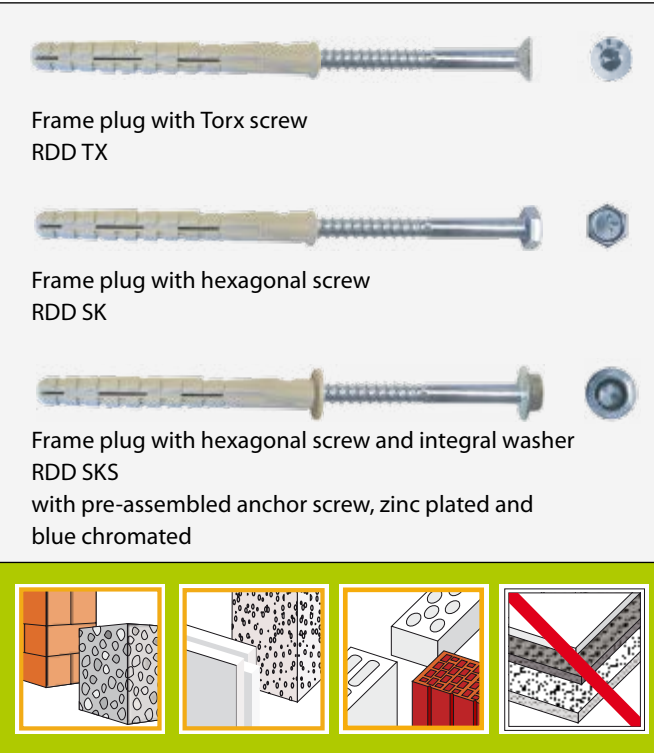
ADK - cover caps for KEW frame plug

Bezeichnung	Art. Nr. weiß	Art. Nr. braun	Ø [mm]	Verwendung für	Menge St./VE	Menge St./UK
ADK RD 8 PZ	34819	34820	13,5	RDD 8 PZ	100	1000
ADK RD 10	34817	34818	16,0	RDD 10 TX	100	1000

Note: ■ not pre-assembled from length 230
■ more combinations upon request

¹ not part of approval

Frame Plug, extended expansion area - RDD



- pre-assembled anchor unit for much safer and faster installation. Plug to be inserted into hole until plug collar is flush with fixture
- approval pending as multiple anchorage of cladding systems

Advice

The frame plug should only be used as through-fixing. The fixture may not be positioned between screw head and plug collar.

The maximum load bearing capacity can only be achieved if:

- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer

It is recommended to bore in drilling mode for perforated building materials.

Suitability

Base materials:

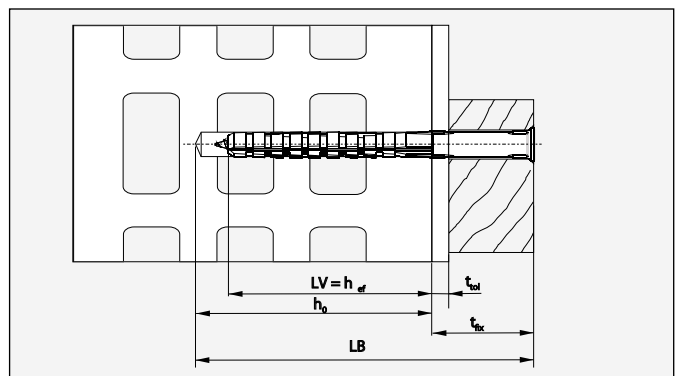
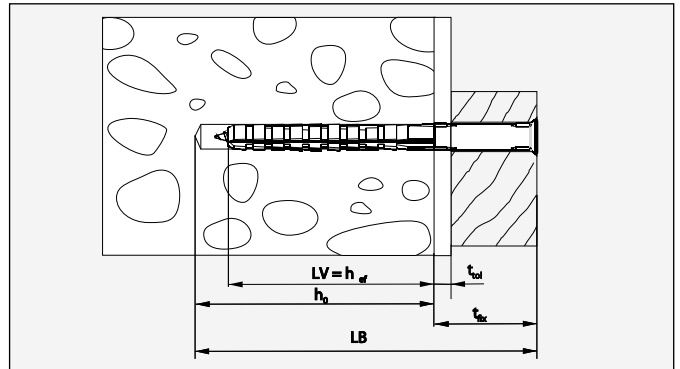
all types of masonry, soft solid materials such as aircrete or light concrete, sand lime perforated brick, vertical and horizontal perforated brick.

For fixing of:

gates, doors, fireproof doors, windows, wall mounted cupboards, wardrobes, battens, claddings, wooden or metal supporting constructions for facade and roof constructions.

Characteristics

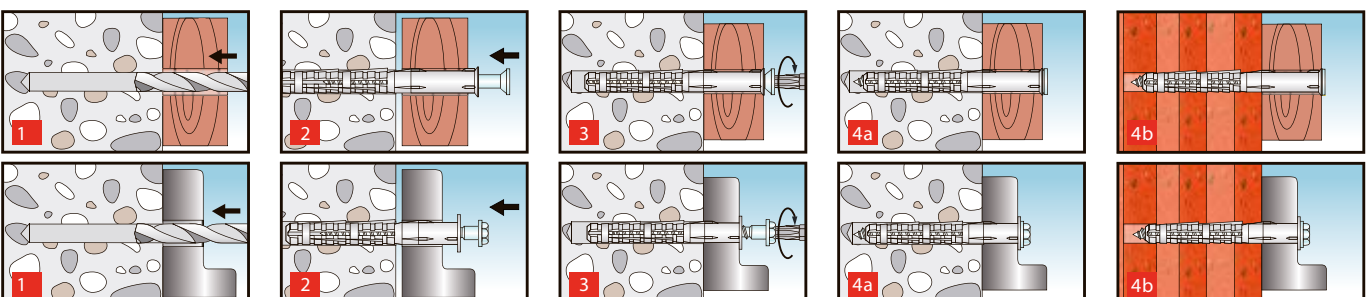
- fixing system consisting of a nylon plug with extended expansion area and a special screw
- The extended expansion area ensures a safe anchorage even in soft base material as well as in hollow blocks or bricks
- at choice: special screw with countersunk head and torx drive T40, with hexagon head or with hexagon head and integral washer to anchor metal parts



Permissible Loads

permissible loads and component dimensions see page 37/38.

Installation



Frame Plug, extended expansion area - RDD

Technical Data



RDD TX - with special torx screw, zinc plated

type	ref.-no.	ØD	LD	LB	LV	S	qty. per box
		Ø plug bit [mm]	plug length [mm]	min. drill depth [m]	min. anchorage depth [mm]	max. fixt. thickn. [mm]	
RDD 8x100/ 20 TX ¹	36289	8	100	110	80	20	T30 50
RDD 8x120/ 40 TX ¹	36290	8	120	130	80	40	T30 50
RDD 8x140/ 60 TX ¹	36291	8	140	150	80	60	T30 50
RDD 10x 80/ 10 TX ¹	36292	10	80	90	70	10	T40 50
RDD 10x100/ 20 TX	36293	10	100	110	80	20	T40 50
RDD 10x120/ 40 TX	36294	10	120	130	80	40	T40 50
RDD 10x140/ 60 TX	36295	10	140	150	80	60	T40 50
RDD 10x160/ 80 TX	36296	10	160	170	80	80	T40 50
RDD 10x180/100 TX	36297	10	180	190	80	100	T40 50
RDD 10x200/120 TX	36298	10	200	210	80	120	T40 50
RDD 10x230/150 TX	36299	10	230	240	80	150	T40 50
RDD 10x260/180 TX	36300	10	260	270	80	180	T40 50



RDD SK - with special hexagonal screw, zinc plated

type	ref.-no.	ØD	LD	LB	LV	S	qty. per box
		Ø plug bit [mm]	plug length [mm]	min. drill depth [m]	min. anchorage depth [mm]	max. fixt. thickn. [mm]	
RDD 8x100/ 20 SK ¹	36276	8	100	110	80	20	SW10 50
RDD 8x120/ 40 SK ¹	36277	8	120	130	80	40	SW10 50
RDD 8x140/ 60 SK ¹	36278	8	140	150	80	60	SW10 50
RDD 10x 80/ 10 SK ¹	36279	10	80	90	70	10	SW13 50
RDD 10x100/ 20 SK	36280	10	100	110	80	20	SW13 50
RDD 10x120/ 40 SK	36281	10	120	130	80	40	SW13 50
RDD 10x140/ 60 SK	36282	10	140	150	80	60	SW13 50
RDD 10x160/ 80 SK	36283	10	160	170	80	80	SW13 50
RDD 10x180/100 SK	36284	10	180	190	80	100	SW13 50
RDD 10x200/120 SK	36285	10	200	210	80	120	SW13 50
RDD 10x230/150 SK	36286	10	230	240	80	150	SW13 50
RDD 10x260/180 SK	36287	10	260	270	80	180	SW13 50



RDD SKS - with cylindrical collar and special hexagonal screw with integral washer, zinc plated, to anchor metal profiles

type	ref.-no.	ØD	LD	LB	LV	S	qty. per box
		Ø plug bit [mm]	plug length [mm]	min. drill depth [m]	min. anchorage depth [mm]	max. fixt. thickn. [mm]	
RDD 10x 80/ 10 SKS ¹	36302	10	80	90	70	10	SW13/T40 50
RDD 10x100/ 20 SKS	36303	10	100	110	80	20	SW13/T40 50
RDD 10x120/ 40 SKS	36304	10	120	130	80	40	SW13/T40 50
RDD 10x140/ 60 SKS	36305	10	140	150	80	60	SW13/T40 50
RDD 10x160/ 80 SKS	36306	10	160	170	80	80	SW13/T40 50
RDD 10x180/100 SKS	36307	10	180	190	80	100	SW13/T40 50
RDD 10x200/120 SKS	36308	10	200	210	80	120	SW13/T40 50
RDD 10x230/150 SKS	36509	10	230	240	80	150	SW13/T40 50

Note: ■ not pre-assembled from length 230
 ■ more combinations upon request

¹ not part of approval

Technical Data



RDD TX A4 - with special torx screw made of stainless steel A4/316

type	ref.-no.	ØD	LD	LB	LV	S	qty. per box
		Ø plug bit [mm]	plug length [mm]	min. drill depth [m]	min. anchorage depth [mm]	max. fixt. thickn. [mm]	
RDD 10x 80/ 10 TX A4 ¹	36526	10	80	90	70	10	T40 50
RDD 10x100/ 20 TX A4	36527	10	100	110	80	20	T40 50
RDD 10x120/ 40 TX A4	36528	10	120	130	80	40	T40 50
RDD 10x140/ 60 TX A4	36529	10	140	150	80	60	T40 50
RDD 10x160/ 80 TX A4	36530	10	160	170	80	80	T40 50
RDD 10x180/100 TX A4	36531	10	180	190	80	100	T40 50
RDD 10x200/120 TX A4	36532	10	200	210	80	120	T40 50
RDD 10x230/150 TX A4	36533	10	230	240	80	150	T40 50
RDD 10x260/180 TX A4	36534	10	260	270	80	180	T40 50



RDD SK A4 - with special hexagonal screw made of stainless steel A4/316

type	ref.-no.	ØD	LD	LB	LV	S	qty. per box
		Ø plug bit [mm]	plug length [mm]	min. drill depth [m]	min. anchorage depth [mm]	max. fixt. thickn. [mm]	
RDD 10x 80/ 10 SK A4 ¹	36514	10	80	90	70	10	SW13 50
RDD 10x100/ 20 SK A4	36515	10	100	110	80	20	SW13 50
RDD 10x120/ 40 SK A4	36516	10	120	130	80	40	SW13 50
RDD 10x140/ 60 SK A4	36517	10	140	150	80	60	SW13 50
RDD 10x160/ 80 SK A4	36518	10	160	170	80	80	SW13 50
RDD 10x180/100 SK A4	36519	10	180	190	80	100	SW13 50
RDD 10x200/120 SK A4	36520	10	200	210	80	120	SW13 50
RDD 10x230/150 SK A4	36521	10	230	240	80	150	SW13 50
RDD 10x260/180 SK A4	36522	10	260	270	80	180	SW13 50



RDD SKS A4 - with cylindrical collar and special hexagonal screw with integral washer, stainless steel A4/ 316, to anchor metal profiles

type	ref.-no.	ØD	LD	LB	LV	S	qty. per box
		Ø plug bit [mm]	plug length [mm]	min. drill depth [m]	min. anchorage depth [mm]	max. fixt. thickn. [mm]	
RDD 10x 80/ 10 SKS A4 ¹	36535	10	80	90	70	10	SW13/T40 50
RDD 10x100/ 20 SKS A4	36536	10	100	110	80	20	SW13/T40 50
RDD 10x120/ 40 SKS A4	36537	10	120	130	80	40	SW13/T40 50
RDD 10x140/ 60 SKS A4	36538	10	140	150	80	60	SW13/T40 50
RDD 10x160/ 80 SKS A4	36539	10	160	170	80	80	SW13/T40 50
RDD 10x180/100 SKS A4	36540	10	180	190	80	100	SW13/T40 50
RDD 10x200/120 SKS A4	36541	10	200	210	80	120	SW13/T40 50
RDD 10x230/150 SKS A4	36542	10	230	240	80	150	SW13/T40 50



ADK - cover caps for KEW frame plug

type	ref.-no. white	ref.-no. brown	Ø [mm]	to go with	qty. per box	outer carton
					pcs.	pcs.
ADK RD 8 PZ	34819	34820	13,5	RDD 8 PZ	100	1000
ADK RD 10	34817	34818	16,0	RDD 10 TX	100	1000

Frame Plug - RD/RDD

Characteristic and permissible loads

Please consider the entire assessment documents RD/RDD - ETA-08/0191

Specifications for anchoring in concrete and masonry

anchor type		RD 10	RDD 10
drill nominal diameter	$d_0 =$ [mm]	10	10
drill hole depth	$h_1 \geq$ [mm]	60	90
effective anchorage depth	$h_{nom} = h_{ef} \geq$ [mm]	50	80
diameter of clearance hole in the fixture	$d_f \leq$ [mm]	10,5	10,5
characteristic bending resistance ¹⁾	$M_{Rk,s}$ [Nm]	11,8 / 13,7 ²⁾	11,8 / 13,7 ²⁾
allowed bending moment	$M_{Rk,s}$ [Nm]	6,7 / 6,2 ²⁾	6,7 / 6,2 ²⁾

component-dimension in concrete

anchor type		RD 10	RDD 10
minimum thickness of member	h_{min} [mm]	100	110
concrete C12/15 (B15)	characteristic edge distances	$c_{cr,N}$ [mm]	70
	minimum edge distances	s_{min} [mm]	70
	minimum spacing distances	c_{min} [mm]	70
concrete \geq C20/25	characteristic edge distances	$c_{cr,N}$ [mm]	50
	minimum edge distances	s_{min} [mm]	50
	minimum spacing distances	c_{min} [mm]	50

Characteristic centric resistance $N_{Rk,p}$ ³⁾

on a fixing point⁷⁾ in concrete without edge and spacing influence

anchor type		RD 10	RDD 10
concrete C12/15 (B15)	temperature range 24 °C / 40 °C ⁵⁾	[kN]	2,0
	50 °C / 80 °C ⁵⁾	[kN]	1,2
concrete \geq C20/25 (B25 - B55)	temperature range 24 °C / 40 °C ⁵⁾	[kN]	3,0
	50 °C / 80 °C ⁵⁾	[kN]	2,0

allowable centric tension load N_{zul}

on a fixing point⁷⁾

anchor type		RD 10	RDD 10
concrete C12/15 (B15)	temperature range 24 °C / 40 °C ⁵⁾	[kN]	0,8
	50 °C / 80 °C ⁵⁾	[kN]	0,5
concrete \geq C20/25 (B25 - B55)	temperature range 24 °C / 40 °C ⁵⁾	[kN]	1,2
	50 °C / 80 °C ⁵⁾	[kN]	0,8

characteristic shear resistance $V_{Rk,s}$ ³⁾

on a fixing point⁷⁾ in concrete without edge and spacing influence⁴⁾

anchor type		RD 10	RDD 10
concrete \geq C12/15 (B15)	[kN]	7,1 / 8,3 ²⁾	7,1 / 8,3 ²⁾

allowable shear load V_{zul}

on a fixing point⁷⁾ in concrete without edge and spacing influences⁴⁾

anchor type		RD 10	RDD 10
concrete \geq C12/15 (B15)	[kN]	4,0 / 3,8 ²⁾	4,0 / 3,8 ²⁾

characteristic resistance F_{Rk} ⁶⁾

of a fastening point⁷⁾ for central tension, transverse load or diagonal pull at any angle in the brickwork

base material	min. DF or min. size (L x W x H) [mm]	bulk density class ρ [kg/dm ³]	minimum compressive strength f_b [N/mm ²]	temperature range	characteristic resistance F_{Rk} ⁶⁾ [kN]	
					RD	RDD
Clay brick MZ 20-1,8-NF according to EN 771-1:2011	NF (240x116x71)	$\geq 1,8$	10	24 °C / 40 °C ⁵⁾	1,5	3,0 / 3,5 ⁸⁾
				50 °C / 80 °C ⁵⁾	1,5	3,0 / 3,5 ⁸⁾
				24 °C / 40 °C ⁵⁾	2,5	4,0 / 5,0 ⁸⁾
				50 °C / 80 °C ⁵⁾	2,0	4,0 / 5,0 ⁸⁾
Solid sand-lime brick KS 12-1,0-2DF according to EN 771-2:2011	NF (240x115x70)	$\geq 1,8$	10	24 °C / 40 °C ⁵⁾	2,0	3,0 / 3,5 ⁸⁾
				50 °C / 80 °C ⁵⁾	1,5	3,0
				24 °C / 40 °C ⁵⁾	3,0	4,0 / 5,0 ⁸⁾
				50 °C / 80 °C ⁵⁾	2,0	4,0

allowable load F_{zul}

of a fastening point⁷⁾ for central tension, transverse load or diagonal pull at any angle in the brickwork

base material	min. DF or min. size (L x W x H) [mm]	bulk density class ρ [kg/dm ³]	minimum compressive strength f_b [N/mm ²]	temperature range	allowable load F_{zul} [kN]	
					RD	RDD
Clay brick MZ 20-1,8-NF according to EN 771-1:2011	NF (240x116x71)	$\geq 1,8$	10	24 °C / 40 °C ⁵⁾	0,4	0,9 / 1,0 ⁸⁾
				50 °C / 80 °C ⁵⁾	0,4	0,9 / 1,0 ⁸⁾
				24 °C / 40 °C ⁵⁾	0,7	1,1 / 1,4 ⁸⁾
				50 °C / 80 °C ⁵⁾	0,6	1,1 / 1,4 ⁸⁾
Solid sand-lime brick KS 12-1,0-2DF according to EN 771-2:2011	NF (240x115x70)	$\geq 1,8$	10	24 °C / 40 °C ⁵⁾	0,6	0,9 / 1,0 ⁸⁾
				50 °C / 80 °C ⁵⁾	0,4	3,0
				24 °C / 40 °C ⁵⁾	0,9	1,1 / 1,4 ⁸⁾
				50 °C / 80 °C ⁵⁾	0,6	1,1

Frame Plug - RD/RDD

Characteristic and permissible loads

Please consider the entire assessment documents RD/RDD - ETA-08/0191

Frame Fixings

characteristic resistance F_{Rk} ⁶⁾

of a fastening point⁷⁾ for central tension, transverse load or diagonal pull at any angle in the brickwork made of hollow bricks or perforated bricks

base material	min. DF or min. size	bulk density class	minimum compressive strength	temperature range	characteristic resistance F_{Rk} ⁶⁾ [kN]
	(L x W x H) [mm]	ρ [kg/dm ³]	f_b [N/mm ²]		RDD
Clay brick	2DF	$\geq 1,0$	12	24 °C / 40 °C ⁵⁾	1,2
MZ 20-1,8-NF	(240x115x115)			50 °C / 80 °C ⁵⁾	0,9
according to EN 771-1:2011					
Solid sand-lime brick	8DF	$\geq 1,4$	12	24 °C / 40 °C ⁵⁾	2,0
KS 12-1,0-2DF	(250x240x237)			50 °C / 80 °C ⁵⁾	1,5
according to EN 771-2:2011					

allowable load F_{zul}

of a fastening point⁷⁾ for central tension, transverse load or diagonal pull at any angle in the brickwork made of hollow bricks or perforated bricks

base material	min. DF or min. size	bulk density class	minimum compressive strength	temperature range	allowable load F_{zul} [kN]
	(L x W x H) [mm]	ρ [kg/dm ³]	f_b [N/mm ²]		RDD
Clay brick	2DF	$\geq 1,0$	12	24 °C / 40 °C ⁵⁾	0,3
MZ 20-1,8-NF	(240x115x115)			50 °C / 80 °C ⁵⁾	0,3
according to EN 771-1:2011					
Solid sand-lime brick	8DF	$\geq 1,4$	12	24 °C / 40 °C ⁵⁾	0,6
KS 12-1,0-2DF	(250x240x237)			50 °C / 80 °C ⁵⁾	0,4
according to EN 771-2:2011					

¹⁾ if there are no other national regulations, the partial safety coefficients γ_{M5} 1.25 for electrolytically galvanised steel and γ_{M5} 1.56 for stainless steel A4 have to be observed.

²⁾ only applies for stainless steel A4

³⁾ If there are no other national regulations for the calculation of the admissible loads, the partial safety coefficients γ_{M5} of 1.8 and γ_p of 1.4 have to be observed.

⁴⁾ Distance from the edge c_1 ; $c_2 \geq 160$ mm and component thickness ≥ 150 mm
If tensile force and transverse force are acting simultaneously, the approval document ETA-08/191 and the dimensioning procedure according to ETAG 020, appendix C, must be observed.

⁵⁾ At the temperature ranges $q = 24 \text{ °C} / 40 \text{ °C}$ and $q = 50 \text{ °C} / 80 \text{ °C}$, the first number indicates the maximum air temperature, and the second one indicates the maximum short-term temperature.

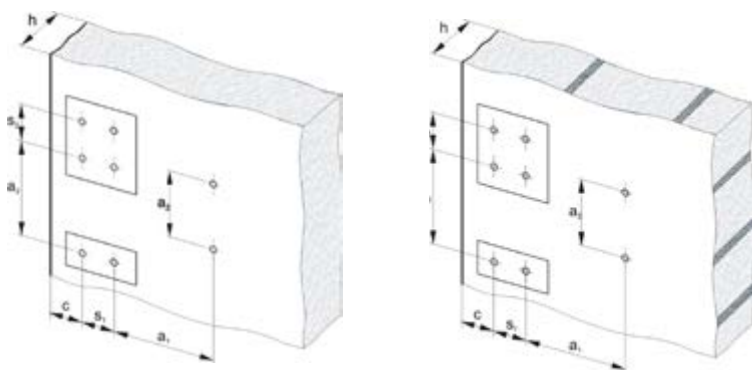
⁶⁾ If there are no other national regulations for the calculation of the admissible loads, the partial safety coefficients γ_{Mm} von 2,5 and γ_E von 1,4 have to be observed.

⁷⁾ A fastening point can consist of an individual dowel or of a group of dowels, consisting of two dowels $s = s$ or four dowels $s = s$.

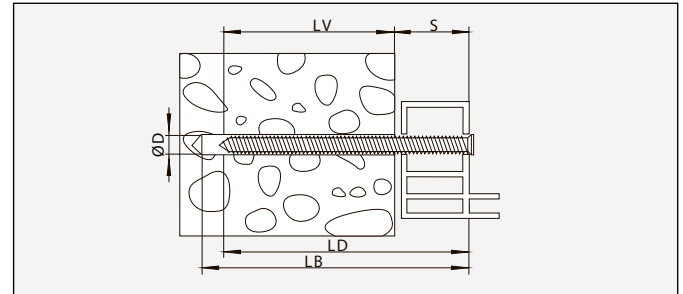
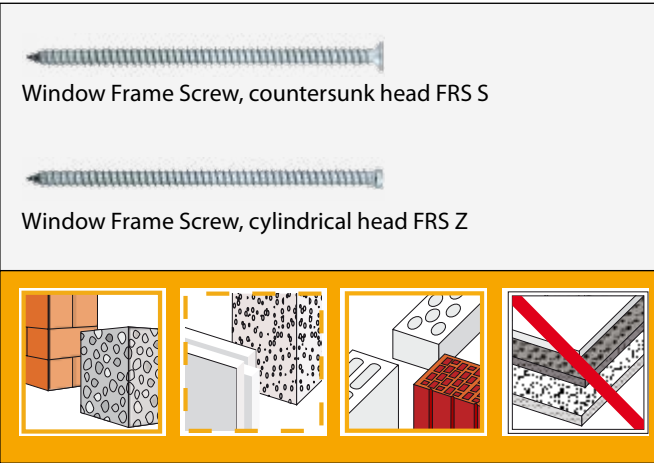
At an axial distance of more than 65 mm for the RD 10, and more than 85 mm at the RDD 10, the dowels in the concrete are considered as individual dowels.

If tensile force and transverse force are acting simultaneously, the approval document ETA-08/191 and the dimensioning procedure according to ETAG 020, appendix C, must be observed.

⁸⁾ Only applies for a distance from the edge $c = 150$ mm; intermediate values may be interpolated.



Window Frame Screw - FRS



Suitability

Base materials:
concrete, solid masonry, perforated bricks, hollow blocks, light concrete and natural stone, limited suitability for aircrete

For fixing of:
window and door frames made of wood, plastic material or metal, fireproof doors, battens

Characteristics

- special screw for spaced fixings without plug
- at choice: countersunk head (FRS S) or cylindrical head (FRS Z)

Advice

The drill hole must be cleaned (use brush and air-pump). In case of light/soft base material make sure to drill without percussion/ hammer action.

Base materials	LV min. anchorage depth [mm]	S max. fixture thickness, for screw length [mm]							
		52	72	92	112	132	152	182	212
concrete	30	22	42	62	82	102	122	152	182
sand lime stone	40	12	32	52	72	92	112	142	172
solid bricks	40	12	32	52	72	92	112	142	172
pumice	50	-	22	42	62	82	102	132	162
light concr./aircrete	60	-	12	32	52	72	92	122	152
perforated bricks	60	-	12	32	52	72	92	122	152

Pullout loads in kN

	hollow blocks Hz12	hollow bricks KSL12	concrete C20/25	aircrete P2
FRS S	1,0	5,4	7,1	0,7

Technical Data



FRS S - With countersunk head

type	ref.-no.	Ø S screw [mm]	LS screw length [mm]	Ø drill bit [mm]	LB min. drill depth [mm]	T-bit size	qty. per box pcs.
FRS 7,5 x 52 S	35801	7,5	52	6	67	T30	100
FRS 7,5 x 72 S	35098	7,5	72	6	87	T30	100
FRS 7,5 x 92 S	35099	7,5	92	6	107	T30	100
FRS 7,5 x 112 S	33743	7,5	112	6	127	T30	100
FRS 7,5 x 132 S	33744	7,5	132	6	147	T30	100
FRS 7,5 x 152 S	33745	7,5	152	6	167	T30	100
FRS 7,5 x 182 S	33746	7,5	182	6	197	T30	100
FRS 7,5 x 212 S	35802	7,5	212	6	227	T30	100



FRS Z - With cylindrical head

type	ref.-no.	Ø S screw [mm]	LS screw length [mm]	Ø drill bit [mm]	LB min. drill depth [mm]	T-bit size	qty. per box pcs.
FRS 7,5 x 52 Z	35803	7,5	52	6	67	T25	100
FRS 7,5 x 72 Z	35690	7,5	72	6	87	T25	100
FRS 7,5 x 92 Z	35691	7,5	92	6	107	T25	100
FRS 7,5 x 112 Z	33747	7,5	112	6	127	T25	100
FRS 7,5 x 132 Z	33748	7,5	132	6	147	T25	100
FRS 7,5 x 152 Z	33749	7,5	152	6	167	T25	100
FRS 7,5 x 182 Z	33750	7,5	182	6	197	T25	100
FRS 7,5 x 212 Z	35804	7,5	212	6	227	T25	100

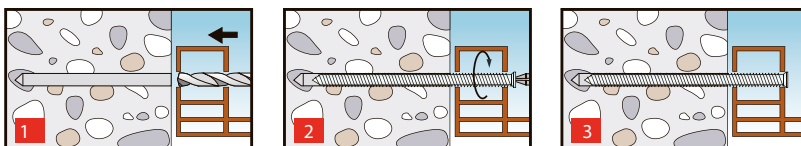


ADK

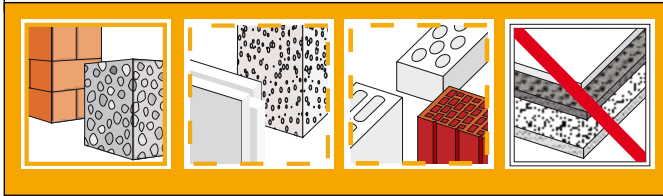
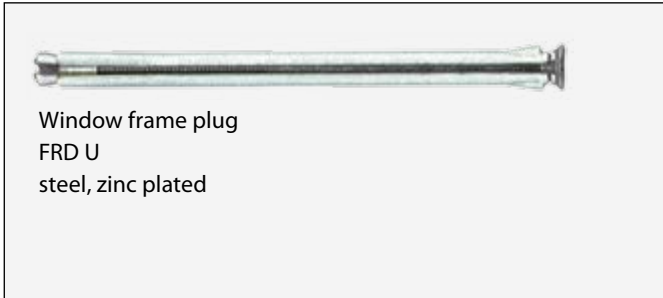
type	ref.-no.	Ø [mm]	to go with	qty. per box pcs.
ADK T 25 white	34821	10	FRS Z	100
ADK T 25 darkbrown	34822	10	FRS Z	100
ADK F 10 white	32119	15	FRS S	100
ADK F 10 darkbrown	32122	15	FRS S	100

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, non load bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

Installation



Window Frame Plug - FRD



Suitability

Base materials:

concrete, solid materials, limited suitability for perforated bricks, hollow blocks, aircrete

For fixing of:

window and door frames made of wood, plastic or metal, fireproof doors, battens

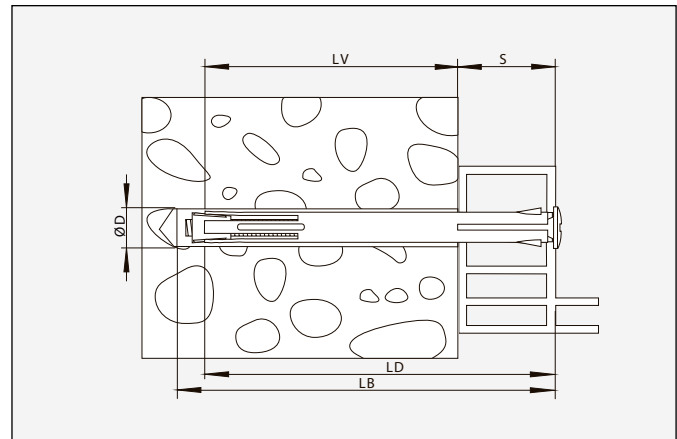
Characteristics

- all-metal anchor with high shear load bearing capacities, ideal for spaced fixings
- FRD U with universal countersunk head
- with locking lugs to firmly hold hollow profiles
- aper nut does not rotate in sleeve and can not fall off

Advice

The window frame plug may only be used as through-fixing. The fixture may not be positioned between screw head and plug collar.

If installed in hollow base material the plug should be long enough to at least allow for expansion in the second brick chamber. The maximum tightening moment is 5 Nm.

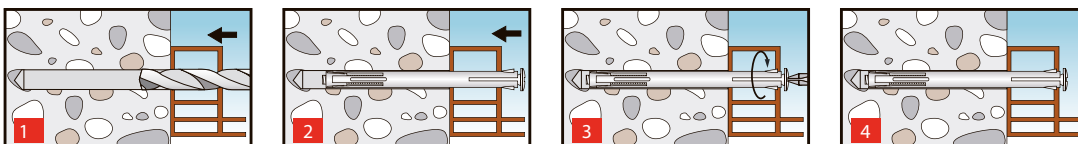


Pullout loads in kN

	concrete C20/25	Solid bricks Mz 12	hollow bricks KSI 6
FRDU 10	5,4	5,1	2,1

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, non load bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

Installation



Window Frame Plug - FRD

Technical Data



FRD U - with universal countersunk head

type	ref.-no.	ØD Ø Plug Ø Bit [mm]	LD plug length [mm]	LB min. drill depth [mm]	LV min. an- chorage depth [mm]	S max. fixture thickn. [mm]	Ø screw head [mm]	qty. per box pcs.
FRD U 10 x 52	32095	10	52	70	30	22	13	100
FRD U 10 x 72	32096	10	72	90	30	42	13	100
FRD U 10 x 92	32097	10	92	110	30	62	13	100
FRD U 10 x 112	32098	10	112	130	30	82	13	100
FRD U 10 x 132	32099	10	132	150	30	102	13	100
FRD U 10 x 152	32100	10	152	170	30	122	13	100
FRD U 10 x 182	32101	10	182	200	30	152	13	100
FRD U 10 x 202	32102	10	202	220	30	172	13	100

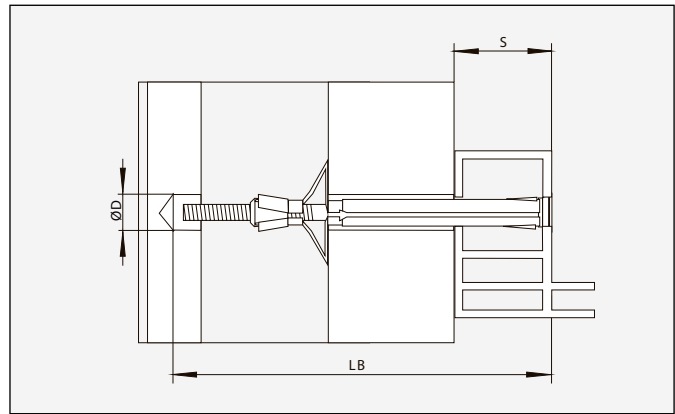
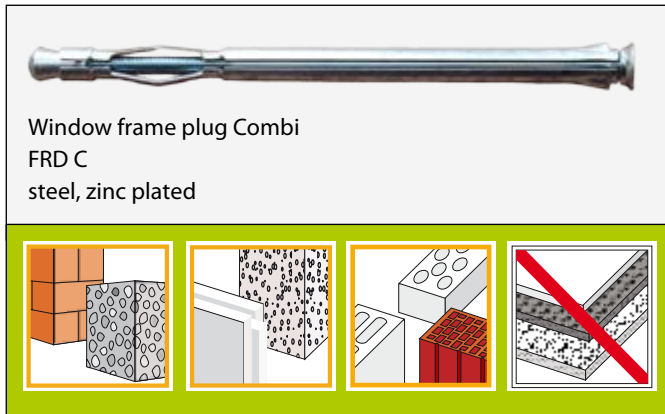
Technical Data



ADK Z10 **ADK F10**

type	ref.-no.	Ø [mm]	to go with	qty. per box pcs.
ADK Z 10 white	32114	16	FRD U, C	100
ADK Z 10 grey	32115	16	FRD U, C	100
ADK Z 10 light brown	32116	16	FRD U, C	100
ADK Z 10 dark brown	32117	16	FRD U, C	100
ADK Z 10 black	32118	16	FRD U, C	100
ADK F 10 white	32119	15	FRD U, C	100
ADK F 10 grey	32120	15	FRD U, C	100
ADK F 10 light brown	32121	15	FRD U, C	100
ADK F 10 dark brown	32122	15	FRD U, C	100
ADK F 10 black	32123	15	FRD U, C	100

Window Frame Plug Combi - FRD C



Suitability

Base materials:
concrete, solid materials, perforated bricks, hollow blocks, aircrete

For fixing of:
window and door frames made of wood,
plastic or metal, fireproof doors, battens

Characteristics

- all-metal plug with high shear load bearing capacities, ideal for spaced fixings
- with universal countersunk head for wooden profiles and thickwalled hollow profiles
- with locking lugs to firmly hold profiles
- taper nut does not rotate in sleeve and cannot fall off
- Anchors sleeve with triple expansion part to ensure safe anchorage even in cavities and soft base materials

Advice

The window frame plug may only be used as through-fixing. The fixture may not be positioned between screw head and plug collar.
If installed in hollow brick the plug should be long enough to at least allow for expansion in the second brick chamber.
The maximum tightening moment is 5 Nm.

Technical Data



FRD C - with universal countersunk head and triple

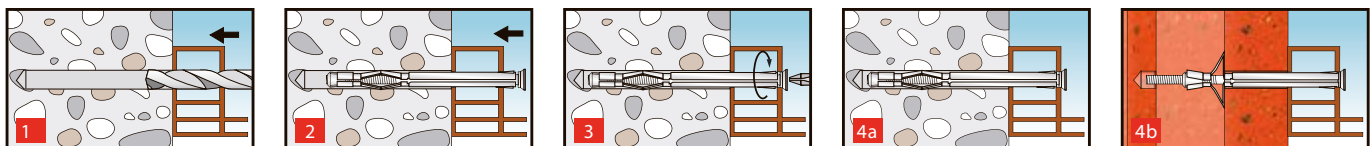
type	ref.-no.	ØD	LD	LB	LV	S	Ø	qty. per box
		Ø Plug Ø Bit [mm]	plug length [mm]	min. drill depth [mm]	min. an- chorage depth [mm]	max. fixture thickn. [mm]		
FRD C 10 x 112	32103	10	112	130	65	47	13	100
FRD C 10 x 132	32104	10	132	150	65	67	13	100
FRD C 10 x 152	32105	10	152	170	65	87	13	100
FRD C 10 x 182	32106	10	182	200	65	117	13	100
FRD C 10 x 202	32107	10	202	220	65	137	13	100

Pullout loads in kN

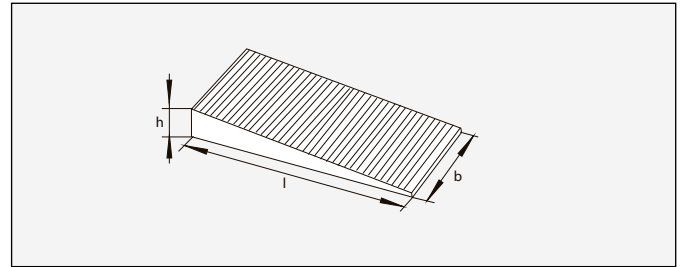
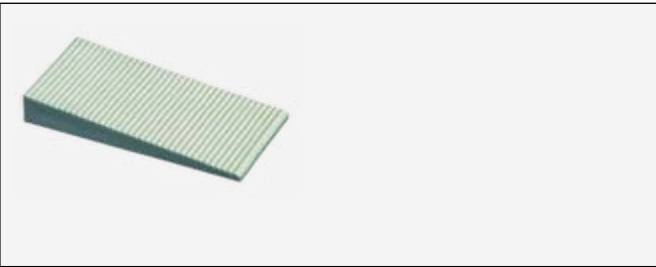
	hollow blocks Hz 12	solid bricks Mz 12	concrete C 20/25	aircrete P2/P4
FRD C 10	0,7	5,9	5,7	0,6/1,0

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. Lower loads apply in case of render, insulating material, non load bearing areas of the base material or too small edge/joint distances. An adequate safety factor should be applied.

Installation



Adjusting Wedge - BMK



Anwendung

Wedging and adjusting jobs in various construction areas, to install windows, doors, laths, etc.

Characteristics

- sliding two wedges over each other allows for exact adjustment of building components
- the toothed surfaces of the upper sides ensure optimal wedging

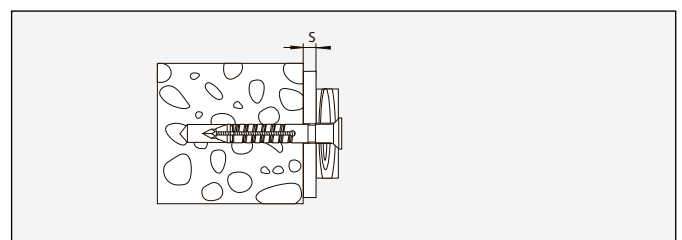
Technical Data



BMK - to adjust construction parts

type	ref.-no.	l length [mm]	b width [mm]	h height [mm]	qty. per box pcs.	outer carton pcs.
BMK 6	30665	40	20	6	100	1600
BMK 9	30666	60	30	9	35	560
BMK 18	30667	85	40	18	35	280
BMK 27	30668	115	50	27	12	96
BMK 36	30669	160	60	36	6	48

Spacer Unit - ASH



Anwendung

adjusting wooden sub-structures and claddings, fixing windows and doors onto uneven base materials

Characteristics

- fast and simple installation
- Adjustment to the mm, with colour coding system
- ust push between construction part and masonry
- Universal for plugs and screws \varnothing 6mm to 11mm

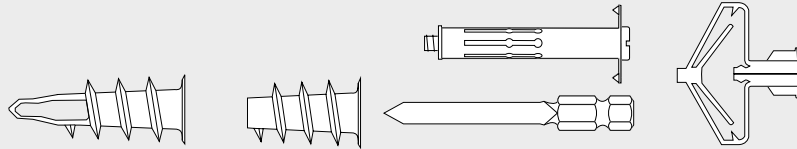
Technical Data



ASH - to adjust, bridge, straighten

type	ref.-no.	length x width [mm]	S thickness [mm]	color	qty. per box pcs.	outer carton pcs.
ASH 3	33578	50 x 50	3	red	50	1200
ASH 5	33579	50 x 50	5	yellow	50	800
ASH 8	33580	50 x 50	8	blue	50	600
ASH 10	33581	50 x 50	10	black	50	500
ASH 15	33582	50 x 50	15	natur	50	500

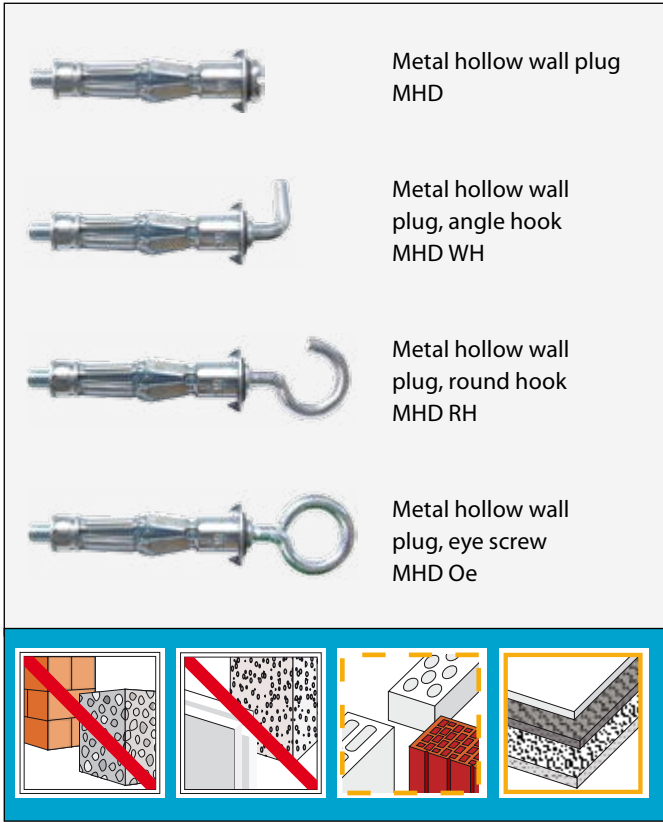
Cavity Fixings



Cavity Fixings

Metal Hollow Wall Plug - MHD

Cavity Fixings



Metal hollow wall plug
MHD

Metal hollow wall
plug, angle hook
MHD WH

Metal hollow wall
plug, round hook
MHD RH

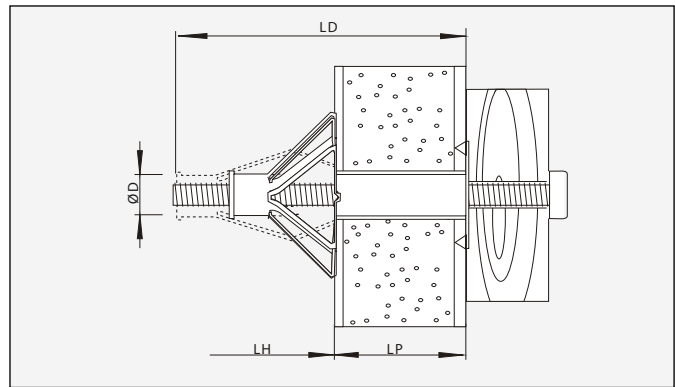
Metal hollow wall
plug, eye screw
MHD Oe

Characteristics

- multiple split plug with pre-installed metric screw
- simple installation with screw driver or setting tool
- once collapsed the segments form a large supporting area at the rear side for improved holding power
- screw may be removed at any time without loss of holding power
- now also available: with round hook, angle hook and eye screw

Advice

Installation with screw driver or cordless drill is finished once the screw is noticeably tightened.
In case of soft boards use metal drill bit and drill with rotary action only.



Suitability

Base materials:
panels, boards, hollow ceilings with large cavities, limited suitability for hollow blocks

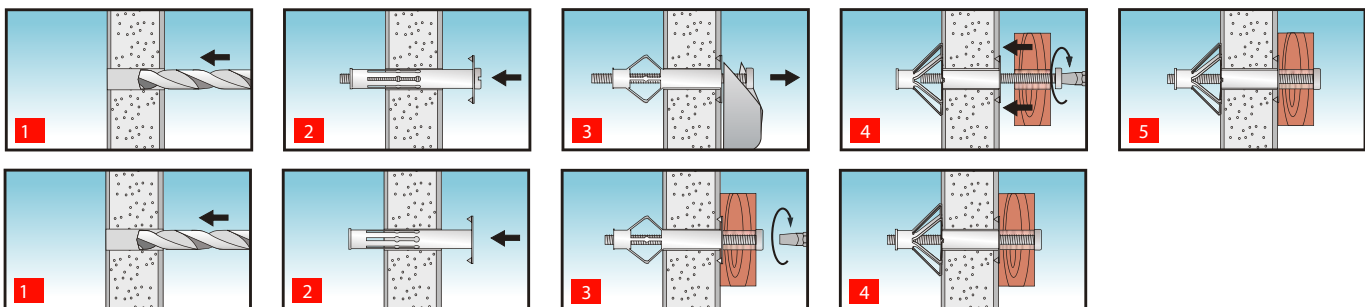
For fixing of:
picture frames, lamps, skirting boards, key boxes, shelves, wall-mounted cup-boards, towel rails, curtain rails

Pullout loads in kN

	gypsum plasterboard 12.5 mm	gypsum plasterboard 2 x 12.5 mm
MHD 4 x 12	0,3	-
MHD 5 x 16	0,7	-
MHD 6 x 16	0,8	-
MHD 4 x 24	-	0,6
MHD 5 x 24	-	1,0
MHD 6 x 24	-	1,0
MHD 8 x 16	0,8	-
MHD 8 x 32	-	1,2

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. An adequate safety factor should be applied.

Installation



Metal Hollow Wall Plug - MHD

Technical Data



MHD - zinc plated, with metric screw

type	ref.-no	ØD Ø plug bit [mm]	LD plug length [mm]	LP board thickn. min./max. [mm]	LV min. cavity depth [mm]	screw Ø x l [mm]	qty. per box pcs.	outer carton pcs.
MHD 4 x 6	36940	8	22	- 6	25	M 4 x 30	50	2700
MHD 4 x 12	36941	8	32	3 - 12	36	M 4 x 39	50	1800
MHD 4 x 24	36942	8	46	14 - 24	36	M 4 x 52	50	1350
MHD 4 x 38	36943	8	60	32 - 38	31	M 4 x 65	50	1350
MHD 5 x 12	36944	10	37	6 - 12	39	M 5 x 45	50	1350
MHD 5 x 16	36945	10	52	3 - 16	55	M 5 x 58	50	800
MHD 5 x 24	36946	10	65	14 - 24	57	M 5 x 71	50	800
MHD 5 x 38	36947	10	80	27 - 38	61	M 5 x 88	50	400
MHD 6 x 13	36948	12	37	6 - 13	39	M 6 x 45	50	800
MHD 6 x 16	36949	12	52	3 - 16	55	M 6 x 58	50	400
MHD 6 x 24	36950	12	65	14 - 24	57	M 6 x 71	50	400
MHD 6 x 38	36951	12	80	27 - 38	61	M 6 x 88	50	400
MHD 8 x 16 ¹	36688	13	55	3 - 16	55	M 8 x 65	25	400
MHD 8 x 32 ¹	36689	13	68	14 - 32	57	M 8 x 75	25	400

¹ mit metrischer Sechskant-Schraube



MHD WH - zinc plated, with angle hook

MHD 5 x 16 WH	36683	10	52	3-16	55	M 5 x 60	25	400
MHD 6 x 24 WH	36686	12	65	14 - 24	57	M 6 x 70	25	400



MHD RH - zinc plated, with round hook

MHD 5 x 16 RH	36682	10	52	3 - 16	55	M 5 x 60	25	400
MHD 6 x 24 RH	36685	12	65	14 - 24	57	M 6 x 70	25	400



MHD Oe - zinc plated, with eye screw

MHD 5 x 16 Oe	36684	10	52	3 - 16	55	M 5 x 60	25	400
MHD 6 x 24 Oe	36687	12	65	14 - 24	57	M 6 x 70	25	400

Technical Data



HMZ 1 - setting tool PRO



HMZ 2 - setting tool DIY

type	ref.-no.	qty. per box pcs.	outer carton pcs.
HMZ1	30945	1	1
HMZ2	30784	1	1



plasterboardbox - Assortment kit small

type	ref.-no.	qty. per box pcs.	outer carton pcs.	contents
plasterboardbox 120 pcs	38036	1	13	8 plug KHD 10x50, 30 plug GKD, 1 Setting tool SW, 14 plug GKD M, 32 chipboard screws 4,0 x 40, 8 chipboard screws 4,0 x 60, 4 round hook 4,2 x 65, 8 angle hook white 4,4 x 40

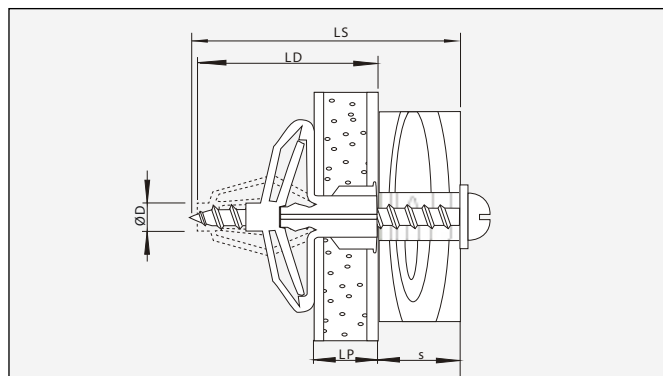
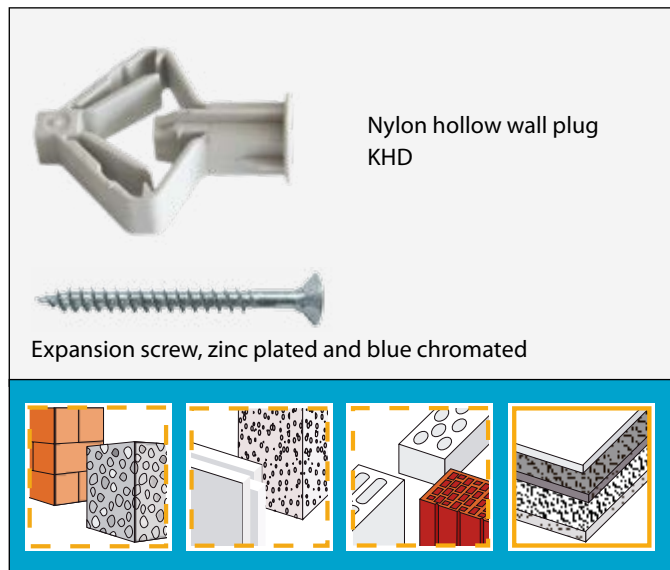
plasterboardbox - Assortment kit medium

type	ref.-no.	qty. per box pcs.	outer carton pcs.	contents
plasterboardbox 235 pcs	38044	1	12	12 plug KHD 10x50, 60 plug GKD, 1 Setting tool SW, 25 plug GKD M, 20 plug SP 8, 65 chipboard screws 4,0 x 40, 12 chipboard screws 4,0 x 60, 20 chipboard screws 5,0 x 50, 4 round hook 4,2 x 65, 16 angle hook white 4,4 x 40

plasterboardbox - Assortment kit large

type	ref.-no.	qty. per box pcs.	outer carton pcs.	contents
plasterboardbox 462 pcs	37745	1	8	20 plug KHD 10x50, 40 plug GKD, 1 Setting tool SW, 40 plug GKD M, 80 plug SU K 6, 30 plug SU K 6L, 30 plug SU K 8, 40 plug MHD 4x12, 40 plug MHD 5x12, 40 plug MHD 5x16, 1 setting tool, 80 chipboard screws 4,0 x 40, 20 chipboard screws 4,0 x 60

Nylon Hollow Wall Plug - KHD



*** min. screw length**

plug length	LD
+ fixture thickness	S
= min. screw length	LS

Suitability

Base materials:

panels and boards such as plasterboard, gypsum fibreboards, fibre cement boards, hardboards, chipboards, limited suitability for concrete and masonry, hollow blocks, hollow bricks

For fixing of:

all objects which can be fixed with wood and chipboard screws: picture frames, lamps, shelves, wall-mounted cup-boards, skirting boards, soap dishes, towel rails, letter boxes, movement alarm units, flower baskets, curtain rails

Characteristics

- suitable for nearly all kinds of base materials, especially to fix objects to boards and panels
- optimal suitability for single and double plasterboards
- collar with edges prevents plug from rotating
- Collar prevents plug to slip into hole

Advice

If installed in hollow bricks or boards/ panels hooks and eye screws with integral collar must be used to make sure that the plug form locks in the substrate (folding open).

Technical Data



KHD - nylon hollow wall plug

type	ref.-no.	Ø Plug Ø Bit [mm]	LD plug length [mm]	LP board thickn. min/max [mm]	S screw [mm]	s fixture thick- ness [mm]	qty. per box pcs.	outer carton pcs.
KHD 10 x 50	33389	10	50	10	3,5 - 4,0		100	800



KHD SP - nylon hollow wall plug with chipboard screw

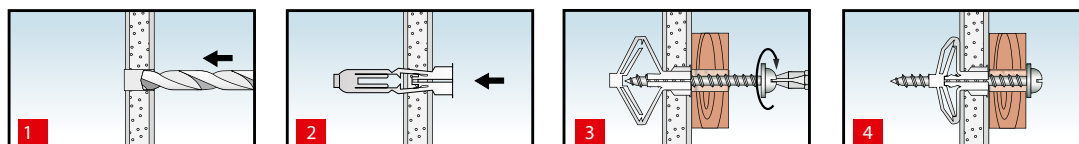
KHD 10 x 50 SP	33390	10	50	10	4,0 x 60,0	10	100	800
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Pullout loads in kN

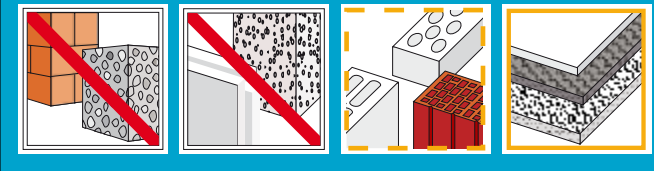
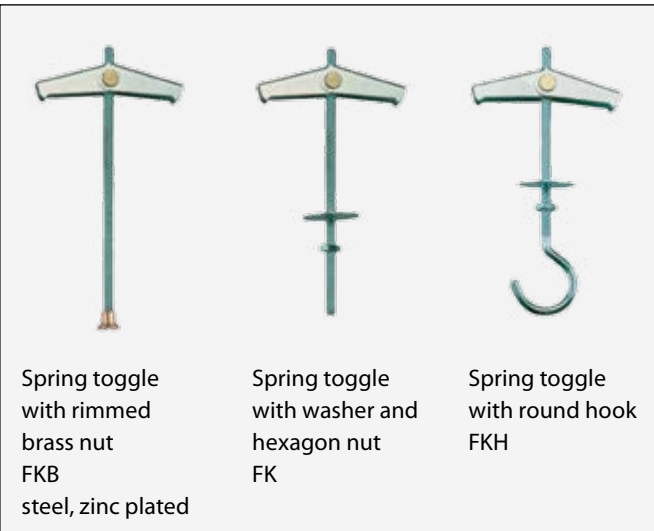
	gypsum plasterboard 12.5 mm	gypsum plasterboard 2 x 12.5 mm
KHD 10	0,73	1,04

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. An adequate safety factor should be applied.

Installation



Spring Toggle - FK



Suitability

Base materials:
plasterboard, gypsum fibreboards, chipboards, fibre cement boards, hardboards, hollow brick and hollow block ceilings

For fixing of:
picture frames, lamps, skirting boards, key boxes, small shelves, light wall-mounted cup-boards, towel rails, curtain rails, pipe and cable clamps, cable ducts

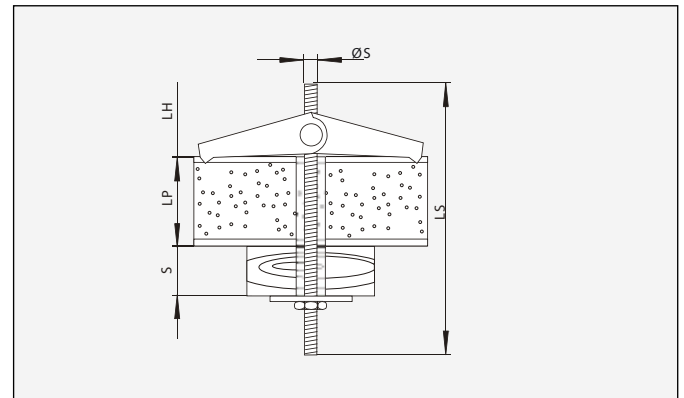
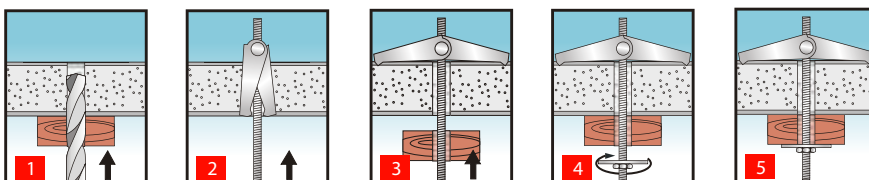
Characteristics

- Metal plug designed for cavities
- steel springs expand the two legs automatically inside the cavity
- extra long threaded stud for larger wall thicknesses
- at choice: stud with rimmed brass nut (FKB), stud with washer and nut (FK), stud with round hook (FKH)

Advice

The measurements LH (min. cavity depth) and LP (max. panel thickness + fixture thickness) must be observed when installing the toggle.

Installation



Technical Data



FK B - with stud and rimmed brass nut

type	ref.-no.	ØS thread [mm]	LS stud length [mm]	ØB drill dia. [mm]	LP (+S) max. board thickness (+fixture) [mm]	LH min. cavity depth [mm]	qty. per box pcs.	outer carton pcs.
FKB M 3 x 90	33765	M3	90	12	75	26	25	400
FKB M 4 x 100	33766	M4	100	14	80	35	25	400



FK - with stud, washer and hexagon nut

FK M 3 x 90	34367	M3	90	12	75	26	25	400
FK M 4 x 100	31061	M4	100	14	80	35	25	400
FK M 5 x 100	36738	M5	100	16	80	45	20	320



FKH - with round hook

FKH M 3 x 50	33764	M3	50	12	45	26	25	400
FKH M 4 x 70	31062	M4	70	14	30	34	25	400
FKH M 5 x 70	36739	M5	70	16	50	45	20	160

Pullout loads in kN

	gypsum plasterboard 12,5 mm	gypsum plasterboard 2 x 12,5 mm
FKB / FK M 3	0,6	0,6
FKB / FK M 4	0,9	1,2

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. An adequate safety factor should be applied.

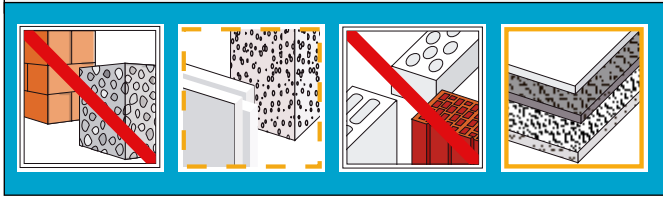
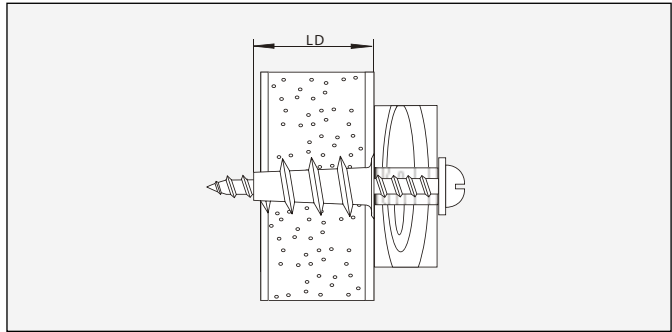
Plasterboard Plug, plastic - GKD

Cavity Fixings



Plasterboard plug
GKD

Setting tool - SW



Technical Data



type	ref.-no.	LD plug length [mm]	ØS Ø wood screw [mm]	ØS Ø chip- board screw [mm]	ØS Ø tap screw [mm]	qty. per box pcs.	outer carton pcs.
GKD	38142	24	4,0 - 5,5	4,0 - 6,0	4,2 - 5,5	200	3200



SW - setting tool

SW	38278					10	50
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GKD SW - plasterboard plug with setting tool

GKD SW	38146	24	4,0 - 5,5	4,0 - 6,0	4,2 - 5,5	200+1	3200+16
GKD SW	38147	24	4,0 - 5,5	4,0 - 6,0	4,2 - 5,5	50+1	2700+54



GKD SWS - plasterboard plug with setting tool and chipboard screw

GKD SWS	38147	24		4,0 x 40,0		50+1	1800+36
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Pullout loads in kN

	gypsum plasterboard 9,5 mm	gypsum plasterboard 12,5 mm	gypsum plasterboard 2 x 12,5 mm
GKD	0,46	0,57	0,75

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. An adequate safety factor should be applied

Suitability

Base materials:
plasterboard, limited suitability for gypsum plates and aircrete

For fixing of:
all objects which can be fixed with wood and chipboard screws:
picture frames, lamps, skirting boards, key boxes, spice shelves

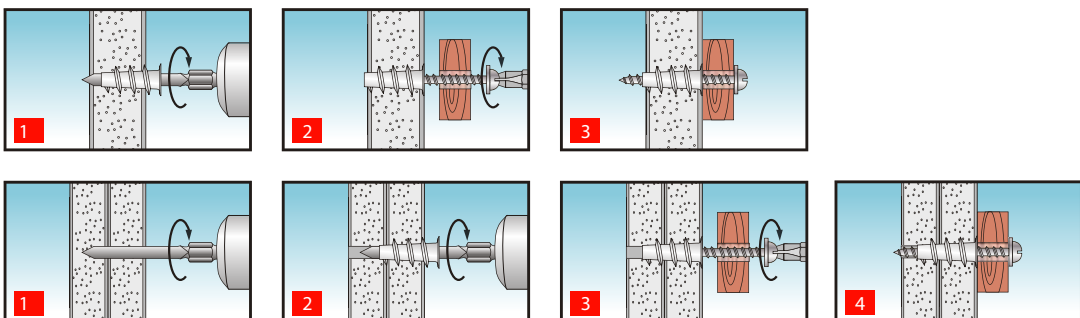
Characteristics

- time saving fixing system consisting of plug and setting tool
- self undercutting system ensures optimal anchorage
- non conductive plastic material for electrical applications
- reusable setting tool

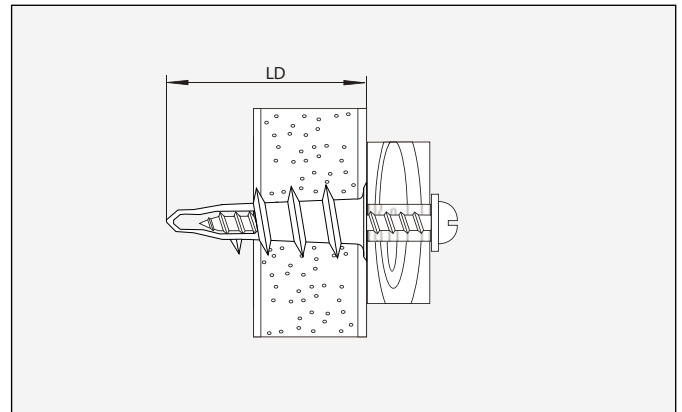
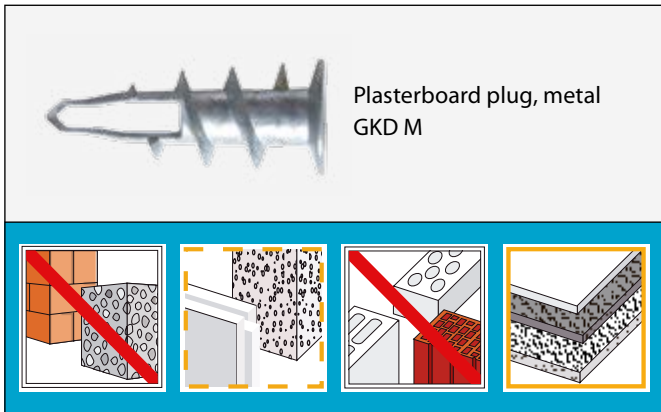
Advice

Board thicknesses exceeding 15 mm and aircrete require pre-drilling with the setting tool.
The GKD is not suited for gypsum fibre-boards and tiled plasterboards.

Installation



Plasterboard Plug, metal - GKD M



Cavity Fixings

Suitability

Base materials:
plasterboard, limited suitability for gypsum plates and aircrete

For fixing of:
all objects which can be fixed with wood and chipboard screws:
picture frames, lamps, skirting boards, key boxes, spice shelves

Characteristics

- time saving fixing system
- self undercutting system ensures optimal anchorage
- simple installation with cross head screw driver, manually or with electric drill
- no special setting tool needed
- sharp blade shaped threads
- heat resistant

Advice

The GKD M is not suited for tiled plasterboards.

* min. screw length

plug length	LD
+ fixture thickness	S
= min. screw length	LS

Technical Data



GKD M - plasterboard plug of zinc diecast

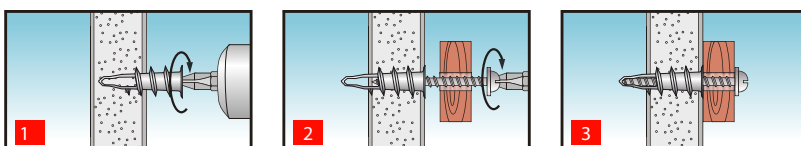
type	ref.-no.	LD plug length [mm]	ØS Ø Chip- board [mm]	qty. per box pcs.	outer carton pcs.
GKD M	35142	34	4,0 - 5,0	200	1600
GKD M	35143	34	4,0 - 5,0	50	1800

Pullout loads in kN

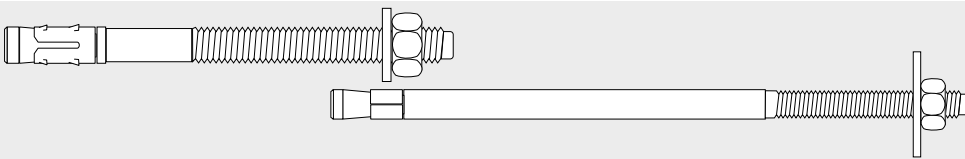
	plasterboard 9,5 mm	plasterboard 12,5 mm	plasterboard 2 x 12,5 mm	gypsum fibreboard 10,0 mm	gypsum fibreboard 12,5 mm
GKD M	0,46	0,56	0,75	0,55	0,89

the loads stated are failure loads valid for general fixings and confirmed strength of the base material indicated. An adequate safety factor should be applied

Installation



Heavy Duty Metal Fixings



Heavy Duty Metal
Fixings



anchor bolt - BZ, BZ GS



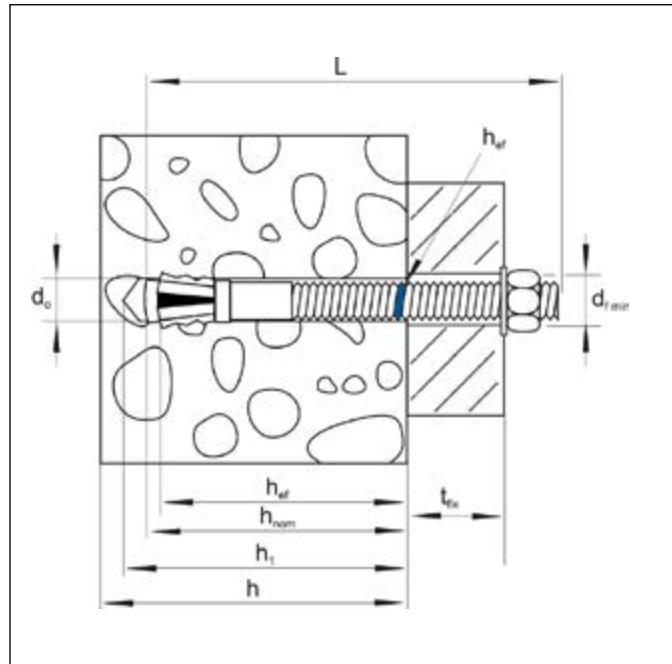
NEW



anchor bolt BZ



anchor bolt BZ GS



Suitability

ETA for:
BZ, BZ GS - cracked and non-cracked concrete C20/25 to C50/60

suitable for:
concrete B15 to B55, dense textured natural stone

For Fixing of:
steel and wood constructions, facades, window elements, railings, consoles, cable trays, ladders, machines, gates, etc.

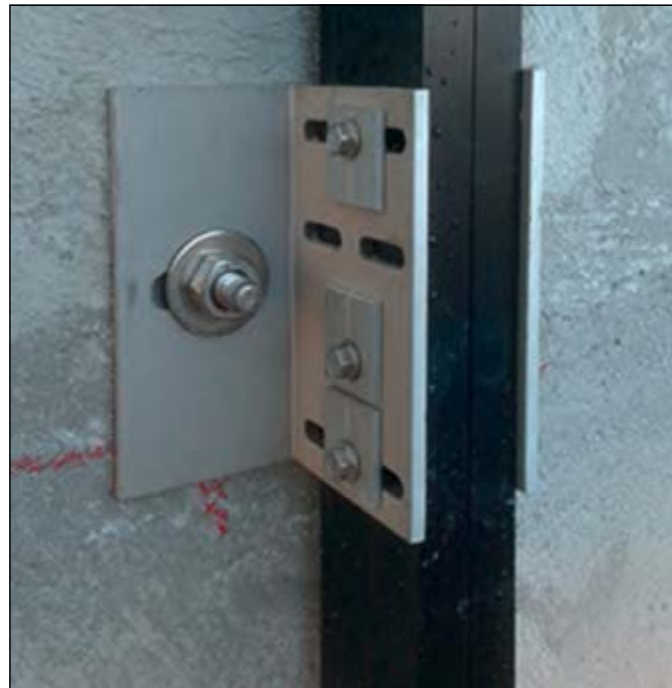
Characteristics / benefits

- anchor bolt for time saving push-through installation or pre-positioned installation
- highest bearing capacity at low centre-to-centre and edge distances
- flexible use for medium and heavy load applications
- BZ GS - version with large washer for wood construction and long holes
- BZ and BZ GS version of zinc plated steel
- Long thread allows stand-off installation and offer variable usable length

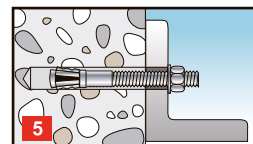
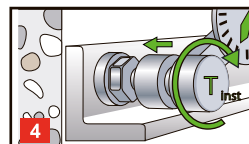
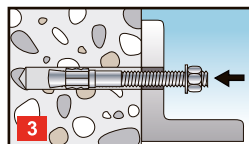
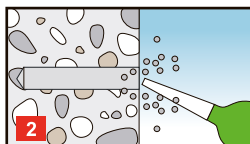
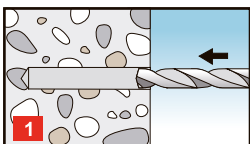
Notes

For the design the complete ETA-13/1014 is to be observed.

Sample using



Installation



anchor bolt - BZ, BZ GS

Technical Data



BZ - zinc plated steel

type	ref-no.	d0 Ø [mm]	L len- gth of plug [mm]	h ₁ min. dril- ling depth [mm]	h _{1 red} min. dril- ling depth red. [mm]	h _{eff} effective anchoring depth [mm]	h _{eff red} effective ancho- ring depth red [mm]	h _{nom} overall anchor embed depth [mm]	h _{nom red} overall anchor embed depth red. [mm]	h min. thick- ness of con- crete [mm]	h _{red} min. thick- ness of concrete red. [mm]	t _{fix} max. usable length [mm]	t _{fix red} max. usable length red [mm]	SW key wide [mm]	Mx/lth thread length [mm]	Sxd2 thick- ness x Ø washer [mm]
BZ 8x75/9	38336	8	75	60	-	48	-	55	-	100	-	9	-	13	43	1,6x16
BZ 8x95/29	38337	8	95	60	-	48	-	55	-	100	-	29	-	13	63	1,6x16
BZ 8x115/49	38338	8	115	60	-	48	-	55	-	100	-	49	-	13	83	1,6x16
BZ 10x90/10	38339	10	90	75	-	60	-	68	-	120	-	10	-	17	53	2x20
BZ 10x105/25	38340	10	105	75	-	60	-	68	-	120	-	25	-	17	68	2x20
BZ 10x115/35	38341	10	115	75	-	60	-	68	-	120	-	35	-	17	78	2x20
BZ 10x135/55	38342	10	135	75	-	60	-	68	-	120	-	55	-	17	98	2x20
BZ 10x165/85	38343	10	165	75	-	60	-	68	-	120	-	85	-	17	128	2x20
BZ 10x185/105	38344	10	185	75	-	60	-	68	-	120	-	105	-	17	148	2x20
BZ 12x110/14	38345	12	110	85	-	70	-	80	-	140	-	14	-	19	66	2,5x24
BZ 12x120/24	38346	12	120	85	-	70	-	80	-	140	-	24	-	19	76	2,5x24
BZ 12x130/34	38347	12	130	85	-	70	-	80	-	140	-	34	-	19	86	2,5x24
BZ 12x150/54	38348	12	150	85	-	70	-	80	-	140	-	54	-	19	106	2,5x24
BZ 12x180/84	38349	12	180	85	-	70	-	80	-	140	-	84	-	19	136	2,5x24
BZ 12x200/104	38350	12	200	85	-	70	-	80	-	140	-	104	-	19	156	2,5x24
BZ 16x145/28	38351	16	145	105	-	85	-	97	-	170	-	28	-	24	92	3x30
BZ 16x175/58	38352	16	175	105	-	85	-	97	-	170	-	58	-	24	122	3x30
BZ 16x220/103	38353	16	220	105	-	85	-	97	-	170	-	103	-	24	167	3x30
BZ 16x250/133	38354	16	250	105	-	85	-	97	-	170	-	133	-	24	197	3x30
BZ 20x170/32	38355	20	170	125	-	100	-	114	-	200	-	32	-	30	110	3x37
BZ 20x200/62	38356	20	200	125	-	100	-	114	-	200	-	62	-	30	140	3x37



BZ GS - zinc plated steel

BZ 8x75/9 GS	38396	8	75	60	-	48	-	55	-	100	-	9	-	13	43	2x24
BZ 10x90/10 GS	38397	10	90	75	-	60	-	68	-	120	-	10	-	17	53	2,5x30

anchor bolt - BZ, BZ GS

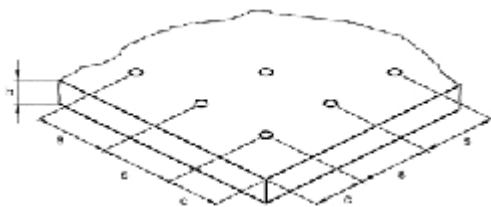
approved loads¹⁾

For the design the complete ETA-13/1014 is to be observed.

type		BZ 8	BZ 10	BZ 12	BZ 16	BZ 20
effective anchorage depth	h_{ef} [mm]	48	60	70	85	100
overall anchor embed depth	h_{nom} [mm]	55	68	80	97	114
permissible tensile load¹⁾ of one single anchor without edge influence N_{zul}, i.e. edge distance $c \geq 1,5h_{ef}$ and axial spacing $s \geq 3h_{ef}$						
cracked and non-cracked concrete C20/25 ²⁾	[kN]	2,0	3,6	4,8	9,9	11,9
non-cracked concrete C20/25 ²⁾	[kN]	3,6	4,8	6,3	13,9	15,9
permissible shear load¹⁾ of one single anchor without edge influence V_{zul}, i.e. edge distance $c \geq 10h_{ef}$ and axial spacing $s \geq 3h_{ef}$						
steel failure without lever arm	V_{zul} [kN]	6,3	9,3	12,0	21,8	34,4
permissible bending moment	M_{zul} [Nm]	12,9	25,6	44,9	114,2	222,5
component dimensions and assembly characteristic values						
characteristic axial spacing	$s_{cr,N}$ [mm]	144	150	175	213	250
characteristic edge distance	$c_{cr,N}$ [mm]	72	90	105	128	150
minimum axial spacing	$s_{min} =$ [mm]	75	90	105	130	150
minimum edge distance	$c_{min} =$ [mm]	75	90	105	130	150
minimum structural component thickness	$h_{min} =$ [mm]	100	120	140	170	200
nominal drill diameter	$d_o / d_b =$ [mm]	8	10	12	16	20
drill hole depth	$h \geq$ [mm]	60	75	85	105	125
clearance hole in fixture to be attached	$d_f \leq$ [mm]	9	12	14	18	22
max. installation torque	$T_{inst} =$ [Nm]	20	40	60	100	200

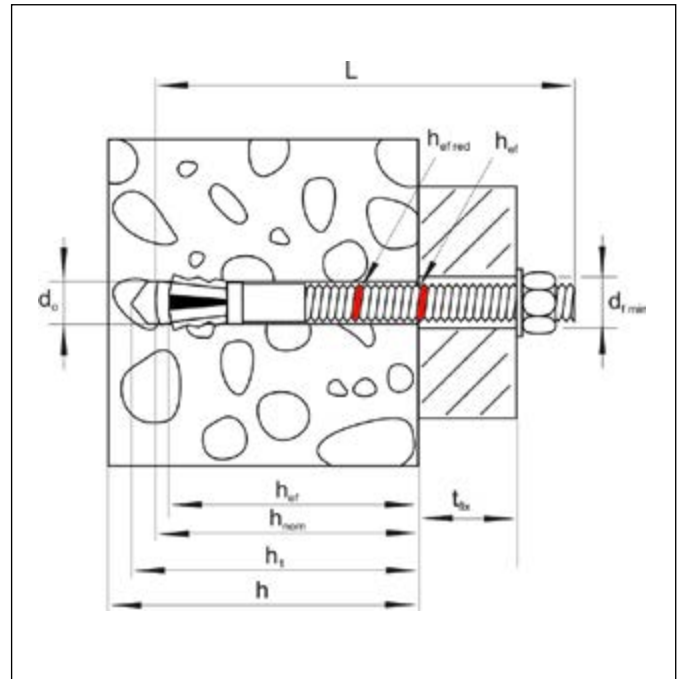
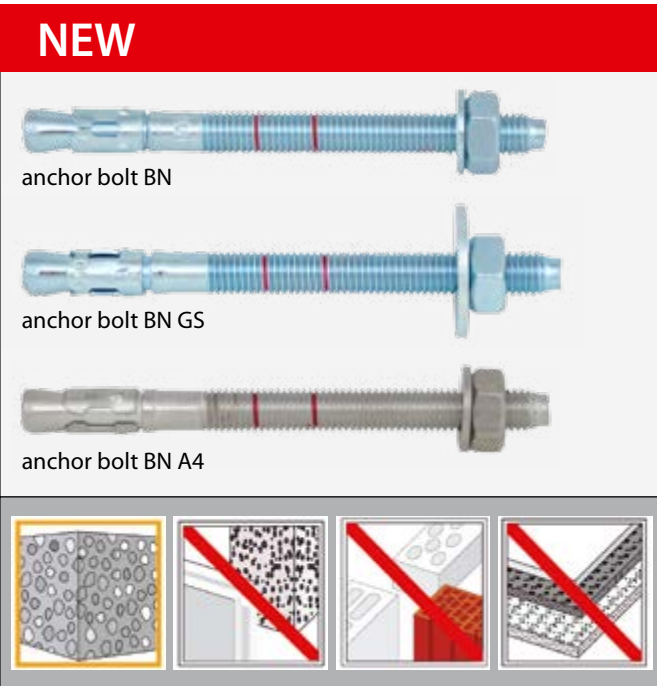
¹⁾ permissible loads: in ETA settled partial safety factors γ_{M} and the safety factor for load $\gamma_F = 1,4$ are included.

²⁾ The concrete is considered to be normally reinforced or non-reinforced. For higher concrete strength classes an increase in performance of up to 55 % is possible.





anchor bolt - BN, BN GS, BN A4



Suitability

ETA for:
BN, BN GS, BN A4 - non-cracked concrete C20/25 to C50/60
suitable for:
concrete B15 to B55, dense textured natural stone
For Fixing of:
steel and wood constructions, facades, window elements, railings,
consoles, cable trays, ladders, machines, gates, etc.

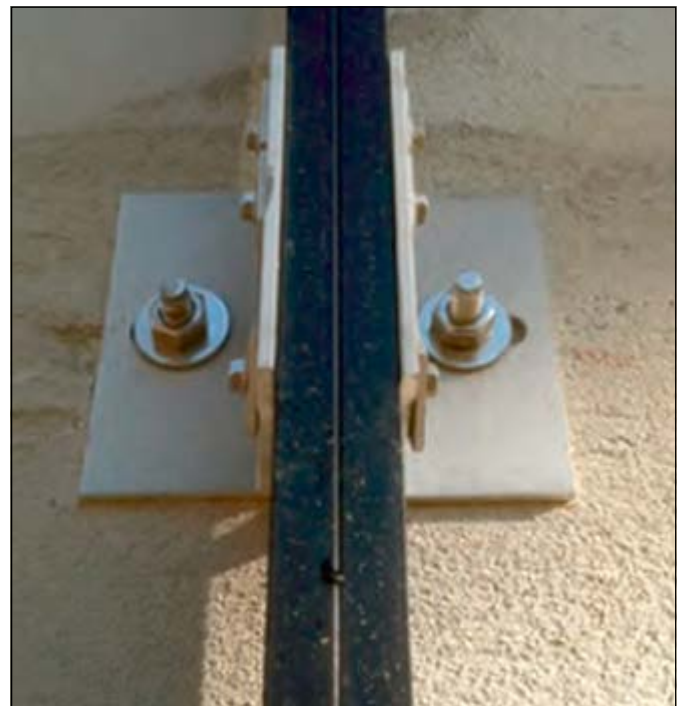
Notes

For the design the complete ETA-13/1014 is to be observed.

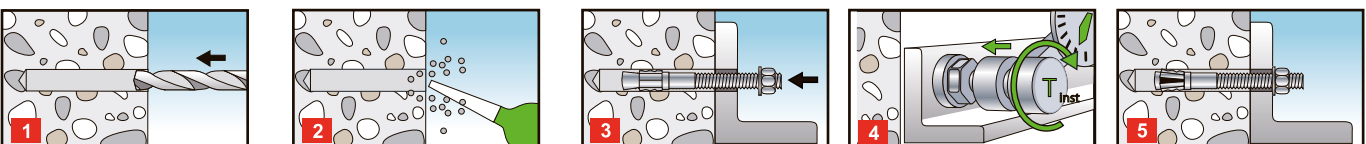
Characteristics / benefits

- anchor bolt for time saving push-through installation or pre-positioned installation
- highest bearing capacity at low centre-to-centre and edge distances
- flexible use for medium and heavy load applications
- BN GS - version with large washer for wood construction and long holes
- BN and BN GS version of zinc plated steel
- BN A4 - stainless steel A4 for outdoor use and in damp conditions
- Long thread allows stand-off installation and offer variable usable length
- Diameter 8 to 12 mm also for reduced anchorage depths e.g. for small loads or if reinforcement is hit
- reduced anchorage depth reduces drill time and reinforcement hits during drilling

Sample using



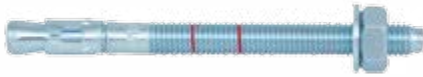
Installation



anchor bolt - BN, BN GS, BN A4



Technical Data



BN - zinc plated steel



type	ref-no.	d0 Ø [mm]	L len- gth of plug [mm]	h ₁ min. dril- ling depth [mm]	h _{1 red} min. dril- ling depth red. [mm]	h _{eff} effective anchoring depth [mm]	h _{eff red} effective anchoring depth red [mm]	h _{nom} overall anchor embed depth [mm]	h _{nom red} overall anchor embed depth red. [mm]	h min. thick- ness of con- crete [mm]	h _{red} min. thick- ness of concrete red. [mm]	t _{fix} max. usable length [mm]	t _{fix red} max. usable length red [mm]	SW key wide [mm]	Mxf/lth thread length [mm]	Sxd2 thick- ness x Ø washer [mm]
BN 6x60/2	38279	6	60	55	-	40	-	49,5	-	100	-	2	-	10	26	1,6x12
BN 6x70/12	38280	6	70	55	-	40	-	49,5	-	100	-	12	-	10	36	1,6x12
BN 6x90/32	38281	6	90	55	-	40	-	49,5	-	100	-	32	-	10	56	1,6x12
BN 8x60/-3	38282	8	60	65	50	48	35	59,5	46,5	100	100	-10	3	13	23	1,6x16
BN 8x75/5-18	38283	8	75	65	50	48	35	59,5	46,5	100	100	5	18	13	38	1,6x16
BN 8x80/10-23	38284	8	80	65	50	48	35	59,5	46,5	100	100	10	23	13	43	1,6x16
BN 8x90/20-33	38285	8	90	65	50	48	35	59,5	46,5	100	100	20	33	13	53	1,6x16
BN 8x100/30-43	38286	8	100	65	50	48	35	59,5	46,5	100	100	30	43	13	63	1,6x16
BN 8x120/50-63	38287	8	120	65	50	48	35	59,5	46,5	100	100	50	63	13	83	1,6x16
BN 8x155/85-98	38288	8	155	65	50	48	35	59,5	46,5	100	100	85	98	13	118	1,6x16
BN 10x90/10-23	38289	10	90	75	60	55	42	66,5	53,5	110	100	10	23	17	49	2x20
BN 10x100/20-33	38290	10	100	75	60	55	42	66,5	53,5	110	100	20	33	17	59	2x20
BN 10x120/40-53	38291	10	120	75	60	55	42	66,5	53,5	110	100	40	53	17	79	2x20
BN 10x140/60-73	38292	10	140	75	60	55	42	66,5	53,5	110	100	60	73	17	99	2x20
BN 10x150/70-83	38293	10	150	75	60	55	42	66,5	53,5	110	100	70	83	17	109	2x20
BN 10x170/90-103	38294	10	170	75	60	55	42	66,5	53,5	110	100	90	103	17	129	2x20
BN 10x210/130-143	38295	10	210	75	60	55	42	66,5	53,5	110	100	130	143	17	169	2x20
BN 10x230/150-163	38296	10	230	75	60	55	42	66,5	53,5	110	100	150	163	17	189	2x20
BN 12x100/8-23	38297	12	100	85	70	65	50	77	62	130	100	8	23	19	48	2,5x24
BN 12x110/18-33	38298	12	110	85	70	65	50	77	62	130	100	18	33	19	58	2,5x24
BN 12x120/28-43	38299	12	120	85	70	65	50	77	62	130	100	28	43	19	68	2,5x24
BN 12x140/48-63	38300	12	140	85	70	65	50	77	62	130	100	48	63	19	88	2,5x24
BN 12x180/88-103	38301	12	180	85	70	65	50	77	62	130	100	88	103	19	128	2,5x24
BN 12x200/108-123	38302	12	200	85	70	65	50	77	62	130	100	108	123	19	148	2,5x24
BN 12x220/128-143	38303	12	220	85	70	65	50	77	62	130	100	128	143	19	168	2,5x24
BN 12x250/158-173	38304	12	250	85	70	65	50	77	62	130	100	158	173	19	198	2,5x24
BN 16x145/23	38305	16	145	112	-	86	-	105,5	-	168	-	23	-	24	80	3x30
BN 16x170/48	38306	16	170	114	-	88	-	107,5	-	168	-	48	-	24	105	3x30
BN 16x220/98	38307	16	220	118	-	92	-	111,5	-	168	-	98	-	24	155	3x30
BN 16x250/128	38308	16	250	120	-	94	-	113,5	-	168	-	128	-	24	185	3x30
BN 16x280/158	38309	16	280	122	-	96	-	115,5	-	168	-	158	-	24	200	3x30
BN 20x170/23	38310	20	170	135	-	103	-	125	-	206	-	23	-	30	102	3x37
BN 20x220/73	38311	20	220	135	-	103	-	125	-	206	-	73	-	30	152	3x37
BN 20x270/123	38312	20	270	135	-	103	-	125	-	206	-	123	-	30	202	3x37

anchor bolt - BN, BN GS, BN A4

Technical Data



BN GS - zinc plated steel

type	ref-no.	d0 Ø [mm]	L len- gth of plug [mm]	h ₁ min. dril- ling depth [mm]	h _{1 red} min. dril- ling depth red. [mm]	h _{eff} effective anchoring depth [mm]	h _{eff red} effective anchoring depth red. [mm]	h _{nom} overall anchor embed depth [mm]	h _{nom red} overall anchor embed depth red. [mm]	h min. thick- ness of con- crete [mm]	h _{red} min. thick- ness of concrete red. [mm]	t _{fix} max. usable length [mm]	t _{fix red} max. usable length red [mm]	SW key wide [mm]	Mxf/lth thread length [mm]	Sxd2 thick- ness x Ø washer [mm]
BN 12x180/88-103 GS	38329	12	180	85	70	65	50	77	62	130	100	88	103	19	128	3x37
BN 12x200/108-123 GS	38330	12	200	85	70	65	50	77	62	130	100	108	123	19	148	3x37
BN 12x220/128-143 GS	38331	12	220	85	70	65	50	77	62	130	100	128	143	19	178	3x37
BN 12x250/158-173 GS	38332	12	250	85	70	65	50	77	62	130	100	158	173	19	208	3x37
BN 16x220/98 GS	38333	16	220	118	-	92	-	111,5	-	168	-	98	-	24	155	3x50
BN 16x250/128 GS	38334	16	250	118	-	92	-	111,5	-	168	-	128	-	24	185	3x50
BN 16x280/158 GS	38335	16	280	118	-	92	-	111,5	-	168	-	158	-	24	205	3x50



BN A4 - stainless steel

type	ref-no.	d0 Ø [mm]	L len- gth of plug [mm]	h ₁ min. dril- ling depth [mm]	h _{1 red} min. dril- ling depth red. [mm]	h _{eff} effective anchoring depth [mm]	h _{eff red} effective anchoring depth red. [mm]	h _{nom} overall anchor embed depth [mm]	h _{nom red} overall anchor embed depth red. [mm]	h min. thick- ness of con- crete [mm]	h _{red} min. thick- ness of concrete red. [mm]	t _{fix} max. usable length [mm]	t _{fix red} max. usable length red [mm]	SW key wide [mm]	Mxf/lth thread length [mm]	Sxd2 thick- ness x Ø washer [mm]
BN A4 6x60/2	38313	6	60	55	-	40	-	49,5	-	100	-	2	-	10	26	1,6x12
BN A4 6x80/22	38314	6	80	55	-	40	-	49,5	-	100	-	22	-	10	46	1,6x12
BN A4 8x75/5-18	38315	8	75	65	50	48	35	59,5	46,5	100	100	5	18	13	38	1,6x25
BN A4 8x90/20-33	38316	8	90	65	50	48	35	59,5	46,5	100	100	20	33	13	53	1,6x25
BN A4 8x115/45-58	38317	8	115	65	50	48	35	59,5	46,5	100	100	45	58	13	78	1,6x25
BN A4 10x70/-3	38318	10	70	75	60	55	42	66,5	53,5	110	100	-10	3	17	29	2x20
BN A4 10x90/10-23	38319	10	90	75	60	55	42	66,5	53,5	110	100	10	23	17	49	2x20
BN A4 10x120/40-53	38320	10	120	75	60	55	42	66,5	53,5	110	100	40	53	17	79	2x20
BN A4 10x150/70-83	38321	10	150	75	60	55	42	66,5	53,5	110	100	70	83	17	109	2x20
BN A4 12x90/-13	38322	12	90	85	70	65	50	77	62	130	100	-2	13	19	38	2,5x24
BN A4 12x110/18-33	38323	12	110	85	70	65	50	77	62	130	100	18	33	19	58	2,5x24
BN A4 12x140/48-63	38324	12	140	85	70	65	50	77	62	130	100	48	63	19	88	2,5x24
BN A4 16x145/23	38325	16	145	114	-	88	-	107,5	-	168	-	23	-	24	84	3x30
BN A4 16x170/48	38326	16	170	114	-	88	-	107,5	-	168	-	48	-	24	109	3x30

anchor bolt - BN, BN GS, BN A4

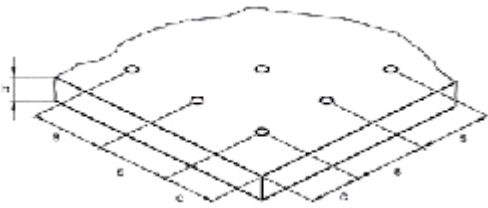
approved loads¹⁾,

For the design the complete ETA-13/1014 is to be observed.

type			BN 6	BN 8	BN 10	BN 12	BN 14	BN 16	BN 20
effective anchorage depth	h_{ef}	[mm]	40	48	55	65	75	84	103
effective anchorage depth reduced	$h_{ef,red}$	[mm]	-	35	42	50	-	-	-
overall anchor embed depth	h_{nom}	[mm]	49,5	59,5	66,5	77	91	103,5	125
overall anchor embed depth reduced	$h_{nom,red}$	[mm]	-	46,5	53,5	62	-	-	-
permissible tensile load²⁾ of one single anchor without edge influence N_{zul}, i.e. edge distance $c \geq 1,5h_{ef}$ and axial spacing $s \geq 3h_{ef}$									
non-cracked concrete C20/25 ²⁾	N_{zul}	[kN]	3,9	5,7	6,3	9,9	11,9	13,9	19,8
non-cracked concret C20/25 ²⁾ reduced	N_{zul}	[kN]	3,9	4,3	5,7	7,6	-	-	-
permissible shear load²⁾ of one single anchor without edge influence V_{zul}, i.e. edge distance $c \geq 10h_{ef}$ and axial spacing $s \geq 3h_{ef}$									
steel failure without lever arm	V_{zul}	[kN]	2,9	5,3	8,4	11,8	16,1	21,9	32,2
permissible bending moment	M_{zul}	[Nm]	4,4	10,9	21,8	36,6	58,4	93,2	170,6
component dimensions and assembly characteristic values									
characteristic axial spacing	$s_{cr,N}$	[mm]	120	144	165	195	225	252	309
characteristic axial spacing reduced	$s_{cr,N,red}$	[mm]	-	105	126	150	-	-	-
characteristic edge distance	$c_{cr,N}$	[mm]	60	72	83	98	113	126	155
characteristic edge distance reduced	$c_{cr,N,red}$	[mm]	-	53	63	75	-	-	-
minimum axial spacing	$s_{min} =$	[mm]	50	65	70	85	100	110	135
minimum edge distance	$c_{min} =$	[mm]	50	65	70	85	100	110	135
minimum structural component thickness	$h \geq$	[mm]	100	100	110	130	150	168	206
minimum structural component thickness reduced	$h_{red} \geq$	[mm]	-	100	100	100	-	-	-
nominal drill diameter	$d_n / d_b =$	[mm]	6	8	10	12	14	16	20
drill hole depth	$h_1 =$	[mm]	55	65	75	85	100	110	135
drill hole depth reduced	$h_{1,red} =$	[mm]	-	50	60	70	-	-	-
clearance hole in fixture to be attached	$d_r \leq$	[mm]	7	9	12	14	16	18	22
max. installation torque	$T_{inst} =$	[Nm]	7	20	35	60	90	120	240

¹⁾ permissible loads: in ETA settled partial safety factors γ_M and the safety factor for load $\gamma_F = 1,4$ are included.

²⁾ The concrete is considered to be normally reinforced or non-reinforced. For higher concrete strength classes an increase in performance of up to 55 % is possible.



anchor bolt - BN, BN GS, BN A4

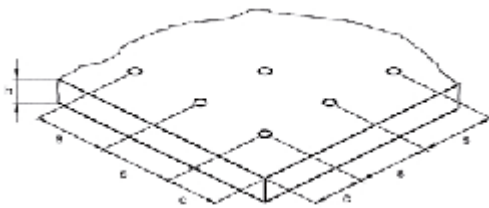
approved loads¹⁾,

For the design the complete ETA-13/1013 is to be observed.

type			BN A4 6	BN A4 8	BN A4 10	BN A4 12	BN A4 14	BN A4 16	BN A4 20
effective anchorage depth	h_{ef}	[mm]	40	48	55	65	-	84	103
effective anchorage depth reduced	$h_{ef,red}$	[mm]	-	35	42	50	-	-	-
overall anchor embed depth	h_{nom}	[mm]	49,5	59,5	66,5	77	-	103,5	125
overall anchor embed depth reduced	$h_{nom,red}$	[mm]	-	46,5	53,5	62	-	-	-
permissible tensile load¹⁾ of one single anchor without edge influence N_{zul}, i.e. edge distance $c \geq 1,5h_{ef}$ and axial spacing $s \geq 3h_{ef}$									
non-cracked concrete C20/25 ²⁾	N_{zul}	[kN]	3,9	5,7	6,3	9,9	11,9	13,9	19,8
non-cracked concret C20/25 ²⁾ reduced	N_{zul}	[kN]	3,9	4,3	5,7	7,6	-	-	-
permissible shear load¹⁾ of one single anchor without edge influence V_{zul}, i.e. edge distance $c \geq 10h_{ef}$ and axial spacing $s \geq 3h_{ef}$									
steel failure without lever arm	V_{zul}	[kN]	2,9	5,3	8,4	11,8	16,1	21,9	32,2
permissible bending moment	M_{zul}	[Nm]	4,4	10,9	21,8	36,6	58,4	93,2	170,6
component dimensions and assembly characteristic values									
characteristic axial spacing	$s_{\alpha,N}$	[mm]	120	144	165	195	225	252	309
characteristic axial spacing reduced	$s_{\alpha,N,red}$	[mm]	-	105	126	150	-	-	-
characteristic edge distance	$c_{\alpha,N}$	[mm]	60	72	83	98	113	126	155
characteristic edge distance reduced	$c_{\alpha,N,red}$	[mm]	-	53	63	75	-	-	-
minimum axial spacing	$s_{min} =$	[mm]	50	65	70	85	100	110	135
minimum edge distance	$c_{min} =$	[mm]	50	65	70	85	100	110	135
minimum structural component thickness	$h \geq$	[mm]	100	100	110	130	150	168	206
minimum structural component thickness reduced	$h_{red} \geq$	[mm]	-	100	100	100	-	-	-
nominal drill diameter	$d_0 / d_b =$	[mm]	6	8	10	12	14	16	20
drill hole depth	$h_1 =$	[mm]	55	65	75	85	100	110	135
drill hole depth reduced	$h_{1,red} =$	[mm]	-	50	60	70	-	-	-
clearance hole in fixture to be attached	$d_r \leq$	[mm]	7	9	12	14	16	18	22
max. installation torque	$T_{inst} =$	[Nm]	7	20	35	60	90	120	240

¹⁾ permissible loads: in ETA settled partial safety factors γ_M and the safety factor for load $\gamma_F = 1,4$ are included.

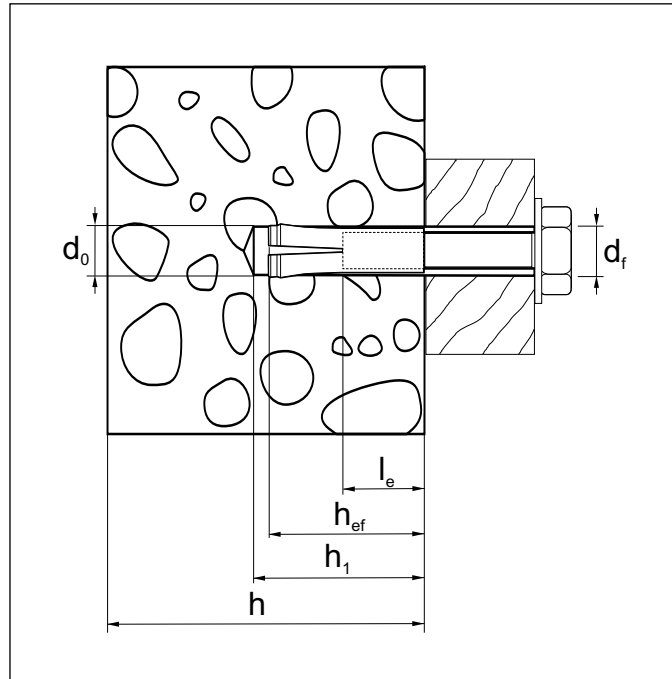
²⁾ The concrete is considered to be normally reinforced or non-reinforced. For higher concrete strength classes an increase in performance of up to 55 % is possible.



drop in anchor - EA



- the fixing can be reused after disassembly of attached part
- dirt resistant thread
- no installation torque needed



Notes

For installation the setting tool SW EA has to be used.
After drilling the drill hole has to be cleaned.
For the design the complete ETA-13/1014 is to be observed.

Suitability

ETA for:

- Cracked concrete C20/25 to C50/60, for multiple Fixing of non-load-bearing systems
- Non cracked concrete C20/25 to C50/60

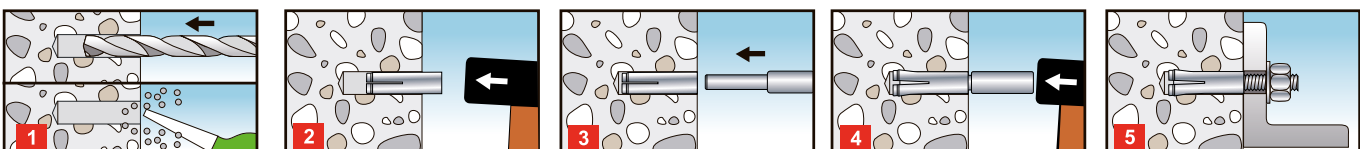
Also suitable for:

- Concrete C12/15
- Natural stone with dense structure

Characteristics / benefits

- universal, easy and fast installation in concrete
- high bearing capacity at low centre-to-centre and edge distances
- for varied using for middle an heavy duty fixings
- low drill hole depth needed
- R120 fire resistance class
- EA A4 - stainless steel A4 version for outdoor use and in damp conditions
- the metric internal thread is usable for standard metric screws or threaded rods

Installation



drop in anchor - EA

Technical Data



EA - drop in anchor



type	ref-no.	d ₀ drill hole Ø [mm]	L anchor length [mm]	h ₁ min. drilling depth [mm]	h _{ef} effective anchoring depth [mm]	d internal thread	l _{e,min} min. bolt penetration [mm]	l _{e,max} max. bolt pene- tration [mm]	qty. per box pcs [St./VE]
EA M6	38104	8	25	30	25	M6	6	11	100
EA M8	38153	10	30	32	30	M8	8	13	100
EA M10	38154	12	40	42	40	M10	10	15	50
EA M12	38107	15	50	53	50	M12	12	20	25
EA M16	38108	20	65	70	65	M16	16	25	20
EA M20	38109	25	80	85	80	M20	20	35	10



EA A4 - drop in anchor stainless steel A4



EA M6 A4	38110	8	25	30	25	M6	6	11	100
EA M8 A4	38111	10	30	32	30	M8	8	13	100
EA M10 A4	38112	12	40	42	40	M10	10	15	50
EA M12 A4	38113	15	50	53	50	M12	12	20	25
EA M16 A4	38114	20	65	70	65	M16	16	25	20



EA K - drop in anchor with collar



EA M6 K	38115	8	25	30	25	M6	6	11	100
EA M8 K	38116	10	30	32	30	M8	8	13	100
EA M10 K	38117	12	40	42	40	M10	10	15	50
EA M12 K	38118	15	50	53	50	M12	12	20	25
EA M16 K	38119	20	65	70	65	M16	16	25	20



SW EA - drop in anchor setting tool

SW EA M6	38098								1
SW EA M8	38155								1
SW EA M10	38156								1
SW EA M12	38101								1
SW EA M16	38102								1
SW EA M20	38103								1

drop in anchor - EA

approved¹⁾

For the design the complete ETA-13/0584 is to be observed.

type		EA 6 EA 6 K	EA 8 EA 8 K	EA 10 EA 10 K	EA 12 EA 12 K	EA 16 EA 16 K	EA 20
effective anchorage depth min	h_{ef} [mm]	25	30	40	50	65	80
permissible tensile load ¹⁾ of one single anchor without edge influence in cracked and non-cracked concrete C20/25 ²⁾ to C50/60 ²⁾ N_{zul} i.e. edge distance $c \geq c_{cr,N}$ and axial spacing $s \geq s_{cr,N}$							
cracked and non-cracked concrete	C20/25 [kN]	0,51	1,02	1,55	2,19	4,50	5,90
permissible shear load ¹⁾ of one single anchor without edge influence in cracked and non-cracked concrete C20/25 ²⁾ to C50/60 ²⁾ V_{zul} i.e. edge distance $c \geq c_{cr,N}$ and axial spacing $s \geq s_{cr,N}$							
cracked and non-cracked concrete	C20/25 [kN]	0,51	1,02	1,55	2,19	4,50	5,90
characteristic axial spacing	$s_{cr,N}$ [mm]	200	200	200	200	260	320
characteristic edge distance	$c_{cr,N}$ [mm]	150	150	150	150	195	240
minimum axial spacing ³⁾	s_{min} [mm]	105	105	220	220	220	225
minimum edge distance ³⁾	c_{min} [mm]	105	105	220	220	220	225
minimum structural component thickness	h_{min} [mm]	80	80	80	100	130	160
nominal drill diameter	d_0 [mm]	8	10	12	15	20	25
drill hole depth	h_0 [mm]	30	32	42	53	70	85
max. installation torque	T_{inst} [Nm]	4,5	11	22	38	98	130
min. bolt penetration	$l_{e,min}$ [mm]	6	8	10	12	16	20
max. bolt penetration	$l_{e,max}$ [mm]	11	13	15	20	25	35
clearance hole in fixture to be attached	d_f [mm]	7	9	12	14	18	22

¹⁾ permissible loads: in ETA settled partial safety factors $\gamma_{Mp}=2,1$ and the safety factor for load $\gamma_F = 1,4$ are included.

²⁾ The concrete is considered to be normally reinforced or non-reinforced.

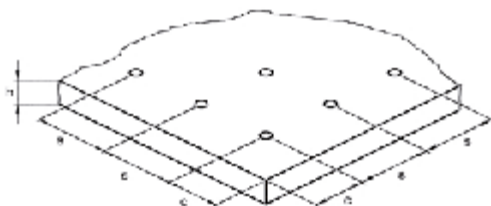
³⁾ While reducing the permissible load.

type		EA 6 A4	EA 8 A4	EA 10 A4	EA 12 A4	EA 16 A4
effective anchorage depth min	h_{ef} [mm]	25	30	40	50	65
permissible tensile load ¹⁾ of one single anchor without edge influence in cracked and non-cracked concrete C20/25 ²⁾ to C50/60 ²⁾ N_{zul} i.e. edge distance $c \geq c_{cr,N}$ and axial spacing $s \geq s_{cr,N}$						
cracked and non-cracked concrete	C20/25 [kN]	0,34	0,68	1,09	1,56	2,81
permissible shear load ¹⁾ of one single anchor without edge influence in cracked and non-cracked concrete C20/25 ²⁾ to C50/60 ²⁾ V_{zul} i.e. edge distance $c \geq c_{cr,N}$ and axial spacing $s \geq s_{cr,N}$						
cracked and non-cracked concrete	C20/25 [kN]	0,34	0,68	1,09	1,56	2,81
characteristic axial spacing	$s_{cr,N}$ [mm]	200	200	200	200	260
characteristic edge distance	$c_{cr,N}$ [mm]	150	150	150	150	195
minimum axial spacing ³⁾	s_{min} [mm]	200	200	200	200	260
minimum edge distance ³⁾	c_{min} [mm]	150	150	150	150	195
minimum structural component thickness	h_{min} [mm]	80	80	80	100	130
nominal drill diameter	d_0 [mm]	8	10	12	15	20
drill hole depth	h_0 [mm]	30	32	42	53	70
max. installation torque	T_{inst} [Nm]	4,5	11	22	38	98
min. bolt penetration	$l_{e,min}$ [mm]	6	8	10	12	16
max. bolt penetration	$l_{e,max}$ [mm]	11	13	15	20	25
clearance hole in fixture to be attached	d_f [mm]	7	9	12	14	18

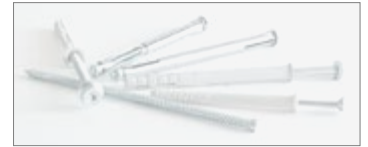
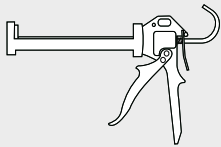
¹⁾ permissible loads: in ETA settled partial safety factors $\gamma_{Mp}=2,1$ and the safety factor for load $\gamma_F = 1,4$ are included.

²⁾ The concrete is considered to be normally reinforced or non-reinforced.

³⁾ While reducing the permissible load.



Chemical Fixings



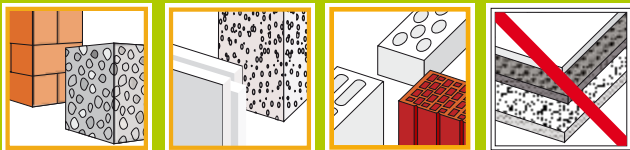
Chemical Fixings

Injection Resin - VM VE

NEW



1 VM VE 300 - Injection Resin 300 ml
2 Static mixer VSM



- for expansion pressure- and tension free anchorage
- for processing with thread rods or reinforcing steel
- styrene-free, therefore odourless and user-friendly processing
- opened cartridge can be used again with new static mixer
- 300 ml cartridge can be processed with silicon dispenser guns customary in trade

notices

- store mortar dry and cool, +5°C - +20°C
- do not use the first strokes (about 10 ml)
- only insert mortar into the drill hole when it is dyed evenly.
- after usage, the cartridge can be relocked and stored and can be used again with a new mixer.

Technical data



VM VE 300

type	ref-no.	contents	dispenser gun	qty. per box
VM VE 300	38068	1 cartridge 300 ml + 2 static mixer	VPK 1 / VPK 2	12



VSM - Static mixer

type	ref-no.	contents	qty. per box
VSM	33806	10 Static mixer	10

processing- and curing times für VM VE

cartridge temperature	processing time [min]	temperature at anchorage base	curing time [min]
Minimum cartridge temperature = 5°C	12	> -5°C - 0°C	1440
		> 0°C - 5°C	180
= 5°C	12	= 5°C	100
> 5°C - 10°C	8	> 5°C - 10°C	100
> 10°C - 15°C	4	> 10°C - 15°C	70
> 15°C - 20°C	4	> 15°C - 20°C	70
> 20°C - 25°C	3	> 20°C - 25°C	40
> 25°C - 30°C	2	> 25°C - 30°C	40
> 30°C - 35°C	1	> 30°C - 35°C	40

Suitability

ETA for:

without perforated sleeve: concrete, solid brick, solid lime sand stone, with perforated sleeve: perforated brick, hollow lightweight concrete, hollow lime sand stone, concrete hollow block

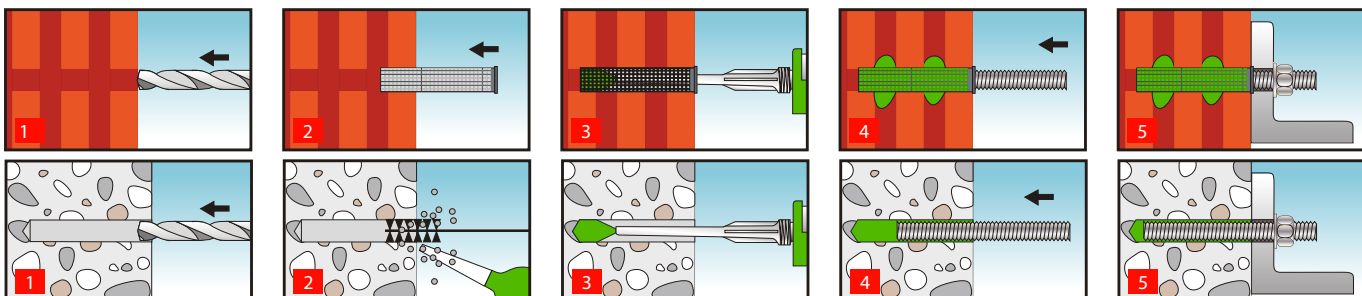
Also suitable for:

Natural stone with dense structure, solid lightweight concrete, hollow ceilings

Characteristics

- universal, applicable for almost all building materials and a broad field of application
- powerful 2-component resin-based mortar for high loads on vinyl ester basis

Installation



composite mortar accessories and technical data for concrete

accessories for processing in concrete



VG - Threaded stud, zinc plated steel grade 5.8
ETA: in connection with composite mortar VM VE

type	ref-no.	$h_{ef, min}$	$t_{fix, max.}$	$h_{ef, max.}$	$t_{fix, max.}$	$t_{fix, max.}$	qty. per box pcs
		[mm]	usable length with $h_{ef, min}$ [mm]	[mm]	usable length with $h_{ef, max.}$ [mm]	with VIG ¹⁾ [mm]	
VG M 8 x 110 5.8	36690	64	36	96	4	70	10
VG M 8 x 130 5.8	36691	64	56	96	24	90	10
VG M 10 x 110 5.8	36692	80	17	120	-	67	10
VG M 10 x 130 5.8	36693	80	37	120	-	87	10
VG M 10 x 150 5.8	36694	80	57	120	17	107	10
VG M 12 x 140 5.8	36695	96	28	144	-	94	10
VG M 12 x 160 5.8	36696	96	48	144	-	114	10
VG M 12 x 180 5.8	36697	96	68	144	20	134	10
VG M 16 x 175 5.8	37176	128	26	192	-	-	10
VG M 16 x 200 5.8	37177	128	51	192	-	-	10

¹⁾ not part of ETA



VB - Cleaning brush steel
Suitability: cleaning of drill holes in concrete

type	ref-no.	for drill hole \emptyset [mm]		for threaded rod	qty. per box pcs
		10 - 12	14 - 18		
VB 14	38269	10 - 12	VIG M8, VIG M10	1	1
VB 20	38270	14 - 18	VIG M12, VIG M16	1	1
VB 29	38272	22 - 26	VIG M20, VIG M24	1	1

Chemical Fixings

Technical data for processing of composite mortar VM VE in concrete

Data are based on processing threaded rods zinc plated steel grade 5.8.
 For the design the complete ETA-13/005 is to be observed.

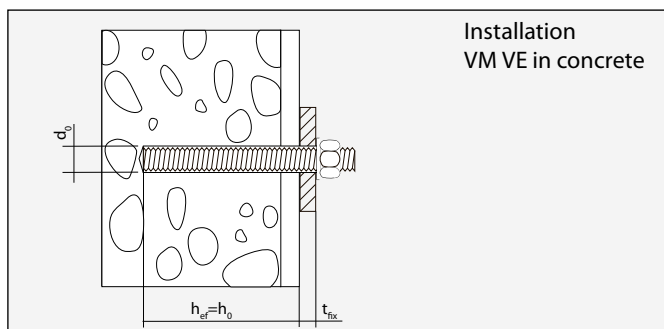


anchor type		VG M 8	VG M 10	VG M 12	VG M 16	VG M 20	VG M 24						
effective anchorage depth min	h_{ef} [mm]	64	-	80	-	128	-	160	-	192	-		
effective anchorage depth max	h_{ef} [mm]	-	96	-	120	-	144	-	192	-	240	-	288
permissible central tension load ¹⁾ of a single anchor without edge influence in non-cracked concrete C20/252) e.g. edge distance $c \geq c_{cr,N}$ and axial spacing $s \geq s_{cr,N}$	C20/25 [kN]	7,02	8,57	9,47	13,81	14,36	20,00	25,53	37,62	35,90	53,86	45,96	68,94
permissible shear load ¹⁾ of one single anchor without edge influence in cracked and non-cracked concrete C20/252), i.e. edge distance $c \geq c_{cr,N}$ and axial spacing $s \geq s_{cr,N}$	C20/25 [kN]	5,14	5,14	8,57	8,57	12,00	12,00	21,34	22,29	30,79	34,86	41,54	50,29
characteristic axial spacing	$s_{cr,N}$ [mm]	192	288	240	360	288	432	384	576	480	720	576	864
characteristic edge distance	$c_{cr,N}$ [mm]	96	144	120	180	144	216	192	288	240	360	288	432
minimum axial spacing ³⁾	s_{min} [mm]	35	50	40	60	50	70	65	95	80	120	95	145
minimum edge distance ³⁾	c_{min} [mm]	35	50	40	60	50	70	65	95	80	120	95	145
minimum structural component thickness	h_{min} [mm]	100	126	110	150	126	174	158	222	204	284	244	340
nominal drill diameter	d_0 [mm]	10	10	12	12	14	14	18	18	22	22	26	26
drill hole depth	h_0 [mm]	64	96	80	120	96	144	128	192	160	240	192	288
max. installation torque	T_{inst} [Nm]	10	10	20	20	40	40	80	80	150	150	200	200

¹⁾ permissible loads: in ETA settled partial safety factors $\gamma_{Mpd} = 1,8$ and the safety factor for load $\gamma_F = 1,4$ are included.

²⁾ The concrete is considered to be normally reinforced or non-reinforced.

³⁾ While reducing the permissible load.



composite mortar accessories and technical data for masonry

accessories for processing in masonry



VSH - perforated sleeves

Suitability: threaded stud VG or Threaded sleeve VIG in perforated bricks and hollow blocks

type	ref-no.	ØH	LH	LB	ØS		qty. per box pcs
		Ø sleeve = Ø drill bit [mm]	sleeve length [mm]	min. drill depth [mm]	threaded stud	internal threaded sleeve	
VSH 12 ¹⁾	33804	12	50	60	M 6 - M 8	-	50
VSH 15	33805	15	85	90	VG M8, VG M10	VIG M8	20
VSH 16	38267	16	85	90	VG M8, VG M10	VIG M8	20
VSH 20	38268	20	85	90	VG M12	VIG M10, VIG M12	10



VIG - internal threaded sleeve, zinc plated steel grade 5.8,

Suitability: with perforated sleeve VSH in perforated bricks and hollow blocks, without perforated sleeve in solid base materials

type	ref-no.	Ø drill bit [mm]	min. drill depth [mm]	screw in depth [mm]	internal thread diameter	for threaded stud	qty. per box pcs
VIG M 8	36669	15 - 16	90	30	M8	VSH 15 VSH 16	20
VIG M 10	36478	20	90	30	M10	VSH 20	20
VIG M 12	36670	20	90	30	M12	VSH 20	20



VG - Threaded stud, zinc plated steel grade 5.8

Suitability: in connection with composite mortar VM VE and perforated sleeve in for instance perforated brick, hollow block without perforated sleeve in solid base materials

type	ref-no.	t _{fix} max. usable length without VSH [mm]	t _{fix} max. usable length with VSH [mm]	t _{fix} max. usable length with VIG [mm]	suitable to	qty. per box pcs
		VG M 8 x 110 5.8	36690	25		
VG M 8 x 130 5.8	36691	45	35	90	VSH 15, VSH 16	10
VG M 10 x 110 5.8	36692	25	12	67	VSH 15, VSH 16	10
VG M 10 x 130 5.8	36693	45	32	87	VSH 15, VSH 16	10
VG M 10 x 150 5.8	36694	65	52	107	VSH 15, VSH 16	10
VG M 12 x 140 5.8	36695	55	39	94	VSH 20	10
VG M 12 x 160 5.8	36696	75	59	114	VSH 20	10
VG M 12 x 180 5.8	36697	95	79	134	VSH 20	10
VG M 16 x 175 5.8 ¹⁾	37176	90	-	-	-	10
VG M 16 x 200 5.8 ¹⁾	37177	115	-	-	-	10

¹⁾ not part of ETA



VB - Cleaning brush

Suitability: cleaning of drill holes in masonry

type	ref-no.	for drill hole diameter [mm]	for threaded rod diameter	for perforated sleeve	for internal threaded sleeve	sales unit pcs
VB 20	38270	15 - 16	VG M8, VG M10	VSH 15, VSH 16	VIG M8	1
VB 22	38271	20	VG M12	VSH 20	VIG M10, VIG M12	1

Technical data for processing of composite mortar VM VE in masonry

Data are based on processing threaded rods zinc plated steel grade 5.8.

For the design the complete ETA-13/005 is to be observed.

anchor type	seize	threaded rods						internal threaded sleeve			
		M8	M10	M12	M8	M10	M12	M8	M10	M12	
perforated sleeve VSH		-	-	-	VSH 15 / VSH 16	VSH 15 / VSH 16	VSH 20	VSH 15 / VSH 16	VSH 20	VSH 20	
permissible loads											
1) HLz	perforated brick	[kN]	0,57	0,57	0,57	0,57	0,57	0,57	0,71	0,57	0,57
2) KSL	hollow sand-lime brick	[kN]	0,09	0,09	0,11	0,09	0,09	0,11	0,09	0,09	0,14
3) Mz	solid brick	[kN]	0,26	0,17	0,34	0,26	0,17	0,34	0,26	0,43	0,43
4) KS	solid sand-lime brick	[kN]	0,17	0,14	0,17	0,17	0,14	0,17	0,17	0,14	0,14
5) HLzW	perforated brick	[kN]	0,17	0,14	0,14	0,17	0,14	0,14	0,09	-	0,14
6) Hbl 2	hollow brick of lightweight aggregate concrete	[kN]	0,11	-	0,14	0,11	-	0,14	-	0,09	0,17
7) Hbl 4-0,7	hollow brick of lightweight aggregate concrete	[kN]	0,26	0,21	0,17	0,26	0,21	0,17	0,21	0,17	0,26
8) Hbl 4-12	hollow block of concrete	[kN]	0,34	0,34	0,34	0,34	0,34	0,34	-	0,26	0,21
nominal drill diameter	d ₀	[mm]	15	15	20	15 / 16	15 / 16	20	15 / 16	20	20
drill hole depth	h ₀	[mm]	90	90	90	90	90	90	90	90	90
anchorage depth	h _{ef}	[mm]	85	85	85	85	85	85	80	80	80
cleaning brush			VB 20	VB 20	VB 22	VB 20	VB 20	VB 22	VB 20	VB 22	VB 22
Durchgangsloch im anzuschließenden Bauteil	d _f		9	12	14	9	12	14	9	12	14
max. installation torque	T _{inst}	[Nm]									2 ¹⁾

¹⁾ for brick Nr. 5) HLzW T_{inst} ≤ 1 Nm

Technical data for masonry

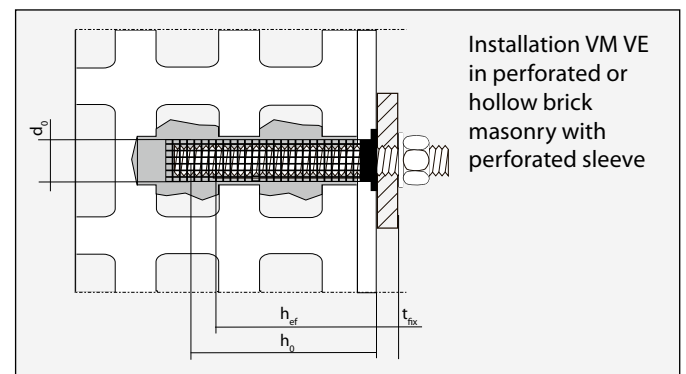
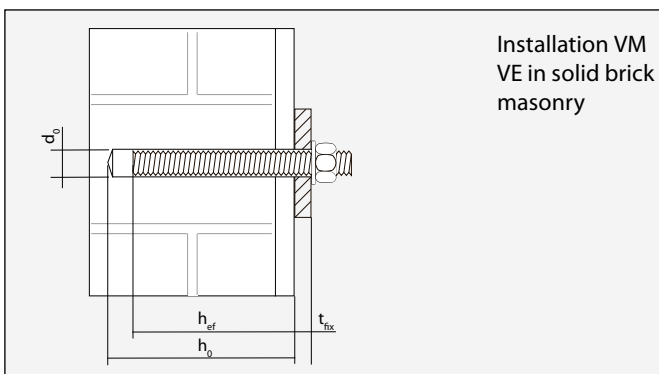
Technical data for processing of composite mortar VM VE in masonry

Data are based on processing threaded rods zinc plated steel grade 5.8.

For the design the complete ETA-13/005 is to be observed.

anchor type		threaded rods												internal threaded sleeve					
seize		M8		M10		M12		M8		M10		M12		M8		M10		M12	
perforated sleeve VSH		-		-		-		VSH 15 / VSH 16		VSH 15 / VSH 16		VSH 20		VSH 15 / VSH 16		VSH 20		VSH 20	
		S_{min}	S_{cr}	S_{min}	S_{cr}	S_{min}	S_{cr}	S_{min}	S_{cr}	S_{min}	S_{cr}	S_{min}	S_{cr}	S_{min}	S_{cr}	S_{min}	S_{cr}	S_{min}	S_{cr}
		C_{min}		C_{min}		C_{min}		C_{min}		C_{min}		C_{min}		C_{min}		C_{min}		C_{min}	
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
1) HLz	perforated brick	100	235	100	235	120	235	100	235	100	235	120	235	100	235	120	235	120	235
2) KSL	hollow sand-lime brick	100	250	100	250	120	250	100	250	100	250	120	250	100	250	120	250	120	250
3) Mz	solid brick	50	160	50	200	60	240	50	160	50	200	60	240	50	240	60	280	60	320
4) KS	solid sand-lime brick	50	160	50	200	60	240	50	160	50	200	60	240	50	240	60	280	60	320
5) HLzW	perforated brick	100	250	100	250	120	250	100	250	100	250	120	250	100	250	-	-	120	250
6) Hbl 2	hollow brick of lightweight aggregate concrete	100	250	-	-	120	250	100	250	-	-	120	250	100	-	120	250	120	250
7) Hbl 4-0,7	hollow brick of lightweight aggregate concrete	100	250	100	250	120	250	100	250	100	250	120	250	100	250	120	250	120	250
8) Hbl 4-12	hollow block of concrete	100	370	100	370	120	370	100	370	100	370	120	370	-	-	120	370	120	370

Brick	VG			VIG		
	VG M8	VG M10	VG M12	VIG M8	VIG M10	VIG M12
	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
1) HLz	2,0	2,0	2,0	2,5	2,0	2,0
2) KSL	0,3	0,3	0,4	0,3	0,3	0,5
3) Mz	0,9	0,6	1,2	0,9	1,5	1,5
4) KS	0,6	0,5	0,6	0,6	0,5	0,5
5) HLzW	0,6	0,5	0,5	0,3	-	0,5
6) Hbl 2	0,4	-	0,5	-	0,3	0,6
7) Hbl 4-0,7	0,9	0,75	0,6	0,75	0,6	0,9
8) Hbl 4-12	1,2	1,2	1,2	-	0,9	0,75



general composite mortar accessories

Technical Data



VKP 1 - dispenser gun for DIY experts

Suitability: 150 ml, 160 ml, 300 ml Kartuschen

type	ref-no.	type	qty. per box pcs
VKP1	36679	dispenser gun VKP 1	1



VKP 2 - dispenser gun for professionals

Suitability: 150 ml, 160 ml, 300 ml cartridge

type	ref-no.	type	qty. per box pcs
VKP 2	36680	dispenser gun VKP 2	1



VKP 3 - dispenser gun

Suitability: 345 ml cartridge

type	ref-no.	type	qty. per box pcs
VKP 3	36681	dispenser gun VKP 3	1



VKP 4 - dispenser gun

Suitability: 380 ml cartridge

type	ref-no.	type	qty. per box pcs
VKP 4	37337	dispenser gun VKP 4	1

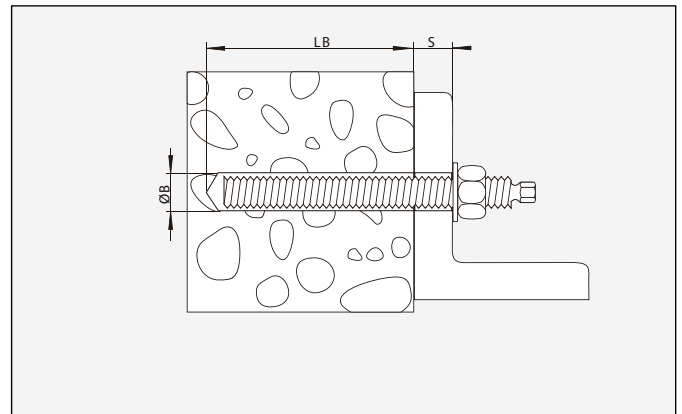
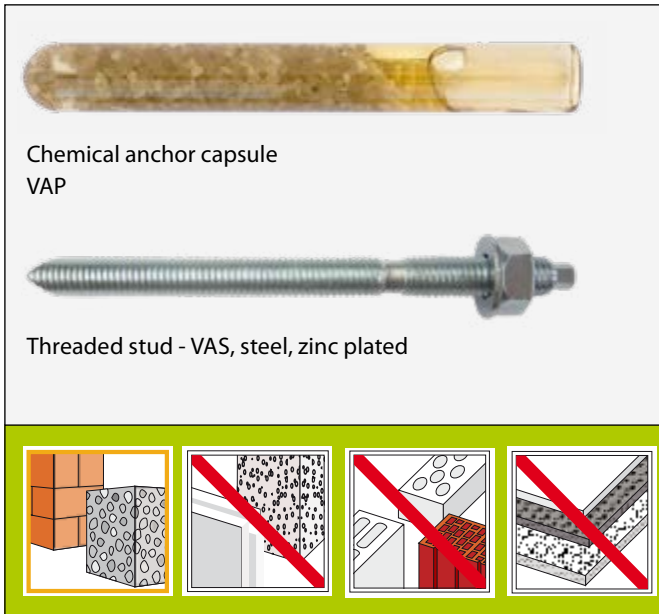


VKA - air punp

Suitability: cleaning of drill holes

type	ref-no.	using	qty. per box pcs
VKA	36678	for all drill holes	1

Chemical Anchor System - VAP



Technical Data



VAP - chemical anchor capsule

type	ref.-no.	ØB Ø drill bit [mm]	LB drill depth [mm]	qty. per box pcs.
VAP M 8	33807	10	80	10
VAP M10	33808	12	90	10
VAP M12	33809	14	110	10

more sizes available upon request



VAS - threaded stud, steel, zinc plated

type	ref.-no.	L total length [mm]	S max. Fixing thickness [mm]	qty. per box pcs.
VAS M 8 x 110	33810	110	13	10
VAS M 10 x 130	33811	130	20	10
VAS M 12 x 160	33812	160	25	10

more sizes available upon request

Suitability

Base materials:
concrete and solid natural stone

For fixing of:
steel constructions, balustrades, consoles, ladders, cable trays,
machines, stairs, gates, facade constructions, window elements,
stand-off constructions

Characteristics

- simple installation
- expansion- and tension-free anchorage
- efficient and economic serial installations
- suitable for dry and wet base material
- European technical approval for anchorings in uncracked concrete

Advice

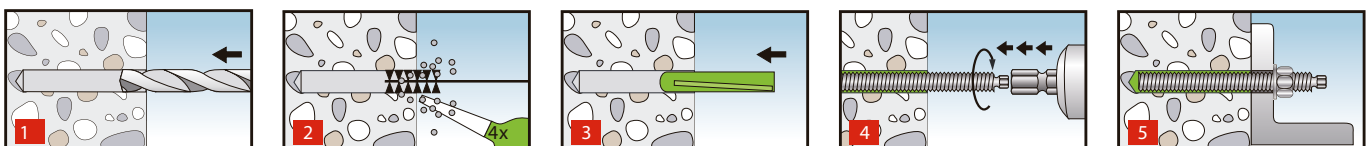
The maximum load can only be achieved if:

- the drill hole is cleaned (use brush and airpump)
- the drill hole dimensions correspond to those stated by the manufacturer
- the threaded stud is installed as per the instructions, i.e. with rotation and percussion, and the curing times are being observed

processing- and curing times for VAP

temperature in anchorage	curing time [min]
-5°C - 0°C	360
0°C - 5°C	180
5°C - 10°C	90
10°C - 20°C	40
> 20°C	20

Installation



Chemical Anchor System - VAP

Characteristic values of resistance

Please consider the entire approval documents ETA-08/0231

Anchor size			M8	M10	M12	M16	M20	M24
steel ailure for anchor rods made of galvanised steel, strength class 5.8								
characteristic resistance	$N_{Rk,s}$	[kN]	17	26	38	72	114	165
partial safety factor	$M_s^{1)}$		1,56	1,56	1,56	1,56	1,56	1,56
pullout failure in concrete C20/25 to C50/60								
characteristic resistance in non-cracked concrete ²⁾	$N_{Rk,p}$	[kN]	9	12	16	25	40	60
partial safety factor in dry and wet concrete	M_c		1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾
partial safety factor on flooded holes	M_c		-	-	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾
breakout and splitting failure								
minimum thickness of member	h_{min}	[mm]	110	120	150	160	220	300
partial safety factor in dry and wet concrete	M_c		1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾
partial safety factor on flooded holes	M_c		-	-	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾	1,8 ³⁾
spacing and edge distance								
edge distance	$c_{cr,N}$	[mm]	120	135	165	190	255	315
spacing	$s_{cr,N}$	[mm]	240	270	330	380	510	630

Characteristic values of resistance to shear load

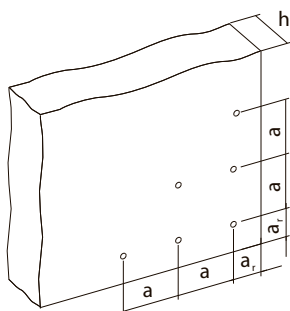
Anchor size			M8	M10	M12	M16	M20	M24
Steel ailure without lever arm for anchor rods made of galvanised steel, strength class 5.8								
Characteristic resistance	$V_{Rk,s}$	[kN]	8	13	19	36	57	83
Characteristic bending moment	$M_{Rk,s}^{0, 1)}$	[Nm]	16	30	56	144	285	498
Partial safety factor	$M_s^{1)}$		1,30	1,30	1,30	1,30	1,30	1,30
Concrete breakout								
Concrete edge failure								
Effective length of anchor in shear loading	l_f	[mm]	80	90	110	125	170	210
Outside diameter of anchor	d_{nom}	[mm]	10	12	14	18	25	28
Partial safety factor	$M_c^{1)}$		1,50 ⁴⁾	1,50 ⁴⁾	1,50 ⁴⁾	1,50 ⁴⁾	1,50 ⁴⁾	1,50 ⁴⁾
Installation parameters								
Depth of drill hole	h_0	[mm]	80	90	110	125	170	210
Nominal diameter of drill hole	d_0	[mm]	10	12	14	18	25	28
Cutting diameter of drill hole	d_{cut}	[mm]	10,45	12,45	14,5	18,5	25,5	28,5
Diameter of clearance hole in fixture	d_f	[mm]	9	12	14	18	22	26
Installation torque	T_{inst}	[Nm]	10	20	40	60	120	150
Minimum edge distance	c_{min}	[mm]	60	70	85	95	130	160
Minimum spacing	s_{min}	[mm]	60	70	85	95	130	160

Recommended loads per dowel for all load directions [kN]

Recommended values for concrete $f_c=20 \text{ N/mm}^2$ and an anchor rod machining steel property class 5.8.

For the dimensioning, the complete approval document (ETA-08/0231) must be observed.

Anchor size			M8	M10	M12	M16	M20	M24
Depth of drill hole	h_v	[mm]	80	90	110	125	170	210
Nominal diameter of drill hole		[mm]	10	12	14	18	25	28
Empfohlene Last pro Dübel		[kN]	8	13	19	36	57	83



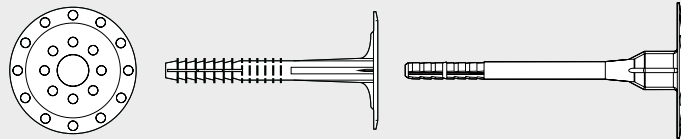
¹⁾ in absence of other national regulations

²⁾ max. long term temperature / max. short term temperature

³⁾ the installation safety factor $\gamma = 1,2$ is included 2

⁴⁾ the installation safety factor $\gamma = 1,0$ is included

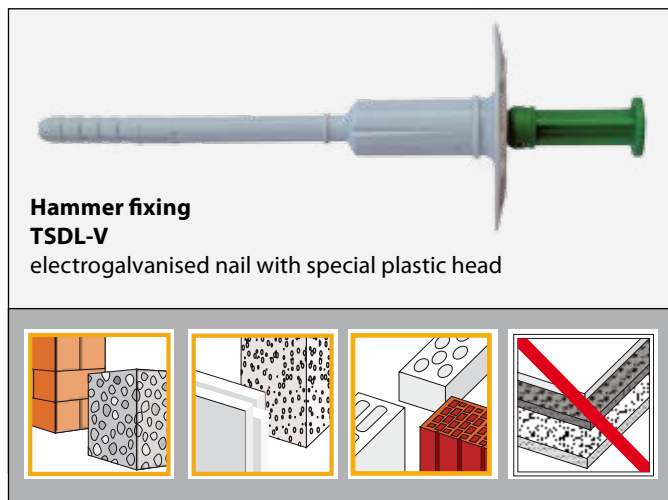
Insulation Material Fixings



Insulation Material Fixings



Hammer fixing – TSDL-V



**Hammer fixing
TSDL-V**
electrogalvanised nail with special plastic head

Suitability

Approved for:

ETA for: concrete, full bricks and perforated bricks
(Utilisation category: A - B - C)

Also suitable for:

Natural stone with dense structure, lightweight concrete full block and hollow block, aerated concrete

Suitable for the fixation of:

different insulation materials, e.g. in external thermal insulation composite systems (WDVS)

Characteristics

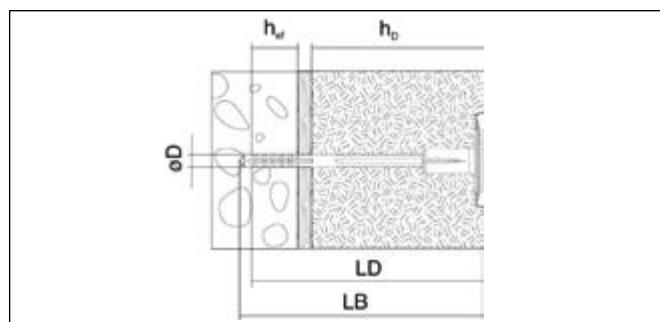
- fastening system, consisting of expansion dowel with holding plate and expansion nail with special head
- special head prevents unwanted heat loss and forms an additional corrosion protection
- Holding plate with mortar-grippable surface which is also optimally adapted as carrier for plaster
- Pre-mounted fastening units reduce the mounting work
- European technical approval as multi-use fastening for the anchoring of bonded thermal insulation composite systems inspected according to ETAG 004
- meets all requirements of the usage category A, B and C
- according to ÖNORM B 6124 and meets all requirements for the utilisation categories A and B.
- approved in combination with the insulation disk DSB also for soft dimensionally stable insulation materials

Remarks

After the drilling process, the drill hole has to be brushed or blown out. Old plaster is no stable ground. Accordingly, a larger size of the depth of the drill hole and the dowel length is to be selected.

Innovations, Aadvantages:

- optimally formed expansion area for a better stability in materials
- extended expansion area for a secure hold in »problematic materials«
- particularly for the flush mounting of the dowel plate in the insulation material modified head area
- sealing of the special head offers optimal protection against moisture, corrosion and prevents heat loss
- optimal strength values up to a length of 300 mm
- thermal bridge optimised for a thermal transmission coefficient of 0.002 W/K



Technical data



TSDL-V - Hammer fixing

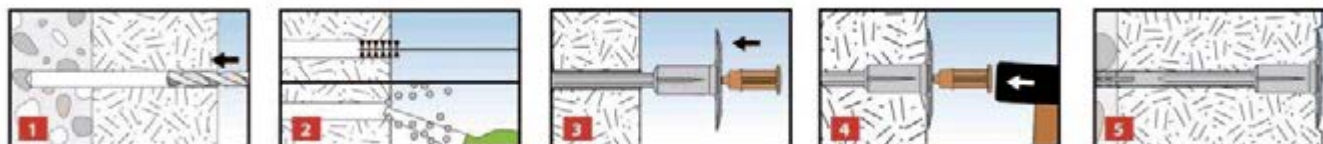
distribution exclusively to system providers

type	ref.-no	ø anchor ø drill in mm	colour special head	anchor length [mm]	min. drill- hole depth [mm]	eff. anchorage depth [mm]	h _d	h _o	h _o	insulation strength		qty. per box pcs.
										new building incl. glue + 20 mm existing stucco	old building incl. glue + 20 mm existing stucco	
TSDL-V 8 x 120	37966	8	yellow	120	130	30	80	60	200			
TSDL-V 8 x 140	37967	8	green	140	150	30	100	80	200			
TSDL-V 8 x 160	37968	8	white	160	170	30	120	100	200			
TSDL-V 8 x 180	37969	8	orange	180	190	30	140	120	200			
TSDL-V 8 x 200	37970	8	braun	200	210	30	160	140	200			
TSDL-V 8 x 220	37971	8	blue	220	230	30	180	160	100			
TSDL-V 8 x 240	37972	8	red	240	250	30	200	180	100			
TSDL-V 8 x 260	37973	8	green	260	270	30	220	200	100			
TSDL-V 8 x 280	37974	8	white	280	290	30	240	220	100			
TSDL-V 8 x 300	37975	8	grey	300	310	30	260	240	100			

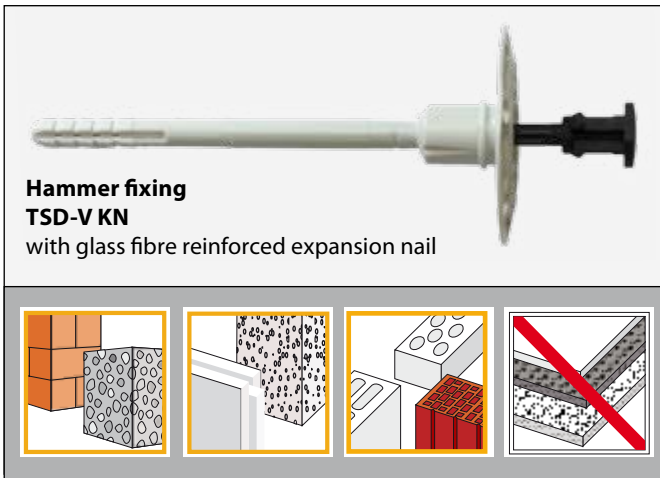
Permissible Loads

see table on page 82

Installation



Hammer fixing TSD-V KN



Hammer fixing TSD-V KN
with glass fibre reinforced expansion nail

Suitability

Approved for:

ETA for: concrete, full bricks and perforated bricks
(Utilisation category: A - B - C)

Also suitable for:

Natural stone with dense structure, lightweight concrete full block and hollow block, aerated concrete

Suitable for the fixation of:

different insulation materials, e.g. in external thermal insulation composite systems (WDVS)

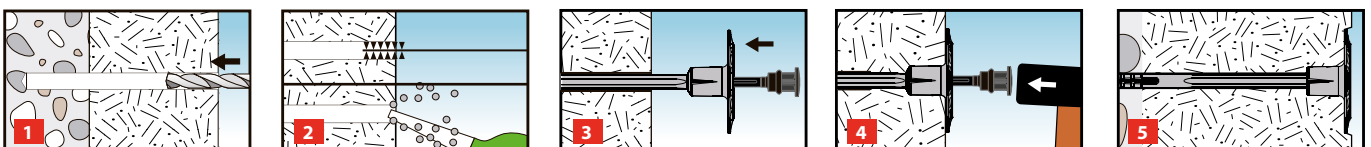
Characteristics

- fastening system, consisting of expansion dowel with holding plate and plastic nail
- Optimized expansion area in proven KEW tripartition for high security in many underlying surfaces
- plastic nail prevents heat loss and protects against penetrating moisture
- Holding plate with mortar-grippable surface which is also optimally adapted as carrier for plaster
- Pre-mounted fastening units reduce the mounting work
- European technical approval as multi-use fastening for the anchoring of bonded thermal insulation composite systems inspected according to ETAG 004
- according to ÖNORM B 6124 and meets all requirements for the utilisation categories A and B
- approved in combination with the insulation disk DSB also for soft dimensionally stable insulation materials

Remarks

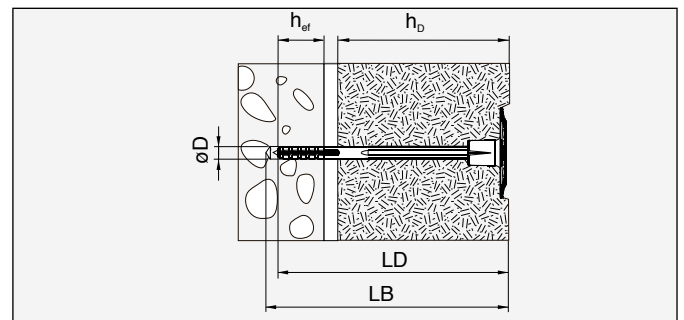
After the drilling process, the drill hole has to be brushed or blown out. Old plaster is no stable ground. Accordingly, a larger size of the depth of the drill hole and the dowel length is to be selected.

Installation



Innovations, Advantages:

- optimally formed expansion area for a better stability in materials
- extended expansion area for a secure hold in »problematic materials«
- particularly for the flush mounting of the dowel plate in the insulation material modified head area
- unique glass fibre reinforced plastic nail ensures optimal strength values up to a length of 300 mm
- plastic nail with profiling for higher static loads
- thermal bridge optimised for a thermal transmission coefficient of 0.000 W/K



Technical data



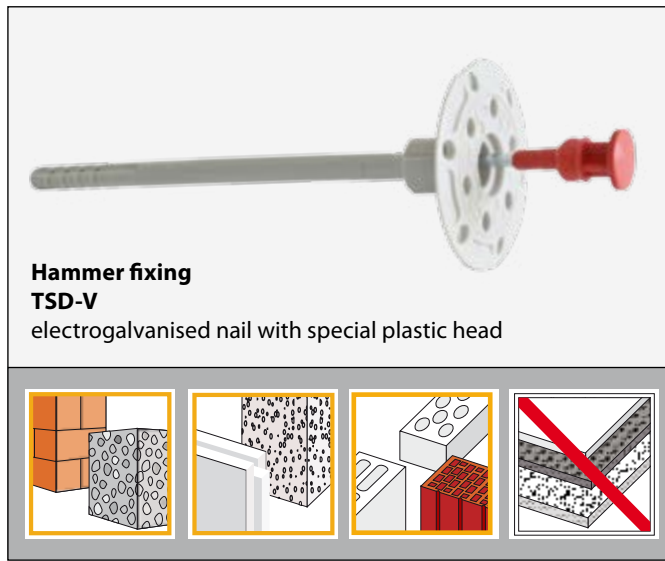
TSD-V - Hammer fixing

type	ref.-no	Ø anchor Ø drill in mm	colour special head	anchor length [mm]	min. drill- hole depth [mm]	eff. anchorage depth [mm]	insulation strength		qty. per box
							new building +10mm glue	old building +20 mm incl. glue existing stucco	
TSD-V 8 x 100 KN	37979	8		100	110	30	60	40	200
TSD-V 8 x 120 KN	37980	8		120	130	30	80	60	200
TSD-V 8 x 140 KN	37981	8		140	150	30	100	80	200
TSD-V 8 x 160 KN	37982	8		160	170	30	120	100	200
TSD-V 8 x 180 KN	37983	8		180	190	30	140	120	200
TSD-V 8 x 200 KN	37984	8		200	210	30	160	140	200
TSD-V 8 x 220 KN	37985	8		220	230	30	180	160	100
TSD-V 8 x 240 KN	37986	8		240	250	30	200	180	100
TSD-V 8 x 260 KN	37987	8		260	270	30	220	200	100
TSD-V 8 x 280 KN	37988	8		280	290	30	240	220	100
TSD-V 8 x 300 KN	37989	8		300	310	30	260	240	100

Permissible Loads

see table on page 82

Hammer fixing – TSD-V



Suitability

Approved for:

ETA for: concrete, full bricks and perforated bricks
(Utilisation category: A - B - C)

Also suitable for:

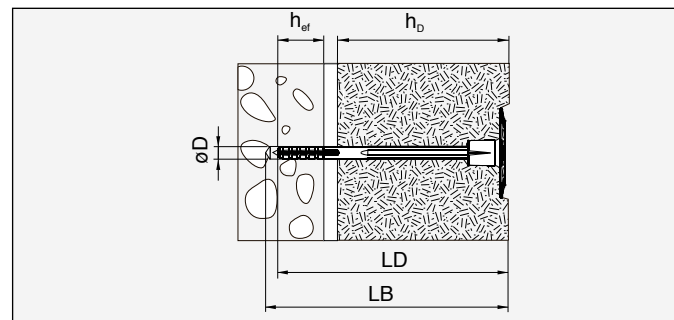
Natural stone with dense structure, lightweight concrete full block and hollow block, aerated concrete

Suitable for the fixation of:

different insulation materials, e.g. in external thermal insulation composite systems (WDVS)

Innovations, Advantages:

- optimally formed expansion area for a better stability in materials
- extended expansion area for a secure hold in »problematic materials«
- particularly for the flush mounting of the dowel plate in the insulation material modified head area
- particularly further developed sealing of the special head for the protection of the steel nail and the prevention of heat losses
- special nail with profiling for higher static loads
- the first hammer in dowel which meets the requirements of the ÖNORM B 6124 for the utilisation category C



Technical data



TSD-V - Hammer fixing

type	ref.-no	Ø D		LD	LB	h _{ef}	h _b	h ₃	insulation strength new building +10mm glue existing stucco	insulation strength old building +20 mm	qty. per box pcs.
		Ø anchor	Ø drill in mm								
TSD-V 8 x 100	37380	8	beige	100	110	30	60	40	200		
TSD-V 8 x 120	37381	8	yellow	120	130	30	80	60	200		
TSD-V 8 x 140	37382	8	green	140	150	30	100	80	200		
TSD-V 8 x 160	37383	8	white	160	170	30	120	100	200		
TSD-V 8 x 180	37384	8	orange	180	190	30	140	120	200		
TSD-V 8 x 200	37385	8	brown	200	210	30	160	140	200		
TSD-V 8 x 220	37386	8	blau	220	230	30	180	160	100		
TSD-V 8 x 240	37387	8	red	240	250	30	200	180	100		
TSD-V 8 x 260	37388	8	green	260	270	30	220	200	100		
TSD-V 8 x 280	37389	8	white	280	290	30	240	220	100		
TSD-V 8 x 300	37390	8	grey	300	310	30	260	240	100		

Characteristics

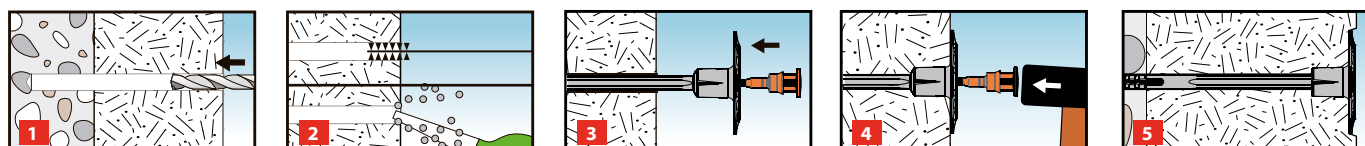
- Fastening system consisting of expansion dowel with holding plate and nail with special head
- Optimized expansion area in proven KEW tripartition for high security in many underlying surfaces
- Special head prevents heat losses and protects the nail against entering humidity
- Holding plate with mortar-grippable surface which is also optimally adapted as carrier for plaster
- Pre-mounted fastening units reduce the mounting work
- European technical approval as multi-use fastening for the anchoring of bonded thermal insulation composite systems inspected according to ETAG 004
- meets all requirements of the usage category A, B, C and D

Advice

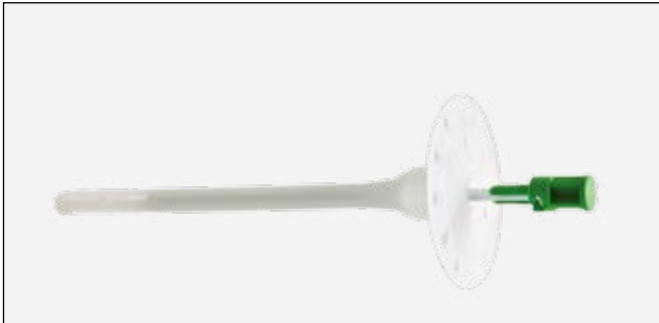
After the drilling process, the drill hole has to be brushed or blown out. Old plaster is no stable ground. Accordingly, a larger size of the depth of the drill hole and the dowel length is to be selected.

Permissible Loads

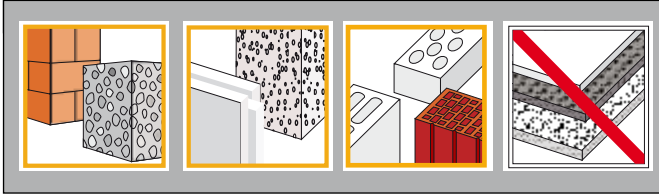
see table on page 82



Hammer fixing - TSD



Hammer fixing TSD
zinc plated steel nail with special plastic head



Suitability

Base materials:
concrete, natural stone, solid brick, limited suitability for hollow brick, hollow block, aircrete

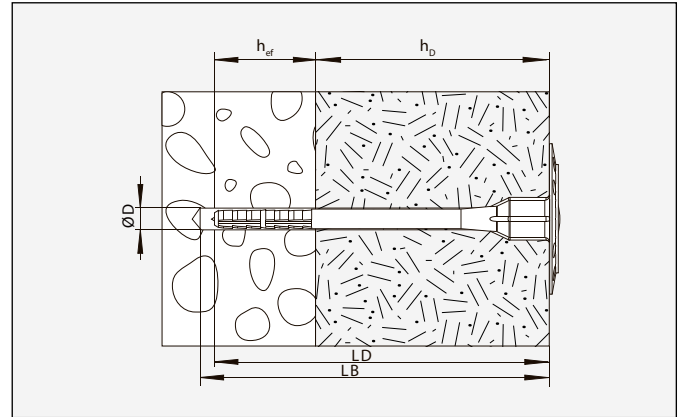
For fixing of:
various types of insulation material, good plaster adhesion (ex.: for composite insulation systems)

Characteristics

- fixing system consisting of expansion plug with retaining disc and expansion nail with special head
- special head type prevents unnecessary leakage of heat and offers additional corrosion protection
- the special disc profile allows optimum adhesion of plaster
- pre-assembled units for reduced installation efforts with European Technical Approval as multiple
- fixing of glued composite insulation systems acc. to ETAG 004

Advice

The drill hole must be cleaned with brush and airpump. As existing render/ plaster may not be considered as base material a longer plug as well as a correspondingly deeper drill hole are required.



Technical Data



TSD - with zinc plated steel nail
Sale only to system provider

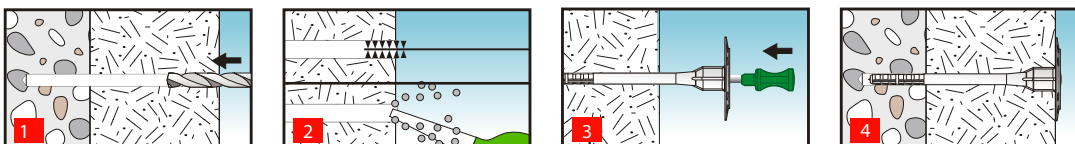
type	ref.-no.	Ø plug Ø bit [mm]	color of nail	length of plug [mm]	min. drill depth [mm]	min. depth of anchoring [mm]	insulation strength incl. glue [mm]	h _b insulation strength old building incl. glue + 20 mm existing stucco [mm]	h _b insulation strength old building incl. glue + 20 mm existing stucco [mm]	qty. per box pcs.
TSD 8 x 80	36309	8	red	80	90	40	40	-	200	
TSD 8 x 100	36310	8	beige	100	110	40	60	40	200	
TSD 8 x 120	36311	8	yellow	120	130	40	80	60	200	
TSD 8 x 140	36312	8	green	140	150	40	100	80	200	
TSD 8 x 160	36313	8	white	160	170	40	120	100	200	
TSD 8 x 180	36314	8	orange	180	190	40	140	120	200	
TSD 8 x 200	36315	8	brown	200	210	40	160	140	200	
TSD 8 x 220	36316	8	blue	220	230	40	180	160	100	
TSD 8 x 240	36317	8	red	240	250	40	200	180	100	
TSD 8 x 260	36318	8	green	260	270	40	220	200	100	
TSD 8 x 280	36319	8	white	280	290	40	240	220	100	
TSD 8 x 300	36320	8	grey	300	310	40	260	240	100	

Insulation Material Fixings

Allowable loads

Load table as shown page 78

Installation



ThermoScrew Gecko U8 - TS Gecko U8

NEW



**ThermoScrew Gecko U8
TS Gecko U8**
anchor with zinc plated steel screw and special plastic screw head






Characteristics

- one dowel for all insulation thicknesses of 100-400 mm
- suitable for all usual insulation boards (EPS, XPS, PU, mineral wool, phenolic resin)
- innovative expansion area of 30 mm provides for optimal fastening in all commercial building materials
- a high degree of installation safety - no misses of the drill holes due to 2-stage positioning technology
- free of thermal bridges ($\chi = 0.000 \text{ W/K}$) from 100 mm of insulation thickness *
- suitable for duplication of insulation layers - with supplementary set tolerance compensation up to 190 mm possible
- with ETA-16/0100 for all building material classes A, B, C, D and E
- only one setting tool for insulation material thickness up to 400 mm

Remarks

During the drilling process, the drill hole has to be cleaned with the drill. Old plaster is no stable basement. Drill hole depth and screw head setting has to follow the new building and renovation rules. The setting of the screw head and of the plug has to be done with TS setting tool. Best installation safeness when choosing slipping clutch function on power tool. High density insulation materials has to be drilled with 14 or 16 mm drill bit before setting screw head.

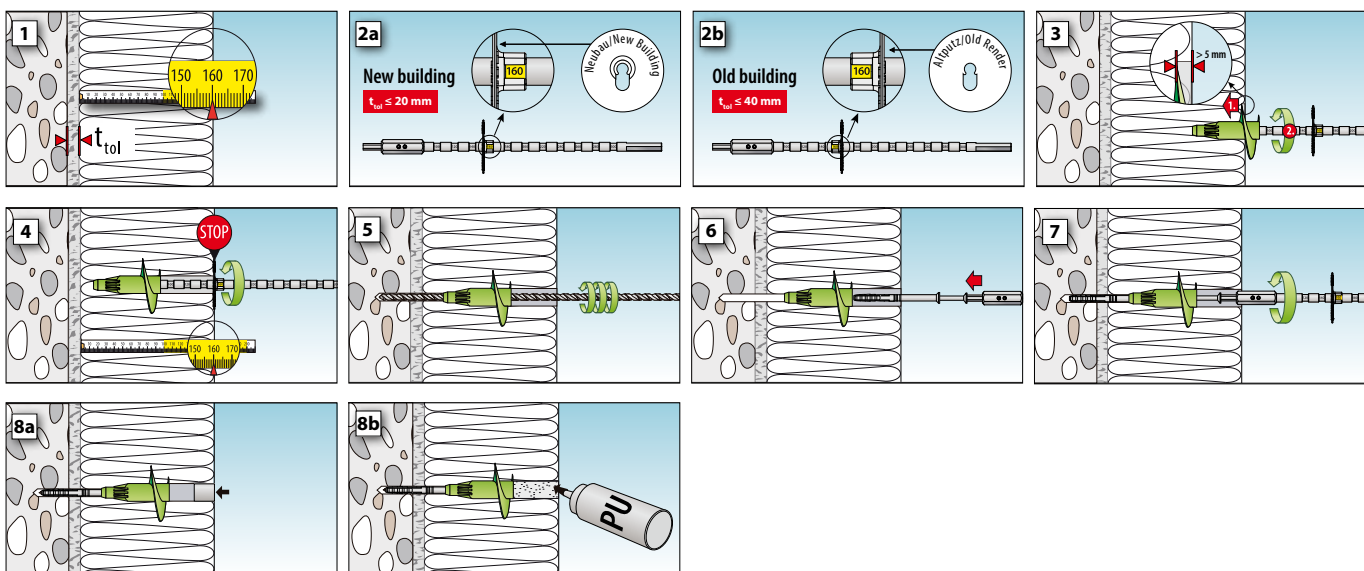
Suitability

ETA for:
concrete, solid brick, perforated brick, solid and hollow brick of lightweight aggregate concrete, hollow and solid sand-lime brick, aircrete (building material classes A - B - C - D - E)

Also suitable for:
Natural stone with dense structure

For fixing of:
a wide variety of insulation materials, e. g. in external thermal insulation composite systems (ETIC)

Installation



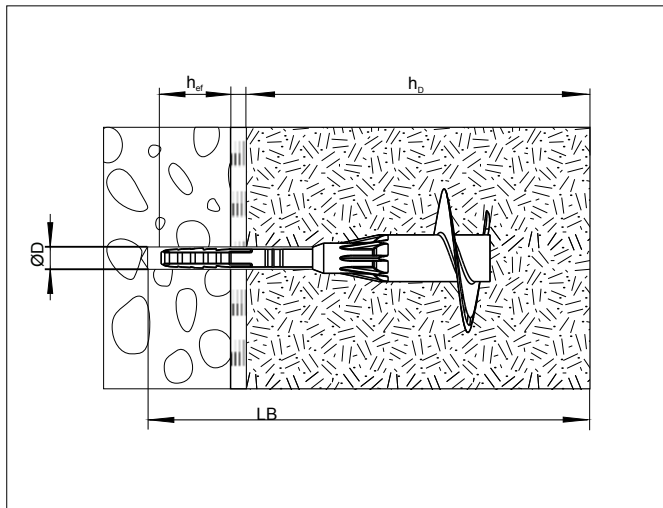
ThermoScrew Gecko U8 - TS Gecko U8

thermal transmission

dowel type	design	h_D insulation mate- rial thickness [mm]	point thermal transmission coefficient χ [W/K]
TS U8/40 gecko with foam filling	Old building	≥ 100	0
	New building	100 - < 150	0,001
		≥ 150	0

Advantages

- only one dowel for all insulation thicknesses from 100 mm guarantees cost saving, optimal storage and availability
- innovative expansion area of 30 mm provides for optimal fastening in all commercial building materials
- speziell für das versenkte Setzen der Wendel
- easy to use - due to easily comprehensible and easily manageable positioning technology
- no dowel marks due to extra deep recess of the helix in the insulation material
- Optimal screw coil construction for fast, time-saving and secure processing
- Installation opening sealable with PU foam or plug



Range



TS Gecko U8

anchor with zinc plated steel screw and special plastic screw head

type	ref-no.	$\varnothing D$ \varnothing anchor \varnothing drill bit [mm]	LD anchor length [mm]	hD min drilling depth [mm]	h_{er} min. anchoring depth [mm]	h_D insulation material thickness [mm]	qty. per box
TS U8/40 Gecko	38400	8	100	$60^2) + h_D$ $80^3) + h_D$	30	100 - 400	150

²⁾ when $t_{tot} = 20$ mm

³⁾ when $t_{tot} = 40$ mm



setting tool TS SW 400



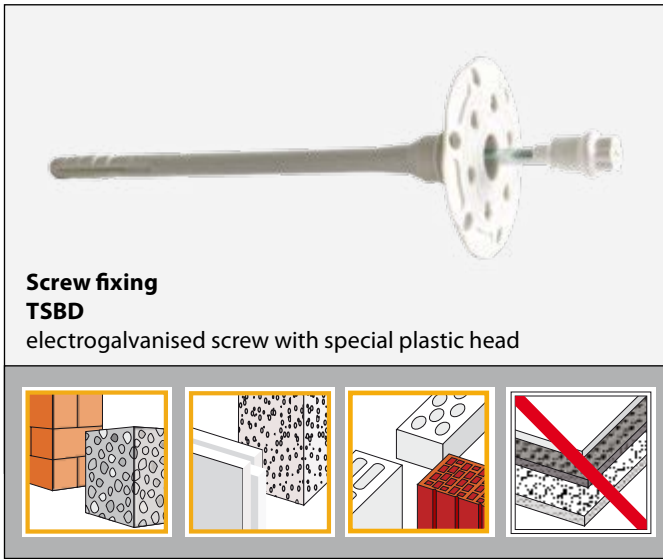
cover cap TS ST

type	ref-no.	qty. per box
cover cap TS ST	38402	150
setting tool TS SW 400	38406	1

Permissible Loads

see table on page 84

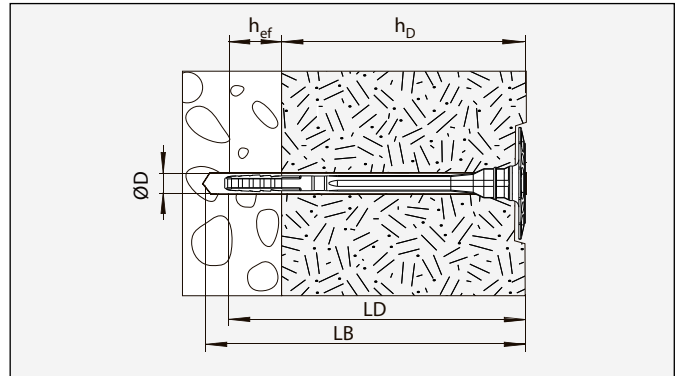
Screw fixing – TSBD



Screw fixing TSBD
electrogalvanised screw with special plastic head

Innovations, Advantages

- optimally formed spread zone for a better support in building materials
- extended spread zone area for a safer support in »problematic building materials«
- shank section is especially designed for surface-flush placement of the dowel disk into the insulation material
- Further development of the KEW steel screw and prevention of heat loss



Suitability

suitable for:
concrete, light concrete, solid brick and perforated brick
Suitable for fixing of:
various types of insulation materials e.g. composite insulation systems (WDVS)

Technical Data



TSBD - Screw fixing

type	ref.-no	Ø anchor Ø drill in mm	colour special head	anchor length [mm]	min. drill- hole depth [mm]	h _{ef} anchorage depth [mm]	h _D building incl. glue +10mm [mm]	h _b insulation strength old building incl. glue + 20 mm existing stucco [mm]	insulation strength new building incl. glue + 20 mm existing stucco [mm]	insulation strength old building incl. glue + 20 mm existing stucco [mm]	qty. per box pcs.
TSBD 8 x 100	37200	8	beige	100	110	30	60	40	200		200
TSBD 8 x 120	37201	8	yellow	120	130	30	80	60	200		200
TSBD 8 x 140	37202	8	green	140	150	30	100	80	200		200
TSBD 8 x 160	37203	8	white	160	170	30	120	100	200		200
TSBD 8 x 180	37204	8	orange	180	190	30	140	120	200		200
TSBD 8 x 200	37205	8	brown	200	210	30	160	140	200		200
TSBD 8 x 220	37206	8	blue	220	230	30	180	160	100		100
TSBD 8 x 240	37207	8	red	240	250	30	200	180	100		100
TSBD 8 x 260	37208	8	green	260	270	30	220	200	100		100
TSBD 8 x 280	37209	8	white	280	290	30	240	220	100		100
TSBD 8 x 300	37210	8	grey	300	310	30	260	240	100		100

Characteristics

- fixing system consisting of expansion plug with retaining disk and screw with special head
- optimised spread zone in the reliable KEW 3-part-division for high tightness in many undergrounds
- special head prevents heat loss and protects the screw from invading humidity
- the special disc profile allows optimum adhesion of plaster
- etaining disk with mortar-gripping surface, which allows for optimal adhesion of plaster pre-assembled units for reduced installation efforts
- European technical approval as a multiple fixing for the anchorage of glued composite insulation systems according to ETAG 004 has been applied for

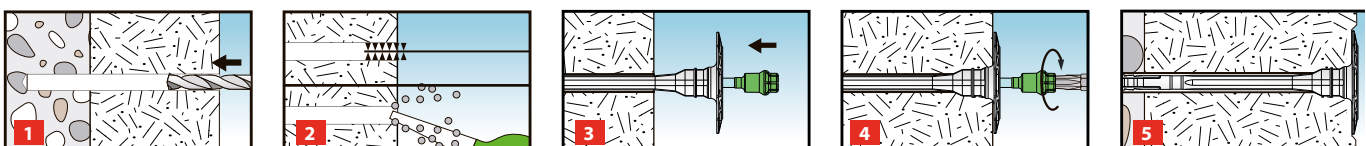
Advice

The drill hole must be cleaned with a brush or an airpump. Existing rendering or plastering is not considered an acceptable sound base material. A longer plug as well as a correspondingly deeper drill hole are required.

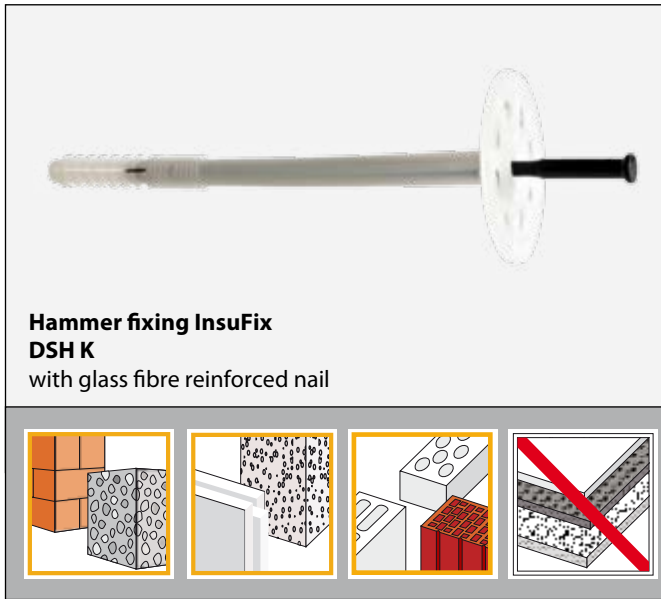
Permissible Loads

see table on page 82

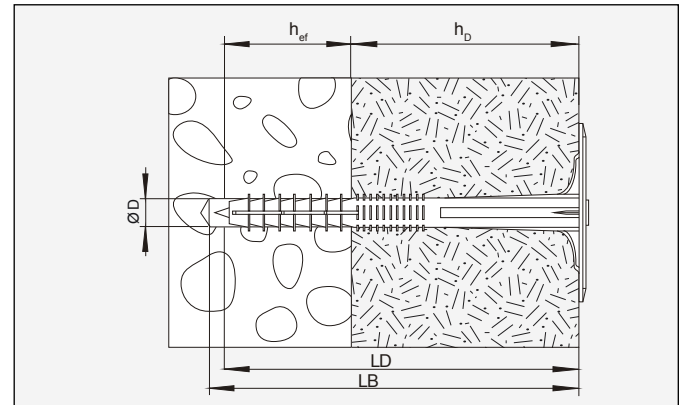
Installation



Hammer fixing - DSH K



Hammer fixing InsuFix DSH K
with glass fibre reinforced nail



Technical Data



Suitability

Base materials:
concrete, natural stone, solid brick, limited suitability for hollow brick, hollow block, aircrete

For fixing of:
various types of insulation material, good plaster adhesion (ex.: composite insulation systems), may be used in Germany without official approval for building heights up to 8 m (acc. to DIN 1102)

Characteristics

- fixing system consisting of expansion plug with retaining disc (\varnothing 60 mm) and plastic nail
- the nail tip may be broken off to allow for easier installation in very dense base materials
- the disc profile allows optimum adhesion of plaster
- the ribbed lower side of the disc as well as the profiled shank stiffens up the plug during installation
- the pre-expansion zone prevents the plug from slipping too deeply into the hole

Advice

The drill hole must be cleaned with brush and airpump. As existing render/ plaster may not be considered as base material a longer plug as well as a correspondingly deeper drill hole are required.

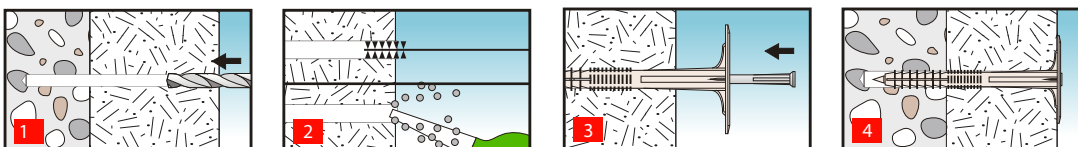
DSH K - with plastic nail

type	ref.-no.	\varnothing D	LD	LB	h_{ef} min. anchorage depth [mm]	h_D thickness insulation materialss [mm]	qty. per box pcs.
DSH 10 x 90 K	32490	10	90	100	40	40	250
DSH 10 x 110 K	32491	10	110	120	40	60	250
DSH 10 x 130 K	32492	10	130	140	40	80	250
DSH 10 x 140 K	32493	10	140	150	40	90	250
DSH 10 x 150 K	32494	10	150	160	40	100	250
DSH 10 x 160 K	32495	10	160	170	40	110	250
DSH 10 x 170 K	34119	10	170	180	40	120	250
DSH 10 x 190 K	33403	10	190	200	40	140	250
DSH 10 x 210 K	38163	10	210	220	40	160	100
DSH 10 x 230 K	38164	10	230	240	40	180	100
DSH 10 x 250 K	38165	10	250	270	40	200	100
DSH 10 x 270 K	38166	10	270	290	40	220	100
DSH 10 x 290 K	38167	10	290	310	40	240	100
DSH 10 x 310 K	38168	10	310	330	40	260	100

Permissible Loads

see table on page 82

Installation



Loads

Technical Data for composite insulation systems

Please consider the entire approval / assessment documents: TSDL-V - ETA-12/0148; TSDV KN - ETA-13/0075; TSD-V - ETA-08/0315; TSD - ETA-04/0030; TSBD - ETA-08/0314; DSH - ETA-14/0129

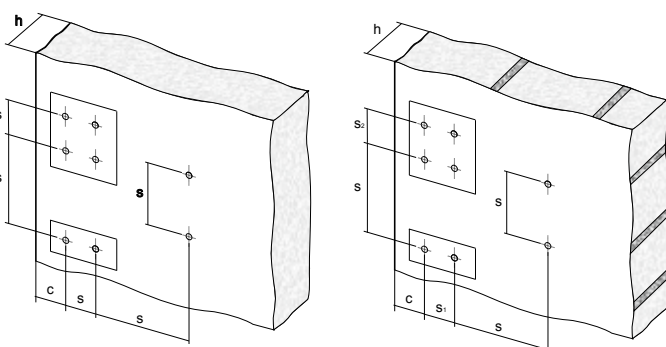
Characteristic resistance N 1) in [kN] to tensions loads for a single anchore in concrete and masonry

Base material	Bulk densityclass r [kg/dm ³]	Compressive strength f _b [N/mm ²]	Drill method	N _{Rk} ¹⁾	N _{Rk} ¹⁾	N _{Rk} ¹⁾	N _{Rk} ¹⁾	N _{Rk} ¹⁾	N _{Rk} ¹⁾	N _{Rk} ¹⁾
				[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
				TS	TSDL-V	TSD-V KN	TSD	TSBD	TSD-V	DSH K
Concrete C12/15 (B15)			Hammer drilling	1,5	1,2	0,4	0,5	1,5	1,2	0,4
Concrete C16/20 – C50/60 (B25 - B55)			Hammer drilling	1,5	1,5	0,6	0,75	1,5	1,5	0,6
Sand-lime solid bricks KS according to DIN V106:2005-10 / EN 771-2:2011	≥1.8	12	Hammer drilling	1,5	1,5	0,6	0,8	1,5	1,5	0,6
Solid clay bricks according to DIN 105-100:2012-01 / EN 771-1:2011	≥1.7	12	Hammer drilling	1,5	1,5	0,6		1,5	1,5	0,9 ⁶⁾
Solid clay bricks according to DIN 105-100:2012-01/EN 771-1	≥1.8	20	Hammer drilling				0,6			
Lightweight concrete solid blocks Vbl 2 according to DIN V 18152-100:2005-10 / EN 771-3:2011	≥0.8	2	Hammer drilling	0,75	0,6			0,75	0,6	
Lightweight concrete solid blocks Vbl 4 according to DIN V 18152-100:2005-10 / EN 771-3:2011	≥0.8	4	Hammer drilling	1,2				1,2		
Lightweight concrete solid blocks Vbl 4 according to DIN V 18152-100:2005-10 / EN 771-3:2011	≥0.9	4	Hammer drilling				0,4			
Vertical perforated clay bricks HLz according to DIN 105-100:2012-01 / EN 771-1:2011 outer web thickness ≥ 11mm	≥1.0	12	Rotary drilling				0,4			
Vertical perforated clay bricks HLz according to DIN 105-100:2012-01 / EN 771-1:2011 outer web thickness = 12mm	≥1.0	12	Rotary drilling	0,9	0,9	0,3		0,9	0,9	0,5
Vertical perforated sand-lime-bricks KS L according to DIN V 106:2005-10 / EN 771-2:2011 outer web thickness ≥ 20mm	≥1.4	12	Rotary drilling	1,5	1,2 ³⁾	0,5	0,4 ³⁾	1,5	1,2 ³⁾	
Lightweight concrete hollow blocks 4K Hbl according to DIN V 18151-100:2005-10 / EN 771-3:2011	≥0.9	2	Rotary drilling	0,75				0,75		
Lightweight concrete hollow blocks 1K Hbl according to DIN V 18151-100:2005-10 / EN 771-3:2011	≥0.8	2	Rotary drilling	0,9	0,6	0,3		0,9	0,6	
Lightweight concrete hollow blocks 1K Hbl according to DIN V 18151-100:2005-10 / EN 771-3:2011	≥1.2	4	Rotary drilling							0,5
Vertically perforated clay bricks according to ?NORM B 6124 outer web thickness ≥ 16mm	≥0.8	6	Rotary drilling				0,3			
Vertically perforated clay bricks according to ?NORM B 6124 outer web thickness ≥ 16mm	≥1.0	6	Rotary drilling	0,5				0,5		
Vertically perforated clay bricks according to ?NORM B 6124 outer web thickness ≥ 10mm	≥0.9	12	Rotary drilling		0,75	0,3			0,75	0,5 ⁵⁾
Autoclaved aerated concrete AAC 4 according to EN 771-4	≥0,4	4	Rotary drilling	0,3 / 0,75 ⁵⁾						0,6
Lightweight aggregate concrete LAC 4 according to EN 1520:2011	≥0.9	4	Hammer drilling				0,4			
Lightweight aggregate concrete LAC 4 according to EN 1520:2011	≥1.0	4	Hammer drilling	0,4 / 0,9 ²⁾				0,4 / 0,9 ²⁾		
Lightweight aggregate concrete LAC 6 according to EN 1520:2011	≥1.0	6	Hammer drilling	0,5 / 1,2 ²⁾				0,5 / 1,2 ²⁾		

			TS	TSDL-V	TSD-V KN	TSD	TSBD	TSD-V	DSH K
Installation characteristics									
effective anchoring depth	h _{ef} =	[mm]	30 / 50 ⁶⁾	30	30	30	30 / 50 ⁶⁾	30	40
depth of drilled hole	h _i ≥	[mm]	40 / 60 ⁶⁾	40	40	40	40 / 60 ⁶⁾	40	50
Nominal diameter of drill bit	d ₀ =	[mm]	8	8	8	8	8	8	10

Minimum thickness of base material, edge distance and anchor spacing									
Minimum thickness of base material	h =	[mm]	100	100	100	100	100	100	100
Minimum spacing	s _{min} =	[mm]	100	100	100	100	100	100	100
Minimum edge distance	c _{min} =	[mm]	100	100	100	100	100	100	100

Scheme of distance and spacing



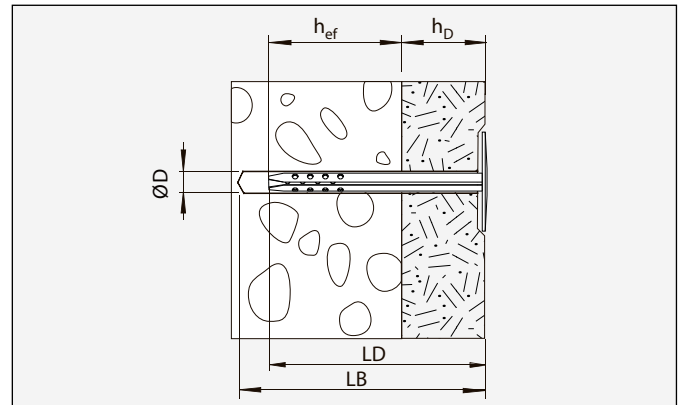
- 1) If there are no other national regulations, a partial safety coefficient of γ_M = 2,0 has to be used.
- 2) applies for an effective anchoring depth of h_{ef} = 50mm - differing from the standard of h_{ef} = 30mm.
- 3) outer web thickness ≥ 22mm
- 4) Bulk densityclass 20
- 5) Bulk densityclass 15
- 6) The depth given in pos. 2 applies exclusively for the admissible enlarged anchoring depth h_{ef} ≥ 50mm in the building material category D.

Metal Insulation Fixing – MDSH



metal insulation fixing – MDSH
sendzimir-galvanised steel sheet
or stainless steel sheet A2

metal insulation disk – MDSB
sendzimir-galvanised steel sheet
or stainless steel sheet A2



Innovation / Advantages

- simple and profitable in usage due to its fixing by knocking in
- no pre-drilling necessary for porous concrete undergrounds
- fire prevention certificate with building material classification A1 pursuant to DIN 4102 for the galvanised version and for anchor depth h_{eff} 40 mm
- may be applied on underside of ceilings
- no additional fixing parts such as expanding nails necessary

Characteristics:

- fixing system consisting of a spring dowel pin with firmly crimped retaining disk (\varnothing 35 mm)
- pring steel spring dowel pin anchors safely in the cladding of the boring drill due to bracing during knocking in
- profile of the spring dowel pin provides protection against creasing during knocking in
- fire-resistant fixing up to F 120 - AB pursuant to DIN 4102
- stainless steel A2 - quality for use in wet areas and the exterior
- to be used for fixing of soft insulation material in combination with the metal insulation fixing disk MDB 80

Suitability:

Suitable for:

concrete, solid brick, perforated brick and porous concrete

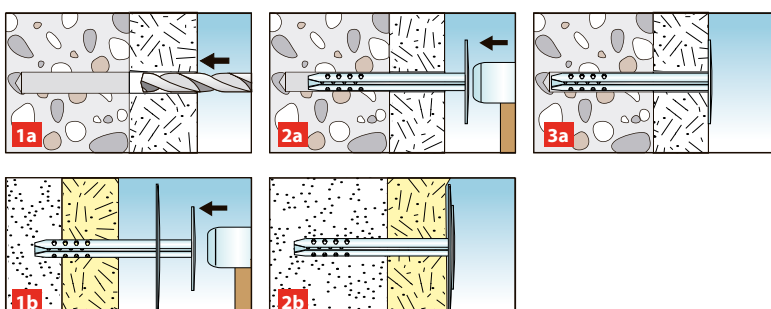
suitable for fixing of:

pressure-resistant and soft insulation materials, e.g. polystyrene, PU-hard foam panels, glass wool, rock wool, coconut mats

Advice

The drill hole must be cleaned with a brush or an air pump. Existing rendering or plastering is not considered an acceptable sound base material. A longer plug as well as a correspondingly deeper drill hole are required.

Installation



Metal Insulation Fixing – MDSH

Technical Data



MDSH - metal insulation fixing sendzimir- galvanised

type	ref.-no.	ØD Ø anchor Ø drill [mm]	LD anchor length [mm]	LB min.drill- hole depth [mm]	h _{ef} eff. anchorage depth [mm]	h _b max. usable length [mm]	qty. per box pcs.
MDSH 30	37301	8	90	100	50	40	250
MDSH 60	37302	8	110	120	50	60	250
MDSH 90	37303	8	140	150	50	90	250
MDSH 120	37304	8	170	180	50	120	250
MDSH 150	37305	8	200	210	50	150	250



MDSH - metal insulation fixing stainless steel A2

MDSH 30 A2	37307	8	90	100	50	40	250
MDSH 60 A2	37308	8	110	120	50	60	250
MDSH 90 A2	37309	8	140	150	50	90	250
MDSH 120 A2	37310	8	170	180	50	120	250
MDSH 150 A2	37311	8	200	210	50	150	250

Technical Data



MDSB - metal insulation disk sendzimir- galvanised

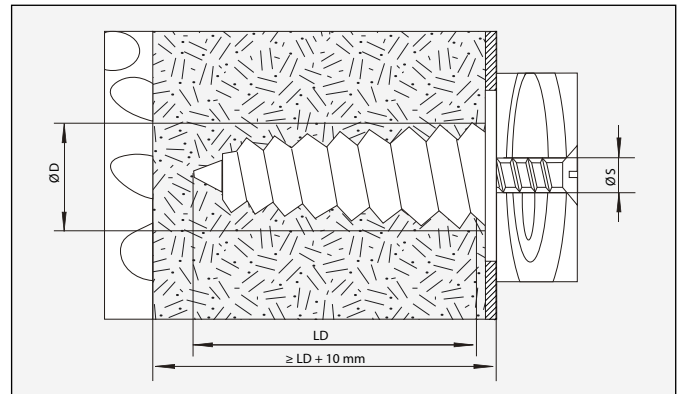
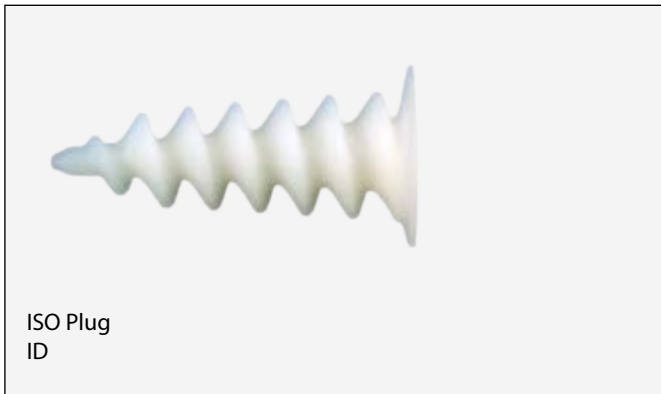
type	ref.-no.	qty. per box pcs.
MDSB 80	37306	250



MDSB - metal insulation disk stainless steel A2

MDSB 80 A2	37312	250
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ISO Plug - ID



Suitability

Base materials:
rigid insulation materials (Styrodor, Styropor, rock wool) and rigid polyurethane foams, especially in connection with composite insulation systems

For fixing of:
outdoor lights, bell signs, house number plates, newspaper boxes, letter boxes, movement alarm units, downpipes and shields

Characteristics

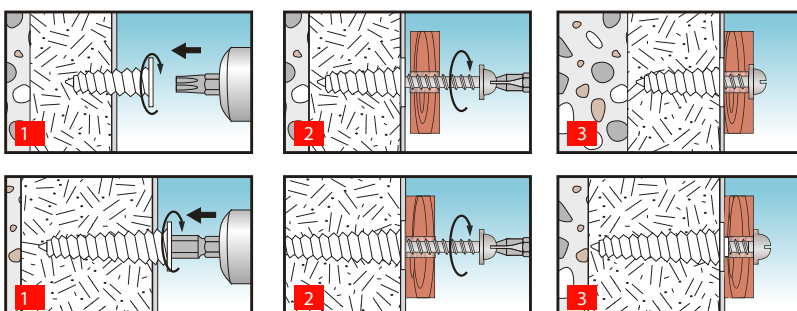
- permanent and fast-to-install fixing in rigid foam plates
- The ID is put into the insulation on surface level without pre-drilling.
- the anchor screw may also be installed with a cordless drill without prior hole drilling
- self undercutting system for optimal anchorage
- ideal border by the large plate of 25mm
- commercially available bit holders Torx 40 for the ID 50 and the Allen key 10 for the ID 85

Advice

The insulation dowel ID must not be shortened in length. At plastered rigid foam boards (e.g. insulated house walls etc.), the plastering must be drilled out up to the maximum dowel Ø, before installing the insulation dowel.

In order to prevent the penetration of water into the insulation material, the edge of the dowel should be sealed after completion of the assembly.

Installation



Technical Data



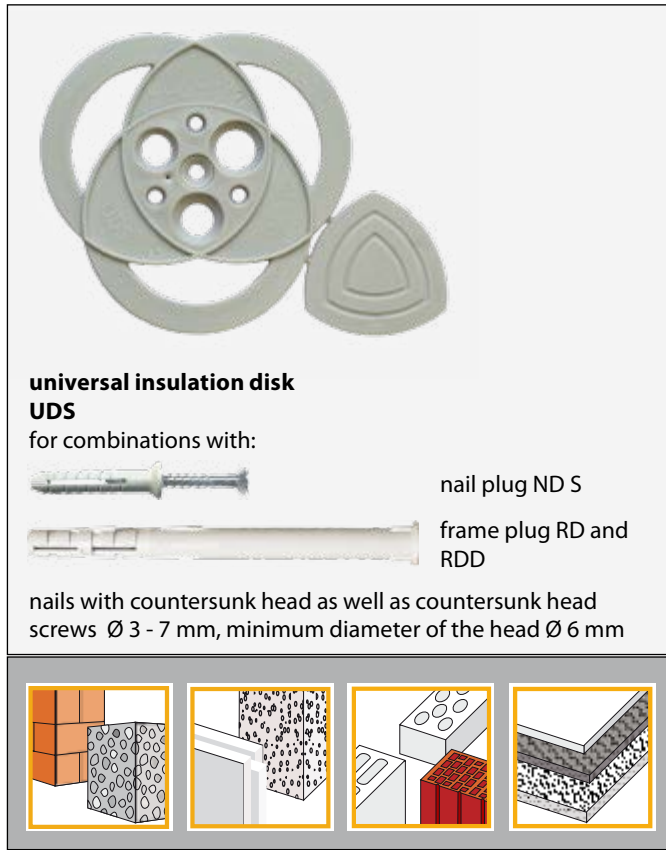
ID - ISO Plug

type	ref.-no.	D		L		Ø S	for bit size Bit/SW	qty. per box pcs.	outer carton pcs.
		max. Ø plug [mm]	length of plug [mm]	length of inner bore [mm]	length of plug [mm]				
ID 50	38049	18	50	25	50	M4 / 4,0	Torx 40	50	400
ID 85	38050	22	85	25	85	M8 / 8,0	● 10	20	160

Pullout loads in N* undscrew-in depth

	Pullout loads				screw-in depth	
	Styropor (PS 15)		rock wool		chipboard screw	
	Styropor (PS 15)	rock wool	Styropor (PS 15)	rock wool	Styropor (PS 15)	Steinwolle
ID 50	110 N	60 N	35	35	35	30
ID 85	250 N	90 N	45	35	40	30

Universal Insulation Disk - UDS



**universal insulation disk
UDS**

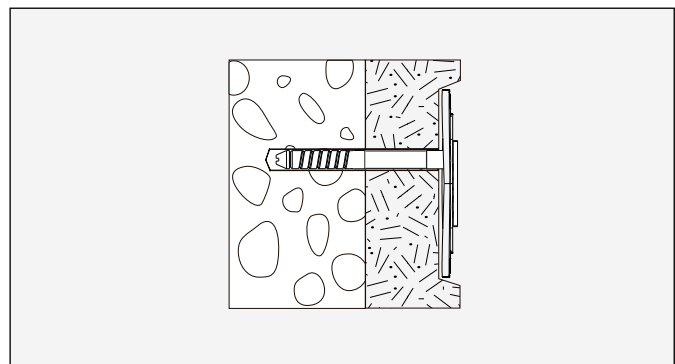
for combinations with:



nails with countersunk head as well as countersunk head screws \varnothing 3 - 7 mm, minimum diameter of the head \varnothing 6 mm

Characteristics

- universally applicable fixing system
- high flexibility due to the use of various, widely spread fixing elements
- also applicable on a variety of undergrounds (masonry, wood and metal substructures etc.) due to various fixing elements
- applicable for all kinds of thicknesses of insulation material due to free choice of lengths for the fixing elements
- Flexible bows level irregularities and tensions of the insulation material and allow for a permanent pressing against the material
- covering cap prevents heat loss and provides protection in all placement positions for the fixing elements
- mortar gripping surface serves as a carrier for renderings/ plasterings
- applicable as constructive dowel screw pane on wood and plate element building materials through combination with the respective screws
- reduction of storage costs since a single insulation disk is universally suitable for a variety of applications



Suitability

suitable for:
arious base constructions (cf. individual fixing device)

for the fixing of:
various heat or sound insulating insulation materials, sealing sheets, foils, mesh fabrics e.g. in compound insulation systems (ETICS)

Application

universal insulation disk in combination with nail plug ND S \varnothing 6-8 mm, frame plug RD and RDD \varnothing 8-10 mm, countersunk bolts (e. g. wood screws, chipboard screws, countersunk flat head tapping screws) and nails in various designs \varnothing 3 - 7 mm - minimal possible head diameter 6 mm

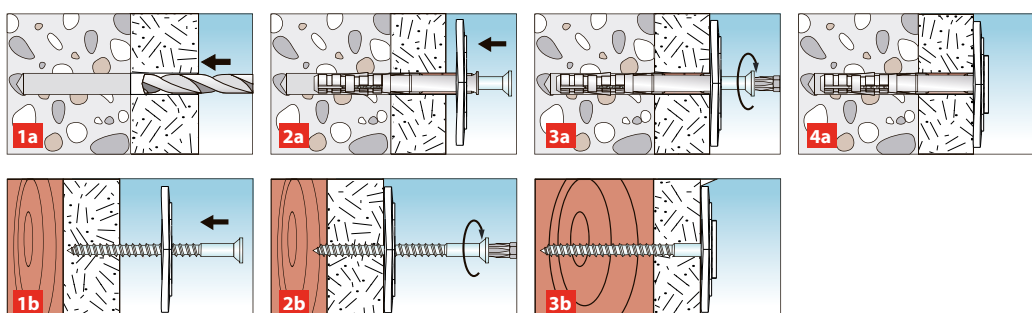
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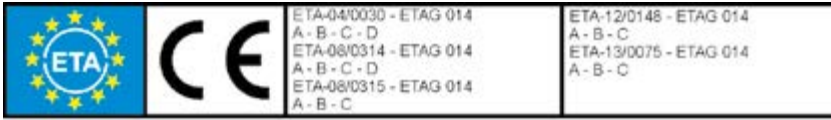


UDS - Universal Insulation Disk

type	ref.-no.	\varnothing Insulation Disk [mm]	qty. per box pcs.
UDS	37196	84	200

Installation





Insulation Disc - DSB



Characteristics

- disc profile offers good plaster adhesion
- suitable to be combined with Insulation Plug KEW DSH and Thermo nail plug KEW TSD

Technical Data



TSD KN - Insulation disc (platic)

Applications

to be used together with Thermo nail plug and insulation plug to fix non-rigid insulation materials

type	ref.-no.	∅ Insulation Disk [mm]	qty. per box
DSB 90	35396	90	200
DSB 110	35397	110	200
DSB 140	35398	140	200

Railsocket Connector - SSV



Technical Data



MTS - Railsocket connector

type	ref.-no.	length [mm]	qty. per box pcs.	qty. per box pcs.
SSV 30	36719	30	100	1600
SSV 1150	36740	1150	5	-

Applications

Connects, bridges and attaches cover profiles, end sections, holds and connects rails/ channels in vertical and horizontal joints of composite insulation systems (WDVS)

Characteristics

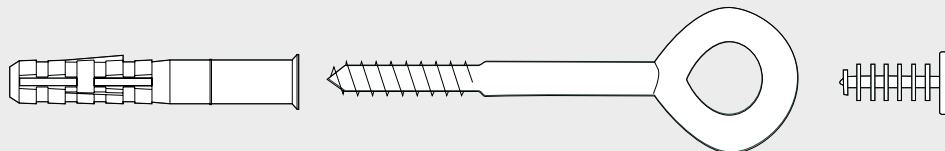
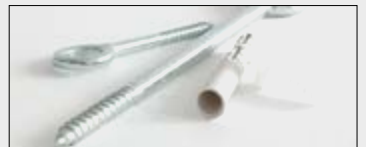
- Fast and reliable connection of profiles by simply fitting together
- Also available: connector kit with nail plugs and spacers



MTS - Connector kit

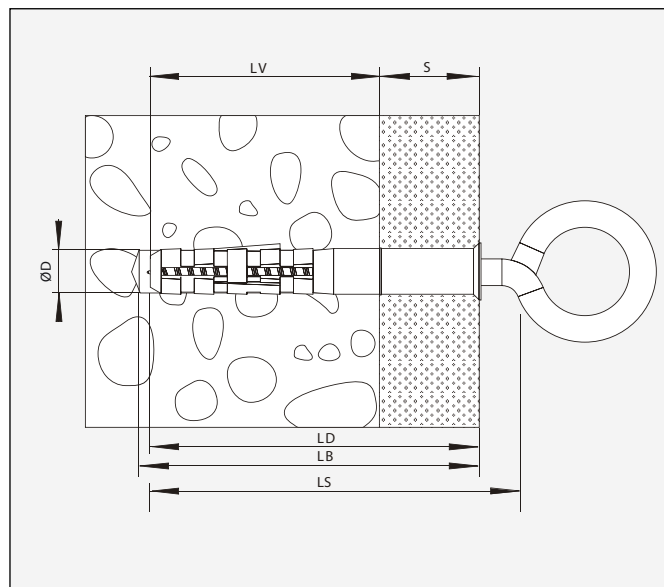
type	ref.-no.	content	qty. per box pcs.
MTS 6	36197	nailplug ND 6 x 60 Z	75
		spacer unit ASH 3	50
		railsocket connector SSV 30	10
MTS 8	36193	nail plug ND 8 x 80 Z	75
		spacer unit ASH 3	50
		railsocket connector SSV 30	10

Scaffold Fixings



Scaffold Plug - GD

Notes



Suitability

Base materials:

concrete, natural stone, solid brick, limited suitability for hollow brick, hollow blocks, aircrete

For fixing of:

standing and climbing scaffolds, bracing cables, safety harnesses

Recommended safe working loads in kN*

	con- crete C15	Solid bricks Mz 12	solid sand lime stone KS 12	hollow block Hbl	aircrete P2	hollow brick HLz 12	light hollow brick LHLz 12
GD 14 + GS 12	2,5	1,6	1,2	0,8	0,5	0,5	0,5

* the loads stated are recommended safe working loads valid for general fixings and confirmed strength of base material indicated. Lower loads apply in case of render, insulation material (if not considered), other non load bearing areas of the base material or too small edge/ joint distances.

Characteristics

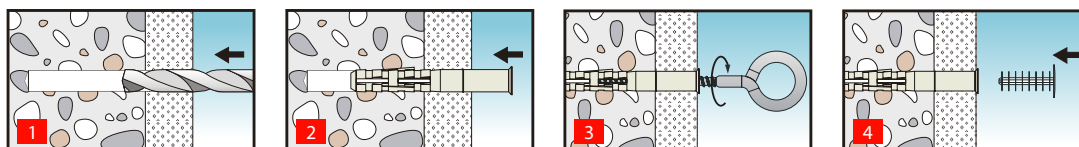
- fixing system with extended nylon plug and special eye screw
- safe bridging of plaster and insulation material
- etaining wedges prevent rotation in the drill hole even under unfavourable conditions
- cover cap to prevent the base material from exposure to humidity once the fixing is not needed any more

Advice

When installing scaffold fixings please observe the prescriptions of DIN 4420 and those of the notice "installation of plugs to fix scaffoldings" made out by the German professional association of building trades. The maximum holding power can only be achieved if:

- the drill hole is cleaned with brush and airpump
- the drill hole dimensions correspond to those stated by the manufacturer

Installation



Scaffold Plug - GD

Technical Data



GD - Scaffold plug

type	ref.-no.	ØD	LD	LB	LV	ØS	qty. per box
		Ø Plug Ø Bit [mm]	plug length [mm]	min. drill depth [mm]	min. ancho- rage depth [mm]	max. thickness of render/ insulation [mm]	
GD 14 x 70	32040	14	70	85	70	-	50
GD 14 x 100	32041	14	100	115	70	30	50
GD 14 x 135	32042	14	135	150	70	65	40



GST - Cover cap, made of polyethylene

type	ref.-no.	Ø cover plug [mm]	length of cover cap [mm]	qty. per box pcs.
GST 14 x 40	32046	24	40	100
GST 14 x 80	34372	24	80	100

Technical Data

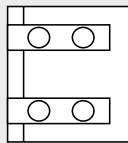
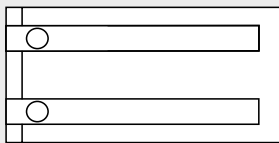
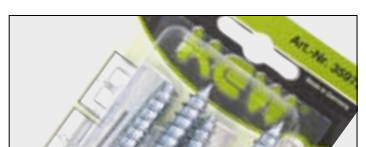


GS - steel, zinc plated, class 4.8

type	ref.-no.	ØS	LS	qty. per box pcs.
		Ø screw [mm]	screw length [mm]	
GS 8 x 80 ¹⁾	34005	8	80	25
GS 8 x 100 ¹⁾	34006	8	100	25
GS 8 x 120 ¹⁾	34007	8	120	25
GS 10 x 160 ¹⁾	34008	10	160	25
GS 12 x 90	32192	12	90	25
GS 12 x 120	32193	12	120	25
GS 12 x 160	32194	12	160	25
GS 12 x 190	32195	12	190	25
GS 12 x 230	32196	12	230	25
GS 12 x 300	34009	12	300	25
GS 12 x 350	32197	12	350	25

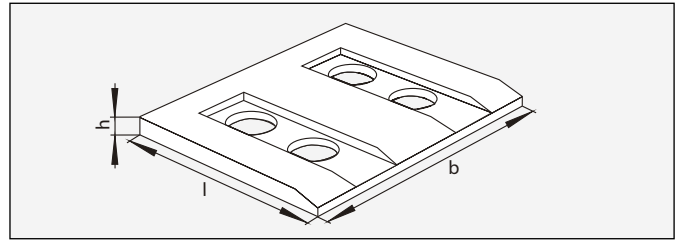
¹⁾ not for GD 14

Remedial Fixings



Remedial Fixings

Masonry Wedge - MWK



Application

the masonry wedge is used in connection with the installation of horizontal humidity stops in existing constructions

Characteristics

- secures/ stabilizes sequential saw cuts in a wall
- used together with expandable mortar to stop rising humidity

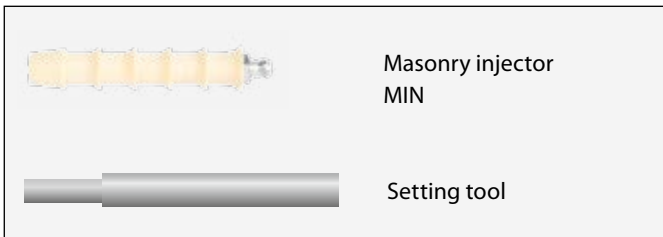
Technical Data



MWK - for structural wedging of saw cuts

type	ref-no.	l length [mm]	b width [mm]	h height [mm]	qty. per box pcs.
MWK 7 - 100	30348	100	130	7	220
MWK 9 - 100	30110	100	130	9	190
MWK 11 - 100	30112	100	130	11	150
MWK 5 - 250	30430	250	132	5	135
MWK 6 - 250	37121	250	132	6	110
MWK 7 - 250	30132	250	132	7	90
MWK 8 - 250	30074	250	132	8	81
MWK 9 - 250	30075	250	132	9	72
MWK 10 - 250	30076	250	132	10	66
MWK 11 - 250	30077	250	132	11	60

Masonry Injector - MIN



Technical Data



WZ-MIN - injector with lubrication fitting for pressure injections

type	ref-no.	Ø plug [mm]	length [mm]	colour	qty. per box pcs.
MIN 9	30113	9	48	gray/nat. colour	1000
MIN 12	31490	12	69	gray/nat. colour	1000
MIN 18	31491	18	79	gray/nat. colour	1000



WZ-MIN - setting tool

WZ-MIN	31493	1
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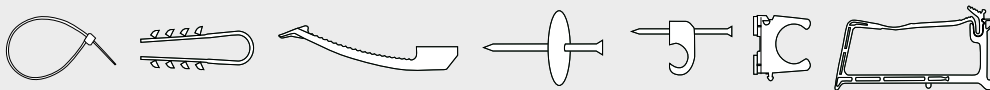
Application

the masonry injector is used in connection with the installation of horizontal humidity stops in existing constructions as well as for pest control purposes

Characteristics

- used in sequential rows of drill holes
- sealing liquid is injected through injection nipple until saturation

Electrical Fixings



Electrical Fixings

Electrical Fixings

Technical Data



KB - cable tie, natural colour



KB - cable tie, black

suitability: bundling and fixing of cables

type	ref.-no./ natur	ref.-no./ schwarz	bundle Ø [mm]	qty. per box pcs.	outer carton pcs.
KB 2,2 x 75	33210	34572	15	100	20000
KB 2,5 x 98	33211	34573	18	100	15000
KB 2,5 x 135	33212	34574	33	100	10000
KB 2,6 x 160	33213	34575	40	100	10000
KB 2,6 x 200	33214	34576	50	100	10000
KB 3,6 x 140	33215	34577	33	100	10000
KB 3,6 x 200	33216	34578	50	100	5000
KB 3,6 x 290	33217	34579	76	100	5000
KB 3,6 x 370	36421	36439	103	100	-
KB 4,5 x 120	36422	36440	24	100	-
KB 4,5 x 160	33218	34580	40	100	5000
KB 4,8 x 178	36423	36441	45	100	-
KB 4,8 x 200	33219	34581	50	100	5000
KB 4,8 x 290	33220	34582	79	100	5000
KB 4,8 x 370	33221	34583	102	100	4500
KB 4,8 x 390	36424	36442	106	100	-
KB 4,8 x 430	36425	36443	115	100	-
KB 7,8 x 120	36426	36444	25	100	-
KB 7,8 x 180	36427	36445	45	100	-
KB 7,8 x 240	36428	36446	63	100	-
KB 7,8 x 300	36429	36447	80	100	-
KB 7,8 x 365	33222	34584	100	100	1500
KB 7,8 x 450	36430	36448	130	100	-
KB 7,8 x 540	36431	36449	158	100	-
KB 7,8 x 750	36432	36450	200	100	-
KB 9,0 x 780	36433	36451	233	100	-
KB 12,5 x 500	36435	36453	143	50	-
KB 12,5 x 1000	36438	36456	302	50	-



KB A - cable tie base

Eignung: fixing and securing cable ties

KB A	36457	9,0	100
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KB V - cable tie connector

Eignung: connecting cable ties

KB V	36458	9,0	100
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KBZ 1



KBZ 2



KBZ 3



KBZ 4

KB Z1 - cable tie tightening tool, DIY tool

type	ref.-no.	suitable for	qty. per box pcs.
KBZ 1	36374	KB 2,2 - 4,8	1

KB Z2 - cable tie tightening tool, metal, professional tool

KBZ 2	36375	KB 2,2 - 4,8	1
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KB Z3 / Z4 - cable tie tightening tool, plastic, professional tool

KBZ 3	36376	KB 2,2 - 4,8	1
KBZ 4	36377	KB 4,8 - 7,8	1



KKB - plastic cable clasp

suitability: fixing of cables of different diameters up to 8, 10, and 16 mm (NYM 3 x 1,5 mm) with KEW plugs

type	ref.-no.	number of cables [mm]	length [mm]	width [mm]	qty. per box pcs.	outer carton pcs.
KKB 8	33691	8	128	20	50	800
KKB 16	33693	16	220	20	50	800



KB - cable tie with locating hole, nature

suitability: bundling and fixing of cables

type	ref.-no.	bore [mm]	bundle Ø [mm]	qty. per box pcs.	outer carton pcs.
KB 3,6 x 150 B	36382	4,5	32	100	-
KB 4,8 x 200 B	36383	5,2	50	100	-



BS D - twin socket

BS D 3,6	36392	36394	19 x 19	3,6	100
BS D 3,6 K *	36396	36398	19 x 19	3,6	100
BS D 4,8	36393	36395	27 x 27	4,8	100
BS D 4,8 K *	36397	36399	27 x 27	4,8	100

* adhesive socket base



NSBE - plastic cable disc, rectangular

suitability: fixing of cables in pre-cut grooves, routes, walls, in aircrete, solid gypsum board, and brickwork

type	ref.-no.	length x width/ Ø of disc [mm]	steel nail [mm]	qty. per box pcs.	outer carton pcs.
NSBE 40	33781	44 x 22	2,5 x 40	100	1000
NSBE 50	33782	44 x 22	2,5 x 50	100	1000
NSBE 60	33783	44 x 22	2,5 x 60	100	1000

Electrical Fixings

Technical Data



NSBEF - plastic cable disc, rectangular, with locking edges

type	ref.-no.	length x width/ Ø of disc [mm]	steel nail [mm]	qty. per box pcs.	outer carton pcs.
NSBEF 40	33784	44 x 22	2,5 x 40	100	1000
NSBEF 50	33785	44 x 22	2,5 x 50	100	1000
NSBEF 60	33786	44 x 22	2,5 x 60	100	1000



NSB - plastic nail disc

NSB 27	32580	27	-	3500	-
NSB 27	32581	27	-	700	7000
NSB 27 / 2,0 x 40	32582	27	2,0 x 40	300	3000
NSB 27 / 2,0 x 50	32583	27	2,0 x 50	250	2500
NSB 34	32584	34	-	2200	-
NSB 34	32585	34	-	400	4000
NSB 34 / 2,0 x 50	32586	34	2,0 x 50	150	1500
NSB 34 / 2,0 x 60	32587	34	2,0 x 60	150	1500
NSB 34 / 2,5 x 70	32588	34	2,5 x 70	100	1000
NSB 34 / 3,3 x 40	32589	34	3,3 x 40	150	1500
NSB 34 / 3,3 x 50	32590	34	3,3 x 50	150	1500
NSB 34 / 3,3 x 60	32591	34	3,3 x 60	100	1000



NS - plastic cable clip
suitability: fixing of cables (5-12 mm) to chipboard, hardboard, wood, aircrete, solid gypsum board etc..

type	ref.-no.	clamping range [mm]	steel nail [mm]	qty. per box pcs.	outer carton pcs.
NS 3 - 5/18	35949	3 - 5	1,7 x 18	200	10800
NS 3 - 5/23	35950	3 - 5	1,7 x 23	200	10800
NS 3 - 5/30	35951	3 - 5	1,7 x 30	200	10800
NS 5 - 7/18	32782	5 - 7	2 x 18	200	10800
NS 5 - 7/23	32783	5 - 7	2 x 23	200	10800
NS 5 - 7/30	32784	5 - 7	2 x 30	200	10800
NS 5 - 7/35	32785	5 - 7	2 x 35	200	10800
NS 7 - 12/18	32786	7 - 12	2 x 18	100	3600
NS 7 - 12/23	32787	7 - 12	2 x 23	100	3600
NS 7 - 12/30	32788	7 - 12	2 x 30	100	3600
NS 7 - 12/35	32789	7 - 12	2 x 35	100	3600
NS 7 - 12/40	32790	7 - 12	2 x 40	100	3600
NS 7 - 12/50	32791	7 - 12	2 x 50	100	2700
NS 7 - 12/60	32792	7 - 12	2 x 60	100	2700
NS 10 - 14/30	32793	10 - 14	2 x 30	100	2700
NS 10 - 14/35	32794	10 - 14	2 x 35	100	2700
NS 10 - 14/40	32795	10 - 14	2 x 40	100	2700
NS 14 - 20/30	35953	14 - 20	2 x 30	100	1600
NS 14 - 20/35	35954	14 - 20	2 x 35	100	1600
NS 14 - 20/40	35955	14 - 20	2 x 40	100	1600
NS 7 - 12/23	32796	7 - 12	2 x 23	500	4000
NS 7 - 12/30	32797	7 - 12	2 x 30	500	4000
NS 7 - 12/35	32798	7 - 12	2 x 35	500	4000
NS 7 - 12/40	32799	7 - 12	2 x 40	500	4000



KSH - multiple plastic cable holder
suitability: fixing of cables of various diameters

type	ref.-no.	qty. of cables [mm]	height x length [mm]	width [mm]	qty. per box pcs.	outer carton pcs.
KSH 15	33694	15	53 x 78	50	50	400
KSH 30	33695	30	53 x 131	25	25	250



RS - plastic pipe clamp
suitability: to fix light to heavy insulated as well as steel reinforced pipes with KEW plugs

type	ref.-no.	nominal value PG	nominal value IRO DIN 49026/ DIN 49017	nominal value IEC	clamping area [mm]	qty. per box pcs.	outer carton pcs.
RS M 12 (IRO 11)	32172		11	M 12	12 - 13	100	3200
RS M 16 (PG 9)	32068	9	13,5	M 16	15 - 16	100	3200
RS PG 11	32069	11	19		18 - 19	100	2900
RS M 20 (PG 13,5)	32070	13,5	- / 19	M 20	20 - 21	100	2000
RS PG 16	32071	16			22 - 23	100	2000
RS M 25 (IRO 23)	32175		23 / -	M 25	24 - 25	50	1450
RS PG 21	32072	21	- / 23		28 - 29	50	1450
RS M 32 (IRO 29)	32176		29 / -	M 32	31 - 32	50	640
RS PG 29	32073	29			36 - 37	40	640
RS M 40 (IRO 36)	32177		36 / -	M 40	39 - 40	30	300
RS M 50 (PG 36)	32074	36		M 50	46 - 48	20	320
RS M 63 (PG 48)	32076	48		M 63	59 - 61	15	240



NS - plastic cable clip without nail

type	ref.-no.	clamping range [mm]	steel nail [mm]	qty. per box pcs.	outer carton pcs.
NS 3 - 5	36725	3 - 5	-	200	10800
NS 5 - 7	36726	5 - 7	-	200	10800
NS 7 - 12	36727	7 - 12	-	100	3600
NS 10 - 14	36728	10 - 14	-	100	2700
NS 14 - 20	36729	14 - 20	-	100	1600

Electrical Fixings

Technical Data



SS - plastic cable strap

suitability: fixing of cables, wire bundles, flexible and rigid pipes



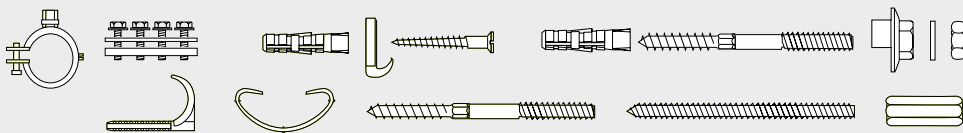
VV - cable tie loop

Eignung: easy bundling of cables

type	ref.-no.	Ø drill bit [mm]	min. drill depth for smallest clamp. range [mm]	clamping range [mm]	qty. per box pcs.	outer carton pcs.
SS 3/13	33599	6	35	3 - 13	100	2700
SS 8/28	33600	6	50	8 - 28	100	1600
SS 20/40	33601	6	50	20 - 40	100	800

type	ref.-no./ nat. colour	ref.-no./ black	size [mm]	Ø clamping range [mm]	qty. per box pcs.
VV 22,9	36622	36627		5,1 - 7,6	100
VV 26,2	36623	36628		7,6 - 10,2	100
VV 30,5	36624	36629		10,2 - 12,7	100
VV 34,5	36625	36630		13,5 - 16,0	100
VV 39,4	36626	36631		17,8 - 20,3	100

Heating and Sanitary Fixings



Heating and Sanitary Fixings

Technical Data



WTB - washbasin fixing with stud screw

Suitability: fixing washbasins in concrete and masonry

type	ref.-no.	Ø drill bit [mm]	drill. depth [mm]	min. anchorage depth [mm]	max. thickness of ceramic [mm]	qty. per box pcs.	outer carton pcs.
WTB 10 x 120	31088	12	80	65	30	10	80
WTB 10 x 140	31089	12	80	65	50	10	80



WTB VSH - washbasin fixing with metal hollow wall plug

Suitability: fixing washbasins in boards and panels such as plasterboard or gypsum fibreboard as well as in hollow bricks

type	ref.-no.	Ø drill bit [mm]	min. anchorage depth [mm]	max. thickness of ceramic [mm]	qty. per box pcs.	outer carton pcs.
WTB 10 x 140 VSH	37321	15	95	35	10	80



WTB MHD - washbasin fixing with metal hollow wall plug

Suitability: fixing washbasins in boards and panels such as plasterboard or gypsum fibreboard as well as in hollow bricks

type	ref.-no.	Ø drill bit [mm]	min./max. Panel thickness [mm]	min. cavity depth [mm]	qty. per box pcs.	outer carton pcs.
WTB 8 x 16 MHD	31086	13	3 / 16	48	10	80
WTB 8 x 24 MHD	31087	13	16 / 24	54	10	80



UB - urinal fixing

Suitability: fixing urinals in concrete and masonry

type	ref.-no.	Ø drill bit [mm]	drill. Depth [mm]	min. anchorage depth [mm]	max. thickness of ceramic [mm]	qty. per box pcs.	outer carton pcs.
UB 8 x 120	33800	10	65	50	50	10	160



WTUB - washbasin and urinal fixing

Suitability: fixing washbasins or urinals in concrete and masonry

type	ref.-no.	Ø drill bit [mm]	drill. Depth [mm]	min. anchorage depth [mm]	max. thickness of ceramic [mm]	qty. per box pcs.	outer carton pcs.
WTUB 10 x 140 w	33798	12	80	65	50	10	80
WTUB 10 x 140 chr	33799	12	80	65	50	10	80



WCB - toilet fixing

Suitability: fixing floor-mounted toilets in all base materials

type	ref.-no.	Ø drill bit [mm]	drill. depth [mm]	min. anchorage depth [mm]	max. thickness of ceramic [mm]	qty. per box pcs.	outer carton pcs.
WCB 6 x 90	32053	8	60	50	33	10	160



SB - mirror fixing

Suitability: fixing exchangeable mirrors in concrete and masonry

type	ref.-no.	Ø drill bit [mm]	drill. depth [mm]	min. anchorage depth [mm]	qty. per box pcs.	outer carton pcs.
SB	33797	6	40	30	10	160



RH - plastic pipe hook

Suitability: fixing rigid and flexible pipes in concrete and natural stone, especially in connection with floor heatings

type	ref.-no.	Ø drill bit [mm]	length of pipe hook [mm]	Ø pipe [mm]	qty. per box pcs.	outer carton pcs.
RH 6 x 70	31586	6	70	- 25	100	8000
RH 8 x 75	31587	8	75	25 - 35	100	3000
RH 8 x 95	31588	8	95	25 - 35	100	3000
RH 8 x 110	31589	8	110	35 - 55	100	2000



KEW RHD - plastic twin pipe hook

type	ref.-no.	Ø drill bit [mm]	length of pipe hook [mm]	Ø pipe [mm]	qty. per box pcs.	outer carton pcs.
RHD 6 x 70	31583	6	70	- 25	100	5000
RHD 8 x 75	31584	8	75	25 - 35	100	1900
RHD 8 x 95	31585	8	95	25 - 35	100	1800
RHD 8 x 110	38133	8	110	25 - 35	100	1800



Clip

Suitability: covering up safely pipe insulation half clamps

type	ref.-no.	qty. per box pcs.	outer carton pcs.
Clip	31591	100	60000

Heating and Sanitary Fixings

Technical Data



STS - stud screw

Suitability: fixing pipe clips and sanitary objects in combination with KEW plugs in all base materials. Without plug suitable for wood

type	ref.-no.	suitable for plugs Ø [mm]	wood thread [mm]	metric thread [mm]	drive	qty. per box pcs.
STS 6 x 60	37124	8	5 x 35	M 6 x 20	T15	100
STS 6 x 80	37127	8	5 x 45	M 6 x 30	T15	100
STS 8 x 50	37137	10	7 x 30	M 8 x 10	T25	100
STS 8 x 60	33290	10	7 x 30	M 8 x 20	T25	100
STS 8 x 80	33291	10	7 x 35	M 8 x 30	T25	100
STS 8 x 100	33292	10	7 x 45	M 8 x 40	T25	100
STS 8 x 120	33293	10	7 x 45	M 8 x 50	T25	100
STS 8 x 140	37138	10	7 x 45	M 8 x 50	T25	100
STS 8 x 160	37139	10	7 x 45	M 8 x 50	T25	100
STS 10 x 60	33294	12	9 x 35	M 10 x 20	T25	100
STS 10 x 80	33295	12	9 x 45	M 10 x 20	T25	100
STS 10 x 100	33296	12	9 x 55	M 10 x 30	T25	100
STS 10 x 120	33297	12	9 x 55	M 10 x 40	T25	100
STS 10 x 140	33298	12	9 x 55	M 10 x 40	T25	75
STS 10 x 160	37140	12	9 x 55	M 10 x 40	T25	75



LM - long hexagon nut

Suitability: extending metric threads

type	ref.-no.	qty. per box pcs.	outer carton pcs.
LM 8 x 30	33727	100	1600
LM 10 x 30	33728	100	1600



GWS - threaded stud

Suitability: various applications

GWS M 6 x 1000	34877	1
GWS M 8 x 1000	33814	1
GWS M 10 x 1000	33815	1
GWS M 12 x 1000	34878	1
GWS M 14 x 1000	34879	1
GWS M 16 x 1000	34880	1



RSP - pipe clamp "Practic"

Suitability: fixing pipes for heating and sanitary applications to walls, floors as well as overhead

type	ref.-no.	clamping range [mm]	nom.size [inch / mm]	fixing nut thread	qty. per box pcs.
RSP 1/4"	34738	12 - 16	1/4" / 15	M 8	100
RSP 3/8"	34739	17 - 19	3/8" / 18	M 8	100
RSP 1/2"	34740	20 - 23	1/2" / 22	M 8	100
RSP 3/4"	34741	25 - 30	3/4" / 28	M 8	100
RSP 1"	34742	31 - 38	1" / 35	M 8	100
RSP 1 1/4"	34743	40 - 46	1 1/4" / 42	M 8	100
RSP 1 1/2"	34744	48 - 53	1 1/2" / 53	M 8	100
RSP 2"	34745	60 - 64	2" / 64	M8 / M 10	50
RSP 2 1/2"	34746	72 - 78	2 1/2" / 78	M8 / M 10	50
RSP 3"	34747	87 - 92	3" / 92	M8 / M 10	50
RSP 4"	34748	102 - 116	4" / 116	M8 / M 10	50



RSP G - pipe clamp "Practic-Gleit"

Suitability: fixing plastic pipes for heating and sanitary applications to walls, floors as well as overhead

RSP G 1/4"	34749	16	1/4" / 15	M 8	100
RSP G 1/2"	34750	20	1/2" / 22	M 8	100
RSP G 3/4"	34751	25	3/4" / 28	M 8	100
RSP G 1"	34752	32	1" / 35	M 8	100
RSP G 1 1/4"	34753	40	1 1/4" / 42	M 8	100
RSP G 1 1/2"	34754	50	1 1/2" / 48	M 8	100



RSS - threaded pipe clamp

Suitability: fixing pipes for heating and sanitary applications to walls, floors as well as overhead

RSS 1/4"	34755	12 - 14	1/4" / 15	M 8	100
RSS 3/8"	34756	15 - 19	3/8" / 18	M 8	100
RSS 1/2"	34757	20 - 23	1/2" / 22	M 8	100
RSS 3/4"	34758	25 - 28	3/4" / 28	M 8	100
RSS 1"	34759	32 - 35	1" / 35	M 8	100
RSS 1 1/4"	34760	40 - 43	1 1/4" / 42	M 8	100
RSS 1 1/2"	34761	48 - 53	1 1/2" / 48	M 8	50
RSS 50	34762	50 - 55	- / 55	M8 / M 10	50
RSS 2"	34763	57 - 61	2" / 64	M8 / M 10	50
RSS 63	34764	63 - 67	- / 67	M8 / M 10	50
RSS 2 1/2"	34765	74 - 80	2 1/2" / 78	M8 / M 10	50
RSS 3"	34767	83 - 91	3" / 92	M8 / M 10	50
RSS 4"	34768	108 - 114	4" / 116	M8 / M 10	50
RSS 123	34769	123 - 128	- / 125	M8 / M 10	25
RSS 5"	34770	131 - 135	5" / 141	M8 / M 10	25
RSS 6"	34771	159 - 165	6" / 168	M8 / M 10	25
RSS 216	34772	216 - 220	- / 219	M 10	10

Heating and Sanitary Fixings

Technical Data



KGP I - bracket base plate, lengthwise

Suitability: assembling wall-mounted consoles of various lengths

type	art.-no.	base flange size [mm]	qty. per box pcs.
KGP I 27/18	34780	50 x 24 x 4	1
KGP I 38/40	34782	75 x 33 x 4	1



KGP q - bracket base plate, crosswise

KGP q 27/18	34779	50 x 24 x 4	1
KGP q 38/40	34781	75 x 33 x 4	1



HKS - hammerhead screw

Suitability: fixing pipe clamps to consoles and channels

HKS 27/18 M 8 x 20	34793	50
HKS 27/18 M 8 x 25	34794	50
HKS 27/18 M 8 x 30	34795	50
HKS 27/18 M 8 x 40	34796	50
HKS 27/18 M 8 x 50	34797	50
HKS 27/18 M 8 x 80	34798	50
HKS 27/18 M 8 x 100	34799	25
HKS 27/18 M 10 x 30	34800	50
HKS 38/40 M 8 x 30	34801	50
HKS 38/40 M 8 x 50	34802	25
HKS 38/40 M 8 x 100	34803	25
HKS 38/40 M 10 x 30	34804	50
HKS 38/40 M 10 x 50	34805	25
HKS 38/40 M 10 x 100	34806	25



SBM - sliding nut

Suitability: fixing pipe clamps to consoles and channels with threaded elements

SBM 27/18 M 8	34807	100
SBM 27/18 M 10	34808	100
SBM 38/40 M 8	34809	100
SBM 38/40 M 10	34810	100



HK - retaining bracket

Suitability: to be attached to consoles and channels to prevent possible bending open due to overloading

type	ref.-no.	for thread	drill hole [mm]	qty. per box pcs.
HK 27/18	34791	M 8	9	25
HK 38/40	34792	M 10	11	25



SK - rail bracket

Suitability: fixing pipe systems to walls; performing fixings to floors and suspensions from ceilings

type	ref.-no.	base plate [mm]	qty. per box pcs.
SK 27/18 x 200	34773	120 x 40 x 4	1
SK 27/18 x 300	34774	120 x 40 x 4	1
SK 27/18 x 500	34775	120 x 40 x 4	1
SK 38/40 x 200	34776	120 x 40 x 6	1
SK 38/40 x 300	34777	120 x 40 x 6	1
SK 38/40 x 500	34778	120 x 40 x 6	1



MW - angle bracket

Suitability: assembling and reinforcing supporting systems in connection with channels

type	ref.-no.	angle	qty. per box pcs.
MW 27/18 - 45	34785	45°	1
MW 27/18 - 90	34786	90°	1
MW 38/40 - 45	34788	45°	1
MW 38/40 - 90	34789	90°	1

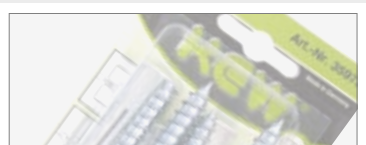


SVB - rail connector

Suitability: to connect rails/ channels and consoles

type	ref.-no.	screw size	qty. per box pcs.
SV 27/18	34783	M 8 x 16	1
SV 38/40	34784	M 10 x 20	1

Accessories



accessories

technical data



HWK - craftsman suitcase

type	ref.-no.	dimensions	Pal pcs.
HWK S	37608	300x199x154	208
HWK L	37609	410x301x278	56



EcoBox - stack box

type	ref.-no.	dimensions	outer carton pcs.
ECOBX 111 D green	33017	177x114x77	40
ECOBX 111 D blue	33018	177x114x77	40
ECOBX 111 D yellow	33019	177x114x77	40
ECOBX 111 D red	30120	177x114x77	40



S-Box - Assortment box

S-BOX S	38138	203x169x33	13
S-BOX M	38139	299x197x36	12
S-BOX L	38140	392x288x67	8



BOX ND S - Sortimentbox mittel

Bezeichnung	Art.-Nr.	Menge VE	Menge Umkarton	Inhalt
Nageldübel-BOX 120 tlg	38046	1	12	50 Dübel ND 6x35/5 S, 25 Dübel ND 6x40/10 S, 16 Dübel ND 6x80/50 S, 16 Dübel ND 8x60/20 S, 8 Dübel ND 8x80/40 S, 8 Dübel ND 8x100/60 S



BOX SU K - Assortment box small

type	ref.-no.	Inhalt	outer carton pcs.
SUK-BOX 160 tlg	37744	50 plug SU K 6, 50 chipboard screws 4,5 x 50, 30 plug SU K 8, 30 chipboard screws 6 x 70	13
SUK/DSD S-Box 155 tlg	38034	35 plug SU K 6, 20 plug SU K 8, 10 plug SU K 10, 50 plug DSD S 6, 30 plug DSD S 8, 10 plug DSD S 10	13
SUK/DSD S-Box 164 tlg	38035	20 plug U K 6, 12 plug SU K 8, 4 plug SU K 10, 25 plug DSD S 6, 15 plug DSD S 8, 6 plug DSD S 10, 45 chipboard screws 4,5 x 50, 27 chipboard screws 6,0 x 70, 10 chipboard screws 7,0 x 80	13
SUK/DSD S-Box 148 tlg	38040	25 plug SU K 6, 10 plug SU K 8, 25 plug DSD S 6, 13 plug DSD S 8, 39 chipboard screws 4,5 x 50, 21 chipboard screws 6 x 70, 4 round hook 3,5 x 70, 2 round hook white 4,2 x 65, 2 eye screw white 5,0 x 85, 5 angle hook 4,4 x 40, 1 drill bit Ø 6, 1 drill bit Ø 8	13



BOX SU K - Assortment box medium

SUK/DSD S-Box 300 tlg	38042	60 plug SU K 6, 30 plug SU K 6L, 20 plug SU K 8, 130 plug DSD S 6, 60 plug DSD S 8	12
SUK/DSD S-Box 340 tlg	38043	20 plug SU K 5, 30 plug SU K 6, 12 plug SU K 8, 8 plug SU K 10, 30 plug DSD S 5, 40 plug DSD S 6, 20 plug DSD S 8, 10 plug DSD S 10, 50 chipboard screws 3,5 x 45, 70 chipboard screws 4,0 x 40, 32 chipboard screws 5,0 x 50, 8 chipboard screws 6,0 x 70	12
SUK/DSD S-Box 194 tlg	38047	40 plug SU K 6, 15 plug SU K 8, 5 plug SU K 10, 70 plug DSD S 6, 30 plug DSD S 8, 6 plug DSD S 10, 8 round hook 3,5 x 70, 4 round hook 5,0 x 85, 2 eye screw 5,0 x 85, 6 angle hook 4,4 x 40, 2 round hook white 4,2 x 65, 2 round hook white 5,4 x 80, 2 Scaffold Screw 8,0 x 80, 1 drill bit Ø 6, 1 drill bit Ø 8	12



BOX SU K - Assortment box large

SUK-BOX 608 tlg	37741	75 plug SU K 5, 350 plug SU K 6, 30 plug SU K 6L, 100 plug SU K 8, 35 plug SU K 10, 18 plug SU K 12	8
SUK/DSD S-Box 772 tlg	38048	150 plug SU K 6, 70 plug SU K 8, 20 plug SU K 10, 200 plug DSD S 6, 120 plug DSD S 8, 30 plug DSD S 10, 100 chipboard screws 4,5 x 50, 50 chipboard screws 6,0 x 70, 30 chipboard screws 7,0 x 80, 1 drill bit Ø 6, 1 drill bit Ø 8	8

technical data



BOX UDD - Assortment box small

type	ref.-no.	contents	outer carton pcs.
UDD-BOX 190 pcs.	37743	60 plug UDD 6x36, 60 chipboard screws 4,5x50, 35 plug UDD 8x51, 35 chipboard screws 6 x70	13
UDD-BOX 192 pcs.	37742	105 plug UDD 6x36, 20 plug UDD 6x51, 65 plug UDD 8x51, 1 masonry drill Ø 6, 1 masonry drill Ø 8	13



plasterboardbox - Assortment box small

type	ref.-no.	contents	outer carton pcs.
Gipskarton-BOX 120 pcs.	38036	8 plug KHD 10x50, 30 plug GKD, 1 Setting tool SW, 14 plug GKD M, 32 chipboard screws 4,0 x 40, 8 chipboard screws 4,0 x 60, 4 round hook 4,2 x 65, 8 angle hook white 4,4 x 40	13



BOX UDD - Assortment kit medium

UDD/ DSD S-BOX 275 pcs.	38041	55 plug UDD 6x36, 40 plug UDD 6x51, 25 plug UDD 8x51, 15 plug UDD 10x61, 80 plug DSD S 6, 40 plug DSD S 8, 20 plug DSD S 10	12
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plasterboardbox - Assortment box medium

plasterboardbox 235 pcs	38044	12 plug KHD 10x50, 60 plug GKD, 1 Setting tool SW, 25 plug GKD M, 20 plug SP 8, 65 chipboard screws 4,0 x 40, 12 chipboard screws 4,0 x 60, 20 chipboard screws 5,0 x 50, 4 round hook 4,2 x 65, 16 angle hook white 4,4 x 40	12
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BOX UDD - Assortment box large

UDD-BOX 800 pcs.	37740	90 plug UDD 5x31, 450 plug UDD 6x36, 35 plug UDD 6x51, 150 plug UDD 8x51, 50 plug UDD 10x61, 15 plug UDD 12x71, 10 plug UDD 14x75	8
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plasterboardbox - Assortment box large

plasterboardbox 462 pcs.	37745	20 plug KHD 10x50, 40 plug GKD, 1 Setting tool SW, 40 plug GKD M, 80 plug SU K 6, 30 plug SU K 6L, 30 plug SU K 8, 40 plug MHD 4x12, 40 plug MHD 5x12, 40 plug MHD 5x16, 1 setting tool, 80 chipboard screws 4,0 x 40, 20 chipboard screws 4,0 x 60	8
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electrical-BOX - Assortment box

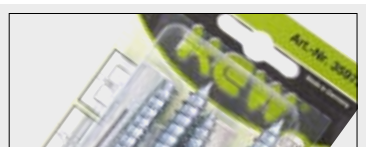
electrical-box 200pcs	38039	20 plug SU K 6, 70 cable clip NS 5-7, 30 cable clip NS 7-12, 20 cable clip NS 10-14, 20 chipboard screw ben 4x60, 40 cable tie 2,5x135	13
electrical-box 381pcs	38045	20 plug SU K 6, 8 plug SU K 8, 5 plug SU K 10, 100 cable clip NS 5-7, 40 cable clip NS 7-12, 25 cable clip NS 10-14, 20 chipboard screw 5x50, 8 chipboard screw 6x70, 5 chipboard screw 7x80, 50 cable tie 3,6x140, 100 cable tie 2,6x200	12



Screwbox - Assortment box medium

Screwbox 245 pcs.	38038	100 chipboard screw 3x30, 50 chipboard screw 4x40, 40 chipboard screw 4,5x70, 30 chipboard screw 5x50, 25 chipboard screw 6x70	13
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The Self Service Range



The Self Service - Range

The comprehensive range -
ambitious, clear, attractive



KEW DIY-Display-Stand 2,50 m x 2,0 m and KEW Pro-Display-Stand 1,25 m x 2,00 m

DIY Fixings

The comprehensive range of DIY-suited small-packs for simple up to ambitious DIY applications. All important directions for use are clearly shown on the packages. The products are packed in blister packs, bags, folding boxes, stack boxes, and round plastic boxes.

Professional Fixings

This range addresses to the typical requirements of the professional user and includes special fixings for special applications. It comprises bulk packed products, products packed in bags and folding boxes the contents of which correspond to the needs of professional users. The modular KEW display system allows to compose a customised range of fixings.

The Self Service Range

The NEW User's Guide - The GOOD Advice

Characteristics

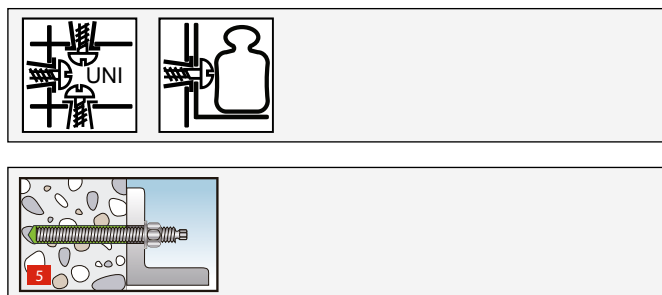
The new KEW guiding systems helps the end user to get along instantaneously.

General colour coding system

	can be used for all building materials
	can be used for solid building materials and brickwork
	can be used for board and cavity materials
	can be used for concrete
	can be used for electrical installation
	can be used for sanitary installation

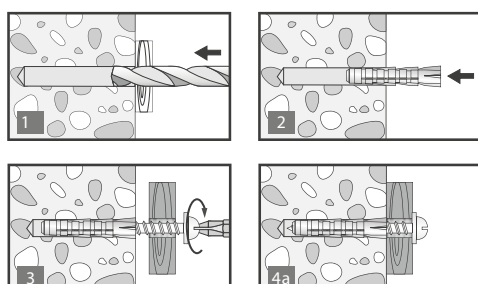
The colour coding system allows all products to be pre-selected according to an existing base material.

Sub-groups and installation sequences



The individual products are shown installed. Characteristic features can be seen at once.

Products, installation sequences



Ideal blister pack



Ideal visibility and relockableness are just a few out of many advantages of the new blister pack system. Easy-to-understand explanations and pictures help to promote sales. The general colour coding systems also applies for blister packs.

Navigation system

The general colour coding system along with easy-to-understand directions for use help to identify the product looked for. Perfect clarity - perfect compliance with all customers' needs!

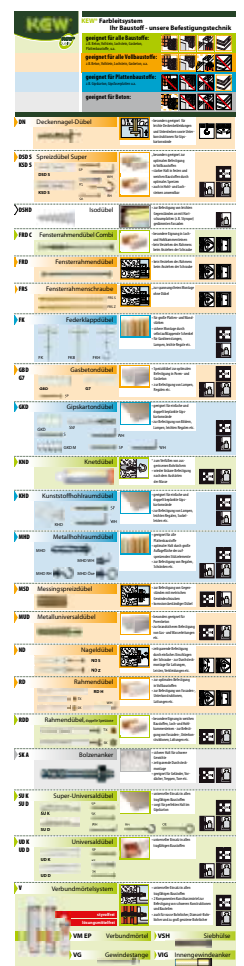
Befestigungsprobleme?

WAS wollen Sie befestigen? **WORIN** wollen Sie es befestigen?

In allen Baustoffen in Vollbaustoffen und Mauerwerk in Plattenbaustoffen in Beton in WDVS

WOMIT sollten Sie es befestigen: KEW Dübel

Problem	SU K	SU K	DSD S	GBD	GKD	SU K	DSD S
Ablage (wandhängend)	SU K	SU K	DSD S	GBD	GKD	SU K	DSD S
Außenlampe	SU K	SU K	DSD S	RHD	-	SU K	DSD S
Badregal/-schrank (steil)	SU K	SU K	DSD S	RHD	MHD	MHD	DSD S
Balkengeländer	-	-	-	-	-	SKA	VM
Bewegungsanker	SU K	SU K	DSD S	GBD	SU K	SU K	DSD S
Bild (mit Rahmen)	SU K	SU K	DSD S	GBD	GKD	SU K	DSD S
Briefkasten	SU K	SU K	DSD S	GBD	SU K	SU K	DSD S
Dachziegel	SU K	SU K	DSD S	RHD	-	-	SU K
Dunstabzughaube	SU K	SU K	DSD S	GBD	MHD	MHD	DSD S
Duschabtrennung (Dachstuhlhang)	SU K	SU K	DSD S	RHD	SU K	SU K	DSD S
Fensterankern	FRD C	-	FRD	FRD C	-	FRD	FRS
Gardienstange (Decke)	-	SU K	-	MUD	SU K	SU K	DSD S
Gardienstange (wandseitig)	SU K	SU K	DSD S	MUD	GKD	SU K	DSD S
Hängendeleuchte (Sellysystem)	SU K	SU K	DSD S	G7	MHD	MHD	DSD S
Handlauf	VM	-	RD	MHD	SU K	SU K	RD
Handrührbehälter	SU K	SU K	DSD S	MUD	SU K	MHD	DSD S



self-service range - for all building materials

universal plug - SU D

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU D 5	37109	20 x SU D Ø 5	9
SU D 6	35957	18 x SU D Ø 6	9
SU D 6 L	35958	16 x SU D Ø 6 long	9
SU D 8	35959	12 x SU D Ø 8	9
SU D 10	35960	6 x SU D Ø 10	9
SU D 12	37110	4 x SU D Ø 12	9
SU D 14	37111	3 x SU D Ø 14	9



universal plug

universal plug with collar - SU K

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU K 5	37112	20 x SU K Ø 5	9
SU K 6	35961	18 x SU K Ø 6	9
SU K 6 L	35962	16 x SU K Ø 6 long	9
SU K 8	35963	12 x SU K Ø 8	9
SU K 10	35964	6 x SU K Ø 10	9
SU K 12	37113	4 x SU K Ø 12	9
SU K 14	37114	3 x SU K Ø 14	9



universal plug with collar

universal plug with chipboard screw - SU D SP

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU D 5 SP	37115	15 x SU D Ø 5 / 15 x Chipboard screw 3,5 x 45	9
SU D 6 SP	35965	10 x SU D Ø 6 / 10 x Chipboard screw 4,5 x 50	9
SU D 6 L SP	35966	8 x SU D Ø 6 / 8 x Chipboard screw 4,5 x 70	9
SU D 8 SP	35967	6 x SU D Ø 8 / 6 x Chipboard screw 6,0 x 70	9



universal plug with chipboard screw

universal plug with collar and chipboard screw - SU K SP

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU K 5 SP	37116	15 x SU K Ø 5 / 15 x Chipboard screw 3,5 x 45	9
SU K 6 SP	35968	10 x SU K Ø 6 / 10 x Chipboard screw 4,5 x 50	9
SU K 6 L SP	35969	8 x SU K Ø 6 / 8 x Chipboard screw 4,5 x 70	9
SU K 8 SP	35970	6 x SU K Ø 8 / 6 x Chipboard screw 6,0 x 70	9



universal plug with collar and chipboard screw

universal plug with hexagon-head screw - SU D SK

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU D 10 SK	35971	4 x SU D Ø 10 / 4 x Hexagon-head screw 8,0 x 80	9
SU D 12 SK	37117	2 x SU D Ø 12 / 2 x Hexagon-head screw 8,0 x 90	9
SU D 14 SK	37119	2 x SU D Ø 14 / 2 x Hexagon-head screw 10,0 x 100	9



universal plug with collar and hexagon-head screw

universal plug with collar and hexagon-head screw - SU K SK

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU K 10 SK	35972	4 x SU K Ø 10 / 4 x Hexagon-head screw 8,0 x 80	9
SU K 12 SK	37118	2 x SU K Ø 12 / 2 x Hexagon-head screw 8,0 x 90	9
SU K 14 SK	37120	2 x SU K Ø 14 / 2 x Hexagon-head screw 10,0 x 100	9



universal plug with collar and hexagon-head screw

self-service range - for all building materials

universal plug with collar and round hook - SU K RH

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU K 6 RH	33883	4 x SU K Ø 6 / 4 x round hook 4,4 x 67	9
SU K 8 RH	33899	4 x SU K Ø 8 / 4 x round hook 4,9 x 84	9
SU K 10 RH	33900	2 x SU K Ø 10 / 2 x round hook 6,8 x 97	9



universal plug with collar and round hook

universal plug with collar and angle hook - SU K WH

Type	Art.No.	Package contents	pcs./UK
Blister card			
SU K 6 WH	33881	4 x SU K Ø 6 / 4 x angle hook 4,4 x 51	9
SU K 8 WH	33898	4 x SU K Ø 8 / 4 x angle hook 4,9 x 70	9
SU K 10 WH	33882	2 x SU K Ø 10 / 2 x angle hook 6,8 x 79	9



universal plug with collar and angle hook

universal plug with collar and angle hook, round hook and eye screw - SU K WHB / SU K RHB / SU K OEB

Bezeichn.	Art.No.	Package contents	pcs./UK
Blister card			
SU K 8 WHB	33884	2 x SU K Ø 8 / 2 x angle hook 4,9 x 70 m, nylon coated	9
SU K 8 RHB	33901	2 x SU K Ø 8 / 2 x round hook 4,9 x 84 m, nylon coated	9
SU K 8 OEB	33885	2 x SU K Ø 8 / 2 x eye screw 4,9 x 84 m, nylon coated	9



universal plug with collar and angle hook, round hook and eye screw

universal plug with collar - UKD

Type	Art.No.	Package contents	pcs./UK
Blister card			
UKD 5 x 32	31140	20 x UKD Ø 5 x 31	9
UKD 6 x 37	31142	18 x UKD Ø 6 x 37	9
UKD 6 x 52	35848	16 x UKD Ø 6 x 52	9
UKD 8 x 52	31148	12 x UKD Ø 8 x 52	9
UKD 10 x 62	31150	6 x UKD Ø 10 x 62	9
UKD 12 x 72	31152	4 x UKD Ø 12 x 72	9
UKD 14 x 76	31154	3 x UKD Ø 14 x 76	9



universal plug with collar

universal plug with collar and chipboard screw - UKD SP

Type	Art.No.	Package contents	pcs./UK
Blister card			
UKD 5 x 32 SP	32621	15 x UKD Ø 5x32 / 15 x chipboard screw 3,5x45	9
UKD 6 x 37 SP	32622	10 x UKD Ø 6x37 / 10 x chipboard screw 4,5x50	9
UKD 6 x 52 SP	35850	10 x UKD Ø 6x52 / 10 x chipboard screw 4,5x70	9
UKD 8 x 52 SP	32625	6 x UKD Ø 8x52 / 6 x chipboard screw 6,0x70	9
UKD 10 x 62 SP	32626	4 x UKD Ø 10x62 / 4 x chipboard screw 7,0x80	9



universal plug with collar and chipboard screw

self-service range - for all building materials

universal plug with collar and hexagon-head screw - UKD SK

Type	Art.No.	Package contents	pcs./UK
Blister card			
UKD 12 x 72 SK	32641	2 x UKD Ø 12 x 72 / 2 x hexagon-head screw 8,0 x 90	9
UKD 14 x 76 SK	32642	2 x UKD Ø 14 x 76 / 2 x hexagon-head screw 10,0 x 100	9



universal plug with collar and hexagon-head screw

universal plug through with wood screw - UDD KS

Type	Art.No.	Package contents	pcs./UK
Blister card			
UDD 5 x 31 KS	32627	15 x UDD Ø 5 x 31 / 15 x Wood screw 3,0 x 40	9
UDD 6 x 36 KS	32628	10 x UDD Ø 6 x 36 / 10 x Wood screw 4,0 x 50	9
UDD 8 x 51 KS	32631	6 x UDD Ø 8 x 51 / 6 x Wood screw 5,0 x 70	9
UDD 10 x 61 KS	32632	4 x UDD Ø 10 x 61 / 4 x Wood screw 7,0 x 80	9



universal plug through with wood screw

universal plug with collar and wood screw - UKD KS

Type	Art.No.	Package contents	pcs./UK
Blister card			
UKD 5 x 32 KS	32633	15 x UDD Ø 5 x 32 / 15 x Wood screw 3,0 x 40	9
UKD 6 x 37 KS	32634	10 x UDD Ø 6 x 37 / 10 x Wood screw 4,0 x 50	9
UKD 8 x 52 KS	32637	6 x UDD Ø 8 x 52 / 6 x Wood screw 5,0 x 70	9
UKD 10 x 62 KS	32638	4 x UDD Ø 10 x 62 / 4 x Wood screw 7,0 x 80	9



universal plug with collar and wood screw

WC and sanitary fixing - WCB

Type	Art.No.	Package contents	pcs./UK
Blister card			
WCB 6 x 90 SK	31550	2 x UDD 8x51, 2 x snap-fit sleeve WCB, 2 x brass hexagon head screw 6x90, 2 x cover cap WCB white, 2 x cover cap WCB bahamabeige	9



WC and sanitary fixing

urinal fixing - UB

Type	Art.No.	St. x Inhalt	pcs./UK
Poly bag blister			
UB 8 x 120 STS weiß	33935	2 x DSD S Ø 10, 2 x stud screw M 8x120, 2 x nylon washer M 8, 2 x washer M 8, 2 x hexagonal nut M 8, 2 x cover cap URI white	12



urinal fixing

expansion socket - SP

Type	Art.No.	Inhalt	pcs./UK
Blister card			
SP 6	30703	30 x SP Ø 6	9
SP 7	30704	25 x SP Ø 7	9
SP 8	30705	25 x SP Ø 8	9



expansion socket

self-service range - for all building materials

expansion socket with chipboard screw - SP S

Type	Art.No.	Package contents	pcs./UK
Blister card			
SP 6 S	36131	10 x SP Ø 6 / 10 x Chipboard screw 3 x 30	9
SP 7 S	36132	10 x SP Ø 6 / 10 x Chipboard screw 4 x 40	9
SP 8 S	36133	10 x SP Ø 6 / 10 x Chipboard screw 5 x 50	9



expansion socket with chipboard screw

Frame Plug, extended expansion area with Torx screw and individual tag - RDD TX

type	ref.-no.	qty. per box pcs.
RDD 10x120 TX E	37418	50
RDD 10x140 TX E	37419	50
RDD 10x160 TX E	37420	50
RDD 10x180 TX E	37421	50
RDD 10x200 TX E	37422	50
RDD 10x230 TX E	37423	50
RDD 10x260 TX E	37424	50



Frame Plug, extended expansion area with hexagonal screw and integral washer and Torx screw with individual tag - RDD SKS

type	ref.-no.	qty. per box pcs.
RDD 10x120 SKS E	37425	50
RDD 10x140 SKS E	37426	50
RDD 10x160 SKS E	37427	50
RDD 10x180 SKS E	37428	50
RDD 10x200 SKS E	37429	50
RDD 10x230 SKS E	37430	50
RDD 10x260 TX E	37424	50



frame fixing with hexagon-head safety screw - RDD SK

Type	Art.No.	Package contents	pcs./UK
Blister card			
RDD 8 x 100 SK	36134	4 x RDD Ø 8 x 100 / 4 x Hexagon-head safety screw 6,0 x 105	9
Poly bag blister			
RDD 8 x 120 SK	36135	4 x RDD Ø 8 x 120 / 4 x Hexagon-head safety screw 6,0 x 125	15
RDD 10 x 100 SK	33952	4 x RDD Ø 10 x 100 / 4 x Hexagon-head safety screw 7,0 x 105	20
RDD 10 x 120 SK	33953	4 x RDD Ø 10 x 120 / 4 x Hexagon-head safety screw 7,0 x 125	20
RDD 10 x 140 SK	33954	4 x RDD Ø 10 x 140 / 4 x Hexagon-head safety screw 7,0 x 145	15
RDD 10 x 160 SK	33955	4 x RDD Ø 10 x 160 / 4 x Hexagon-head safety screw 7,0 x 165	15

shorter additional length RD 8x80 SK - Art.No. 36163 and RD 10x80 SK - Art.No. 36146, siehe S. 108



frame fixing with hexagon-head safety screw

frame fixing with countersunk-head safety screw - RDD TX

zinc plated countersunk-head safety screw for torx bit size 30 for Ø 8 and 40 for Ø 10

Type	Art.No.	Package contents	pcs./UK
Blister card			
RDD 8 x 100 TX	36136	4 x RDD Ø 8 x 100 / 4 x countersunk-head safety screw TORX 6,0 x 105	9
Poly bag blister			
RDD 8 x 120 TX	36178	4 x RDD Ø 8 x 120 / 4 x countersunk-head safety screw TORX 6,0 x 125	15
RDD 10 x 100 TX	33956	4 x RDD Ø 10 x 100 / 4 x countersunk-head safety screw TORX 7,0 x 105	20
RDD 10 x 120 TX	33957	4 x RDD Ø 10 x 120 / 4 x countersunk-head safety screw TORX 7,0 x 125	20
RDD 10 x 140 TX	33958	4 x RDD Ø 10 x 140 / 4 x countersunk-head safety screw TORX 7,0 x 145	15
RDD 10 x 160 TX	33959	4 x RDD Ø 10 x 160 / 4 x countersunk-head safety screw TORX 7,0 x 165	15

shorter additional length RD 8x80 TX - Art.No. 36164 and RD 10x80 TX - Art.No. 36147, siehe S. 108



frame fixing with countersunk-head safety screw

self-service range - for all building materials

window frame fixing - FRD CM

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
FRD CM 10 x 112 *	34129	6 x FRD CM Ø 10 x 112 / 6 x cover cap white, 6 x cover cap dark brown	20
FRD CM 10 x 132 *	34130	6 x FRD CM Ø 10 x 132 / 6 x cover cap white, 6 x cover cap dark brown	20
FRD CM 10 x 152 *	34131	6 x FRD CM Ø 10 x 152 / 6 x cover cap white, 6 x cover cap dark brown	15
FRD CM 10 x 182 *	34132	6 x FRD CM Ø 10 x 182 / 6 x cover cap white, 6 x cover cap dark brown	15

* available in poly bag without blister as well



window frame fixing

Scaffold screw with individual tag - GS

type	ref.-no.	qty. per box pcs.
GS 12X 90 E	37432	25
GS 12X120 E	37433	25
GS 12X190 E	37434	25
GS 12X230 E	37435	25
GS 12X350 E	37436	25



scaffold anchoring - GS

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
GS 8 x 80	36140	2 x GS Ø 8 x 80	



scaffold anchoring

injection mortar - VM

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
VM 150	33830	1 x cartridge Kartusche 150ml / 2 x static mixer	4



injection mortar

internally threaded sleeve - VIG

Type	Art.No.	Package contents	pcs./UK
Blister card			
VIG M 8	36159	4 x VIG M 8	9
VIG M 10	36160	4 x VIG M 10	9



internally threaded sleeve

self-service range - for all building materials

injection anchor sleeve, plastic - VSH

Type	Art.No.	Package contents	pcs./UK
Blister card			
VSH 12 x 50	33820	4 x VSH Ø 12 x 50	9
Poly bag blister			
VSH 15 x 85	33821	4 x VSH Ø 15 x 85	15



injection anchor sleeve

wash basin fixing set for injection system - WTB VSH

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
WTB 10 x 140 VSH	36176	2 x threaded stud M 10x140 / 2 x anchor sleeve plastic 15x85 / 2 x flanged nut M 10 / 2 x excenter nylon flange bush M 10 / 2 x washer M 10	15



wash basin fixing set for injection system



threaded stud - VG

Type	Art.No.	Package contents	pcs./UK
Blister card			
VG M 6 x 100	36138	4 x VG M 6 x 100	9
VG M 8 x 110	36157	4 x VG M 8 x 110	9
VG M 10 x 110	36158	4 x VG M 10 x 110	9
Poly bag blister			
VG M 12 x 115	36177	4 x VG M 12 x 115	15



threaded stud

Resin fixing - KND

Type	Art.No.	Package contents	pcs./UK
Blister card			
KND 40	36139	resin 40g	9



Resin fixing

self-service range - or solid materials and masonry

expansion plug push through - DSD S

Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 5	30690	25 x DSD S Ø 5	9
DSD S 6	30691	15 x DSD S Ø 6	9
DSD S 7	30692	12 x DSD S Ø 7	9
DSD S 8	30693	10 x DSD S Ø 8	9
DSD S 10	30694	5 x DSD S Ø 10	9
DSD S 12	30700	6 x DSD S Ø 12	9
DSD S 14	30701	4 x DSD S Ø 14	9
Blister card great packaging			
DSD S 5 G	30695	50 x DSD S Ø 5	9
DSD S 6 G	30696	30 x DSD S Ø 6	9
DSD S 7 G	30697	25 x DSD S Ø 7	9
DSD S 8 G	30698	20 x DSD S Ø 8	9
DSD S 10 G	30699	10 x DSD S Ø 10	9



expansion plug push through

expansion plug with collar - KSD S

Type	Art.No.	Package contents	pcs./UK
Blister card			
KSD S 5	30685	25 x KSD S Ø 5	9
KSD S 6	30686	15 x KSD S Ø 6	9
KSD S 7	30687	12 x KSD S Ø 7	9
KSD S 8	30688	10 x KSD S Ø 8	9
KSD S 10	30689	5 x KSD S Ø 10	9



expansion plug with collar

expansion plug push through with chipboard screw - DSD S SP

Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 5 SP	30710	20 x DSD S Ø 5 / 20 x Chipboard screw n 3,0 x 30	9
DSD S 6 SP	30711	12 x DSD S Ø 6 / 12 x Chipboard screw n 4,0 x 40	9
DSD S 8 SP	30712	8 x DSD S Ø 8 / 8 x Chipboard screw n 5,0 x 50	9



expansion plug push through with chipboard screw

expansion plug with collar and chipboard screw - KSD S SP

Type	Art.No.	Package contents	pcs./UK
Blister card			
KSD S 5 SP	30713	20 x DSD S Ø 5 / 20 x Chipboard screw n 3,0 x 30	9
KSD S 6 SP	30714	12 x KSD S Ø 6 / 12 x Chipboard screw n 4,0 x 40	9
KSD S 8 SP	30715	8 x DSD S Ø 8 / 8 x Chipboard screw n 5,0 x 50	9



expansion plug with collar and chipboard screw

expansion plug push through with wood screw - DSD S KS

Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 5 KS	30716	25 x DSD S Ø 5 / 25 x Wood screw 3,0 x 30	9
DSD S 6 KS	30717	15 x DSD S Ø 6 / 15 x Wood screw 4,0 x 40	9
DSD S 7 KS	30718	12 x DSD S Ø 7 / 12 x Wood screw 4,5 x 40	9
DSD S 8 KS	30719	10 x DSD S Ø 8 / 10 x Wood screw 5,0 x 50	9
DSD S 10 KS	30720	5 x DSD S Ø 10 / 5 x Wood screw 6,0 x 60	9



expansion plug push through with wood screw

self-service range - or solid materials and masonry

expansion plug with collar and wood screw - KSD S KS

Type	Art.No.	Package contents	pcs./UK
Blister card			
KSD S 5 KS	30721	25 x DSD S Ø 5 / 25 x Wood screw 6,0 x 60	9
KSD S 6 KS	30722	15 x KSD S Ø 6 / 15 x Wood screw 4,0 x 40	9
KSD S 7 KS	30723	12 x KSD S Ø 7 / 12 x Wood screw 4,5 x 40	9
KSD S 8 KS	30724	10 x KSD S Ø 8 / 10 x wood screw 5,0 x 50	9
KSD S 10 KS	30725	5 x KSD S Ø 10 / 5 x Wood screw 6,0 x 60	9



expansion plug push through with hexagon-head screw - DSD S SK

Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 10 SK	30748	5 x DSD S Ø 10 / 5 x hexagon-head screw 6,0 x 70	9
DSD S 12 SK	30749	3 x DSD S Ø 12 / 3 x hexagon-head screw 8,0 x 80	9
DSD S 14 SK	30750	2 x DSD S Ø 14 / 2 x hexagon-head screw 10,0 x 90	9



expansion plug with collar and hexagon-head screw - KSD S SK

Type	Art.No.	Package contents	pcs./UK
Blister card			
KSD S 10 SK	30747	5 x KSD S Ø 10 / 5 x hexagon-head screw 6,0 x 70	9



expansion plug push through with chipboard screw and cover cap - DSD S SPA

Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 8 SPA	30741	8 x DSD S Ø 8 / 8 x Chipboard screw n 5 x 50 / 8 x cover cap white, dark brown, beige	9



expansion plug push through with round hook - DSD S RH

Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 10 RH	31540	2 x DSD S Ø 10 / 2 x round hook 7 x 100	9



expansion plug push through with angle hook - DSD S WH

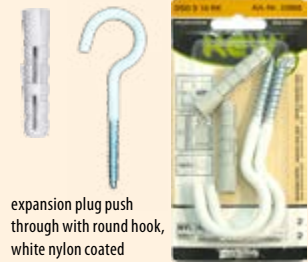
Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 6 WH	31542	8 x DSD S Ø 6 / 8 x angle hook 4,4 x 40	9



self-service range - or solid materials and masonry

expansion plug push through with round hook, white nylon coated - DSD S RK

Type	Art.No.	Package contents	pcs./UK
Blister card			
DSD S 6 RK	33886	4 x DSD S Ø 6 / 4 x round hook 4,2 x 65, white nylon coated	9
DSD S 8 RK	33887	2 x DSD S Ø 8 / 2 x round hook 5,4 x 80, white nylon coated	9
DSD S 10 RK	33888	2 x DSD S Ø 10 / 2 x round hook 7 x 106, white nylon coated	9



expansion plug push through with round hook, white nylon coated

wash basin fixing - WTB STS

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
WTB 10 x 120 STS	30772	2 x DSD S Ø 12, 2 x stud screw M 10x120, 2 x excenter nylon flange bush M 10, 2 x washer M 10, 2 x hexagonal nut M 10	12
WTB 10 x 140 STS	30773	2 x DSD S Ø 12, 2 x stud screw M 10x140, 2 x excenter nylon flange bush M 10, 2 x washer M 10, 2 x hexagonal nut M 10	12



wash basin fixing



wash basin and urinal fixing - WTUB

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
WTUB 10 x 140 w	33961	2 x DSD S Ø 12, 2 x stud screw M 10x140, 2 x flange bush M 10, 2 x washer M 10, 2 x hexagonal nut M 10, 2 x cover cap WTUB white	12
WTUB 10 x 140 cr	33962	2 x DSD S Ø 12, 2 x stud screw M 10x140, 2 x flange bush M 10, 2 x washer M 10, 2 x hexagonal nut M 10, 2 x cover cap WTUB chromate	12



wash basin and urinal fixing



mirror fixing - SB

Type	Art.No.	Package contents	pcs./UK
Blister card			
SB	33934	4 x DSD S Ø 6, 4 x pozi screw 4,0 x 40, 2 x mirror holder with spring, 2 x mirror holder without spring	9



mirror fixing



frame fixing - RDH

Type	Art.No.	Package contents	pcs./UK
Blister card			
RDH 6 x 60	33774	15 x RDH Ø 6 x 60	9
RDH 8 x 60	33775	10 x RDH Ø 8 x 60	9
RDH 8 x 80	33776	10 x RDH Ø 8 x 80	9



frame fixing



frame fixing with countersunk-head wood screw - RD S

Type	Art.No.	Package contents	pcs./UK
Blister card			
RD 6 x 60 S	33771	8 x RD Ø 6 x 60 / 8 x countersunk-head wood screw 4,5 x 65	9
RD 8 x 60 S	33772	6 x RD Ø 8 x 60 / 6 x countersunk-head wood screw 6,0 x 65	9
RD 8 x 80 S	33773	5 x RD Ø 8 x 80 / 5 x countersunk-head wood screw 6,0 x 85	9
Poly bag blister			
RD 8 x 100 S	34326	4 x RD Ø 8 x 100 / 4 x countersunk-head wood screw 6,0 x 105	25



frame fixing + countersunk-head wood screw



self-service range - or solid materials and masonry

frame fixing with countersunk-head wood screw - RD S

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
RD 8 x 120 S	34327	4 x RD Ø 8 x 120 / 4 x countersunk-head wood screw 6,0 x 125	20
RD 10 x 100 S *	34328	4 x RD Ø 10 x 100 / 4 x countersunk-head wood screw 7,0 x 105	25
RD 10 x 120 S *	34329	4 x RD Ø 10 x 120 / 4 x countersunk-head wood screw 7,0 x 125	20
RD 10 x 140 S *	34330	4 x RD Ø 10 x 140 / 4 x countersunk-head wood screw 7,0 x 145	20

* available in poly bag without blister as well



frame fixing + countersunk-head wood screw

frame fixing with countersunk-head safety screw - RD TX

zinc plated countersunk-head safety screw for torx bit size 30 for Ø 8 and 40 for Ø 10

Type	Art.No.	Package contents	pcs./UK
Blister card			
RD 8 x 80 TX	36164	4 x RD Ø 8 x 80 / 4 x countersunk-head safety screw TORX 6,0 x 85	9
RD 10 x 80 TX	36147	4 x RD Ø 10 x 80 / 4 x countersunk-head safety screw TORX 7,0 x 85	9



frame fixing + countersunk-head safety screw

frame fixing with hexagon-head safety screw - RD SK

Type	Art.No.	Package contents	pcs./UK
Blister card			
RD 8 x 80 SK	36163	4 x RD Ø 8 x 80 / 4 x Hexagon-head safety screw 6,0 x 85	9
RD 10 x 80 SK	36146	4 x RD Ø 10 x 80 / 4 x Hexagon-head safety screw 7,0 x 85	9



frame fixing with hexagon-head safety screw

frame fixing with angle hook - RD WH

Type	Art.No.	Package contents	pcs./UK
Blister card			
RD 8 x 60 WH	33878	2 x RD Ø 8 x 60 / 2 x angle hook 5,8 x 80	9
RD 8 x 80 WH	33879	2 x RD Ø 8 x 80 / 2 x angle hook 5,8 x 100	9
Poly bag blister			
RD 10 x 100 WH	33880	2 x RD Ø 10 x 100 / 2 x angle hook 7,0 x 125	20



frame fixing with angle hook

nail plug - ND S

Type	Art.No.	Package contents	pcs./UK
Blister card			
ND 5 x 30 S	30731	20 x ND S Ø 5 x 30 / 20 x nail 3,5 x 35, pre assembled	9
ND 5 x 40 S	30732	20 x ND S Ø 5 x 40 / 20 x nail 3,5 x 45, pre assembled	9
ND 6 x 40 S	30734	15 x ND S Ø 6 x 40 / 15 x nail 4 x 45, pre assembled	9
ND 6 x 60 S	30735	15 x ND S Ø 6 x 60 / 15 x nail 4 x 65, pre assembled	9
ND 6 x 80 S	30736	10 x ND S Ø 6 x 80 / 10 x nail 4 x 85, pre assembled	9
ND 8 x 80 S	33779	8 x ND S Ø 8 x 80 / 8 x nail 5 x 85, pre assembled	9
Poly bag blister			
ND 8 x 100 S	34331	8 x ND S Ø 8 x 100 / 8 x nail 5 x 105, pre assembled	14
ND 8 x 120 S	34332	6 x ND S Ø 8 x 120 / 6 x nail 5 x 125, pre assembled	14
ND 8 x 140 S	34333	6 x ND S Ø 8 x 140 / 6 x nail 5 x 145, pre assembled	14



nail plug

self-service range - or solid materials and masonry

Window frame plug with individual tag - FRD M

type	ref.-no.	qty.per box pcs.
FRD 10x112 E	37459	100
FRD 10x132 E	37460	100
FRD 10x152 E	37461	100
FRD 10x182 E	37462	100
FRD 10x202 E	37463	100



Window frame plug

window frame fixing - FRD M

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
FRD M 8 x 92 *	30761	6 x FRD M Ø 8 x 92 / 6 x cover cap white / 6 x cover cap dark brown	24
FRD M 8 x 132 *	30762	6 x FRD M Ø 8 x 132 / 6 x cover cap white / 6 x cover cap dark brown	24
FRD M 10 x 112 *	30764	6 x FRD M Ø 10 x 112 / 6 x cover cap white / 6 x cover cap dark brown	18
FRD M 10 x 132 *	30763	6 x FRD M Ø 10 x 132 / 6 x cover cap white / 6 x cover cap dark brown	18
FRD M 10 x 152 *	30765	6 x FRD M Ø 10 x 152 / 6 x cover cap white / 6 x cover cap dark brown	14
FRD M 10 x 182 *	31500	6 x FRD M Ø 10 x 182 / 6 x cover cap white / 6 x cover cap dark brown	14

* available in poly bag without blister as well



window frame fixing

window frame screw countersunk head - FRS

Type	Art.No.	Package contents	pcs./UK
Blister card			
FRS 7,5 x 72 S	36166	6 x FRS Ø 7,5 x 72 S / 6 x cover cap white / 6 x cover cap dark brown	9
FRS 7,5 x 92 S	36167	6 x FRS Ø 7,5 x 92 S / 6 x cover cap white / 6 x cover cap dark brown	9
Poly bag blister			
FRS 7,5 x 112 S	36168	6 x FRS Ø 7,5 x 112 S / 6 x cover cap white / 6 x cover cap dark brown	15
FRS 7,5 x 132 S	36169	6 x FRS Ø 7,5 x 132 S / 6 x cover cap white / 6 x cover cap dark brown	15
FRS 7,5 x 152 S	36170	6 x FRS Ø 7,5 x 152 S / 6 x cover cap white / 6 x cover cap dark brown	15
FRS 7,5 x 182 S	36171	6 x FRS Ø 7,5 x 182 S / 6 x cover cap white / 6 x cover cap dark brown	15



window frame screw countersunk head

adjusting wedge - BMK

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
BMK 6	23070	10 x BMK 6	17
BMK 9	23140	6 x BMK 9	15



adjusting wedge

spacer unit - ASH

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
ASH 3	36464	15 x ASH 3	15
ASH 5	36465	9 x ASH 5	15
ASH 8	36466	6 x ASH 8	15



spacer unit

self-service range - or solid materials and masonry

brass anchor - MSD

Type	Art.No.	Package contents	pcs./UK
Blister card			
MSD M 5	36162	7 x MSD M 5	9
MSD M 6	35377	5 x MSD M 6	9
MSD M 8	35378	3 x MSD M 8	9
MSD M 10	35379	2 x MSD M 10	9



brass anchor

aircrete plug - G7

Type	Art.No.	Package contents	pcs./UK
Blister card			
G7	36137	10 x G 7	9



aircrete plug

aircrete plug with setting tool - GBD SW aircrete plug with setting tool and chipboard screw - GBD SWS

Type	Art.No.	Package contents	pcs./UK
Blister card			
GBD SW	32601	4 x GBD / 1 x setting tool	9
GBD SWS	32602	4 x GBD / 1 x setting tool / 4 x Chipboard screw n 4,5 x 70	9



aircrete plug +
setting tool + chipboard screw

metal universal plug - MUD

Type	Art.No.	Package contents	pcs./UK
Blister card			
MUD 5 x 30	32610	14 x MUD 5 x 30	9
MUD 6 x 32	32611	14 x MUD 6 x 32	9
MUD 8 x 38	32612	12 x MUD 8 x 38	9
MUD 8 x 60	32613	10 x MUD 8 x 60	9
MUD 10 x 60	32614	8 x MUD 10 x 60	9



metal universal plug

ceiling nail - DN

Type	Art.No.	Package contents	pcs./UK
Blister card			
DN 35	36165	6 x DN 35	9



ceiling nail

self-service range for insulation material

ISO plug - ID

Type	Art.No.	Package contents	pcs./UK
Blister card			
ID 50	36172	2 x ID 50	15
ID 85	36173	2 x ID 85	15



ISO plug

self-service range - for board materials and cavities

hollow wall plug - KHD

hollow wall plug with chipboard screw - KHD SP

hollow wall plug with angle hook - KHD WH

Type	Art.No.	Package contents	pcs./UK
Blister card			
KHD	36142	5 x KHD 10 x 50	9
KHD SP	33397	4 x KHD 10 x 50 / 4 x Chipboard screw 4 x 60	9
KHD WH	36143	2 x KHD 10 x 50 / 2 x angle hook 4 x 40	9



hollow wall plug with chipboard screw/ angle hook

plasterboard plug - GKD SW

plasterboard plug with Chipboard screw - GKD SWS

plasterboard plug with angle hook - GKD SW WH

Type	Art.No.	Package contents	pcs./UK
Blister card			
GKD	30706	15 x GKD	9
GKD SW	30707	10 x GKD, 1 x setting tool	9
GKD SWS	32600	5 x GKD / 1 x setting tool / 5 x Chipboard screw 4,0 x 40	9
GKD SW WH	36141	5 x GKD / 1 x setting tool / 5 x angle hook 4,0 x 40	9



plasterboard plug with setting tool/ chipboard screw/angle hook

metal plasterboard plug - GKD M

metal plasterboard plug with Chipboard screw - GKD M SP

Type	Art.No.	Package contents	pcs./UK
Blister card			
GKD M	35144	15 x GKD M	9
GKD M SP	35342	3 x GKD M / 3 x Chipboard screw 4,0 x 40	9
GKD M SP	35343	10 x GKD M / 10 x Chipboard screw 4,0 x 40	9



Gipskartondübel with Chipboard screw

metal hollow wall fixing - MHD

Type	Art.No.	Package contents	pcs./UK
Blister card			
MHD 4 x 12	32604	4 x MHD 4 x 12	9
MHD 4 x 24	32605	4 x MHD 4 x 24	9
MHD 5 x 12	30755	4 x MHD 5 x 12	9
MHD 5 x 16	32606	4 x MHD 5 x 16	9
MHD 5 x 24	32607	4 x MHD 5 x 24	9
MHD 6 x 12	30758	4 x MHD 6 x 12	9
MHD 6 x 16	32608	4 x MHD 6 x 16	9
MHD 6 x 24	32609	4 x MHD 6 x 24	9



metal hollow wall fixing

metal hollow wall fixing - MHD WH/Oe/RH

Type	Art.No.	Package contents	pcs./UK
Blister card			
MHD 6 x 16 WH	35344	4 x MHD 6 x 16 / 4 x angle hook M 6 x 60	9
MHD 6 x 16 Oe	36144	4 x MHD 6 x 16 / 4 x eye screw M 6 x 60	9
MHD 6 x 16 RH	36145	4 x MHD 6 x 16 / 4 x round hook M 6 x 60	9



metal hollow wall fixing eye screw / angle hook / round hook

self-service range - for board materials and cavities

hollow wall wash basin fixing - WTB MHD

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
WTB 8 x 16 MHD	30770	2 x threaded stud M 8x115, 2 x MHD 8x16, 2 x hexagonal nut M 8, 2 x washer M 8, 2 x excenter nylon flange bush M 8	12
WTB 8 x 24 MHD	30771	2 x threaded stud M 8x115, 2 x MHD 8x24, 2 x hexagonal nut M 8, 2 x washer M 8, 2 x excenter nylon flange bush M 8	12



hollow wall wash basin fixing



installation tool metal hollow wall fixing - HMZ

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
HMZ	30784	1 x installation tool metal hollow wall fixing	1



installation tool metal hollow wall fixing



spring toggle - FK

Type	Art.No.	Package contents	pcs./UK
Blister card			
FK M 3 x 90	34368	2 x FK M 3 x 90	9
FK M 4 x 100	30781	2 x FK M 4 x 100	9
Poly bag blister			
FK M 5 x 100	36174	2 x FK M 5 x 100	15



spring toggle



spring toggle with rimmed brass nut - FKB

Type	Art.No.	Package contents	pcs./UK
Blister card			
FKB M 3 x 90	33686	9 x FKB M 3 x 90	4
FKB M 3 x 90	33688	2 x FKB M 3 x 90	9
FKB M 4 x 100	33687	8 x FKB M 4 x 100	4
FKB M 4 x 100	36001	2 x FKB M 4 x 100	9



spring toggle with rimmed brass nut



spring toggle with round hook - FKH

Type	Art.No.	Package contents	pcs./UK
Blister card			
FKH M 3 x 50	33689	2 x FKH M 3 x 50	9
FKH M 4 x 70	30782	2 x FKH M 4 x 70	9
Poly bag blister			
FKH M 5 x 70	36175	2 x FKH M 5 x 70	15



spring toggle with round hook



self-service range - for concrete

stud anchor S-KA

Type	Art.No.	Package contents	pcs./UK
Blister card			
S-KA 8/10	36838	2 x S-KA 8/10	9
S-KA 10/10	36839	2 x S-KA 10/10	9
S-KA 12/20	36840	2 x S-KA 12/20	9



stud anchor S-KA

Stud anchor with individual tag BU

type	ref.-no.	pcs./UK
BU 12-85/180 E	37450	25
BU 12-105/200 E	37451	25
BU 12-145/240 E	37452	25
BU 12-160/255 E	37453	20
BU 12-190/285 E	37454	20
BU 16-100/220 E	37455	10
BU 16-130/250 E	37456	10
BU 16-165/285 E	37457	10



Stud anchor BU

Stud anchor made of galvanized steel with individual tag S-KA

Type	Art.No.	pcs./UK
S-KA 10/10 E	36828	50
S-KA 10/30 E	36829	25
S-KA 10/55 E	36830	25
S-KA 10/80 E	36831	25
S-KA 12/5 E	36832	25
S-KA 12/20 E	36833	25
S-KA 12/35 E	36834	25
S-KA 12/65 E	36835	25
S-KA 12/105 E	36836	25
S-KA 16/20 E	36837	10



stud anchor S-KA

Stud anchor made of stainless steel, A4 with individual tag

Type	Art.No.	pcs./UK
S-KAH 10/10 A4 E	36861	50
S-KAH 12/5 A4 E	36862	25
S-KAH 12/20 A4 E	36863	25



stud anchor S-KAH

self-service range - sanitary fixings

pipe clamp with individual tag RS

type	ref.-no.	pcs./UK
RS PRAKTIC 3/8" E	37442	100
RS PRAKTIC 1/2" E	37443	100
RS PRAKTIC 3/4" E	37444	100
RS PRAKTIC 1" E	37445	100
RS PRAKTIC 1 1/4" E	37446	100
RS PRAKTIC 1 1/2" E	37447	100
RS PRAKTIC 2" E	37448	50
RS PRAKTIC 2 1/2" E	37449	50



pipe clamp

pipe clamp RS

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
RS Practic 3/8"	35043	2 x RS 3/8"	12
RS Practic 1/2"	35044	2 x RS 1/2"	12
RS Practic 3/4"	35045	2 x RS 3/4"	12
RS Practic 1"	35046	2 x RS 1"	12
Liegebeutel			
RS Practic 3/8"	35039	10 x RS 3/8"	20
RS Practic 1/2"	35040	10 x RS 1/2"	20
RS Practic 3/4"	35041	10 x RS 3/4"	20
RS Practic 1"	35042	10 x RS 1"	20



pipe clamp

stud screw STS

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
STS 8 x 100	36460	4 x STS 8 x 100	15
STS 8 x 120	36461	4 x STS 8 x 120	15
STS 10 x 120	36462	4 x STS 10 x 120	15
STS 10 x 140	36463	4 x STS 10 x 140	15



stud screw

self-service range - electrical fixings

pipe clamp plastic - RS M

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
RSM 16	37040	10 x RS M 16	
RS M 20	37041	8 x RS M 20	
RS M 25	37042	6 x RS M 25	
RS M 32	37043	4 x RS M 32	
RS M 40	37044	2 x RS M 40	



pipe clamp plastic

cable strap - SS

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
SS 3/13	37045	15 x SS 3/13	
SS 8/28	37046	10 x SS 8/28	



cable strap

nail disk - NSB

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
NSB 27/40	37047	20 x NSB 27 / 20 x Nagel 2,0 x 40	
NSB 27/50	37048	20 x NSB 27 / 20 x Nagel 2,0 x 50	



nail disk

nail clamp - NS

Type	Art.No.	Package contents	pcs./UK
Poly bag blister			
NS 3-5/18	37051	50 x NS 3- 5 / 50 x Nagel 1,7 x 18	
NS 5-7/18	37052	50 x NS 5- 7 / 50 x Nagel 2,0 x 18	
NS 5-7/23	37053	50 x NS 5- 7 / 50 x Nagel 2,0 x 23	
NS 7-12/18	37054	40 x NS 7-12 / 40 x Nagel 2,0 x 18	
NS 7-12/30	37055	40 x NS 7-12 / 40 x Nagel 2,0 x 30	
NS 10-14/30	37056	40 x NS 10-14 / 40 x Nagel 2,0 x 30	



nail clamp

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