GENERAL CATALOGUE

Smart®

Intelligent Fixing Solutions

PGB-EUROPE NV

pgb-Europe is a Belgian family-owned company specialised in the distribution of fasteners. fixings and hand tools. Our vast range of products allows us to meet the individual needs of every customer.

Intelligent fastening solutions:
We want to be a leading company in the domestic market of our field.
pgb-Europe distinguishes itself through knowhow, excellent product quality, a high delivery rate and customer-oriented service and sound advice.
We stand for partnerships on the long term with a clear win-win situation. by offering products with added-value. A strong emphasis is thus put to finding the best and most cost-efficient solution for our clients.

PGB-POLSKA SP. Z.O.O

pgb-Polska is the Polish production plant of pgb-Europe. The main activity of the company is the production of high quality nylon and steel anchors, developed under the brand name "SMART".

The company already obtained an ETA approval for its nylon frame anchors and multifunctional wall plugs with screws (ETA-10/0392) and hammer nail plugs (ETA-12/0572). The company's full production range covers multifunctional wall plugs, universal plugs, hammer nail plugs, window frame anchors and cavity anchors.

pgb-Polska is continuously investing in obtaining product certifications. Recently pgb-Polska has also obtained the ETA approval option 7 (ETA-11/0474) and option 1 (ETA-10/0472) for their through bolt anchors.

Other products like window frame screws, metal cavity anchors, brass anchors and metal expansion bolts are all available in the the SMART range.

Our products are available in different packing ways and are mainly delivered under the original SMART brand. On costumer request we can provide private label and packing, in blister pack, window box, polybags etc.

In a high competitive market we continuously improve our production to reach for the highest standard in fasteners and fixing solutions. We want to support you in your daily business and offer you maximum benefits.

Sincerely hoping to continue and improving our cooperation for the next coming years.

Management of

pgb-Europe and pgb-Polska

ANCHOR FIXING GUIDE

MATERIAL GUIDE

Concrete

Concrete is a conglomerate made from a mixture of cement, aggregates and water. There are several strength types, depending on the composition or usage. The most commonly used is concrete C20/25, referring to the resistance to pressure of 25N/mm². This building material is very well suited for anchorings.

Hollow concrete

Light concrete blocks with a porous structure have a low compressive strength and thus require special care when choosing the right anchor. It is recommended to use plugs with a long expansion zone or chemical anchors.

Solid masonry

Dense and solid bricks, without cavities and of high compressive strength are also very will suited for anchorings. The group includes solid bricks, clay bricks as well as solid sandlime bricks.

Perforated and hollow masonry

Hollow blocks are either horizontally or vertically perforated and mostly the cavities are circular, square or elliptical shaped. Perforated bricks and hollow bricks have light a compressive strength and therefore anchors should be chosen very carefully. That is why it is recommended to use long nylon plugs.

Cellular concrete

Made of light concrete, this material has a low compression strength. It requires special plugs and a low installation torque.

Plasterboard

Thin and soft materials like gypsum board and plasterboard are either fixed at a distance or directly fixed to the base material. Only special plugs can be used to ensure a good fixing. Due to its design, this material can only bear light loads.
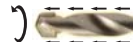
DRILLING AND INSTALLATION

Drilling

Correct drill bits should be used at any time. Also the drilling depth is important for the correct working of the anchor. Furthermore the method of drilling depends of the base material.

- **Rotary without percussion:**
  Advised for perforated masonry and soft and porous materials to avoid causing inner damage to the base material.

- **Rotary with percussion:**
  Advised for solid and dense building materials like concrete and solid masorny. Fast rotation with low energy percussions.

- **Hammer drilling:**
  Advised for drilling in concrete. High impact energy combined with less impacts for fast drilling.

In many cases, it is difficult to know which is the base material. The best way is to drill a small hole at low drilling speed and without percussion. The drill dust and hardness will help you to determine the base material:

- **Concrete:** dry light grey dust
- **Cellular concrete:** white and more greasy dust
- **Masonry and bricks:** red dust
- **Plasterboard:** white, light and sticky dust

Installation

The following types of installation can be distinguished:

- **Pre-positioned installation:**
  The anchor is put in the drill hole and finally the fixture is installed. The drill diameter in the fixture is smaller than the drill hole in the base material.
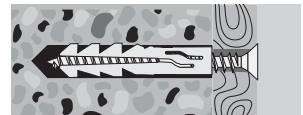
- **Push-through installation:**
  The plug is pushed though the fixture into the drill hole. Both the drill diameter for the plug and through the fixture are the same.

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Some more general tips

- The drill hole depth should at least be the anchor length + 10mm.

- In soft and weak base materials like cellular concrete it is recommended to drill without percussion and with a 1mm smaller drill bit.

- When using nylon plugs in concrete and solid bricks, it is recommended to use the highest screw diameter allowed to assure the best expansion of the plug.

- When using nylon universal plugs in plasterboard it is recommended to use the smallest screw diameter allowed.

- In cellular concrete and other porous materials the screw must be tightened with a low torque.

- The fixing thickness (t_{fix}) generally corresponds to the thickness of the object to be fixed. Render or insulation material is not considered as a base material and therefore the fixture thickness must be increased by the thickness of that layer.
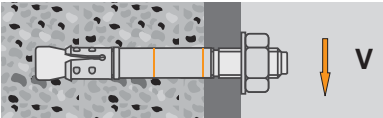
Types of load

The forces in the catalogue are stated in kN (Kilonewton). 1 kN = ~100kg. The bending moments are stated in Nm (Newtonmeter).
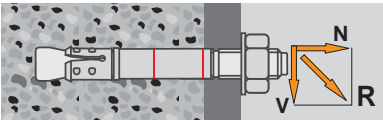
- **Tension load**
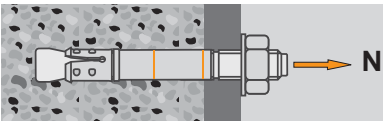
- **Shear load**
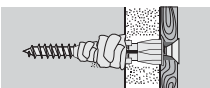

- **Oblique load**

Types of anchorage

- **Expansion by friction:**
  The plug is expanded against the base material.

- **Geometrical expansion:**
  The plug locks itself in the shape of the perforations or cavities of the base material.
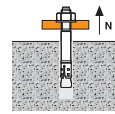

- **Expansion by adhesion:**
  By means of chemical mortar the anchor is bonded to the base material, resulting in a stress-free anchoring.


Types of failure

- **Anchor pull-out**
  The anchor is pulled out of the material without causing damage to the base material. This can be caused because of an incorrect installation or too high load.

- **Base material failure:**
  If the anchor is fastened in the concrete, this type of breaking involves the extraction of a cone-shaped piece of concrete. This can be caused because of insufficient strength of the base material, insufficient anchorage depth or too high load.
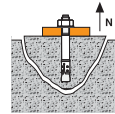
- **Material splitting:**
  This is caused because of too small edge distances or to small spacing of the anchors, or because of too small dimensions of the base material part.
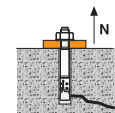
- **Steel failure:**
  This is the maximum anchor load that can be reached. Steel failure is caused by insufficient strength of the steel quality for the attached load.

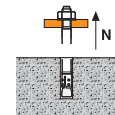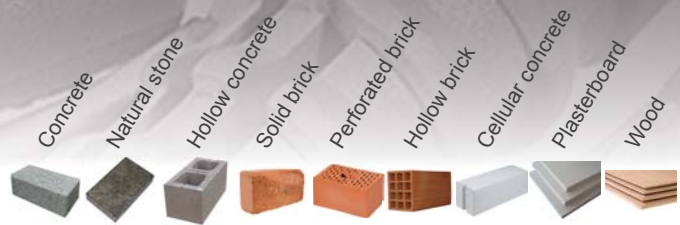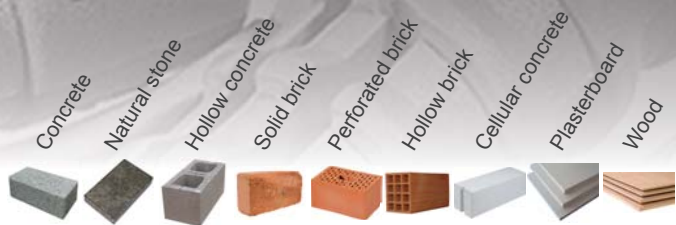| Product	Code		Page	Concrete	Natural stone	Hollow concrete	Solid brick	Perforated brick	Hollow brick	Cellular concrete	Plasterboard	Wood
Nylon wall plug without collar	SM00P		14	■	■	□	■	■		□		
Nylon multifunctional plug with collar	SM0BP		16	■	■	■	■	■		□		
Nylon multifunctional plug with collar, long version	SMLBP		18	■	■	■	■	■		□		
Nylon multifunctional plug without collar, long version	SM0LP		20	■	■	■	■	■		□		
Multifunctional plug with chipboard screw	SMPUS		22	■	■	■	■	■		□		
Multifunctional plug with hex lag screw	SMPZS		24	■	■	■	■	■		□		CE ETA 10-0392
Multifunctional plug with cup hook	SMPSH		26	■	■	■	■	■		□		
Multifunctional plug with L-hook	SMPSD		26	■	■	■	■	■		□		
Long multifunctional plug with chipboard screw	SMLPS		28	■	■	■	■	■		□		CE ETA 10-0392
Long multifunctional plug with hex lag screw	SMLPZ		30	■	■	■	■	■		□		CE ETA 10-0392
Nylon 4-side expansion universal plug with collar	SM0UP		32	□	■	□	■	■	□	□	■	
Nylon universal plug with collar	SMMFP		34	□	■	□	■	■	□	□	■	
Long nylon plug with long expansion zone	SMLPL		36	■	■	□	■	■	□	□		
Metal universal plug	SMMUP		38	■		■	■	□		□		
Brass anchor	SMMSP		40	■	■		■					
Aerated concrete plug	SMCBP		42							■		
Aerated concrete nail	SMCBN		44							■		
Ceiling anchor	SM0PA		46	■								
Ceiling nail anchor	SMPSA		48	■								

Product	Code		Page	Concrete	Natural stone	Hollow concrete	Solid brick	Perforated brick	Hollow brick	Cellular concrete	Plasterboard	Wood
Plasterboard plug	SMGKP		52								■	
Nylon cavity anchor	SMPCA		54					□	■		■	
Nylon cavity anchor with various screws	SMTPV		56						■		■	
Metal cavity anchor	SMWHP		58								■	
Metal cavity anchor with L-hook	SMWPL		58								■	
Metal cavity anchor with C-hook	SMWPC		58								■	
Setting tool for metal cavity anchor	0TANG		58								■	
Spring toggle with screw	SMRSV		60								■	
Spring toggle with cup hook	SMRHA		60								■	
Spring toggle with threaded rod	SMRST		60								■	
Spring toggle with eye hook	SMRSO		60								■	
Gravity anchor with cup hook	SMPHA		62								■	
Gravity anchor wih threaded rod	SMPST		62								■	

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Description	Code	Page	Concrete	Natural stone	Hollow concrete	Solid brick	Perforated brick	Hollow brick	Cellular concrete	Plasterboard	Wood	Approval
Hammer nail plug with countersunk collar	SMPKK	66	■	■		■	□		□			ETA CE ETA 12-0672
Hammer nail plug with mushroom-shaped collar	SM0SP	68	■	■		■	□		□			ETA CE ETA 12-0672
Hammer nail plug with metric thread	SMSPM	70	■	■		■	□		□			
Hammer nail plug with cylindrical collar	SMPCK	72	■	■		■	□		□			ETA CE ETA 12-0672
Hammer drive anchor with nail	SM0HN	74	■			■	□					
Frame plug with countersunk head and pozidriv screw	SM0RP	76	■	■	■	■	■	■	□			ETA CE ETA 10-0392
Frame plug with countersunk head and Torx screw	SMRPT	78	■	■	■	■	■	■	□			ETA CE ETA 10-0392
Frame plug with countersunk head and hex screw with pressed-on washer	SMRPF	80	■	■	■	■	■	■	□			ETA CE ETA 10-0392
Frame plug with cylinder head and hex screw with pressed-on washer	SMRPC	84	■	■	■	■	■	■	□			ETA CE ETA 10-0392
Frame plug with countersunk head and hex screw	SMRPZ	82	■	■	■	■	■	■	□			ETA CE ETA 10-0392
Metal frame anchor	SMMKP	86	■		□	■	□					
Window frame screw with cylinder head, T25	SMC25	88	■			■	□					
Window frame screw with cylinder head, T30	SMC30	90	■			■	□					
Window frame screw with countersunk head, T30	SMP30	92	■			■	□					
Universal spacer screw, with T25 recess	SMAFS	94									■	
Selfdrilling adjustable screw, with T25 recess	SMVAS	96									■	
Express nail	SMANH	98	■			■						
Scaffold fixing	SMSFP	102	■			■						

Description	Code	Page	Concrete	Natural stone	Hollow concrete	Solid brick	Perforated brick	Hollow brick	Cellular concrete	Plasterboard	Wood	Approval
Drop-in anchor	SM0IA	106	■	■								
Through bolt with ETA option 7 - type SMK	SM7KA	108	■	■								ETA CE ETA 11-0474
Through bolt with ETA option 1 - type S-KA	SM1KA	113	■	■			□					ETA CE ETA 10-0472
4 shield expansion anchor "PFG"	SM00K	116	■	■	□	■	□					ETA CE ETA 01-0012
4 shield expansion anchor "PFG"	SM00T	118	■	■	□	■	□					ETA CE ETA 01-0012
4 shield expansion anchor "PFG"	SM00H	120	■	■	□	■	□					ETA CE ETA 01-0012
4 shield expansion anchor "PFG"	SM00O	122	■	■	□	■	□					
4 shield expansion anchor "PFG"	SM0TR	124	■	■	□	■	□					

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			Page	Concrete	Natural stone	Hollow concrete	Perforated brick	Hollow brick	Hollow brick	Cellular concrete	Plasterboard	Wood	
Chemical resin polyester S-IRP	SMCH1 P		128	■	■		■	■	■				ITB
Chemical resin vinylester S-IRV	SMCH1 V		130	■	■								ETA CE ETAG 12-0052
Accessories for drill hole cleaning : blow-out pump	SMCH2		132										
Accessories for drill hole cleaning : wire brush	SMCH3		132										
Accessories for cartridges : round mixer nozzle	SMCH4		132										
Accessories for cartridges : extension for mixer nozzle	SMCH4B		132										
Accessories for cartridges : dispenser	SMCH5		132										
Accessories for cartridges : perforated sleeves	SMCH6		132										
Threaded rod for chemical anchors	SM0AS		132										

			Page	Concrete	Natural stone	Hollow concrete	Perforated brick	Hollow brick	Hollow brick	Cellular concrete	Plasterboard	Wood	
Insulation fixing with synthetic nail with ETA approval	SM60K		136	■			■	□					ETA CE ETAG 014
Insulation fixing with steel nail with plastic cover cap	SM60E		136	■			■	□					
Insulation fixing with synthetic nail	SM50N		138	■			■	□					
Insulation fixing with synthetic nail	SM90N		140	■			■	□					
Insulation fixing 8mm with wall tie	SMI08		142	■			■						
Insulation fixing 10mm with wall tie	SMI10		144	□			□	■					
Insulation washers	SMOLP		146										

			Page	Concrete	Natural stone	Hollow concrete	Perforated brick	Hollow brick	Hollow brick	Cellular concrete	Plasterboard	Wood	
Fixing pin	SMSLP		150	■									
Nail clips	SMKCR		152							□	■		
Cable tie	SMAND		153										CE EN 50146 cable ties for electrical installations
Self-adhesive base for cable ties	SMPZV		155										
2-way mounting base	SMSZR		155										
Plug for cable tie	SMPLG		155	■									
Plug for mounting base	SMSPL		155										
Velcro strip "back to back"	SMVEL		155										
Setting tools for cable ties	SMTNG		155										
Clip fixing twin type	SMPCD		156	■									
Clip fixing single type	SMPCE		157	■									

■ Best suitable for

□ Also suitable for

Smart®

SMART PLUG
TYPE BP AND LBP

TOP NYLON QUALITY
Intelligent fixing systems

ETA **CE**
European Technical Approval
ETA-10/0392

PLUG + SCREW

SMART wall plug BP with hex lag screw DIN 571

ETA CE — SMPZS

12 x 60	8 x 70	14 x 70	10 x 80
	8 x 80		10 x 100
	8 x 90		10 x 120
	8 x 100		10 x 140
	8 x 120		10 x 160
	8 x 140		10 x 180
	8 x 160		10 x 200

Long SMART wall plug LBP with collar with hex lag screw DIN 571

ETA CE — SMLPZ

10 x 70	8 x 80	10 x 70	8 x 120
	8 x 90		8 x 140
	8 x 100		8 x 160

Long SMART wall plug LBP with collar with universal screw

ETA CE — SMLPS

8 x 60	6,0 x 70	8 x 60	6,0 x 100
	6,0 x 80		6,0 x 120
	6,0 x 90		

Smart®
Intelligent anchoring solutions

Smart®

pgb

SM00P

NYLON WALL PLUG WITHOUT COLLAR

N nylon

TYPE P

BEST SUITABLE FOR | ALSO SUITABLE FOR

DESCRIPTION

- Wall plug without collar, for use with chipboard screws and other wood screws.

ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- Quick and easy installation.
- Improved S-shaped slot design allows excellent fixing in all solid building materials and even in perforated bricks.

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands in 2 directions, providing a secure anchoring in solid materials.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.

$d = d_0 \quad ds$

$l = h_{ef}$

h_1
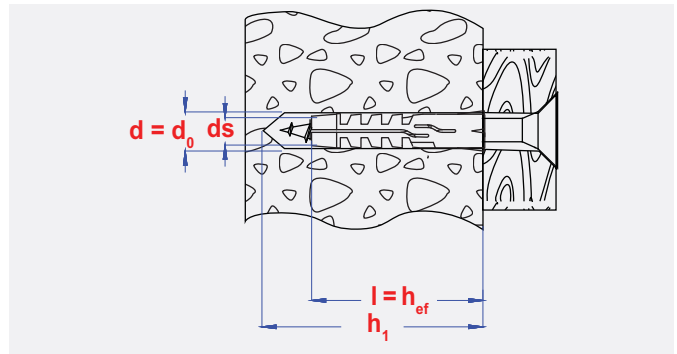
TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
4	20	4	25	2,0-3,0	20
5	25	5	35	3,0-4,0	25
6	30	6	40	4,0-5,0	30
7	35	7	45	4,0-5,0	35
8	40	8	55	4,5-6,0	40
10	50	10	70	6,0-8,0	50
12	60	12	80	8,0-10	60
14	70	14	90	10-12	70
16	80	16	100	12-14	80

INSTALLATION SCHEME

Smart®

Nylon wall plug without collar

Nylon wall plug without collar

CARTON BOX PACKING

size	pgb code	EAN13		
4x20	SM00P304 N	5902134712215	200	
5x25	SM00P305 N	5902134711485	200	
6x30	SM00P306 N	5902134711492	100	
7x35	SM00P307 N	5902134712222	100	
8x40	SM00P308 N	5902134711508	100	
10x50	SM00P310 N	5902134711515	50	
12x60	SM00P312 N	5902134711522	25	
14x70	SM00P314 N	5902134711539	20	
16x80	SM00P316 N	5902134711546	10	

WINDOW BOX PACKING

size	pgb code	EAN13		
4x20	SM00PE04 N	5902134713922	200	
5x25	SM00PE05 N	5902134713939	200	
6x30	SM00PE06 N	5902134713946	100	
7x35	SM00PE07 N	5902134713953	100	
8x40	SM00PE08 N	5902134713960	100	
10x50	SM00PE10 N	5902134713977	50	
12x60	SM00PE12 N	5902134713984	25	
14x70	SM00PE14 N	5902134713991	20	
16x80	SM00PE16 N	5902134714004	10	

Nylon wall plug without collar

PRO BOX PACKING

size	pgb code	EAN13		
6x30	SM00PD06 N	5902134723488	2500	
8x40	SM00PD08 N	5902134723495	1400	
10x50	SM00PD10 N	5902134723501	800	
12x60	SM00PD12 N	5902134723518	400	

SM0BP

NYLON MULTIFUNCTIONAL PLUG WITH COLLAR

N nylon

Halogen Free

TYPE BP

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Strong plug, for use with chipboard screws, wood screws and spacer screws.
  The rim prevents the plug from slipping into the drill hole, but also allows push-through installation.
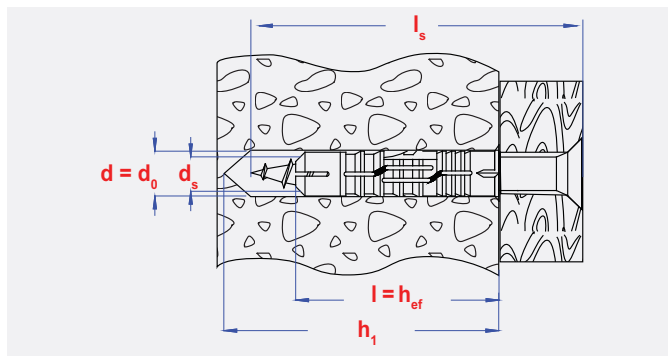
ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- The expansion-free plug neck helps to prevent damage to tiles and plaster.
- The plug geometry provides offers high load-bearing capacities in solid and semi-solid building materials.

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.

INSTALLATION SCHEME

TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
5	25	5	35	3,0-4,0	25
6	30	6	40	4,0-5,0	30
8	40	8	55	4,5-6,0	40
10	50	10	65	6,0-8,0	50
12	60	12	75	8,0-10	60
14	70	14	85	10-12	70

Smart®

Nylon multifunctional plug with collar

Nylon multifunctional plug with collar

CARTON BOX PACKING

size	pgb code	EAN13		
5x25	SM0BP305025 N	5902134709444	200	
6x30	SM0BP306030 N	5902134709451	200	
8x40	SM0BP308040 N	5902134709468	200	
10x50	SM0BP310050 N	5902134709475	100	
12x60	SM0BP312060 N	5902134709482	50	
14x70	SM0BP314070 N	5902134709499	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
5x25	SM0BPE05025 N	5902134703671	100	
6x30	SM0BPE06030 N	5902134703688	100	
8x40	SM0BPE08040 N	5902134703695	100	
10x50	SM0BPE10050 N	5902134703718	50	
12x60	SM0BPE12060 N	5902134703732	25	
14x70	SM0BPE14070 N	5902134703749	20	

Smart®

SMLBP

NYLON MULTIFUNCTIONAL PLUG WITH COLLAR, LONG VERSION
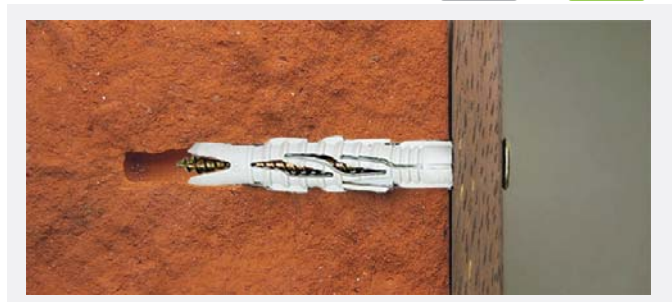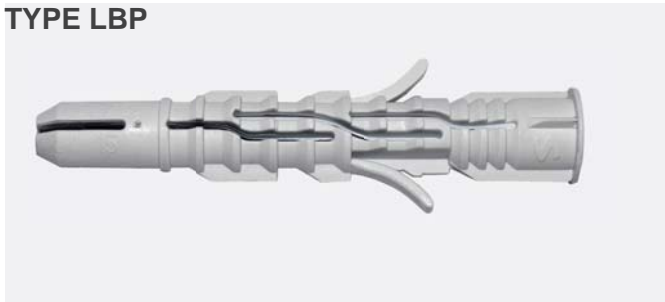
N
nylon

Cl Br
Halogen Free

TYPE LBP

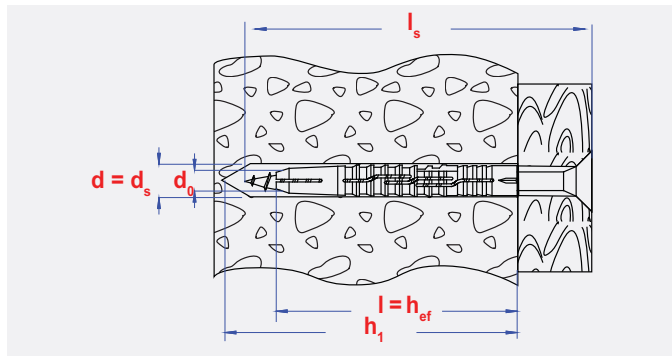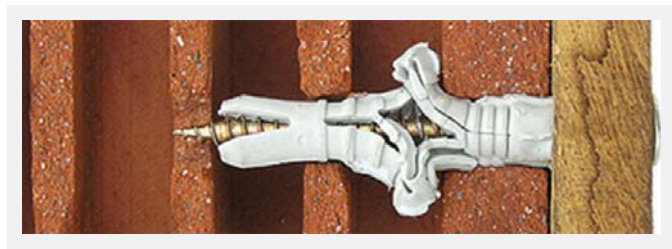### BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Strong plug, for use with chipboard screws, wood screws and spacer screws.
  The rim prevents the plug from slipping into the drill hole.

ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- The expansion-free plug neck helps to prevent damage to tiles and plaster.
- Extended expasion zone to ensure an excellent grip also in soft building materials

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.

INSTALLATION SCHEME

TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	50	6	65	4,0-5,0	50
8	60	8	75	4,5-6,0	60
10	70	10	85	6,0-8,0	70

Smart®

Nylon multifunctional plug with collar, long version

CARTON BOX PACKING

size	pgb code	EAN13		
6x50	SMLBP306050 N	5902134722092	100	
8x60	SMLBP308060 N	5902134719597	100	
10x70	SMLBP310070 N	5902134719603	50	

Nylon multifunctional plug with collar, long version

WINDOW BOX PACKING

size	pgb code	EAN13		
6x50	SMLBPE06050 N	5902134722108	50	
8x60	SMLBPE08060 N	5902134720692	50	
10x70	SMLBPE10070 N	5902134720708	25	

Smart®

SM0LP

NYLON MULTIFUNCTIONAL PLUG WITHOUT COLLAR, LONG VERSION
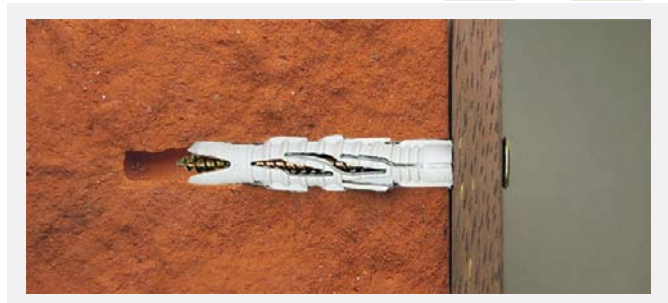
N nylon

Halogen Free

TYPE LP

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Strong plug, for use with chipboard screws, wood screws and spacer screws.

ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- The expansion-free plug neck helps to prevent damage to tiles and plaster.
- Extended expasion zone to ensure an excellent grip also in soft building materials

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.
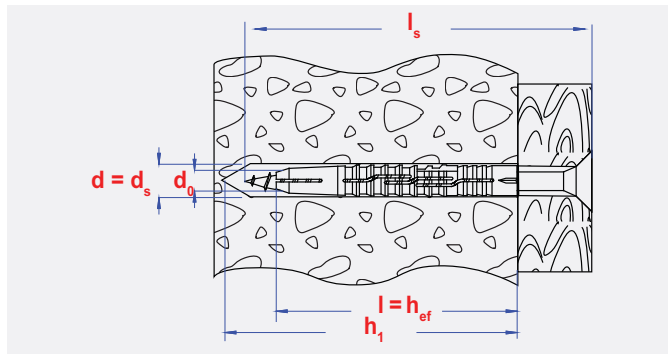
TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	d_s [mm]	h_{ef} [mm]
6	50	6	65	4,0-5,0	50
8	60	8	75	4,5-6,0	60
10	70	10	85	6,0-8,0	70
6	50	6	65	4,0-5,0	50
8	60	8	75	4,5-6,0	60
10	70	10	85	6,0-8,0	70

INSTALLATION SCHEME

Smart®

Nylon multifunctional plug without collar, long version

CARTON BOX PACKING

size	pgb code	EAN13		
6x50	SM0LP306050 N	5902134709505	100	
8x60	SM0LP308060 N	5902134709512	100	
10x70	SM0LP310070 N	5902134709529	50	

Nylon multifunctional plug without collar, long version

WINDOW BOX PACKING

size	pgb code	EAN13		
6x50	SM0LPE06050 N	5902134705750	50	
8x60	SM0LPE08060 N	5902134703701	50	
10x70	SM0LPE10070 N	5902134703725	50	

Smart®

SMPUS

MULTIFUNCTIONAL PLUG WITH CHIPBOARD SCREW

NZN nylon zinc pl.

Halogen Free
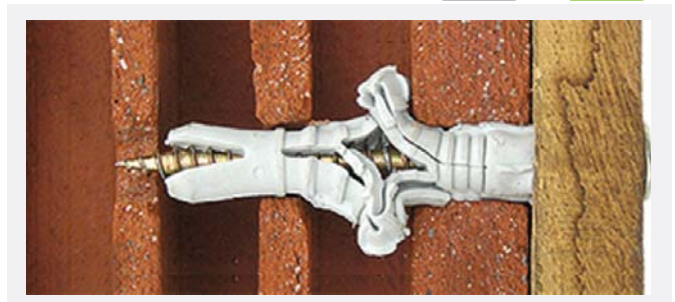
BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• Strong nylon plug type BP with chipboard screw.

ADVANTAGES

• The anti-rotation wings prevent the plug rotating in the drill hole.
• The expansion-free plug neck helps to prevent damage to tiles and plaster.
• The plug geometry provides offers high load-bearing capacities in solid and semi-solid building materials.

APPLICATIONS

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

FUNCTIONING

• Pre-positioned and push-through installation.
• When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.
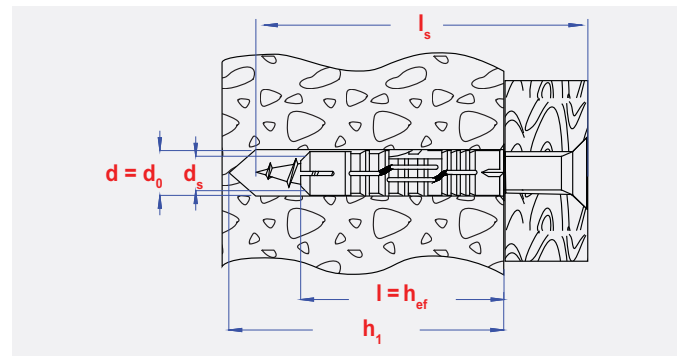
TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
5	25	5	35	3,0	30	25	5
6	30	6	40	4,0	35	30	5
6	30	6	40	4,0	50	30	10
8	40	8	55	5,0	45	40	15
8	40	8	55	5,0	60	40	20
10	50	10	65	6,0	60	50	10
10	50	10	65	6,0	80	50	30

INSTALLATION SCHEME

Smart®

Multifunctional plug with chipboard screw

Multifunctional plug with chipboard screw

CARTON BOX PACKING

size	pgb code	EAN13		
5x25/3x30	SMPUS303030 NZN	5902134710655	100	
6x30/4x35	SMPUS304035 NZN	5902134710662	100	
6x30/4x50	SMPUS304050 NZN	5902134710679	100	
8x40/5x45	SMPUS305045 NZN	5902134710686	50	
8x40/5x60	SMPUS305060 NZN	5902134710693	50	
10x50/6x60	SMPUS306060 NZN	5902134710709	25	
10x50/6x80	SMPUS306080 NZN	5902134710716	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
5x25/3x30	SMPUSE03030 NZN	5902134703909	100	
6x30/4x35	SMPUSE04035 NZN	5902134703916	100	
6x30/4x50	SMPUSE04050 NZN	5902134703923	100	
8x40/5x45	SMPUSE05045 NZN	5902134703930	50	
8x40/5x60	SMPUSE05060 NZN	5902134703947	50	
10x50/6x60	SMPUSE06060 NZN	5902134703954	25	
10x50/6x80	SMPUSE06080 NZN	5902134703961	25	

Smart®

SMPZS

MULTIFUNCTIONAL PLUG WITH HEX LAG SCREW

ETA CE European Technical Approval ETA 10-0392

NZN nylon zinc pl.

Halogen Free

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Strong nylon plug type BP with hexagon lag screw DIN 571.

ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- The expansion-free plug neck helps to prevent damage to tiles and plaster.
- The plug geometry provides offers high load-bearing capacities in solid and semi-solid building materials.

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.
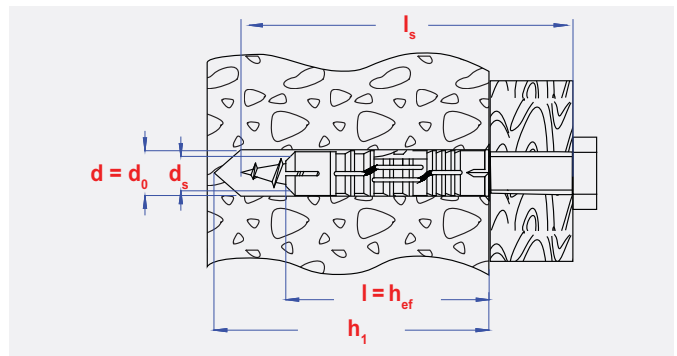
TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
*10	50	10	65	6,0	60	50	10
*10	50	10	65	6,0	80	50	30
*10	50	10	65	6,0	100	50	50
12	60	12	75	8,0	70	60	10
12	60	12	75	8,0	80	60	20
12	60	12	75	8,0	90	60	30
12	60	12	75	8,0	100	60	40
12	60	12	75	8,0	120	60	60
12	60	12	75	8,0	140	60	80
12	60	12	75	8,0	160	60	100
14	70	14	90	10	80	70	10
14	70	14	90	10	100	70	30
14	70	14	90	10	120	70	50
14	70	14	90	10	140	70	70
14	70	14	90	10	160	70	90
14	70	14	90	10	180	70	110
14	70	14	90	10	200	70	130

Not part of ETA approval.

INSTALLATION SCHEME

Smart®

Multifunctional plug with hex lag screw

Multifunctional plug with hex lag screw

CARTON BOX PACKING

size (plug/screw)	pgb code	EAN13		
12x60/8x70	SMPZS308070 NZN	5902134719610	25	
12x60/8x80	SMPZS308080 NZN	5902134710754	20	
12x60/8x90	SMPZS308090 NZN	5902134719627	20	
12x60/8x100	SMPZS308100 NZN	5902134710761	15	
12x60/8x120	SMPZS308120 NZN	5902134710778	15	
12x60/8x140	SMPZS308140 NZN	5902134719634	10	
12x60/8x160	SMPZS308160 NZN	5902134719641	10	
14x70/10x80	SMPZS310080 NZN	5902134719658	10	
14x70/10x100	SMPZS310100 NZN	5902134710785	10	
14x70/10x120	SMPZS310120 NZN	5902134710792	10	
14x70/10x140	SMPZS310140 NZN	5902134719665	20	
14x70/10x160	SMPZS310160 NZN	5902134719672	20	
14x70/10x180	SMPZS310180 NZN	5902134719689	20	
14x70/10x200	SMPZS310200 NZN	5902134719696	20	

WINDOW BOX PACKING

size (plug/screw)	pgb code	EAN13		
*10x50/6x60	SMPZSE06060 NZN	5902134704500	25	
*10x50/6x80	SMPZSE06080 NZN	5902134704517	25	
*10x50/6x100	SMPZSE06100 NZN	5902134704524	25	
12x60/8x70	SMPZSE08070 NZN	5902134720494	20	
12x60/8x80	SMPZSE08080 NZN	5902134704531	20	
12x60/8x90	SMPZSE08090 NZN	5902134720500	15	
12x60/8x100	SMPZSE08100 NZN	5902134704548	15	
12x60/8x120	SMPZSE08120 NZN	5902134704555	15	
12x60/8x140	SMPZSE08140 NZN	5902134720517	10	
12x60/8x160	SMPZSE08160 NZN	5902134720685	10	
14x70/10x80	SMPZSE10080 NZN	5902134720524	10	
14x70/10x100	SMPZSE10100 NZN	5902134704562	10	
14x70/10x120	SMPZSE10120 NZN	5902134704579	10	
14x70/10x140	SMPZSE10140 NZN	5902134720531	20	
14x70/10x160	SMPZSE10160 NZN	5902134720548	20	
14x70/10x180	SMPZSE10180 NZN	5902134720555	20	
14x70/10x200	SMPZSE10200 NZN	5902134720562	20	

CE 1488 / 11
pgb-Polska sp. z.o.o.

ETA CE

1488-CPD-0230/Z
SMART frame anchors
ETA-10/0392
ETAG 020-1 / 10mm
European Technical Approval
For use in concrete and solid
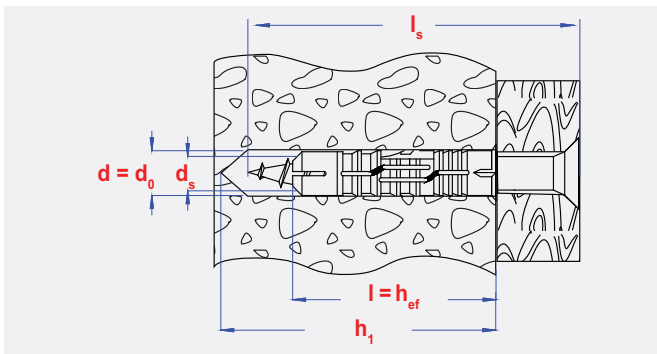or perforated masonry for
non-structural applications

Smart®

SMPSH

MULTIFUNCTIONAL PLUG WITH DIFFERENT HOOK TYPES

NZN nylon zinc pl.

Halogen Free
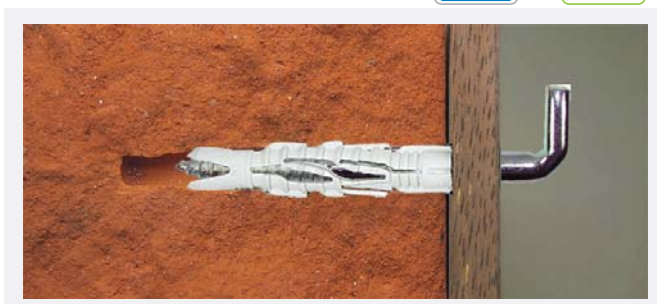
BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Strong nylon plug type BP with different hook types.

ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- The expansion-free plug neck helps to prevent damage to tiles and plaster.
- The plug geometry provides offers high load-bearing capacities in solid and semi-solid building materials.

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.

TECHNICAL DATA CUP HOOK

d	l	d_0	h_1	d_s	l_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	30	6	40	4,0	35	30
8	40	8	55	5,0	45	40
10	50	10	65	6,0	55	50
12	60	12	75	8,0	65	60

TECHNICAL DATA SQUARE HOOK

d	l	d_0	h_1	d_s	l_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	30	6	40	4,0	38	30
8	40	8	55	5,0	48	40
10	50	10	65	6,0	60	50
12	60	12	75	8,0	70	60

INSTALLATION SCHEME

Smart®

Multifunctional plug with cup hook

Multifunctional plug with L-hook

WINDOW BOX PACKING

size	pgb code	EAN13		
6x30/4x35	SMPSHE04035 NZN	5902134704210	50	
8x40/5x45	SMPSHE05042 NZN	5902134704227	25	
10x50/6x55	SMPSHE06055 NZN	5902134704234	20	
12x60/8x65	SMPSHE08065 NZN	5902134704241	15	

WINDOW BOX PACKING

size	pgb code	EAN13		
6x30/4x38	SMPSDE04038 NZN	5902134704098	50	
8x40/5x48	SMPSDE05048 NZN	5902134704104	25	
10x50/6x60	SMPSDE06060 NZN	5902134704111	20	
12x60/8x70	SMPSDE08070 NZN	5902134704128	15	

Smart®

SMLPS

LONG MULTIFUNCTIONAL PLUG WITH CHIPBOARD SCREW
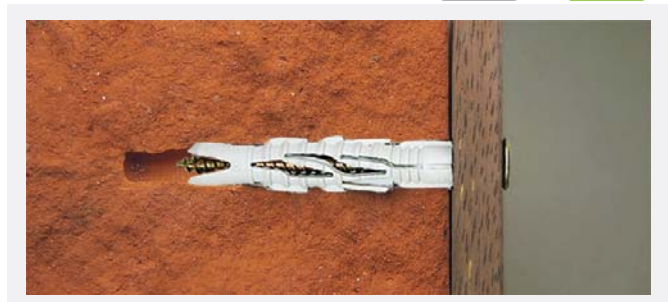
BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Strong nylon plug type LBP with chipboard screw, with ETA approval for use in concrete and solid or perforated masonry.
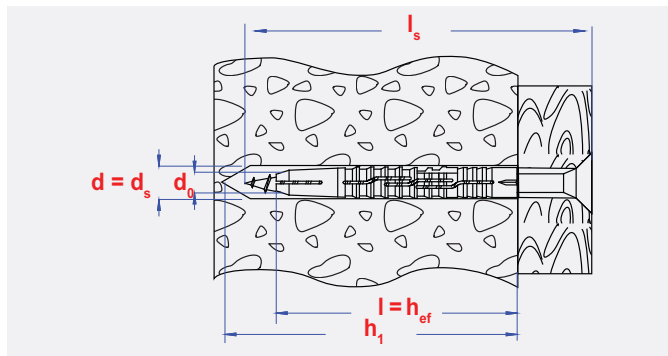
ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- The expansion-free plug neck helps to prevent damage to tiles and plaster.
- The plug geometry provides offers high load-bearing capacities in solid and semi-solid building materials.

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8	60	8	75	6,0	70	60	10
8	60	8	75	6,0	80	60	20
8	60	8	75	6,0	90	60	30
8	60	8	75	6,0	100	60	40
8	60	8	75	6,0	120	60	60

CE 1488 / 11
pgb-Polska sp. z.o.o.

ETA CE

1488-CPD-0230/Z
SMART frame anchors
ETA-10/0392
ETAG 020-1 / 10mm
European Technical Approval
For use in concrete and solid
or perforated masonry for
non-structural applications

INSTALLATION SCHEME

Smart®

Long multifunctional plug with chipboard screw

Long multifunctional plug with chipboard screw

CARTON BOX PACKING

size	pgb code	EAN13		
8x60/6x70	SMLPS306070 NZN	5902134719481	50	
8x60/6x80	SMLPS306080 NZN	5902134719498	50	
8x60/6x90	SMLPS306090 NZN	5902134719504	50	
8x60/6x100	SMLPS306100 NZN	5902134719511	25	
8x60/6x120	SMLPS306120 NZN	5902134719528	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
8x60/6x70	SMLPSE06070 NZN	5902134720579	25	
8x60/6x80	SMLPSE06080 NZN	5902134720586	25	
8x60/6x90	SMLPSE06090 NZN	5902134720593	25	
8x60/6x100	SMLPSE06100 NZN	5902134720609	15	
8x60/6x120	SMLPSE06120 NZN	5902134720616	15	

Smart®

SMLPZ

LONG MULTIFUNCTIONAL PLUG WITH HEX LAG SCREW

NZN nylon zinc pl.

Halogen Free

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Strong nylon plug type LBP with hex lag screw DIN 571, with ETA approval for use in concrete and solid or perforated masonry.
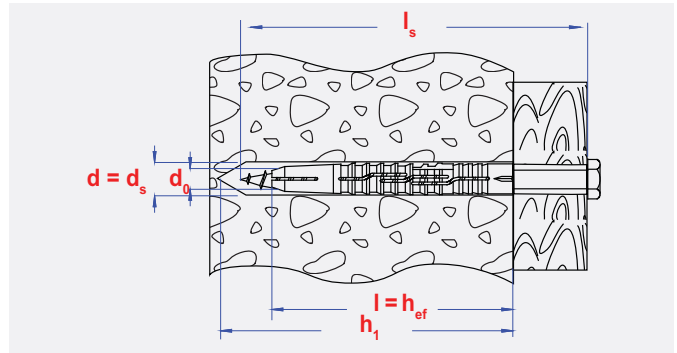
ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- The expansion-free plug neck helps to prevent damage to tiles and plaster.
- The plug geometry provides offers high load-bearing capacities in solid and semi-solid building materials.

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- When turning in the screw, the plug expands, providing a secure anchoring in solid and soft building materials.

TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	d_s [mm]	l_s [mm]	h_{ef} [mm]	t_{fix} [mm]
10	70	10	85	8,0	80	70	10
10	70	10	85	8,0	90	70	20
10	70	10	85	8,0	100	70	30
10	70	10	85	8,0	120	70	50
10	70	10	85	8,0	140	70	70
10	70	10	85	8,0	160	70	90

CE 1488 / 11
pgb-Polska sp. z.o.o.

ETA   CE

1488-CPD-0230/Z
SMART frame anchors
ETA-10/0392
ETAG 020-1 / 10mm
European Technical Approval
For use in concrete and solid
or perforated masonry for
non-structural applications

INSTALLATION SCHEME

Smart®

Long multifunctional plug with hex lag screw

Long multifunctional plug with hex lag screw

CARTON BOX PACKING

size	pgb code	EAN13		
10x70/8x80	SMLPZ308080 NZN	5902134719535	25	
10x70/8x90	SMLPZ308090 NZN	5902134719542	20	
10x70/8x100	SMLPZ308100 NZN	5902134719559	15	
10x70/8x120	SMLPZ308120 NZN	5902134719566	15	
10x70/8x140	SMLPZ308140 NZN	5902134719573	10	
10x70/8x160	SMLPZ308160 NZN	5902134719580	10	

WINDOW BOX PACKING

size	pgb code	EAN13		
10x70/8x80	SMLPZE08080 NZN	5902134720623	15	
10x70/8x90	SMLPZE08090 NZN	5902134720630	15	
10x70/8x100	SMLPZE08100 NZN	5902134720647	10	
10x70/8x120	SMLPZE08120 NZN	5902134720654	10	
10x70/8x140	SMLPZE08140 NZN	5902134720661	5	
10x70/8x160	SMLPZE08160 NZN	5902134720678	5	

Smart®

SM0UP

NYLON 4-SIDE EXPANSION UNIVERSAL PLUG WITH COLLAR

N nylon

TYPE UP
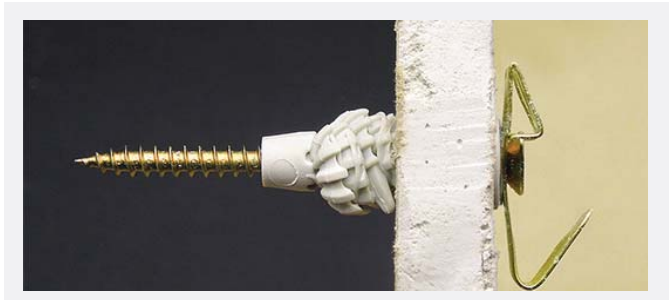
BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Innovative universal plug with collar for the fastening of average loads in all construction materials. For use with chipboard screws and other wood screws. The rim prevents the plug from slipping into the drill hole, but also allows push-through installation.

ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- Elastic stop collar prevents the plug form slipping into the drill hole, but can be pushed through when needed.
- The central part of the plug is designed to permit the screw to pass rapidly, allowing a swift and easy installation.

APPLICATIONS

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

FUNCTIONING

- Pre-positioned and push-through installation.
- The 4 expansion zones assure optimum hold in all situations: expansion by pressure in solid materials and knot expansion in hollow supports.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.

$d = d_0$ d_s

$l = h_{ef}$

h_1
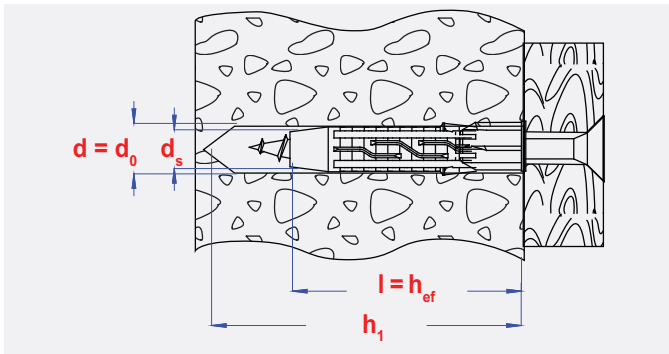
TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	35	6	45	4,0	35
8	50	8	65	4,5	50
10	60	10	75	5,0	60

INSTALLATION SCHEME
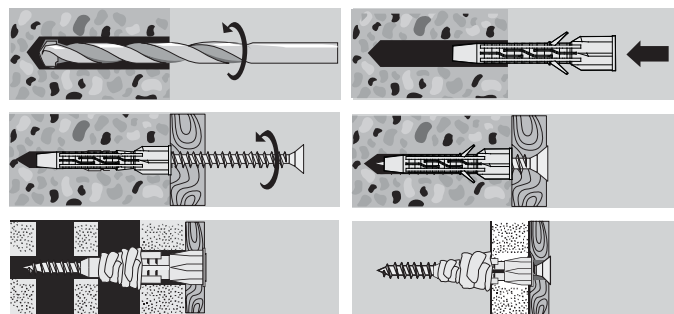
! When mounting in drywall and board materials, always use the smallest screw diameter.

When using in solid materials, it is recommended to use the biggest screw diameter indicated.

Smart®

Nylon 4-side expansion universal plug with collar

CARTON BOX PACKING

size	pgb code	EAN13		
6x35	SM0UP306035 N	5902134718248	200	
8x50	SM0UP308050 N	5902134718255	100	
10x60	SM0UP310060 N	5902134718262	50	

Nylon 4-side expansion universal plug with collar

WINDOW BOX PACKING

size	pgb code	EAN13		
6x35	SM0UPE06035 N	5902134718316	100	
8x50	SM0UPE08050 N	5902134718323	50	
10x60	SM0UPE10060 N	5902134718330	25	

Smart®

SMMFP

NYLON UNIVERSAL PLUG WITH COLLAR

N nylon

TYPE MFP

BEST SUITABLE FOR | **ALSO SUITABLE FOR**

$d = d_0$ d_s

$l = h_{ef}$

h_1
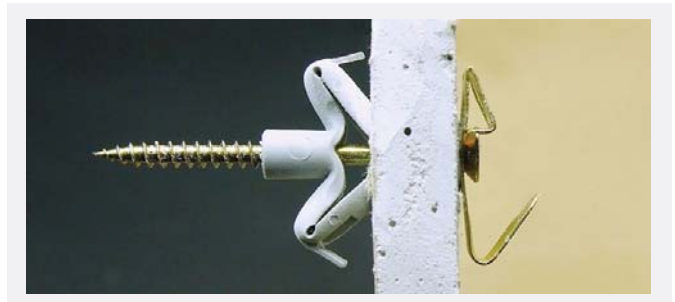
DESCRIPTION

- A universal nylon plug with excellent results in main construction materials. It is ideal for fixings in hollow and perforated base materials. For use with chipboard screws and other wood screws. The rim prevents the plug from slipping into the drill hole, but also allows push-through installation.

TECHNICAL DATA

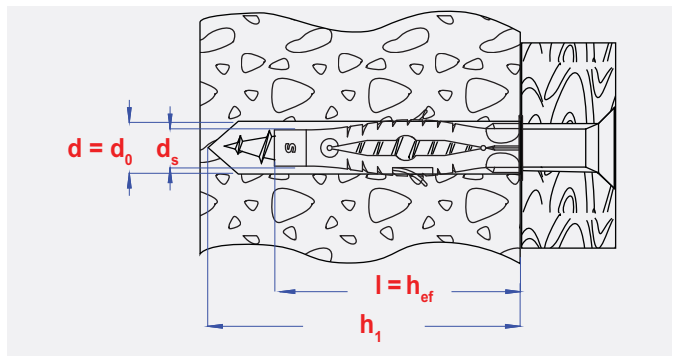| d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}	S
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	40	6	45	4,0		40		
8	50	8	65	4,5		50		
10	60	10	75	5,0		60		

ADVANTAGES

- The anti-rotation wings prevent the plug rotating in the drill hole.
- Sturdy expansion zones, assuring an optimum behaviour in all building materials.
- Strong knot expansion in hollow materials.

INSTALLATION SCHEME

APPLICATIONS

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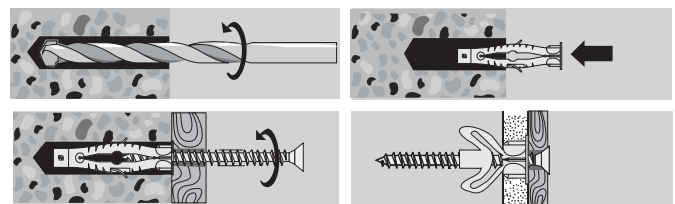
FUNCTIONING

- Pre-positioned and push-through installation.
- Thanks to its versatility its is very much liked by professional crafts-men such as electricians and installers. When turning in the screw, the plug expands in 2 directions, providing a secure anchoring in solid and soft building materials.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.

Smart®

Nylon universal plug with collar

CARTON BOX PACKING

size	pgb code	EAN13		
6x40	SMMFP306040 N	5902134724164	200	
8x50	SMMFP308050 N	5902134724171	100	
10x60	SMMFP310060 N	5902134724188	50	

Smart®

SMLPL

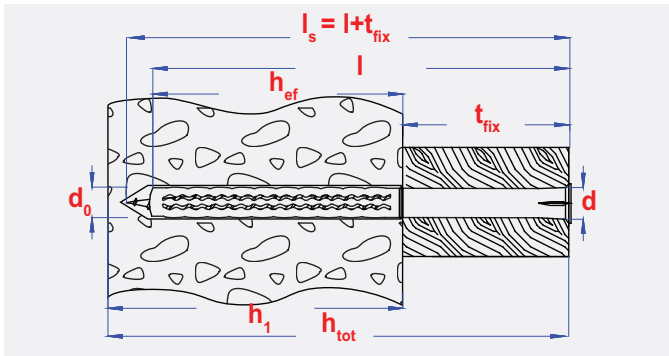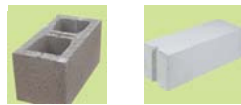## LONG NYLON PLUG WITH LONG EXPANSION ZONE

N nylon

TYPE LPL

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Long plug with long expasion zone for optimal anchoring in all building materials. For use with chipboard screws and hexagon lag screws.

ADVANTAGES

- Anti-rotation rims under the head prevent the plug from rotating while mounting the screw.
- The integrated screw block system prevents the plug from expanding prematurely.
- Strong knot expansion for high performance on different profiles.

APPLICATIONS

- For the fixing of gates, frames, doors, windows, balustrades, metal and wooden supporting constructions for facades and roofs, ...

FUNCTIONING

- Push-through installation.
- When turning in the screw, the plug expands in 4 directions, providing a secure anchoring in solid and soft building materials.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.

INSTALLATION SCHEME

TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	d_s [mm]	l_s [mm]	h_{ef} [mm]	t_{fix} [mm]
8	80	8	80	5,0-6,0	85	70	10
8	100	8	80	5,0-6,0	105	70	30
8	120	8	80	5,0-6,0	125	70	50
10	80	10	80	6,0-8,0	85	70	10
10	100	10	80	6,0-8,0	105	70	30
10	120	10	80	6,0-8,0	125	70	50

Smart®
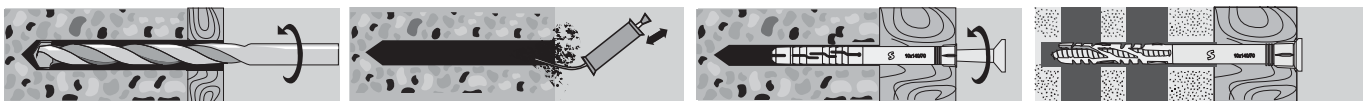
Long nylon plug with long expansion zone

Long nylon plug with long expansion zone

CARTON BOX PACKING

size	pgb code	EAN13	
8x80	SMLPL308080 N	5902134718187	50
8x100	SMLPL308100 N	5902134718194	50
8x120	SMLPL308120 N	5902134718200	50
10x80	SMLPL310080 N	5902134718217	50
10x100	SMLPL310100 N	5902134718224	50
10x120	SMLPL310120 N	5902134718231	50

WINDOW BOX PACKING

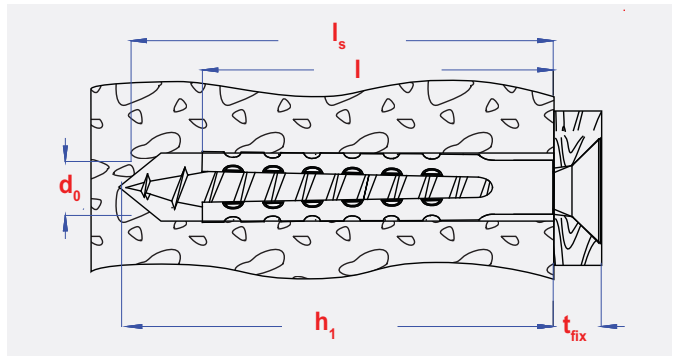| size	pgb code	EAN13	
8x80	SMLPLE08080 N	5902134718026	25
8x100	SMLPLE08100 N	5902134718033	25
8x120	SMLPLE08120 N	5902134718040	25
10x80	SMLPLE10080 N	5902134718057	25
10x100	SMLPLE10100 N	5902134718064	25
10x120	SMLPLE10120 N	5902134718071	25

Smart®

SMMUP

METAL UNIVERSAL PLUG

Z zinc pl.

TYPE MUP
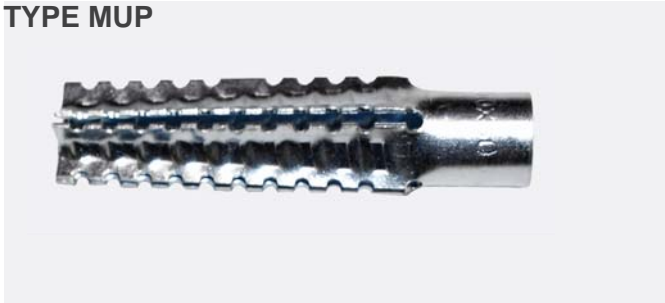
BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Saw steel plug, commonly used in sanitary applications. For use with wood screws and selftapping screws.

ADVANTAGES

- The ribbed inner design allows a perfect screw guidance.
- In cellular concrete there is no predrilling needed: the plug can be hammered-in directly.
- The external teeth expand in the building material.

APPLICATIONS

- For the fixing of cable clamps, pipe clamps, ducts, ...

FUNCTIONING

- Pre-positioned installation.
- The plug will expand in 2 directions when turning in the screw.
- The required screw length = plug length + board material thickness + fixture thickness + 1x screw diameter.

TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	32	6-7	40	5,0-6,0	32
8	38	10-12	50	6,0-8,0	38
8	60	10-12	70	6,0-8,0	60
10	60	12-14	70	8-10	60

INSTALLATION SCHEME

Smart®
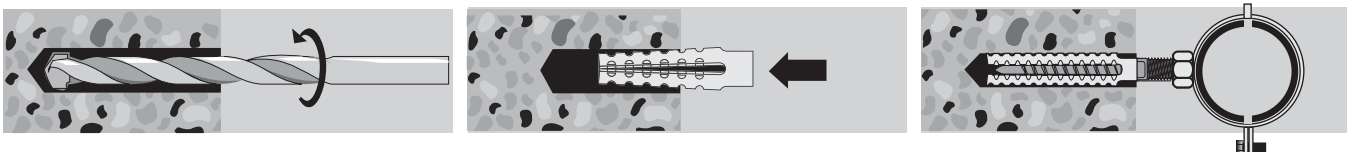
Metal universal plug

CARTON BOX PACKING

size	pgb code	EAN13		
6x32	SMMUP306032 Z	5902134708515	200	
8x38	SMMUP308038 Z	5902134708522	100	
8x60	SMMUP308060 Z	5902134708539	100	
10x60	SMMUP310060 Z	5902134708546	100	

Metal universal plug

WINDOW BOX PACKING

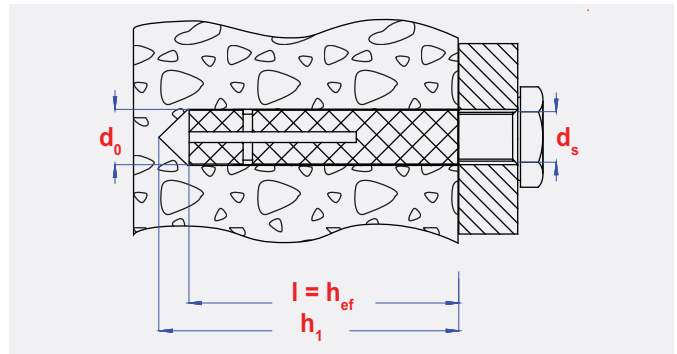| size	pgb code	EAN13		
6x32	SMMUPE06032 Z	5902134705347	100	
8x38	SMMUPE08038 Z	5902134705354	50	
8x60	SMMUPE08060 Z	5902134705361	25	
10x60	SMMUPE10060 Z	5902134705378	25	

General fixings

39

SMMSP

BRASS ANCHOR

TYPE MSP
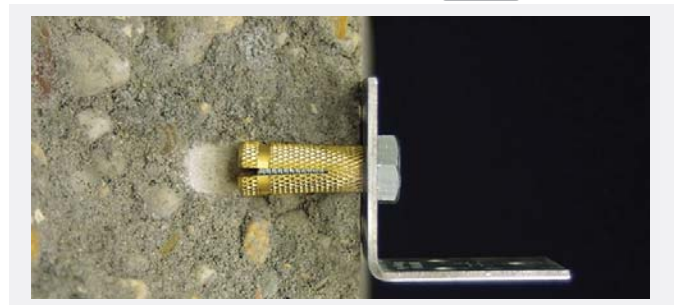
SUITABLE FOR

DESCRIPTION

• Brass anchor for use with metric thread screws and threaded rods..

ADVANTAGES

• The special surface structure (knurls) prevent rotation during tightening.
• Limited size of the plug reduces the drill hole depth and allows a fast installation.
• Resistant to corrosion and suited for middle heavy duty fastenings.

APPLICATIONS

• For the fixing of small shelves, handrails, curtain rails, wooden and metal sub-structures, ...

FUNCTIONING

• Pre-positioned installation.
• When turning in the metric screw, the front part of the brass anchor will expand.
• The required screw length = plug length + fixture thickness.

$l = h_{ef}$
h_1

TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	d_s [mm]	h_{ef} [mm]
M 4	16	5	20	M 4	16
M 5	20	6	30	M 5	20
M 6	24	8	35	M 6	24
M 7	30	10	40	M 7	30
M 8	27	10	40	M 8	27
M 10	32	12	45	M 10	32
M 12	40	15	50	M 12	40
M 14	43	18	55	M 14	43
M 16	45	20	55	M 16	45

INSTALLATION SCHEME

Smart®

Brass anchor

Brass anchor

CARTON BOX PACKING

size	pgb code	EAN13	
M 4x16	SMMSP304 MS	5902134708652	100
M 5x20	SMMSP305 MS	5902134708669	100
M 6x24	SMMSP306 MS	5902134708676	100
M 7x30	SMMSP307 MS	5902134708683	100
M 8x27	SMMSP308 MS	5902134708690	100
M 10x32	SMMSP310 MS	5902134708706	100
M 12x40	SMMSP312 MS	5902134708713	100
M 14x43	SMMSP314 MS	5902134708720	50
M 16x45	SMMSP316 MS	5902134708737	50

WINDOW BOX PACKING

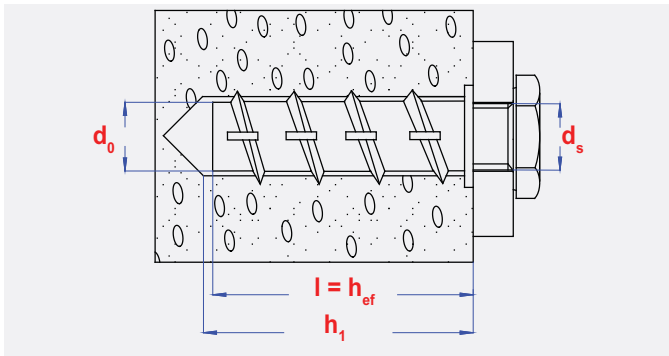| size	pgb code	EAN13	
M 5x20	SMMSPE05 MS	5902134705477	200
M 6x24	SMMSPE06 MS	5902134705484	100
M 8x27	SMMSPE08 MS	5902134705491	50
M 10x32	SMMSPE10 MS	5902134705507	25
M 12x40	SMMSPE12 MS	5902134705514	20

Smart®

pgb

SMCBP

AERATED CONCRETE PLUG

N nylon

TYPE CBP
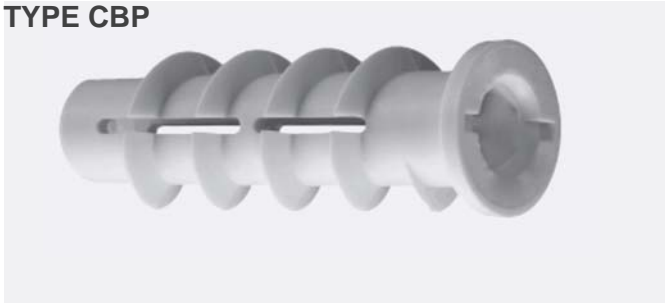
SUITABLE FOR

DESCRIPTION

- Special plug for cellular concrete, for use with both metric thread screws and wood thread screws.

ADVANTAGES

- The coarse thread taps itself into the aerated concrete.
- Expansion free anchoring allowing small edge and spacing distances and avoids surface splitting.
- Convenient installation with setting tool.

APPLICATIONS

- For the fixing of shelves, cable and pipe clamps, letter boxes, ...

FUNCTIONING

- Pre-positioned installation.
- Use low torque when installing the anchor.
- The required screw length = plug length + fixture thickness.

$l = h_{ef}$

h_1

TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	50	10	60	5-6 / M 6	50
M 8	60	12	70	7-8 / M 8	60
M 10	70	14	80	9-10 / M 10	70

INSTALLATION SCHEME

Smart®

Aerated concrete plug

Setting tool for aerated concrete plugs

WINDOW BOX PACKING

size	pgb code	EAN13		
M 6x50	SMCBPE06 N	5902134706535	25	
M 8x60	SMCBPE08 N	5902134706542	20	
M 10x70	SMCBPE10 N	5902134706559	15	

PRO BOX PACKING

size	pgb code	EAN13		
M 6	SLCBP,06 N	5410439164245	1	
M 8	SLCBP,08 N	5410439164252	1	
M 10	SLCBP,10 N	5410439164269	1	

SMCBN

AERATED CONCRETE NAIL

TYPE CBN

TYPE MCB

SUITABLE FOR

DESCRIPTION

- Aerated concrete nail with collar or metric thread end with nut.
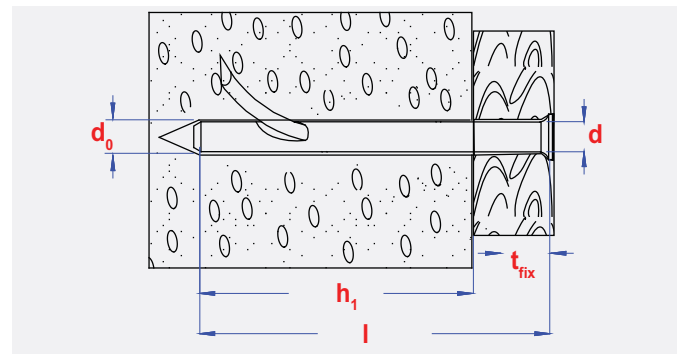
ADVANTAGES

- Easy and quick installation.
- No predrilling necessary in lightweight concrete.
- Expansion free anchoring.

APPLICATIONS

- For the fixing of small shelves, lights, ...

FUNCTIONING

- Pre-positioned installation.
- Direct installation into cellular concrete, without predrilling.

TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	60	5	55	50	10
6	90	5	55	50	40
8	90	6	85	80	10
8	115	6	85	80	35
8	130	6	85	80	50

TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	60	5	55	50	10
M 6	90	5	55	50	40
M 8	90	6	85	80	10
M 8	115	6	85	80	35
M 8	130	6	85	80	50

INSTALLATION SCHEME

Smart®

Aerated concrete nail

Aerated concrete nail

CARTON BOX PACKING

size	pgb code	EAN13		
6x60	SMCBN306060 Z	5902134714417	50	
6x90	SMCBN306090 Z	5902134714424	50	
8x90	SMCBN308090 Z	5902134714448	50	
8x115	SMCBN308115 Z	5902134714455	50	
8x130	SMCBN308130 Z	5902134714462	50	

CARTON BOX PACKING

size	pgb code	EAN13		
M 6x60	SMMCB306060 Z	5902134714356	50	
M 6x90	SMMCB306090 Z	5902134714363	50	
M 8x90	SMMCB308090 Z	5902134714387	50	
M 8x115	SMMCB308115 Z	5902134714394	50	
M 8x130	SMMCB308130 Z	5902134714400	50	

Smart®

SM0PA

CEILING ANCHOR

TYPE PA
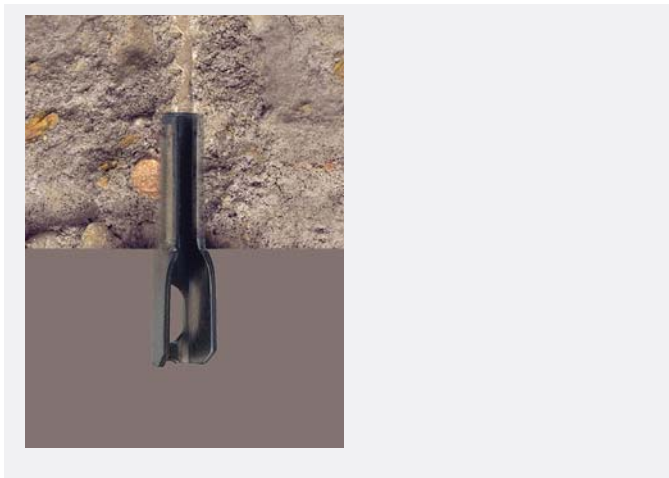
SUITABLE FOR

DESCRIPTION

- Ceiling anchor with slot, made from hardened spring steel.

ADVANTAGES

- Easy and quick installation.
- Limited size of the anchor reduces the drill hole depth and allows a fast installation.

APPLICATIONS

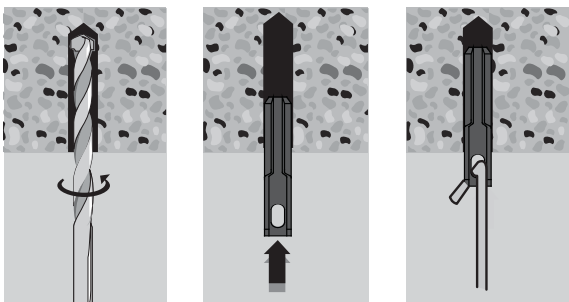- For use with suspended ceilings

FUNCTIONING

- Pre-positioned installation.
- When the anchor is hammered in, the spring steel presses against the sides of the drilled hole creating a strong and reliable fixing.

INSTALLATION SCHEME
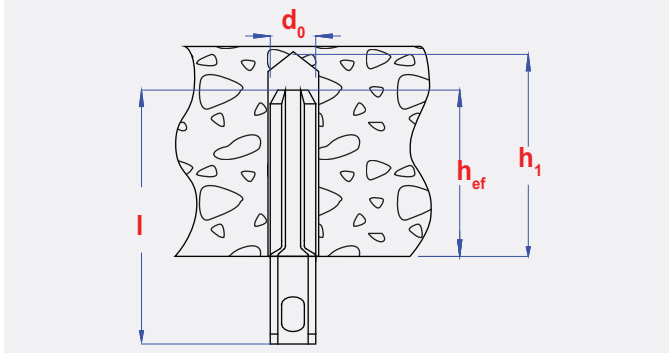
TECHNICAL DATA

d	l	d_0	h_1
[mm]	[mm]	[mm]	[mm]
8	42	8	22

Smart®

Ceiling anchor

Ceiling anchor

CARTON BOX PACKING

size	pgb code	EAN13		
8x42	SM0PA308040 S	5902134710051	250	

WINDOW BOX PACKING

size	pgb code	EAN13		
8x42	SM0PAE08040 S	5902134706566	50	

Smart®

SMPSA

CEILING NAIL ANCHOR

TYPE PSA

SUITABLE FOR

DESCRIPTION

• Fast to install ceiling anchor.

ADVANTAGES

• Reduced drilling depth combined with hammer-in installation.
• Two hit zones for easy and secure installation: first the nail head and then the expansion pin.

APPLICATIONS

• For the fixing of metal profiles, wire suspensions, chains, punched tapes, ceiling covers, ...

FUNCTIONING

• Push-through installation.
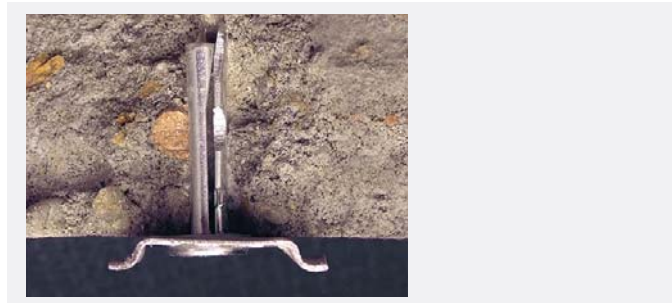• The anchor is driven into the drill hole by using a hammer untill it is firmly set. Do not hit the expansion pin at this stage.
• When the anchor is set, drive the expansion pin in flush to the nail head. The anchor will expand.
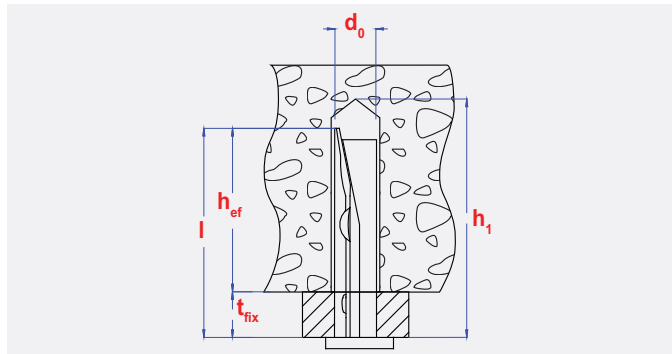
TECHNICAL DATA

d	l	d_0	h_1	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]
6	35	6	32	4,5
6	65	6	32	35

INSTALLATION SCHEME

Smart®
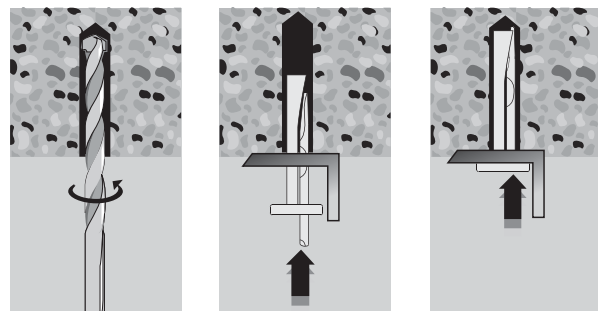
Ceiling nail anchor

Ceiling nail anchor

CARTON BOX PACKING

size	pgb code	EAN13		
6x35	SMPSA306035 Z	5902134708638	100	
6x65	SMPSA306065 Z	5902134708645	100	

WINDOW BOX PACKING

size	pgb code	EAN13		
6x35	SMPSAE06035 Z	5902134705453	25	
6x65	SMPSAE06065 Z	5902134705460	25	

Smart®

SMART CAVITY PLUG TYPE PCA

Advantages at a glance

✔ The collar prevents the plug from slipping in the drill hole. Due to its special construction, it allows flush mounting to the surface.

✔ The thin fings sink easily in the plasterboard, preventing the plug from rotating when the screw is mounted.

✔ The plug will form an "umbrella" in cavities ensuring a solid anchoring.

✔ The plug is made from high-quality nylon PA6.

✔ Suitable for use in single and double boards.

✔ Available with only the plug (SMPCA), or plug with appropriate screw (SMCAS).

SMART CAVITY PLUG TYPE HWP

Advantages at a glance

✔ Ful metallic anchor for use in drywall or other sheet and cavity constructions.

✔ The pointed edges under the head prevent the plug from rotating when the screw is mounted

✔ The plug will form an "umbrella" in cavities ensuring a solid anchoring.

✔ Tithening by means of a screwdriver or special seting tool.

✔ Indication of fixture thickness on the anchor.

✔ Available with screw SMHWP, C-hook (SMWPC) and L-hook (SMWPL).

Smart®

SMGKP

PLASTERBOARD PLUG

TYPE GKP

ZA zamak	N nylon	Cl / Br Halogen Free

SUITABLE FOR

DESCRIPTION

• Plasterboard plug for use with wood screws.

ADVANTAGES

• The fastest fixing for plasterboard: selfdrilling plug, no setting tool needed.
• Self-tapping thread ensures optimal anchorage.
• Non-conductive plastic material.
• The metal version is heat resistant.

APPLICATIONS

• For the fixing of picture frames, cup-boards, skirting boards, alarm units, ...

FUNCTIONING

• Pre-positioned installation.
• The fixing is screwed straight into the plasterboard..
• The fixing is especially made for plasterboard. Not suitable for fibreboard and tiled plasterboard.
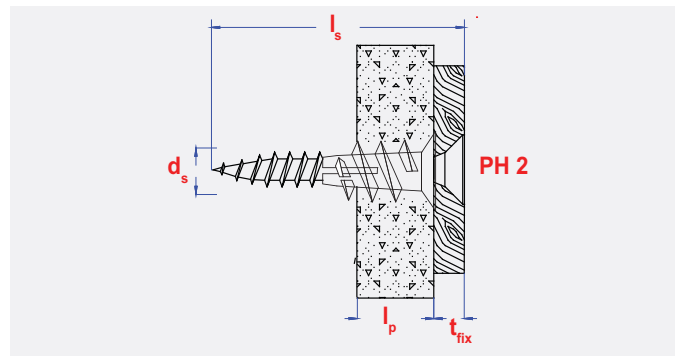
TECHNICAL DATA

d [mm]	l [mm]	d_s [mm]
13	32	3,5-4,5

TECHNICAL DATA

d [mm]	l [mm]	d_s [mm]
15	29	3,5-4,5

INSTALLATION SCHEME

Smart®

Plasterboard plug
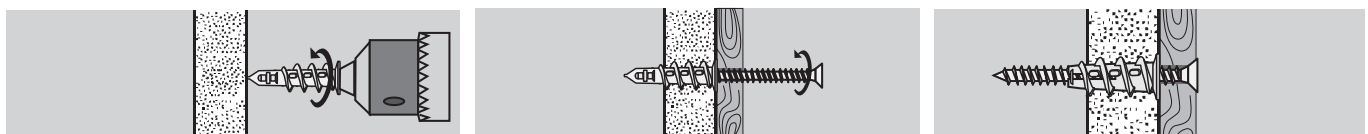
Plasterboard plug

CARTON BOX PACKING

WINDOW BOX PACKING

size	pgb code	EAN13	
13x32	SMGKP304 N	5902134713205	100

size	pgb code	EAN13	
13x32	SMGKPE04 N	5902134713212	50

Plasterboard plug

Plasterboard plug

CARTON BOX PACKING

WINDOW BOX PACKING

size	pgb code	EAN13	
15x29	SMGKP301 S	5902134708287	100

size	pgb code	EAN13	
15x29	SMGKPE01 S	5902134705446	50

Smart®

SMPCA

NYLON CAVITY ANCHOR

TYPE CAS   **TYPE PCA**

N nylon

Halogen Free

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Special umbrella-shaped plug for cavity fixings, for use with wood screws.

ADVANTAGES

- Especially suited for single and double plasterboards.
- Collar prevents the plug to slip into the hole.
- Edges on the collar prevent plug from rotating.

APPLICATIONS

- For the fixing of movement alarm units, curtain rails, lamps, shelves, picture frames, ...

FUNCTIONING

- Pre-positioned installation.
- When turning in the screw, the plug will form an "umbrella" in hollow building materials.
- The plug is especially made for plasterboard, fibreboard, hardboards and other board materials.

TECHNICAL DATA

d	l	d_0	$l_{p\,(max)}$	d_s	l_s	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	50	10	10	3,5-4,0		

TECHNICAL DATA

d	l	d_0	$l_{p\,(max)}$	d_s	l_s	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	50	10	10	3,5	55	5

INSTALLATION SCHEME

Smart®
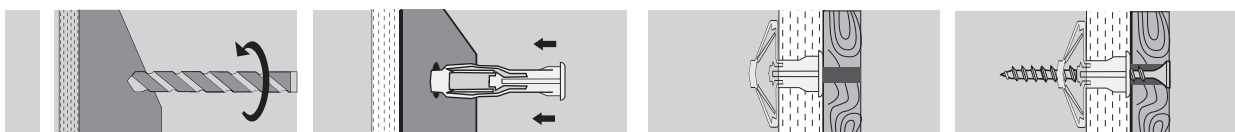
Nylon cavity anchor

Nylon cavity anchor

CARTON BOX PACKING

size	pgb code	EAN13	
10x50	SMPCA308040 N	5902134708263	25
10x50 / 3,5x55	SMCAS308040 N	5902134708270	25

WINDOW BOX PACKING

size	pgb code	EAN13	
10x50	SMPCAE08040 N	5902134705521	25
10x50 / 3,5x55	SMCASE08040 N	5902134705538	25

Smart®

SMTPV

NYLON CAVITY ANCHOR

Cavity fixings

N nylon

Cl Br Halogen Free

TYPE TPV
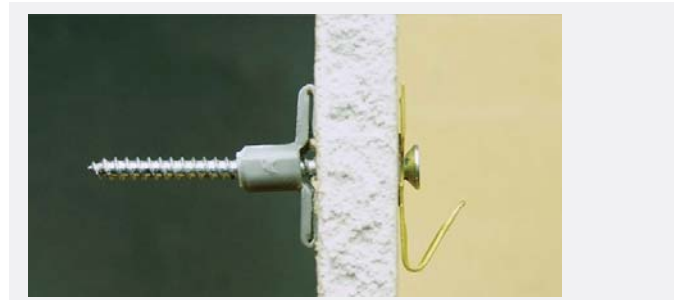
BEST SUITABLE FOR
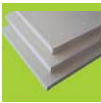
ALSO SUITABLE FOR

DESCRIPTION

- Light cavity plug available with screw and different hook types.

ADVANTAGES

- Designed for fixing light loads on hollow supports and plasterboard.
- Collar prevents the plug to slip into the hole.
- Edges on the collar prevent plug from rotating.

APPLICATIONS

- For the fixing of movement alarm units, curtain rails, lamps, shelves, picture frames, ...

FUNCTIONING

- Pre-positioned installation.
- When turning in the screw, the plug will form an "umbrella" in hollow building materials.
- The plug is especially made for plasterboard, fibreboard, hardboards and other board materials.

TECHNICAL DATA

d	l	d_0	d_s	l_s	l_p	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8	40	8	4,0	45	9-16	5
8	40	8	4,0	45	9-16	5
8	40	8	4,0	45	9-16	5
8	40	8	4,0	45	9-16	5
8	40	8	4,0	45	9-16	5

INSTALLATION SCHEME

Smart®
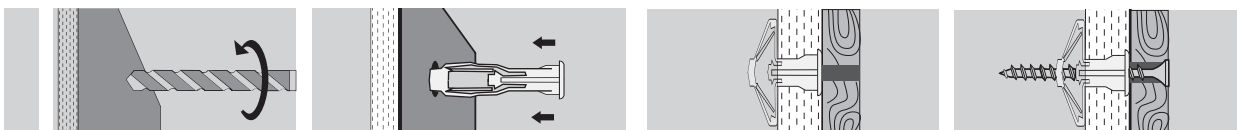
Nylon cavity anchor

WINDOW BOX PACKING

	size	pgb code	EAN13		
	8x40	SMPV1E08040 N	5902134710921	25	
	8x40	SMPV2E08040 N	5902134710938	25	
	8x40	SMPV3E08040 N	5902134710945	25	
	8x40	SMPV4E08040 N	5902134710952	25	
	8x40	SMPV5E08040 N	5902134710969	25	

Smart®

SMWHP

METAL CAVITY ANCHOR

Z zinc pl.

Cr3+ environmental friendly

TYPE HWP

SUITABLE FOR

SETTING TOOL
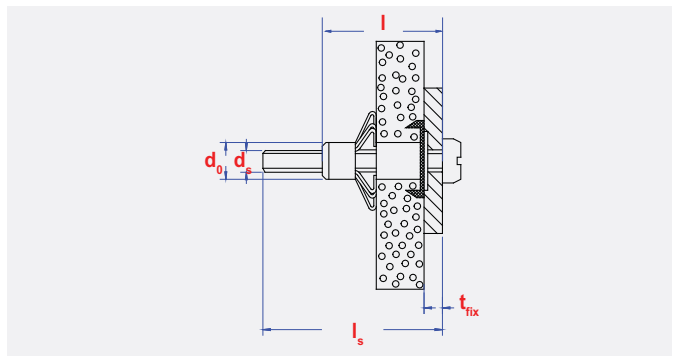
DESCRIPTION

- Versatile metal cavity anchor with metric screw, L-hook or C-hook.

ADVANTAGES

- The expanding arms ensure a large supporting for a high load-bearing capacity.
- Simple installation with screwdriver or setting tool.
- The screw may be removed at any time without loss of holding power.

APPLICATIONS

- For the fixing of picture frames, shelves, wall-mounted cupboards, curtain rails, ...

FUNCTIONING

- Pre-positioned installation.
- During installation, the expanding arms swing open.
- For the best results, the fixing should be selected based on the thickness of the board building material.

TECHNICAL DATA

d	l	d_0	d_s	l_s	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8	32	8	M 4	30	8
8	38	8	M 4	39	12
8	46	8	M 4	52	22
8	59	8	M 4	65	36
10	37	10	M 5	45	8
10	52	10	M 5	58	10
10	65	10	M 5	71	22
12	37	12	M 6	45	8
12	52	12	M 6	58	9
12	65	12	M 6	71	22
12	80	12	M 6	88	38

Metal cavity anchor

	pgb code	EAN13		
Setting tool	0TANG,20 S	5902134702049	1	

INSTALLATION SCHEME

Smart®
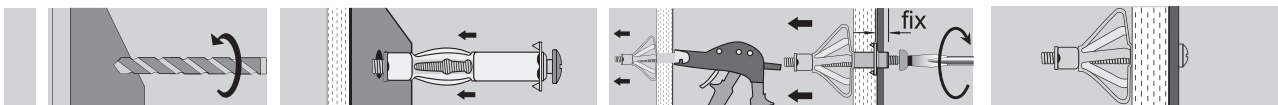
Metal cavity anchor

CARTON BOX PACKING

size	pgb code	EAN13	
8x32	SMHWP304032 Z	5902134708362	100
8x38	SMHWP304038 Z	5902134708379	100
8x46	SMHWP304046 Z	5902134708386	100
8x59	SMHWP304059 Z	5902134708393	100
10x37	SMHWP305037 Z	5902134708409	100
10x52	SMHWP305052 Z	5902134708416	100
10x65	SMHWP305065 Z	5902134708423	100
12x37	SMHWP306037 Z	5902134708430	100
12x52	SMHWP306052 Z	5902134708447	100
12x65	SMHWP306065 Z	5902134708454	100
12x80	SMHWP306080 Z	5902134708461	100

Metal cavity anchor

WINDOW BOX PACKING

size	pgb code	EAN13	
8x32	SMHWPE04032 Z	5902134705194	50
8x38	SMHWPE04038 Z	5902134705200	50
8x46	SMHWPE04046 Z	5902134705217	50
8x59	SMHWPE04059 Z	5902134705224	50
10x37	SMHWPE05037 Z	5902134705231	50
10x52	SMHWPE05052 Z	5902134705248	25
10x65	SMHWPE05065 Z	5902134705255	25
12x37	SMHWPE06037 Z	5902134705262	25
12x52	SMHWPE06052 Z	5902134705279	25
12x65	SMHWPE06065 Z	5902134705286	25
12x80	SMHWPE06080 Z	5902134705293	15

Metal cavity anchor

CARTON BOX PACKING

size	pgb code	EAN13	
8x32	SMWPL304032 Z	5902134708478	100
8x38	SMWPL304038 Z	5902134708485	100

Metal cavity anchor

WINDOW BOX PACKING

size	pgb code	EAN13	
8x32	SMWPLE04032 Z	5902134705309	25
8x38	SMWPLE04038 Z	5902134705316	25

Metal cavity anchor

CARTON BOX PACKING

size	pgb code	EAN13	
8x32	SMWPC304032 Z	5902134708492	100
8x38	SMWPC304038 Z	5902134708508	100

Metal cavity anchor

WINDOW BOX PACKING

size	pgb code	EAN13	
8x32	SMWPCE04032 Z	5902134705323	25
8x38	SMWPCE04038 Z	5902134705330	25

SMRSV

SPRING TOGGLE WITH SCREW

Z zinc pl.

Cr3+ environmental friendly

SUITABLE FOR
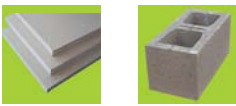
DESCRIPTION

- The spring toggle is a cavity fixing for different board thicknesses and large usage lengths.

ADVANTAGES

- The long shaft offers high flexibility in use.
- Simple and secure installation thanks to the integrated tension spring.
- Steel springs expand the two legs automatically inside the cavity.

APPLICATIONS

- For the fixing of curtain rails, pipe and cable clamps, cable ducts, lighting, ...

FUNCTIONING

- Pre-positioned installation.
- When placed in the drill hole, the spring toggle will swing open behind the board.
- The fixing is especially made for plasterboard, fibreboard, hardboards and other board materials.

INSTALLATION SCHEME
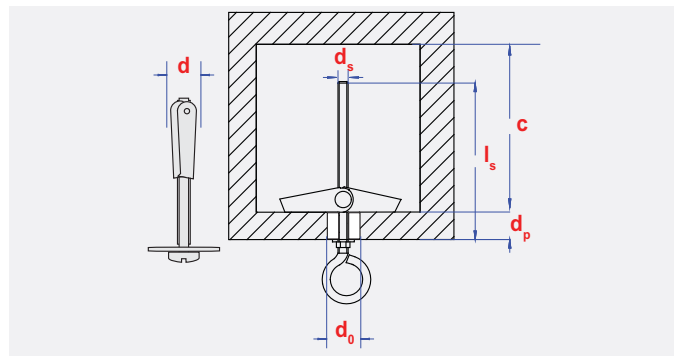
TECHNICAL DATA

d [mm]	d_0 [mm]	d_s [mm]	l_s [mm]	c [mm]	d_p [mm]
12	12	M 4	50		
12	12	M 4	75		
14	14	M 5	50		
14	14	M 5	80		

TYPE RSV

d [mm]	d_0 [mm]	d_s [mm]	l_s [mm]	c [mm]	d_p [mm]
12	12	M 4	75		
14	14	M 5	70		

TYPE RSO

d [mm]	d_0 [mm]	d_s [mm]	l_s [mm]	c [mm]	d_p [mm]
12	12	M 4	80		
14	14	M 5	50		
14	14	M 5	100		
16	16	M 6	100		

TYPE RST

d [mm]	d_0 [mm]	d_s [mm]	l_s [mm]	c [mm]	d_p [mm]
12	12	M 4	70		
14	14	M 5	70		

TYPE RHA

Smart®
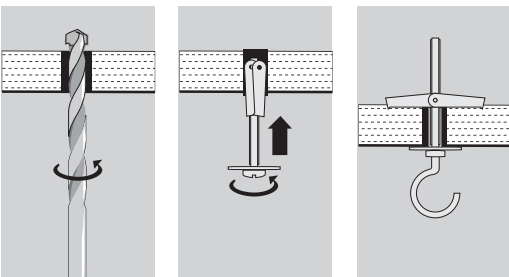
Spring toggle with screw

Spring toggle with threaded rod

WINDOW BOX PACKING

size	pgb code	EAN13		
M 4x50	SMRSVE04050 Z	5902134705439	25	
M 4x75	SMRSVE04075 Z	5902134712673	25	
M 5x50	SMRSVE05050 Z	5902134712680	25	
M 5x80	SMRSVE05080 Z	5902134712697	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
M 4x80	SMRSTE04080 Z	5902134706573	25	
M 5x50	SMRSTE05050 Z	5902134710990	25	
M 5x100	SMRSTE05100 Z	5902134711003	25	
M 6x100	SMRSTE06100 Z	5902134711010	25	

Spring toggle with cup hook

Spring toggle with eye hook

WINDOW BOX PACKING

size	pgb code	EAN13		
M 4x75	SMRHAE04075 Z	5902134706580	25	
M 5x70	SMRHAE05070 Z	5902134712703	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
M 4x70	SMRSOE04070 Z	5902134706597	25	
M 5x70	SMRSOE05070 Z	5902134713823	25	

Smart®

SMPHA

GRAVITY ANCHOR

Z zinc pl.

Cr3+ environmental friendly

TYPE PHA   **TYPE PST**
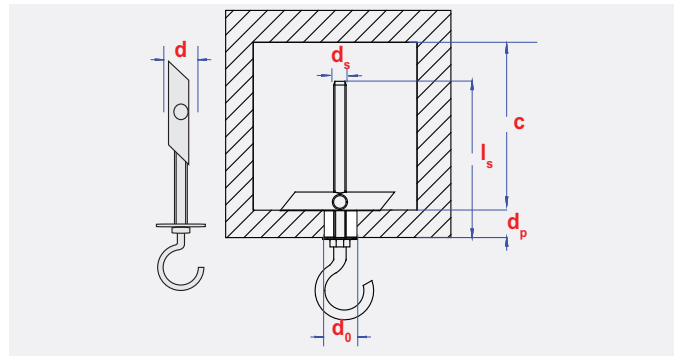
BEST SUITABLE FOR
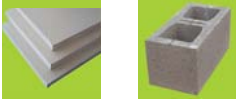
DESCRIPTION

- The gravity is a cavity fixing for different board thicknesses and large usage lengths.

ADVANTAGES

- The long shaft offers high flexibility in use.
- Simple and secure installation thanks to the gravity toggle.
- The bearing element will swing open inside the cavity.

APPLICATIONS

- For the fixing of curtain rails, pipe and cable clamps, cable ducts, lighting, ...

FUNCTIONING

- Pre-positioned installation.
- When placed in the drill hole, the gravity toggle will swing open behind the board.
- The fixing is especially made for plasterboard, fibreboard, hardboards and other board materials.

TECHNICAL DATA

d	l	d_0	d_s	l_s	c	d_p
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	75	18	M 6	75		

d	l	d_0	d_s	l_s	c	d_p
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	95	18	M 6	95		
M 8	100	20	M 8	100		

INSTALLATION SCHEME

Smart
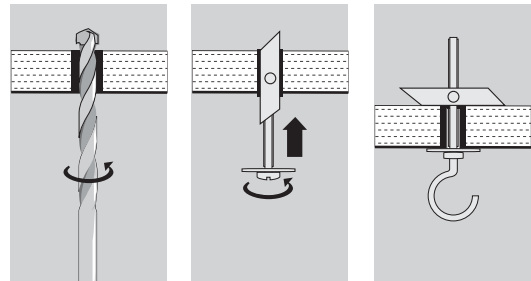
Gravity anchor

WINDOW BOX PACKING

size	pgb code	EAN13		
M 6x75	SMPHAE06075 Z	5902134712901	25	

Gravity anchor

WINDOW BOX PACKING

size	pgb code	EAN13		
M 6x95	SMPSTE06095 Z	5902134712888	25	
M 8x100	SMPSTE08100 Z	5902134712895	25	

Cavity fixings

Smart®

MEET THE ALLROUNDER SMART FRAME PLUG

ETA **CE**

European Technical Approval
ETA-10/0392

The multifunctional frame anchor will be approved for concrete, solid brick, perforated and Porotherm bricks. It can also be used in other substrates such as: natural stone with dense structure, thermal insulation blocks etc.

Advantages at a glance

✔ Available with countersunk head TX 40 and with hex-head screw with pressed-on washer and TX 40 recess.

✔ Hardened screws for excellent strength.

✔ The SMART plug is made from halogen-free high-quality nylon PA6.

✔ Easy handling thanks to anchorage depth of 70 mm in all materials with all product lengths.

✔ The special design enables the SMART frame fixing to anchor in coarse and soft materials.

✔ S-shaped slots for solid expansion and a secure hold in all building materials with high pull-out values.

✔ Strong expansion for optimal anchoring results.

For nearly all building materials...

Concrete   Hollow concrete   Cellular concrete

Hollow brick   Semi-solid brick   Solid brick

(1)

(2)

The multifunctional frame anchor expands in solid building materials (1) and forms a knot in hollow substrates (2).

SMART frame plug with countersunk collar and screw

ETA CE

PZ 3
SM0RP

HEX
SMRPZ

T40
SMRPF

T40
SMRPT

Available dimensions

10 x 80	10 x 160
10 x 100	10 x 180
10 x 120	10 x 200
10 x 140	10 x 230

SMART frame plug with cylindrical collar and screw

NEW

Especially for metal profiles

T40
SMRPC

Available dimensions

10 x 100	10 x 140
10 x 120	10 x 160

Smart®
Intelligent anchoring solutions

Smart®

SMPKK

HAMMER NAIL PLUG WITH COUNTERSUNK COLLAR

ETA
European Technical Approval
ETA 12-0572

CE

NA2 nylon inox A2

NZN nylon zinc pl.

TYPE PKK

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Hammer nail plug with countersunk plug and zinc plated or stainless steel screwnail.

ADVANTAGES

- Pre-assembled for quick and easy use.
- Hammer-in fixing, no setting tool needed.
- The screw nail can be removed for dismantling of the fixture.

APPLICATIONS

- For the fixing of wooden and metal supporting constructions, cable and pipe clamps, skirting boards, ...

FUNCTIONING

- Push-through installation.
- When hammered in, the plug will expand in 2 directions. If installed in hollow base material the plug should be long enough to at least allow for expansion in the second brick chamber.
- For timber constructions, countersunk plugs are recommended. In case of metal constructions, use plugs with cylindrical or mushroom collar.

PZ 2
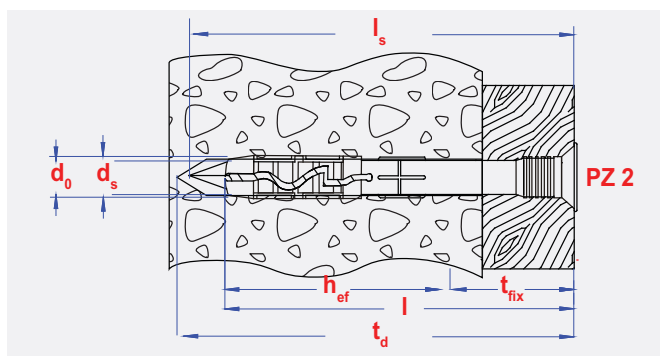
TECHNICAL DATA

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5	40	5	55	3,5	45	25	15
5	50	5	65	3,5	55	25	25
6	40	6	55	4,0	45	30	10
6	50	6	65	4,0	55	30	20
6	60	6	75	4,0	65	30	30
6	80	6	95	4,0	85	30	50
8	45	8	60	5,0	48	40	5
8	60	8	75	5,0	65	40	20
8	80	8	95	5,0	85	40	40
8	100	8	115	5,0	105	40	60
8	120	8	135	5,0	125	40	80
8	140	8	155	5,0	145	40	100
10	80	10	95	7,0	85	50	30
10	100	10	115	7,0	105	50	50
10	120	10	135	7,0	125	50	70
10	140	10	155	7,0	145	50	90
10	160	10	175	7,0	165	50	110

INSTALLATION SCHEME

Smart®
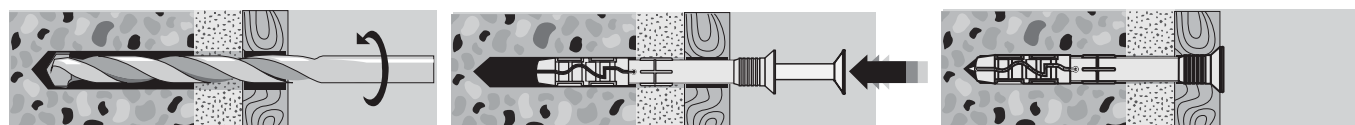
Hammer nail plug with countersunk collar

Hammer nail plug with countersunk collar

CARTON BOX PACKING

size	pgb code	EAN13	
5x30	SMPKK305030 N	5902134709536	200
5x40	SMPKK305040 N	5902134709543	200
5x50	SMPKK305050 N	5902134709550	200
6x40	SMPKK306040 N	5902134709567	200
6x50	SMPKK306050 N	5902134709574	200
6x60	SMPKK306060 N	5902134709581	200
6x80	SMPKK306080 N	5902134709598	200
8x60	SMPKK308060 N	5902134709611	100
8x80	SMPKK308080 N	5902134709628	100
8x100	SMPKK308100 N	5902134709635	100
8x120	SMPKK308120 N	5902134709642	100
8x140	SMPKK308140 N	5902134709697	100
10x80	SMPKK310080 N	5902134709666	50
10x100	SMPKK310100 N	5902134709673	50
10x120	SMPKK310120 N	5902134709680	50
10x140	SMPKK310140 N	5902134709697	50
10x160	SMPKK310160 N	5902134709703	50

WINDOW BOX PACKING

size	pgb code	EAN13	
5x30	SMPKKE05030 N	5902134704852	100
5x40	SMPKKE05040 N	5902134704869	100
5x50	SMPKKE05050 N	5902134704876	100
6x40	SMPKKE06040 N	5902134704883	100
6x60	SMPKKE06060 N	5902134704890	50
6x80	SMPKKE06080 N	5902134704913	50
8x45	SMPKKE08045 N	5902134704920	50
8x60	SMPKKE08060 N	5902134704937	50
8x80	SMPKKE08080 N	5902134704944	50
8x100	SMPKKE08100 N	5902134704951	50
8x120	SMPKKE08120 N	5902134704968	50
8x140	SMPKKE08140 N	5902134704975	50
10x80	SMPKKE10080 N	5902134704982	50
10x100	SMPKKE10100 N	5902134704999	25
10x120	SMPKKE10120 N	5902134705002	25
10x140	SMPKKE10140 N	5902134705019	25
10x160	SMPKKE10160 N	5902134705026	25

Hammer nail plug with countersunk collar

NA2 nylon inox A2

Hammer nail plug with countersunk collar

CARTON BOX PACKING

size	pgb code	EAN13	
6x30	SMPKK306030 NA2	5902134711416	200
6x40	SMPKK306040 NA2	5902134709710	200
6x50	SMPKK306050 NA2	5902134709727	200
6x60	SMPKK306060 NA2	5902134709734	100
6x80	SMPKK306080 NA2	5902134709741	100
8x60	SMPKK308060 NA2	5902134709758	100
8x80	SMPKK308080 NA2	5902134709765	100
8x100	SMPKK308100 NA2	5902134709772	100

PRO BOX PACKING

size	pgb code	EAN13	
6x40	SMPKKD06040	5902134723525	850
6x60	SMPKKD06060	5902134723532	650
6x80	SMPKKD06080	5902134723549	500
8x60	SMPKKD08060	5902134723556	370
8x80	SMPKKD08080	5902134723563	300
8x100	SMPKKD08100	5902134723570	250
8x120	SMPKKD08120	5902134723587	250

Smart®

SM0SP

HAMMER NAIL PLUG WITH MUSHROOM-SHAPED COLLAR

TYPE SP
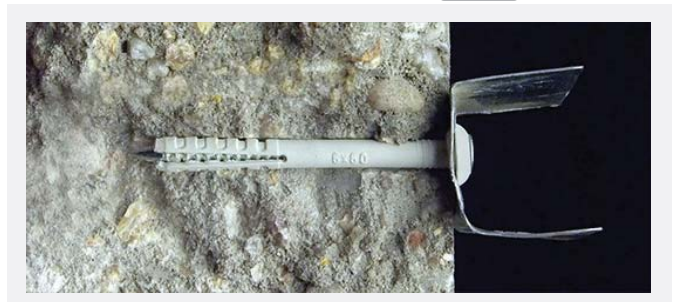
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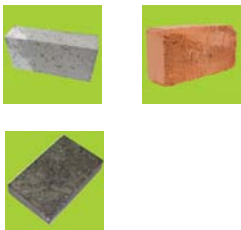
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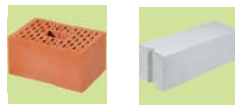
DESCRIPTION

• Hammer nail plug with mushroom-shaped collar and zinc plated screwnail.

ADVANTAGES

• Pre-assembled for quick and easy use.
• Hammer-in fixing, no setting tool needed.
• The screw nail can be removed for dismantling of the fixture.

APPLICATIONS

• For the fixing of wooden and metal supporting constructions, cable and pipe clamps, skirting boards, ...

FUNCTIONING

• Push-through installation.
• When hammered in, the plug will expand in 2 directions. If installed in hollow base material the plug should be long enough to at least allow for expansion in the second brick chamber.
• For timber constructions, countersunk plugs are recommended. In case of metal constructions, use plugs with cylindrical or mushroom collar.

TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	d_s [mm]	l_s [mm]	h_{ef} [mm]	t_{fix} [mm]
6	40	6	55	4,0	50	30	10
6	60	6	75	4,0	70	30	30

INSTALLATION SCHEME

Smart®
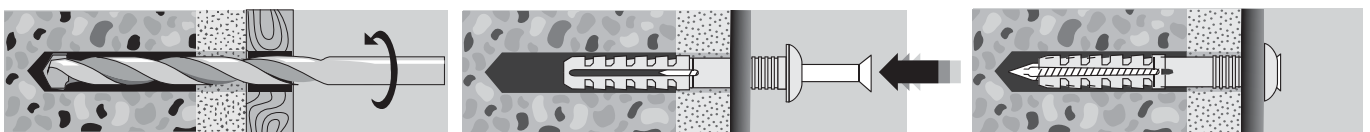
Hammer nail plug with mushroom-shaped collar

Hammer nail plug with mushroom-shaped collar

CARTON BOX PACKING

size	pgb code	EAN13		
6x40	SM0SP306040 N	5902134710631	200	
6x60	SM0SP306060 N	5902134710648	200	

WINDOW BOX PACKING

size	pgb code	EAN13		
6x40	SM0SPE06040 N	5902134705033	100	
6x60	SM0SPE06060 N	5902134705040	50	

Frame fixings

Smart®

SMSPM

HAMMER NAIL PLUG WITH METRIC THREAD

Frame fixings

TYPE SPM

BEST SUITABLE FOR
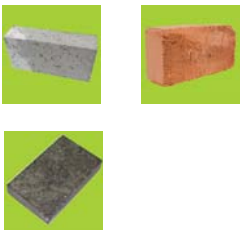
ALSO SUITABLE FOR
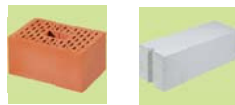
DESCRIPTION

•   Hammer nail plug with metric thread end.

ADVANTAGES

•   Pre-assembled for quick and easy use.
•   Hammer-in fixing, no setting tool needed.
•   The screw nail can be removed for dismantling of the fixture.

APPLICATIONS

•   For the fixing of wooden and metal supporting constructions, cable and pipe clamps, skirting boards, ...

FUNCTIONING

•   Push-through installation.
•   When hammered in, the plug will expand in 2 directions. If installed in hollow base material the plug should be long enough to at least allow for expansion in the second brick chamber.
•   For timber constructions, countersunk plugs are recommended. In case of metal constructions, use plugs with cylindrical or mushroom collar.
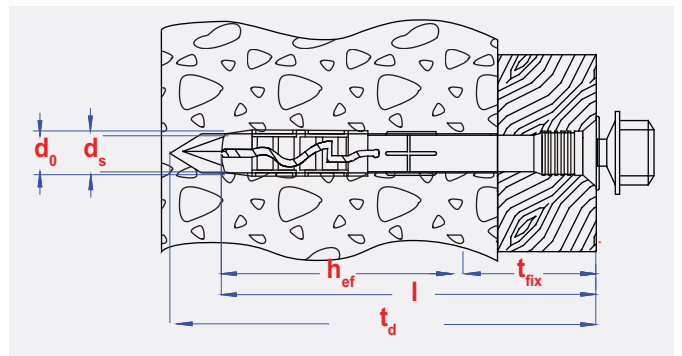
TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	d_s [mm]	h_{ef} [mm]	t_{fix} [mm]
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6	40	6	55	M 7	30	10
8	50	8	65	M 8	40	10

INSTALLATION SCHEME

Smart®
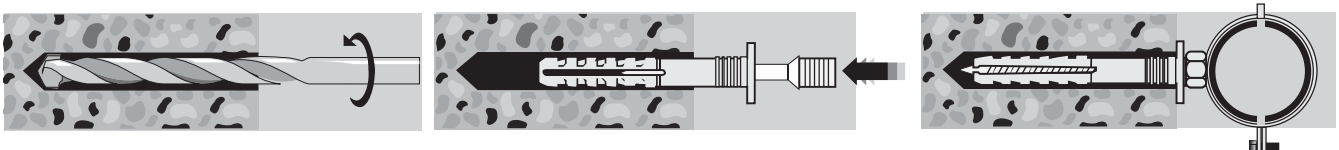
Hammer nail plug with metric thread

Hammer nail plug with metric thread

CARTON BOX PACKING

size	pgb code	EAN13		
6x40	SMSPM306040 N	5902134710020	200	
6x40	SMSPM307040 N	5902134710037	200	
8x50	SMSPM308050 N	5902134710044	100	

WINDOW BOX PACKING

size	pgb code	EAN13		
6x40	SMSPME06040 N	5902134711119	100	
6x40	SMSPME07040 N	5902134711126	100	
8x50	SMSPME08050 N	5902134711133	50	

Frame fixings

SMPCK

HAMMER NAIL PLUG WITH CYLINDRICAL COLLAR

ETA
European Technical Approval
ETA 12-0572
CE

NZN
nylon
zinc pl.

TYPE PCK

BEST SUITABLE FOR

ALSO SUITABLE FOR

d_0 d_s

h_{ef}

t_{fix}

l

t_d

PZ 2
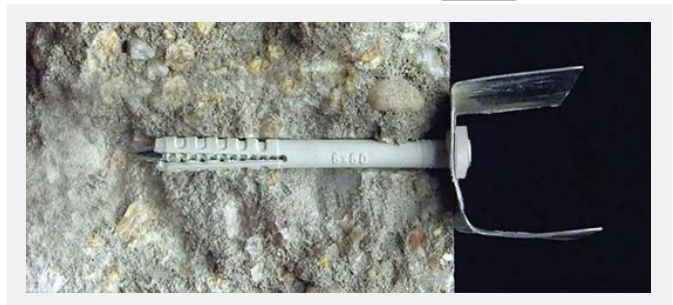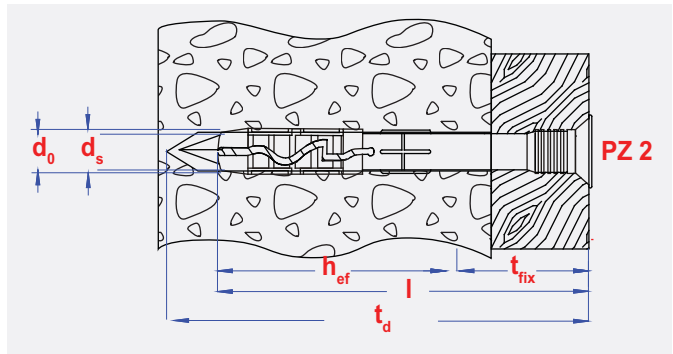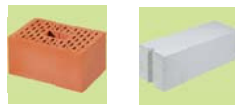
DESCRIPTION

- Time saving fixing system consisting of a nylon plug and zinc plated screw nail.

ADVANTAGES

- Pre-assembled for quick and easy use.
- Hammer-in fixing, no setting tool needed.
- The screw nail can be removed for dismantling of the fixture.

APPLICATIONS

- For the fixing of wooden and metal supporting constructions, cable and pipe clamps, skirting boards, ...

FUNCTIONING

- Push-through installation.
- When hammered in, the plug will expand in 2 directions. If installed in hollow base material the plug should be long enough to at least allow for expansion in the second brick chamber.
- For timber constructions, countersunk plugs are recommended. In the case of metal constructions use plugs with cylindrical or mushroom collar.

TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
5	30	5	45	25	5
5	35	5	50	25	10
5	40	5	55	25	15
5	50	5	65	25	25
6	40	6	55	30	10
6	50	6	65	30	20
6	60	6	75	30	30
6	80	6	95	30	50
8	50	8	65	40	10
8	60	8	75	40	20
8	80	8	95	40	40
8	100	8	115	40	60
8	120	8	135	40	80

INSTALLATION SCHEME

Smart®
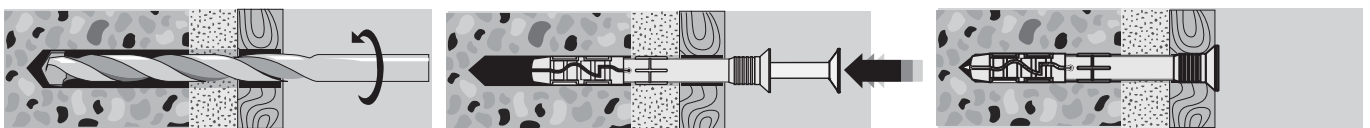
Hammer nail plug with cylindrical collar

CARTON BOX PACKING

size	pgb code	EAN13		
5x30	SMPCK305030 N	5902134711867	200	
5x35	SMPCK305035 N	5902134711874	200	
5x40	SMPCK305040 N	5902134711881	200	
5x50	SMPCK305050 N	5902134711898	200	
6x40	SMPCK306040 N	5902134711386	200	
6x50	SMPCK306050 N	5902134711904	200	
6x60	SMPCK306060 N	5902134711911	200	
6x80	SMPCK306080 N	5902134711928	200	
8x50	SMPCK308050 N	5902134711935	100	
8x60	SMPCK308060 N	5902134711942	100	
8x80	SMPCK308080 N	5902134711393	100	
8x100	SMPCK308100 N	5902134711409	100	
8x120	SMPCK308120 N	5902134711959	100	

Smart®

SM0HN

HAMMER DRIVE ANCHOR WITH NAIL

TYPE HN

ZA zamak
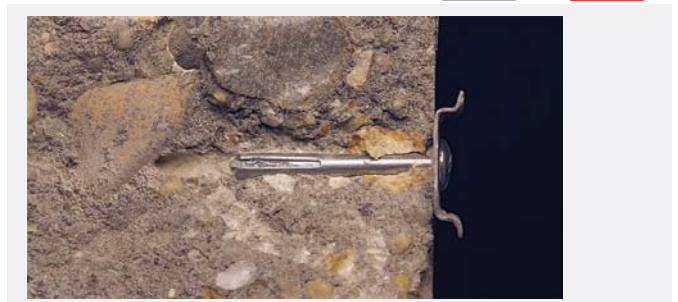
BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• Hammer drive anchor, made from corrosion resistant zamac alloy.

ADVANTAGES

• Pre-assembled for quick and easy use.
• Hammer-in fixing, no setting tool needed.

APPLICATIONS

• For the fixing of metal supporting constructions, cable and pipe clamps, ...

FUNCTIONING

• Push-through installation.
• When hammered in, the plug will expand in 2 directions.
• For use in pre-drilled holes in solid materials.
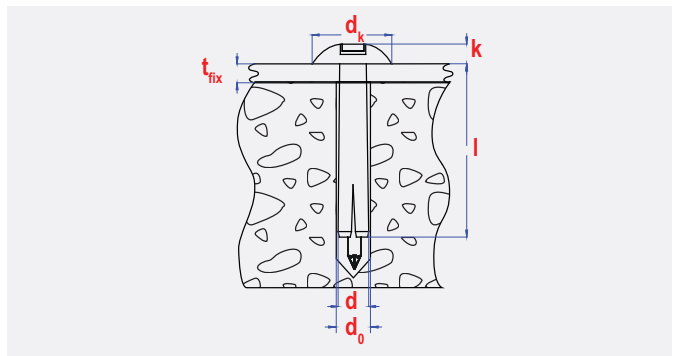
TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	d_k [mm]	h_{ef} [mm]	t_{fix} [mm]	S [mm]
5	22	5	37	10	15	7	
6	30	6	45	13	20	10	
6	40	6	55	13	20	20	
6	50	6	65	13	20	30	
6	65	6	80	13	20	45	

INSTALLATION SCHEME
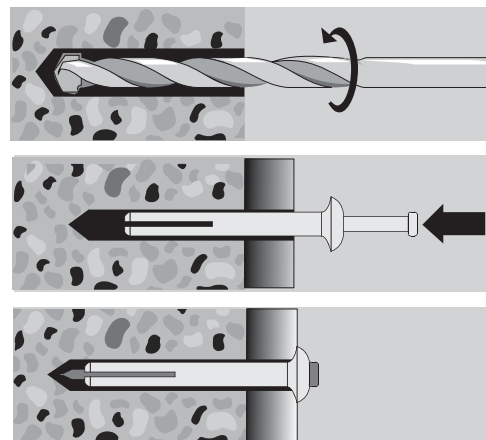
Hammer drive anchor with nail

Hammer drive anchor with nail

CARTON BOX PACKING

size	pgb code	EAN13		
5x22	SM0HN305022 Z	5902134708553	200	
6x30	SM0HN306030 Z	5902134708560	200	
6x40	SM0HN306040 Z	5902134708577	200	
6x50	SM0HN306050 Z	5902134708584	200	
6x65	SM0HN306065 Z	5902134708591	200	

WINDOW BOX PACKING

size	pgb code	EAN13		
5x22	SM0HNE05022 Z	5902134705385	100	
6x30	SM0HNE06030 Z	5902134705392	50	
6x40	SM0HNE06040 Z	5902134705408	25	
6x50	SM0HNE06050 Z	5902134705415	25	
6x65	SM0HNE06065 Z	5902134705422	25	

Frame fixings

SM0RP

FRAME PLUG WITH COUNTERSUNK HEAD AND POZIDRIV SCREW

ETA
European Technical Approval
ETA 10-0392
CE

NZN
nylon
zinc pl.

Cl Br
Halogen Free

TYPE RP

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• Universal frame anchor with ETA approval, suitable for nearly all building materials.

ADVANTAGES

• The long expansion zone ensures a safe anchorage even in soft base material as well as in hollow blocks or bricks.
• The extensive range with diameters of 8 and 10 mm offers the right plug for every fixing.
• Easy handling thanks to the anchorage depth op 70mm in all materials with all product lenghts.

APPLICATIONS

• For the fixing of gates, doors, windows, wooden or metal supporting constructions, ...

FUNCTIONING

• Push-through installation.
• The frame plug expands in solid building materials and forms a knot in hollow building materials.
• For timber constructions, countersunk plugs are recommended. In case of metal constructions, use plugs with cylindrical collar.

PZ 3

TECHNICAL DATA

d	l	d_0	t_d	d_s	l_s	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8	60	8	70	6	65		
8	80	8	90	6	85	70	10
8	100	8	110	6	105	70	30
8	120	8	130	6	125	70	50
8	140	8	150	6	145	70	70
10	80	10	90	7	87	70	10
10	100	10	110	7	107	70	30
10	120	10	130	7	127	70	50
10	140	10	150	7	147	70	70
10	160	10	170	7	167	70	90

CE 1488 / 11
pgb-Polska sp. z.o.o.

ETA   CE

1488-CPD-0230/Z
SMART frame anchors
ETA-10/0392
ETAG 020-1 / 10mm
European Technical Approval
For use in concrete and solid
or perforated masonry for
non-structural applications

INSTALLATION SCHEME

Smart®

Frame plug with countersunk head and pozidriv screw

Frame plug with countersunk head and pozidriv screw

CARTON BOX PACKING

size	pgb code	EAN13		
8x60	SM0RP308060 NZN	5902134709277	100	
8x80	SM0RP308080 NZN	5902134709284	100	
8x100	SM0RP308100 NZN	5902134709291	100	
8x120	SM0RP308120 NZN	5902134709307	100	
8x140	SM0RP308140 NZN	5902134709314	50	
10x80	SM0RP310080 NZN	5902134709321	50	
10x100	SM0RP310100 NZN	5902134709338	50	
10x120	SM0RP310120 NZN	5902134709345	50	
10x140	SM0RP310140 NZN	5902134709352	50	
10x160	SM0RP310160 NZN	5902134709369	50	

WINDOW BOX PACKING

size	pgb code	EAN13		
10x100	SM0RPE10100 NZN	5902134705118	25	
10x120	SM0RPE10120 NZN	5902134705125	25	
10x140	SM0RPE10140 NZN	5902134705132	25	
10x160	SM0RPE10160 NZN	5902134705149	25	

Frame fixings

Smart®

SMRPT

FRAME PLUG WITH COUNTERSUNK HEAD AND TORX SCREW

Frame fixings

TYPE RPT

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Universal frame anchor with ETA approval, suitable for nearly all building materials.

ADVANTAGES

- The long expansion zone ensures a safe anchorage even in soft base material as well as in hollow blocks or bricks.
- The extensive range with diameters of 8 and 10 mm offers the right plug for every fixing.
- Easy handling thanks to the anchorage depth op 70mm in all materials with all product lenghts.

APPLICATIONS

- For the fixing of gates, doors, windows, wooden or metal supporting constructions, ...

FUNCTIONING

- Push-through installation.
- The frame plug expands in solid building materials and forms a knot in hollow building materials.
- For timber constructions, countersunk plugs are recommended. In case of metal constructions, use plugs with cylindrical collar.

INSTALLATION SCHEME

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	80	10	90	7	87	70	10
10	100	10	110	7	107	70	30
10	120	10	130	7	127	70	50
10	140	10	150	7	147	70	70
10	160	10	170	7	167	70	90
10	180	10	190	7	187	70	110
10	200	10	210	7	207	70	130
10	230	10	240	7	237	70	160

Smart®

Frame plug with countersunk head and Torx screw

Frame plug with countersunk head and Torx screw

CARTON BOX PACKING

size	pgb code	EAN13		
10x80	SMRPT310080 NZN	5902134712796	50	
10x100	SMRPT310100 NZN	5902134712802	50	
10x120	SMRPT310120 NZN	5902134712819	50	
10x140	SMRPT310140 NZN	5902134712826	50	
10x160	SMRPT310160 NZN	5902134712833	50	
10x180	SMRPT310180 NZN	5902134712840	25	
10x200	SMRPT310200 NZN	5902134712857	25	
10x230	SMRPT310230 NZN	5902134712864	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
10x80	SMRPTE10080 NZN	5902134713021	25	
10x100	SMRPTE10100 NZN	5902134713038	25	
10x120	SMRPTE10120 NZN	5902134713045	25	
10x140	SMRPTE10140 NZN	5902134713052	25	
10x160	SMRPTE10160 NZN	5902134713069	25	
10x180	SMRPTE10180 NZN	5902134713076	25	
10x200	SMRPTE10200 NZN	5902134713083	25	

Frame fixings

Smart®

SMRPF

FRAME PLUG WITH COUNTERSUNK HEAD AND HEX SCREW WITH PRESSED-ON WASHER

ETA CE
European Technical Approval
ETA 10-0392

NZN nylon zinc pl.

Cl Br Halogen Free

TYPE RPF

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Universal frame anchor with ETA approval, suitable for nearly all building materials.

ADVANTAGES

- The long expansion zone ensures a safe anchorage even in soft base material as well as in hollow blocks or bricks.
- The extensive range with diameters of 8 and 10 mm offers the right plug for every fixing.
- Easy handling thanks to the anchorage depth op 70mm in all materials with all product lenghts.

APPLICATIONS

- For the fixing of gates, doors, windows, wooden or metal supporting constructions, ...

FUNCTIONING

- Push-through installation.
- The frame plug expands in solid building materials and forms a knot in hollow building materials.
- For timber constructions, countersunk plugs are recommended. In case of metal constructions, use plugs with cylindrical collar.

INSTALLATION SCHEME

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	80	10	90	7	87	70	10
10	100	10	110	7	107	70	30
10	120	10	130	7	127	70	50
10	140	10	150	7	147	70	70
10	160	10	170	7	167	70	90
10	180	10	190	7	187	70	110
10	200	10	210	7	207	70	130
10	230	10	240	7	237	70	160

CE 1488 / 11
pgb-Polska sp. z.o.o.

ETA CE

1488-CPD-0230/Z
SMART frame anchors
ETA-10/0392
ETAG 020-1 / 10mm
European Technical Approval
For use in concrete and solid
or perforated masonry for
non-structural applications

Smart®

Frame plug with countersunk head and hex screw with pressed-on washer

Frame plug with countersunk head and hex screw with pressed-on washer

CARTON BOX PACKING

size	pgb code	EAN13		
10x80	SMRPF310080 NZN	5902134712710	50	
10x100	SMRPF310100 NZN	5902134712727	50	
10x120	SMRPF310120 NZN	5902134712734	50	
10x140	SMRPF310140 NZN	5902134712741	50	
10x160	SMRPF310160 NZN	5902134712758	50	
10x180	SMRPF310180 NZN	5902134712765	25	
10x200	SMRPF310200 NZN	5902134712772	25	
10x230	SMRPF310230 NZN	5902134712789	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
10x80	SMRPFE10080 NZN	5902134712949	25	
10x100	SMRPFE10100 NZN	5902134712956	25	
10x120	SMRPFE10120 NZN	5902134712963	25	
10x140	SMRPFE10140 NZN	5902134712970	25	
10x160	SMRPFE10160 NZN	5902134712987	25	
10x180	SMRPFE10180 NZN	5902134712994	25	
10x200	SMRPFE10200 NZN	5902134713007	25	

Frame fixings

Smart®

SMRPZ

FRAME PLUG WITH COUNTERSUNK HEAD AND HEX SCREW

Frame fixings

TYPE RPZ

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• Universal frame anchor with ETA approval, suitable for nearly all building materials.
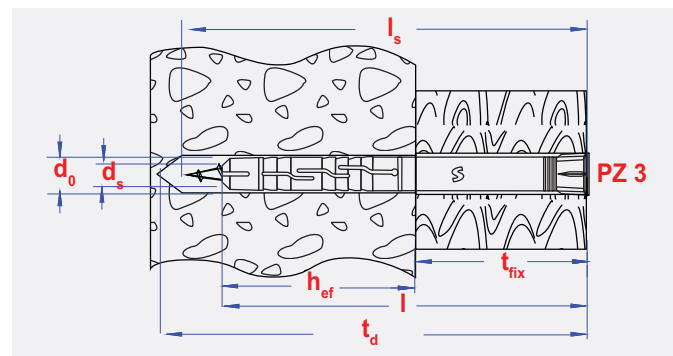
ADVANTAGES

• The long expansion zone ensures a safe anchorage even in soft base material as well as in hollow blocks or bricks.
• The extensive range with diameters of 8 and 10 mm offers the right plug for every fixing.
• Easy handling thanks to the anchorage depth op 70mm in all materials with all product lenghts.

APPLICATIONS

• For the fixing of gates, doors, windows, wooden or metal supporting constructions, ...

FUNCTIONING

• Push-through installation.
• The frame plug expands in solid building materials and forms a knot in hollow building materials.
• For timber constructions, countersunk plugs are recommended. In case of metal constructions, use plugs with cylindrical collar.

INSTALLATION SCHEME

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}	S
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	80	10	90	7	87	70	10	13
10	100	10	110	7	107	70	30	13
10	120	10	130	7	127	70	50	13
10	140	10	150	7	147	70	70	13
10	160	10	170	7	167	70	90	13
10	180	10	190	7	187	70	110	13
10	200	10	210	7	207	70	130	13
10	230	10	240	7	237	70	160	13

Smart®

Frame plug with countersunk head and hex screw

Frame plug with countersunk head and hex screw

CARTON BOX PACKING

size	pgb code	EAN13		
10x80	SMRPZ310080 NZN	5902134709321	50	
10x100	SMRPZ310100 NZN	5902134709338	50	
10x120	SMRPZ310120 NZN	5902134709345	50	
10x140	SMRPZ310140 NZN	5902134709352	50	
10x160	SMRPZ310160 NZN	5902134709369	50	
10x180	SMRPZ310180 NZN	5902134709376	25	
10x200	SMRPZ310200 NZN	5902134709383	25	
10x230	SMRPZ310230 NZN	5902134709390	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
10x100	SMRPZE10100 NZN	5902134705156	25	
10x120	SMRPZE10120 NZN	5902134705163	25	
10x140	SMRPZE10140 NZN	5902134705170	25	
10x160	SMRPZE10160 NZN	5902134705187	25	

Frame fixings

Smart®

SMRPC

FRAME PLUG WITH CYLINDER HEAD AND HEX SCREW WITH PRESSED-ON WASHER

TYPE RPC

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• Universal frame anchor with ETA approval, suitable for nearly all building materials.
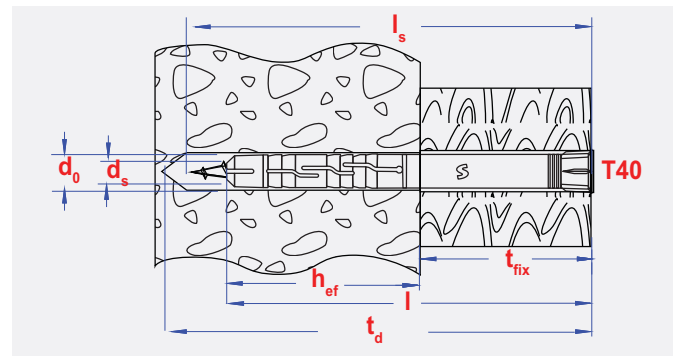
ADVANTAGES

• The long expansion zone ensures a safe anchorage even in soft base material as well as in hollow blocks or bricks.
• The extensive range with diameters of 8 and 10 mm offers the right plug for every fixing.
• Easy handling thanks to the anchorage depth op 70mm in all materials with all product lenghts.

APPLICATIONS

• For the fixing of gates, doors, windows, wooden or metal supporting constructions, ...

FUNCTIONING

• Push-through installation.
• The frame plug expands in solid building materials and forms a knot in hollow building materials.
• For timber constructions, countersunk plugs are recommended. In the case of metal constructions use plugs with cylindrical collar.

INSTALLATION SCHEME

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}	S
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	100	10	110	7	107	70	30	T40
10	120	10	130	7	127	70	50	T40
10	140	10	150	7	147	70	70	T40
10	160	10	170	7	167	70	90	T40

Smart®

Frame plug with cylinder head and hex screw with pressed-on washer
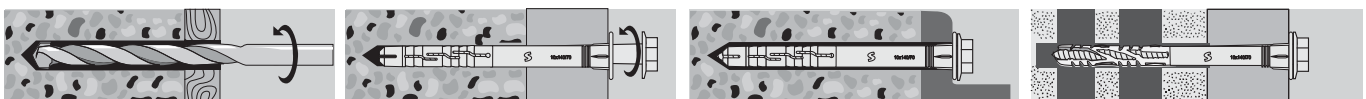
Frame plug with cylinder head and hex screw with pressed-on washer

CARTON BOX PACKING

size	pgb code	EAN13		
10x100	SMRPC310100 NZN	5902134719702	50	
10x120	SMRPC310120 NZN	5902134719719	50	
10x140	SMRPC310140 NZN	5902134719726	25	
10x160	SMRPC310160 NZN	5902134719733	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
10x100	SMRPCE10100 NZN	5902134720753	25	
10x120	SMRPCE10120 NZN	5902134720760	25	
10x140	SMRPCE10140 NZN	5902134720777	25	
10x160	SMRPCE10160 NZN	5902134720784	25	

Frame fixings

Smart®

SMMKP

METAL FRAME ANCHOR

TYPE MKP

BEST SUITABLE FOR

ALSO SUITABLE FOR
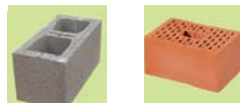
DESCRIPTION

- Metal frame anchor with cylindrical head (diam 8) or countersunk head (diam 10) for tinstallation of window and door frames.

ADVANTAGES

- All-metal plug with high shear load bearing capacities, ideal for spaced fixings.
- With locking wings to firmly hold hollow profiles.
- Stress-free installation and fixing of the profile.

APPLICATIONS

- For the fixing of window and door frames made of wood, plastic or metal, fireproof doors.

FUNCTIONING

- Push-through installation.
- When turning the screw, the cone is drawn into the sleeve to expand the fixing and wegde itself into the drill hole.
- Maximum torque 5 Nm.
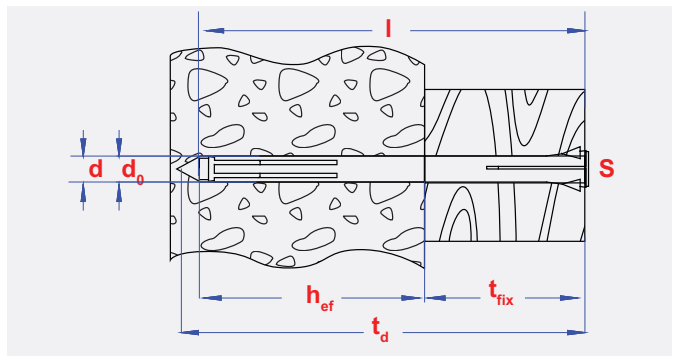
TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	h_{ef} [mm]	t_{fix} [mm]	S [mm]
8	72	8	90	30	42	PZ 2
8	92	8	110	30	62	PZ 2
8	112	8	130	30	82	PZ 2
8	132	8	150	30	102	PZ 2
8	172	8	190	30	142	PZ 2
10	72	10	90	30	42	PZ 3
10	92	10	110	30	62	PZ 3
10	112	10	130	30	82	PZ 3
10	132	10	150	30	102	PZ 3
10	152	10	170	30	122	PZ 3
10	182	10	200	30	152	PZ 3
10	202	10	220	30	172	PZ 3

INSTALLATION SCHEME

Smart®

Metal frame anchor

Metal frame anchor

CARTON BOX PACKING

size	pgb code	EAN13		
8x72	SMMKP308075 Z	5902134708805	50	
8x92	SMMKP308090 Z	5902134708812	50	
8x112	SMMKP308110 Z	5902134708829	50	
8x132	SMMKP308130 Z	5902134708836	50	
8x172	SMMKP308170 Z	5902134708850	50	

WINDOW BOX PACKING

size	pgb code	EAN13		
10x72	SMMKPE10075 Z	5902134706702	50	
10x92	SMMKPE10090 Z	5902134706719	50	
10x112	SMMKPE10110 Z	5902134706726	50	
10x132	SMMKPE10130 Z	5902134706733	50	
10x152	SMMKPE10150 Z	5902134706740	50	
10x182	SMMKPE10180 Z	5902134706757	50	
10x202	SMMKPE10200 Z	5902134706764	50	

Metal frame anchor

Cover cap for metal frame anchor

CARTON BOX PACKING

size	pgb code	EAN13		
10x72	SMMKP310075 Z	5902134708867	50	
10x92	SMMKP310090 Z	5902134708874	50	
10x112	SMMKP310110 Z	5902134708881	50	
10x132	SMMKP310130 Z	5902134708898	50	
10x152	SMMKP310150 Z	5902134708904	50	
10x182	SMMKP310180 Z	5902134708911	50	
10x202	SMMKP310200 Z	5902134708928	50	

WINDOW BOX PACKING

colour	pgb code	EAN13		
RAL 8011	SMDEKE038011N	5902134712437	100	
RAL 9005	SMDEKE039005N	5902134712444	100	
RAL 9010	SMDEKE039010N	5902134712451	100	

Smart®

SMC25

WINDOW FRAME SCREW WITH CYLINDER HEAD, T25

Frame fixings

TYPE KSC

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Window frame screw for recessed installation in wooden window frames. With HiLo threading to optimize the insertion into the hole.

ADVANTAGES

- No additional plugs are required thanks to the self-tapping thread.
- Small drill bit diameter allows fast working.
- Stress-free installation and fixing of the profile.

APPLICATIONS

- For the fixing of window and door frames.

FUNCTIONING

- Push-through installation.
- The full thread prevents the frame from being pulled against the substrate.
- Cover caps are available for a nice finish.

TECHNICAL DATA

d	l	d_0	h_1	*h_{ef}	t_{fix}	T
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
7,5	42	6	57	40	2	T 25
7,5	62	6	77	40	22	T 25
7,5	72	6	87	40	32	T 25
7,5	82	6	97	40	42	T 25
7,5	92	6	107	40	52	T 25
7,5	102	6	117	40	62	T 25
7,5	112	6	127	40	72	T 25
7,5	122	6	137	40	82	T 25
7,5	132	6	147	40	92	T 25
7,5	142	6	157	40	102	T 25
7,5	152	6	167	40	112	T 25
7,5	162	6	177	40	122	T 25
7,5	182	6	197	40	142	T 25
7,5	202	6	217	40	162	T 25
7,5	212	6	227	40	172	T 25

*Minimum setting depth

concrete	h_{ef} > 30mm
solid brick	h_{ef} > 40mm
hollow brick	h_{ef} > 60mm

INSTALLATION SCHEME

Smart®

Window frame screw with cylinder head, T25

CARTON BOX PACKING

size	pgb code	EAN13	
7,5x42	SMC25375042 Z	5902134710457	100
7,5x62	SMC25375062 Z	5902134710464	100
7,5x72	SMC25375072 Z	5902134710471	100
7,5x82	SMC25375082 Z	5902134710488	100
7,5x92	SMC25375092 Z	5902134710495	100
7,5x102	SMC25375102 Z	5902134710501	100
7,5x112	SMC25375112 Z	5902134710518	100
7,5x122	SMC25375122 Z	5902134710525	100
7,5x132	SMC25375132 Z	5902134710532	100
7,5x142	SMC25375142 Z	5902134711027	100
7,5x152	SMC25375152 Z	5902134710549	100
7,5x162	SMC25375162 Z	5902134710556	100
7,5x182	SMC25375182 Z	5902134710563	100
7,5x202	SMC25375202 Z	5902134710570	100
7,5x212	SMC25375212 Z	5902134710587	100

SMC30

WINDOW FRAME SCREW WITH CYLINDER HEAD, T30

Frame fixings

TYPE KSC

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Window frame screw for recessed installation in wooden window frames. With HiLo threading to optimize the insertion into the hole.

ADVANTAGES

- No additional plugs are required thanks to the self-tapping thread.
- Small drill bit diameter allows fast working.
- Stress-free installation and fixing of the profile.

APPLICATIONS

- For the fixing of window and door frames.

FUNCTIONING

- Push-through installation.
- The full thread prevents the frame from being pulled against the substrate.
- Cover caps are available for a nice finish.

TECHNICAL DATA

d	l	d_0	h_1	*h_{ef}	t_{fix}	T
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
7,5	42	6	57	40	2	T30
7,5	62	6	77	40	22	T30
7,5	72	6	87	40	32	T30
7,5	82	6	97	40	42	T30
7,5	92	6	107	40	52	T30
7,5	102	6	117	40	62	T30
7,5	112	6	127	40	72	T30
7,5	122	6	137	40	82	T30
7,5	132	6	147	40	92	T30
7,5	142	6	157	40	102	T30
7,5	152	6	167	40	112	T30
7,5	162	6	177	40	122	T30
7,5	182	6	197	40	142	T30
7,5	202	6	217	40	162	T30
7,5	212	6	227	40	172	T30

*Minimum setting depth

concrete	h_{ef} > 30mm
solid brick	h_{ef} > 40mm
hollow brick	h_{ef} > 60mm

INSTALLATION SCHEME

Smart®

Window frame screw with cylinder head, T30

Window frame screw with cylinder head, T30

CARTON BOX PACKING

size	pgb code	EAN13		
7,5x42	SMC30375042 Z	5902134709123	100	
7,5x62	SMC30375062 Z	5902134709130	100	
7,5x72	SMC30375072 Z	5902134709147	100	
7,5x82	SMC30375082 Z	5902134709154	100	
7,5x92	SMC30375092 Z	5902134709161	100	
7,5x102	SMC30375102 Z	5902134709178	100	
7,5x112	SMC30375112 Z	5902134709185	100	
7,5x122	SMC30375122 Z	5902134709192	100	
7,5x132	SMC30375132 Z	5902134709208	100	
7,5x142	SMC30375142 Z	5902134709215	100	
7,5x152	SMC30375152 Z	5902134709222	100	
7,5x162	SMC30375162 Z	5902134709239	100	
7,5x182	SMC30375182 Z	5902134709246	100	
7,5x202	SMC30375202 Z	5902134709253	100	
7,5x212	SMC30375212 Z	5902134709260	100	

WINDOW BOX PACKING

size	pgb code	EAN13		
7,5x62	SMC30E75062 Z	5902134706771	100	
7,5x72	SMC30E75072 Z	5902134706788	100	
7,5x82	SMC30E75082 Z	5902134706795	100	
7,5x92	SMC30E75092 Z	5902134706801	100	
7,5x102	SMC30E75102 Z	5902134706818	100	
7,5x112	SMC30E75112 Z	5902134706825	100	
7,5x122	SMC30E75122 Z	5902134706832	100	
7,5x132	SMC30E75132 Z	5902134706849	100	
7,5x142	SMC30E75152 Z	5902134707655	100	
7,5x152	SMC30E75182 Z	5902134707662	100	

Smart®

SMP30

WINDOW FRAME SCREW WITH COUNTERSUNK HEAD, T30

TYPE KSP

Z zinc pl.

Cr3+ environmental friendly
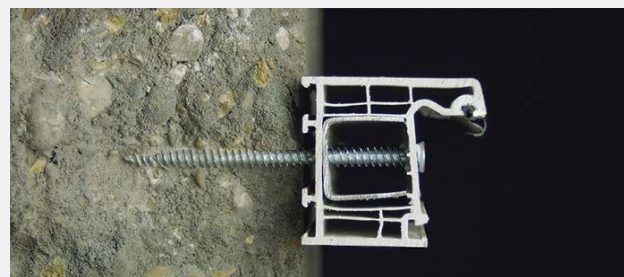
BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• Window frame screw for installation in plastic and aluminium window profiles. With HiLo threading to optimize the insertion into the hole.

ADVANTAGES

• No additional plugs are required thanks to the self-tapping thread.
• Small drill bit diameter allows fast working.
• Stress-free installation and fixing of the profile.

APPLICATIONS

• For the fixing of window and door frames.

FUNCTIONING

• Push-through installation.
• The full thread prevents the frame from being pulled against the substrate.
• Cover caps are available for a nice finish.

TECHNICAL DATA

d	l	d_0	h_1	*h_{ef}	t_{fix}	T
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
7,5	42	6	57	40	2	T30
7,5	62	6	77	40	22	T30
7,5	72	6	87	40	32	T30
7,5	82	6	97	40	42	T30
7,5	92	6	107	40	52	T30
7,5	102	6	117	40	62	T30
7,5	112	6	127	40	72	T30
7,5	122	6	137	40	82	T30
7,5	132	6	147	40	92	T30
7,5	142	6	157	40	102	T30
7,5	152	6	167	40	112	T30
7,5	162	6	177	40	122	T30
7,5	182	6	197	40	142	T30
7,5	202	6	217	40	162	T30
7,5	212	6	227	40	172	T30

*Minimum setting depth

concrete	h_{ef} > 30mm
solid brick	h_{ef} > 40mm
hollow brick	h_{ef} > 60mm

INSTALLATION SCHEME

Smart®

Window frame screw with countersunk head, T30

CARTON BOX PACKING

size	pgb code	EAN13		
7,5x42	SMP30375042 Z	5902134708973	100	
7,5x62	SMP30375062 Z	5902134708980	100	
7,5x72	SMP30375072 Z	5902134708997	100	
7,5x82	SMP30375082 Z	5902134709000	100	
7,5x92	SMP30375092 Z	5902134709017	100	
7,5x102	SMP30375102 Z	5902134709024	100	
7,5x112	SMP30375112 Z	5902134709031	100	
7,5x122	SMP30375122 Z	5902134709048	100	
7,5x132	SMP30375132 Z	5902134709055	100	
7,5x142	SMP30375142 Z	5902134709062	100	
7,5x152	SMP30375152 Z	5902134709079	100	
7,5x162	SMP30375162 Z	5902134709086	100	
7,5x182	SMP30375182 Z	5902134709093	100	
7,5x202	SMP30375202 Z	5902134709109	100	
7,5x212	SMP30375212 Z	5902134709116	100	

Window frame screw with countersunk head, T30

WINDOW BOX PACKING

size	pgb code	EAN13		
7,5x62	SMP30E75062 Z	5902134706856	100	
7,5x72	SMP30E75072 Z	5902134706863	100	
7,5x82	SMP30E75082 Z	5902134706870	100	
7,5x92	SMP30E75092 Z	5902134706887	100	
7,5x102	SMP30E75102 Z	5902134706894	100	
7,5x112	SMP30E75112 Z	5902134706917	100	
7,5x122	SMP30E75122 Z	5902134706924	100	
7,5x132	SMP30E75132 Z	5902134706900	100	
7,5x152	SMP30E75152 Z	5902134707679	100	
7,5x182	SMP30E75182 Z	5902134707686	100	

Cover cap for window frame screws

WINDOW BOX PACKING

RAL	pgb code	EAN13		
9005	SMDEKE308011N	5902134712468	100	
8011	SMDEKE309005N	5902134712475	100	
9010	SMDEKE309010N	5902134712482	100	

Frame fixings

SMAFS

UNIVERSAL SPACER SCREW, WITH T25 RECESS

Frame fixings

TYPE AFS
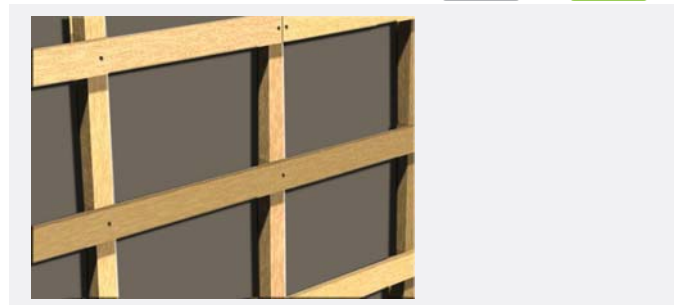
TYPE LAF
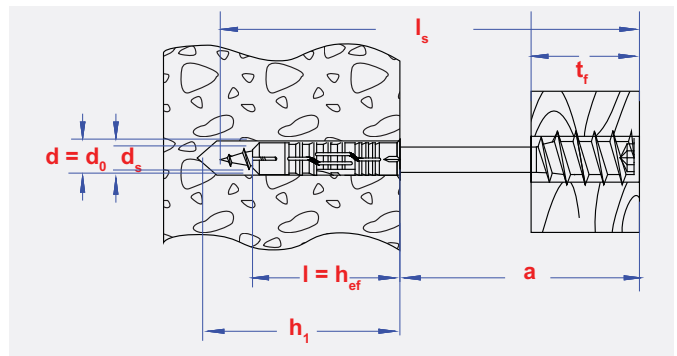
DESCRIPTION

- Special screw for adjustable alignment of wooden profiles.

ADVANTAGES

- Without plug suitable in wooden materials.
- With a multifunctional plug type SMART usable in all concrete and masonry materials.
- The special thread allows exact alignment of the fixture.

APPLICATIONS

- For the fixing of wooden supporting constructions, wooden frames, claddings, ...

FUNCTIONING

- Push-through installation.
- Pre-drill the fixture at the desired angle. When mounting the screw, the external thread cuts into the pre-drilled fixture, and fixes it into the desired position.
- An angled position of 15°-30° allows higher shear loads to be supported.

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	a	t_f	T
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8	60	8	75	6	60	60	15	20	T 25
8	60	8	75	6	80	60	35	20	T 25
8	60	8	75	6	100	60	55	20	T 25
8	60	8	75	6	120	60	75	20	T 25
8	60	8	75	6	150	60	105	20	T 25
8	60	8	75	6	180	60	135	20	T 25
8	60	8	75	6	200	60	155	20	T 25
8	60	8	75	6	250	60	205	20	T 25
8	60	8	75	6	300	60	255	20	T 25

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	a	t_f	T
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8	60	8	75	6	100	60	55	45	T 25
8	60	8	75	6	120	60	75	45	T 25
8	60	8	75	6	150	60	105	45	T 25
8	60	8	75	6	180	60	135	45	T 25

INSTALLATION SCHEME

diam. 8mm

Smart®
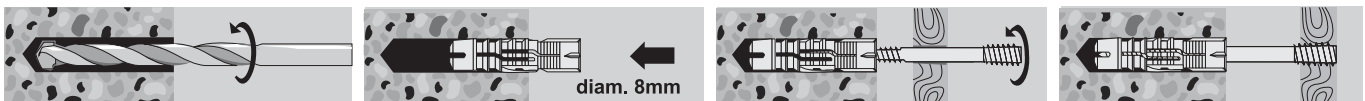
Universal spacer screw, with T25 recess

Spacer screw with long thread, with T25 recess

CARTON BOX PACKING

size	pgb code	EAN13		
6x60	SMAFS360060 Z	5902134709925	50	
6x80	SMAFS360080 Z	5902134709932	50	
6x100	SMAFS360100 Z	5902134709949	50	
6x120	SMAFS360120 Z	5902134709956	50	
6x150	SMAFS360150 Z	5902134709963	50	
6x180	SMAFS360180 Z	5902134709970	50	
6x200	SMAFS360200 Z	5902134709987	50	
6x250	SMAFS360250 Z	5902134709994	25	
6x300	SMAFS360300 Z	5902134710013	25	

CARTON BOX PACKING

size	pgb code	EAN13		
6x100	SMLAF360100 Z	5410439341608	50	
6x120	SMLAF360120 Z	5410439433884	50	
6x150	SMLAF360150 Z	5410439219013	50	
6x180	SMLAF360180 Z	5410439340489	50	

Frame fixings

SMVAS

SELFDRILLING ADJUSTABLE SCREW, WITH T25 RECESS

Z zinc pl.

Cr3+ environmental friendly

TYPE VAS

SUITABLE FOR
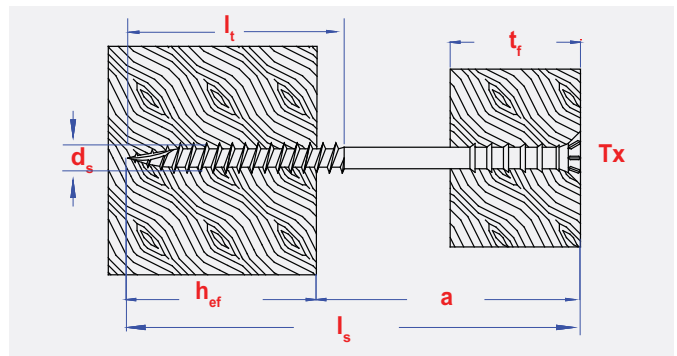
DESCRIPTION

- Spacer screw with countersunk head for adjustable installation of wooden profiles.

ADVANTAGES

- Usable in wooden materials.
- The selfdrilling point cuts directly into the wood, no predrilling required.
- The special thread allows infinite adjustment of the fixture.

APPLICATIONS

- For substructures made of wooden battens of 20-25mm thickness.

FUNCTIONING

- Push-through installation.
- Once the screw has been mounted, the fixture distance can be infinitely adjusted by modifying the rotation direction.

TECHNICAL DATA

d_s	l_s	t_f	l_t	h_{ef}	a	T
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
6	60	20	25	30	30	T 25
6	70	25	30	30	40	T 25
6	80	25	40	30	50	T 25
6	90	25	40	30	60	T 25
6	100	25	60	30	70	T 25
6	110	25	60	30	80	T 25
6	120	25	60	30	90	T 25
6	130	25	60	30	100	T 25
6	145	25	60	30	115	T 25
6	160	25	60	30	130	T 25

INSTALLATION SCHEME

Smart®

Selfdrilling adjustable screw, with T25 recess

CARTON BOX PACKING

size	pgb code	EAN13	
6x60	SMVAS360060 Z	5902134710068	100
6x70	SMVAS360070 Z	5902134710075	100
6x80	SMVAS360080 Z	5902134710082	100
6x90	SMVAS360090 Z	5902134710099	100
6x100	SMVAS360100 Z	5902134710105	100
6x110	SMVAS360110 Z	5902134710112	50
6x120	SMVAS360120 Z	5902134710129	50
6x130	SMVAS360130 Z	5902134710136	50
6x145	SMVAS360145 Z	5902134710143	50
6x160	SMVAS360160 Z	5902134710150	50

SMANH

EXPRESS NAIL

TYPE ANH

Z zinc pl.

Cr3+ environmental friendly

SUITABLE FOR
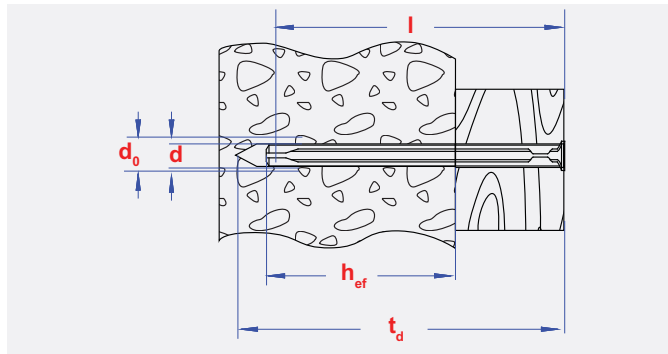
DESCRIPTION

- Spring steel sleeve anchor for light fixings in solid materials.

ADVANTAGES

- No plugs or screws are required.
- The conical shape of the makes it easy to push it into the drill hole, and thus allowing a quick installation.
- Suited for interior applications.

APPLICATIONS

- For the fixing of wooden and metal substructures or profiles.

FUNCTIONING

- Push-through installation.
- Drill a hole as in the table and hammer in the express nail.

TECHNICAL DATA

d [mm]	l [mm]	d_0 [mm]	h_1 [mm]	h_{ef} [mm]	t_{fix} [mm]
5	26	5		20	5
6	30	6	40	30	2
6	40	6	50	30	10
6	50	6	60	30	20
6	60	6	70	30	30
6	80	6	90	30	50
6	100	6	110	30	70
8	70	8	80	40	30
8	90	8	100	40	50
8	110	8	120	40	70
8	130	8	140	40	90
8	150	8	160	40	110
8	180	8	190	40	140

INSTALLATION SCHEME

Smart®

Express nail

Express nail

CARTON BOX PACKING

size	pgb code	EAN13		
5x26	SMANH305026 Z	5902134709789	500	
6x30	SMANH306030 Z	5902134709796	200	
6x40	SMANH306040 Z	5902134709802	200	
6x50	SMANH306050 Z	5902134709819	200	
6x60	SMANH306060 Z	5902134709826	200	
6x80	SMANH306080 Z	5902134709833	200	
6x100	SMANH306100 Z	5902134709840	200	
8x70	SMANH308070 Z	5902134709857	100	
8x90	SMANH308090 Z	5902134709864	100	
8x110	SMANH308110 Z	5902134709871	100	
8x130	SMANH308130 Z	5902134709888	100	
8x150	SMANH308150 Z	5902134709895	100	
8x180	SMANH308180 Z	5902134709901	100	

WINDOW BOX PACKING

size	pgb code	EAN13		
6x30	SMANHE06030 Z	5902134706603	100	
6x40	SMANHE06040 Z	5902134713106	100	
6x50	SMANHE06050 Z	5902134706610	100	
6x60	SMANHE06060 Z	5902134706627	100	
6x80	SMANHE06080 Z	5902134706634	100	
6x100	SMANHE06100 Z	5902134706641	100	
8x70	SMANHE08070 Z	5902134706658	50	
8x90	SMANHE08090 Z	5902134706665	50	
8x110	SMANHE08110 Z	5902134706672	50	
8x130	SMANHE08130 Z	5902134706689	50	
8x150	SMANHE08150 Z	5902134706696	50	

Frame fixings

Smart®

Scaffold fixings

Smart®
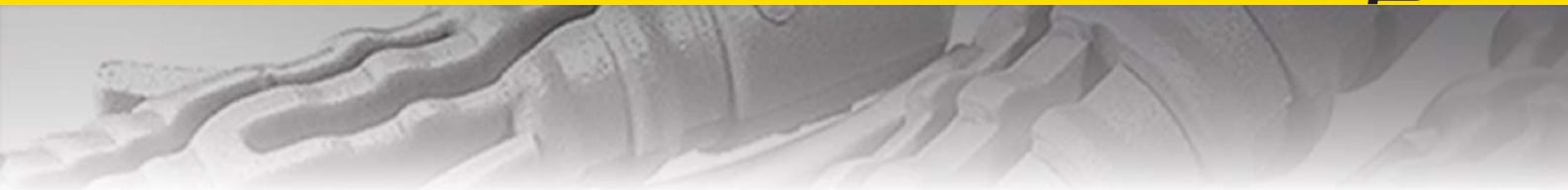
SMSFP

SCAFFOLD FIXING

SM050

SMSFP
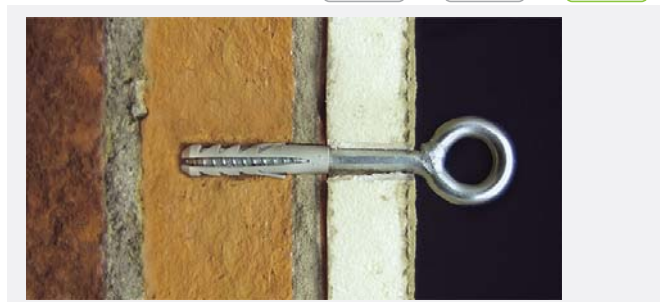
Scaffold fixings

SUITABLE FOR
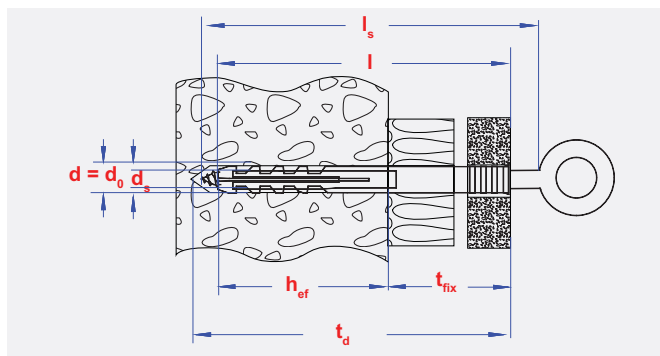
DESCRIPTION

- Standard scaffold fixing.

ADVANTAGES

- Scaffold fixing consisting of long nylon plug, welded eyebolt and cover cap (all separately supplied).
- The high quality welding prevents the screw eye from opening.
- The cover caps cover drill holes completely to prevent the base material from exposure to humidity once the fixing is not needed any more.

APPLICATIONS

- For the fixing of façade scaffolds, climbing scaffolds, bracing cables, safety harnesses.

FUNCTIONING

- Push-through installation.
- Pre-drill a hole equal to the plug diameter and screw in the screw eye. The screw-in markings provide a visual control during assembly.
- Use the cover caps to close off the remaining drill holes afterwards.

TECHNICAL DATA SMSFP

d	l	d_0	h_1	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
14	100	14	110	70	30
14	135	14	145	70	65
14	185	14	195	70	115

TECHNICAL DATA SM050

d	l	eye	t_{fix}
[mm]	[mm]	[mm]	[mm]
12	90	25	15
12	120	25	45
12	160	25	85
12	190	25	115
12	230	25	155
12	300	25	225
12	350	25	275

INSTALLATION SCHEME

Smart®

Scaffold fixing

Scaffold fixing

CARTON BOX PACKING

size	pgb code	EAN13		
14x100	SMSFP314100 N	5902134710334	50	
14x135	SMSFP314135 N	5902134710341	50	
14x185	SMSFP314185 N	5902134710358	25	

CARTON BOX PACKING

size	pgb code	EAN13		
12x90	SM0503120090Z	5902134710259	50	
12x120	SM0503120120Z	5902134710266	50	
12x160	SM0503120160Z	5902134710273	50	
12x190	SM0503120190Z	5902134710280	25	
12x230	SM0503120230Z	5902134710297	25	
12x300	SM0503120300Z	5902134710303	25	
12x350	SM0503120350Z	5902134710310	25	

Cover cap for scaffold fixing - transparant colour with overlap 21mm

CARTON BOX PACKING

size	pgb code	EAN13		
14x40	SMD21314040 NW	5902134710402	50	
14x80	SMD21314080 NW	5902134710419	25	

Cover cap for scaffold fixing - black colour with overlap 21mm

CARTON BOX PACKING

size	pgb code	EAN13		
14x40	SMD21314040 NZ	5902134710426	50	
14x80	SMD21314080 NZ	5902134710433	25	

Cover cap for scaffold fixing - transparant colour with overlap 28mm

CARTON BOX PACKING

size	pgb code	EAN13		
14x40	SMD28314040 NW	5902134710365	40	
14x80	SMD28314080 NW	5902134710372	20	

Cover cap for scaffold fixing - black colour with overlap 28mm

CARTON BOX PACKING

size	pgb code	EAN13		
14x40	SMD28314040 NZ	5902134710389	40	
14x80	SMD28314080 NZ	5902134710396	20	

Scaffold fixings

Smart®

SMART THROUGH BOLT SMK

ETA 7

European Technical Approval
ETA-11/0474

Installation marks

Diameter x Length

Type indication

SMART THROUGH BOLT S-KA

ETA 1

European Technical Approval -
Option 1 for cracked concrete
ETA-10/0472

The most secure solution at anytime.

Approved for cracked concrete

Smart®
Intelligent anchoring solutions

Heavy duty fixings

Smart®

SM0IA

DROP-IN ANCHOR

A4 inox   **Z** zinc pl.   **Cr3+** environmental friendly

TYPE IA

SUITABLE FOR

DESCRIPTION

• Internally threaded anchor for simple hammer-in installation.

ADVANTAGES

• Due to its small dimensions it is suitable to use in concrete supports with small thickness.
• Internal metric thread allows the use of standard metric screws and threaded rods.
• Mounting in combination with the special setting tool to ensure the best anchoring result.

APPLICATIONS

• For the fixing of cable conducts and wires, steel constructions, pipelines, ventilation systems, sprinklers, ...

FUNCTIONING

• Pre-positioned installation.
• Drill a hole as in the table and hammer in the anchor. Use the correct setting tool to drive in the steel cone and the anchor will expand.
• The setting tool must sit on the rim of the anchor to ensure correct expansion.

INSTALLATION SCHEME

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	25	8	30	M 6	11	30
M 8	30	10	35	M 8	13	35
M 10	40	12	45	M 10	15	45
M 12	50	16	55	M 12	19	55
M16	65	20	70	M16	25	70
M 20	80	25	85	M 20	33	85

Smart®

Drop-in anchor

CARTON BOX PACKING

size	pgb code	EAN13	
M 6x25	SM0IA306 Z	5902134708744	100
M 8x30	SM0IA308 Z	5902134708751	100
M 10x40	SM0IA310 Z	5902134708768	50
M 12x50	SM0IA312 Z	5902134708775	50
M16x65	SM0IA316 Z	5902134708782	25
M 20x80	SM0IA320 Z	5902134708799	25
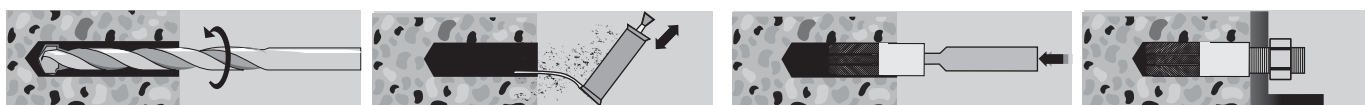
Drop-in anchor stainless steel

CARTON BOX PACKING

size	pgb code	EAN13	
M 6x25	SM0IA306 A4	5902134722627	100
M 8x30	SM0IA308 A4	5902134722634	100
M 10x40	SM0IA310 A4	5902134722641	50
M 12x50	SM0IA312 A4	5902134722658	50
M16x65	SM0IA316 A4	5902134722665	25
M 20x80	SM0IA320 A4	5902134722672	25

Drop-in anchor

WINDOW BOX PACKING

size	pgb code	EAN13	
M 6x25	SM0IAE06 Z	5902134706481	50
M 8x30	SM0IAE08 Z	5902134706498	50
M 10x40	SM0IAE10 Z	5902134706504	25
M 12x50	SM0IAE12 Z	5902134706511	20
M16x65	SM0IAE16 Z	5902134706528	10

Setting tool for drop-in anchor

size	pgb code	EAN13	
M 6	SM0IP306 Z	5902134723396	1
M 8	SM0IP308 Z	5902134723402	1
M 10	SM0IP310 Z	5902134723419	1
M 12	SM0IP312 Z	5902134723426	1
M16	SM0IP316 Z	5902134723433	1
M 20	SM0IP320 Z	5902134723440	1

Heavy duty fixings

Smart®

SM7KA

THROUGH BOLT WITH ETA OPTION 7 - TYPE SMK

A4 inox **Z** zinc pl. **Cr3+** environmental friendly

TYPE SMK

SUITABLE FOR
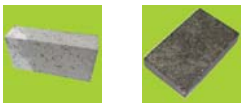
DESCRIPTION

- Cost-efficient anchor with technical approval for use in non-cracked concrete.

ADVANTAGES

- Vast range for flexible use for medium and heavy load applications.
- Completely mounted with washer and nut.
- The drive-in pin protects the thread from damage.

APPLICATIONS

- To be used for fixings subject to static or quasi-static loading in reinforced or non-reinforced normal weight concrete of C20/25 to C50/60 strenght class, in accordance with ENV 206:1990-03. For the fixing of steel structures, railings, staircases, gates, machines, ...

FUNCTIONING

- Pre-positioned and push-through installation.
- Prior to installation, place the nut in the optimal position (the drive-in pin projects by approx. 3 mm out of the hexagon nut).
- When applying the torque, the cone bolt will expand the clip in the drill hole.

TYPE **SIZE** **SETTING MARKS**
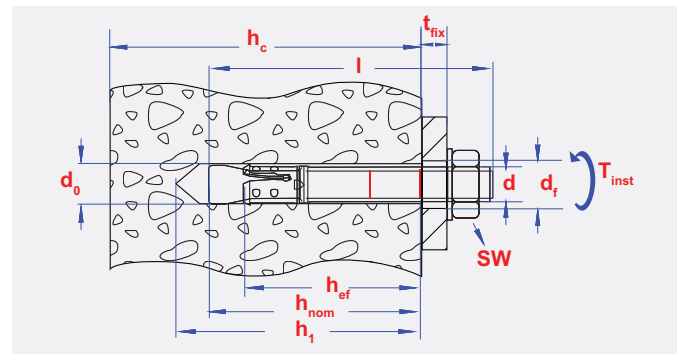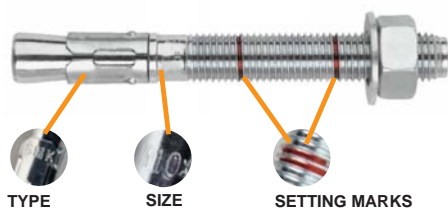
INSTALLATION SCHEME
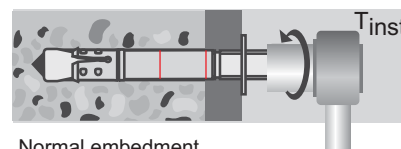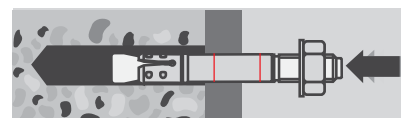
Normal embedment

Reduced embedment

Heavy duty fixings
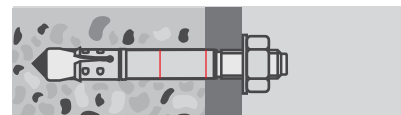
Smart®
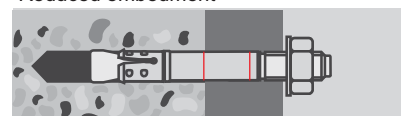
TECHNICAL DATA

d	l	d_0	h_1	T_{inst}	d_f	h_{ef}	t_{fix}	SW
[mm]	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]	[mm]
M 6	60	6	55	7	7	50	2	
M 6	70	6	55	7	7	50	12	
M 6	80	6	55	7	7	50	22	
M 6	90	6	55	7	7	50	32	
M 6	100	6	55	7	7	50	42	10
M 6	110	6	55	7	7	50	52	10
M 6	120	6	55	7	7	50	62	10
M 6	130	6	55	7	7	50	72	10
M 6	140	6	55	7	7	50	82	10
*M 8	60	8	65	20	9	60	5	10
M 8	75	8	65	20	9	60	5	10
M 8	90	8	65	20	9	60	20	10
M 8	115	8	65	20	9	60	45	10
M 8	130	8	65	20	9	60	60	13
*M 10	70	10	70	35	12	67	5	13
M 10	90	10	70	35	12	67	10	13
M 10	120	10	70	35	12	67	40	13
M 10	150	10	70	35	12	67	70	13
M 10	170	10	70	35	12	67	90	17
*M 10	210	10	70	35	12	67	130	17
*M 10	230	10	85	35	12	77	150	17
*M 12	90	12	85	60	14	77	5	17
M 12	110	12	85	60	14	77	18	17
M 12	140	12	85	60	14	77	48	17
M 12	160	12	85	60	14	77	68	17
M 12	180	12	85	60	14	77	88	19
*M 12	220	12	85	60	14	77	128	19
*M 12	250	12	85	60	14	77	158	19
M 14	120	14	100	90	16	92	12	19
M 14	145	14	100	90	16	92	37	19
M 14	170	14	100	90	16	92	62	19
*M 14	220	14	100	90	16	92	112	19
*M 14	250	14	100	90	16	92	142	22
M 16	125	16	110	120	18	104	5	22
M 16	145	16	110	120	18	104	23	22
M 16	170	16	110	120	18	104	48	22
*M 16	220	16	110	120	18	104	98	22
*M 16	250	16	110	120	18	104	128	24
*M 16	280	16	110	120	18	104	158	24
M 20	170	20	135	240	22	125	23	24
*M 20	220	20	135	240	22	125	73	24
*M 20	270	20	135	240	22	125	123	24

* Do not belong to ETA

NORMAL EMBEDMENT

d	l	h_1	$h_{c\,(min)}$	Nsk	Vsk
[mm]	[mm]	[mm]	[mm]	[kN]	[kN]
M 6	60	55	100	3,9	2,9
M 6	70	55	100	3,9	2,9
M 6	80	55	100	3,9	2,9
M 6	90	55	100	3,9	2,9
M 6	100	55	100	3,9	2,9
M 6	110	55	100	3,9	2,9
M 6	120	55	100	3,9	2,9
M 6	130	55	100	3,9	2,9
M 6	140	55	100	3,9	2,9
M 8	75	65	100	5,7	5,3
M 8	90	65	100	5,7	5,3
M 8	115	65	100	5,7	5,3
M 8	130	65	100	5,7	5,3
M 10	90	70	110	6,3	8,4
M 10	120	70	110	6,3	8,4
M 10	150	70	110	6,3	8,4
M 10	170	70	110	6,3	8,4
M 12	110	85	130	9,9	11,8
M 12	140	85	130	9,9	11,8
M 12	160	85	130	9,9	11,8
M 12	180	85	130	9,9	11,8
M 14	120	100	150	11,9	16,1
M 14	145	100	150	11,9	16,1
M 14	170	100	150	11,9	16,1
M 16	125	110	168	13,9	21,9
M 16	145	110	168	13,9	21,9
M 16	170	110	168	13,9	21,9
M 20	170	135	206	19,8	32,2

REDUCED EMBEDMENT

d	l	h_1	$h_{c\,(min)}$	Nsk	Vsk
[mm]	[mm]	[mm]	[mm]	[kN]	[kN]
M 8	75	50	100	4,3	5,0
M 8	90	50	100	4,3	5,0
M 8	115	50	100	4,3	5,0
M 8	130	50	100	4,3	5,0
M 10	90	60	100	5,4	6,5
M 10	120	60	100	5,4	6,5
M 10	150	60	100	5,4	6,5
M 10	170	60	100	5,4	6,5
M 12	110	70	100	7,1	8,5
M 12	140	70	100	7,1	8,5
M 12	160	70	100	7,1	8,5
M 12	180	70	100	7,1	8,5

DESIGN RESISTANCE

d [mm]	Tensile				Oblique 30°				Oblique 45°				Oblique 60°				Shear
	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]
M 6	5,5	5,5	5,5	5,5	5,1	5,1	5,1	5,1	4,6	4,6	4,6	4,6	4,3	4,3	4,3	4,3	4,1
M 8	8,0	9,7	11,3	12,4	7,0	8,0	8,7	10,0	6,9	7,5	7,8	8,8	6,8	7,2	7,4	8,0	7,4
M10	8,9	10,8	12,5	13,8	8,6	10,0	11,1	11,8	9,0	10,0	10,7	11,2	9,6	10,3	10,8	11,1	11,8
M12	13,9	16,9	19,6	21,5	13,1	15,1	16,7	17,7	13,4	14,8	15,8	16,5	14,0	15,0	15,6	16,0	16,5
M14	16,7	20,3	23,5	25,8	16,3	18,9	20,9	22,3	16,8	19,0	20,4	21,4	18,3	19,8	20,6	21,1	22,5
M16	19,4	23,7	27,4	30,1	19,6	23,0	25,6	27,4	20,9	23,6	25,7	27,0	23,3	25,4	26,8	27,6	30,7
M20	27,8	33,9	39,2	43,1	28,2	33,0	36,9	39,5	30,1	34,2	37,3	39,2	33,8	36,9	38,9	40,2	45,0

Orange values = Steel failure

RECOMMENDED LOADS

d [mm]	Tensile				Oblique 30°				Oblique 45°				Oblique 60°				Shear
	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]
M 6	3,9	3,9	3,9	3,9	3,6	3,6	3,6	3,6	3,3	3,3	3,3	3,3	3,1	3,1	3,1	3,1	2,9
M 8	5,7	7,0	8,0	8,9	5,0	5,7	6,2	7,1	4,9	5,4	5,6	6,3	4,9	5,1	5,3	5,7	5,3
M10	6,3	7,7	8,9	9,8	6,1	7,1	7,9	8,4	6,4	7,1	7,6	8,0	6,9	7,4	7,7	7,9	8,4
M12	9,9	12,1	14,0	15,4	9,4	10,8	11,9	12,6	9,6	10,6	11,3	11,8	10,0	10,7	11,1	11,4	11,8
M14	11,9	14,5	16,8	18,5	11,6	13,5	14,9	15,9	12,0	13,6	14,6	15,3	13,1	14,1	14,7	15,1	16,1
M16	13,9	16,9	19,6	21,5	14,0	16,4	18,3	19,6	14,9	16,9	18,4	19,3	16,6	18,1	19,1	19,7	21,9
M20	19,8	24,2	28,0	30,8	20,1	23,6	26,4	28,2	21,5	24,4	26,6	28,0	24,1	26,4	27,8	28,7	32,2

Orange values = Steel failure
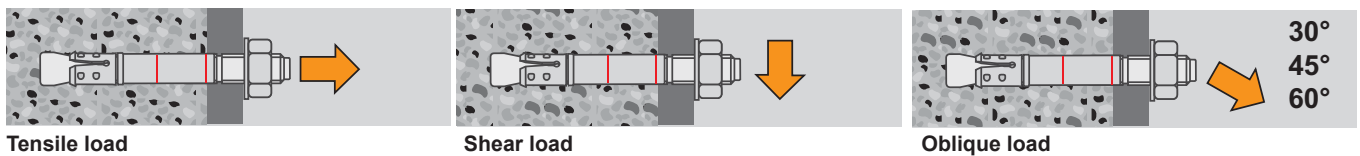
Tensile load

Shear load

Oblique load

30°
45°
60°

Smart®

TENSION LOADS

d [mm]	S_{min}						$S_{cr,N}$
M 6	50	60	72	84	96	108	120
M 8	65	72	86	101	115	130	144
M10	70	83	99	116	132	149	165
M12	85	98	117	137	156	176	195
M14	100	113	135	158	180	203	225
M16	110	126	151	176	202	227	252
M20	135	155	185	216	247	278	309
f	0,72	0,75	0,8	0,85	0,9	0,95	1,0

Spacing between anchors [S] in mm
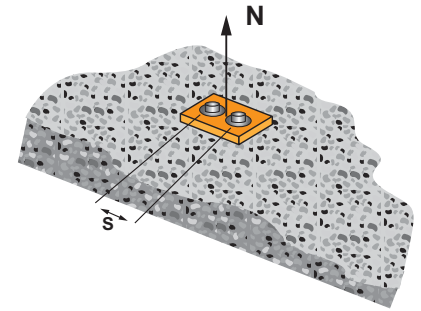
TENSION LOADS TOWARDS THE EDGE

d [mm]	C_{min}						$C_{cr,N}$
M 6	50	54	55	56	58	59	60
M 8	65	65	66	68	69	71	72
M10	70	75	76	78	80	81	83
M12	85	88	90	92	94	96	98
M14	100	102	104	106	108	111	113
M16	110	113	116	118	121	123	126
M20	135	140	143	146	149	152	155
f	0,93	0,95	0,96	0,97	0,98	0,99	1,0
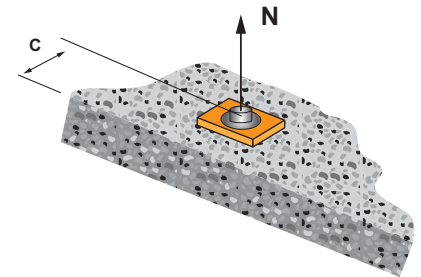
Distance towards the edge [C] in mm

SHEAR LOADS TOWARDS THE EDGE

d [mm]	S_{min}						$S_{cr,N}$
M 6	--	--	--	53	58	62	66
M 8	--	--	66	74	79	86	92
M10	70	73	83	92	101	109	116
M12	85	87	98	109	117	128	138
M14	100	102	114	127	139	150	161
M16	110	120	136	150	164	177	190
M20	135	144	163	180	197	213	229
f	0,46	0,5	0,6	0,7	0,8	0,9	1,0

Distance towards the edge [C] in mm

Smart®
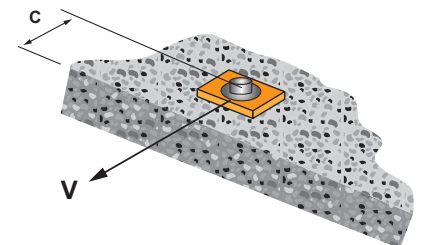
Through bolt with ETA option 7 - type SMK

Through bolt with ETA option 7 - type SMK

CARTON BOX PACKING

size	pgb code	EAN13	
M 6x60	SM7KA306060 Z	5902134719740	200
M 6x70	SM7KA306070 Z	5902134719757	200
M 6x80	SM7KA306080 Z	5902134719764	200
M 6x90	SM7KA306090 Z	5902134719771	200
M 6x100	SM7KA306100 Z	5902134719788	200
M 6x110	SM7KA306110 Z	5902134719795	200
M 6x120	SM7KA306120 Z	5902134719801	100
M 6x130	SM7KA306130 Z	5902134719818	100
M 6x140	SM7KA306140 Z	5902134719825	100
*M 8x60	SM0KA308060 Z	5902134720029	100
M 8x75	SM7KA308075 Z	5902134719832	100
M 8x90	SM7KA308090 Z	5902134719849	100
M 8x115	SM7KA308115 Z	5902134719856	100
M 8x130	SM7KA308130 Z	5902134719863	100
*M 10x70	SM0KA310070 Z	5902134720036	100
M 10x90	SM7KA310090 Z	5902134719870	100
M 10x120	SM7KA310120 Z	5902134719887	50
M 10x150	SM7KA310150 Z	5902134719894	50
M 10x170	SM7KA310170 Z	5902134719900	50
*M 10x210	SM0KA310210 Z	5902134720043	50
*M 10x230	SM0KA310230 Z	5902134720050	50
*M 12x90	SM0KA312090 Z	5902134720067	50
M 12x110	SM7KA312110 Z	5902134719917	50
M 12x140	SM7KA312140 Z	5902134719924	50
M 12x160	SM7KA312160 Z	5902134719931	50
M 12x180	SM7KA312180 Z	5902134719948	50

CARTON BOX PACKING

size	pgb code	EAN13	
*M 12x220	SM0KA312220 Z	5902134720074	50
*M 12x250	SM0KA312250 Z	5902134720081	25
M 14x120	SM7KA314120 Z	5902134719955	25
M 14x145	SM7KA314145 Z	5902134719962	25
M 14x170	SM7KA314170 Z	5902134719979	25
*M 14x220	SM0KA314220 Z	5902134720098	25
*M 14x250	SM0KA314250 Z	5902134720104	25
M 16x125	SM7KA316125 Z	5902134719986	25
M 16x145	SM7KA316145 Z	5902134719993	25
M 16x170	SM7KA316170 Z	5902134720005	25
*M 16x220	SM0KA316220 Z	5902134720111	25
*M 16x250	SM0KA316250 Z	5902134720128	25
*M 16x280	SM0KA316280 Z	5902134720135	25
M 20x170	SM7KA320170 Z	5902134720012	20
*M 20x220	SM0KA320220 Z	5902134720142	20
*M 20x270	SM0KA320270 Z	5902134720159	20

Do not belong to ETA.

SMKI - stainless steel A4 available upon request.

Smart®

SM1KA

THROUGH BOLT WITH ETA OPTION 1 - TYPE S-KA / S-KAH

S-KA
zinc plated steel

S-KAH
stainless steel
AISI 316
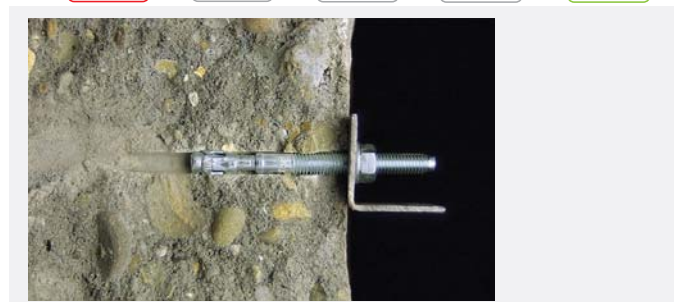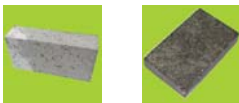
BEST SUITABLE FOR

ALSO SUITABLE FOR

Max. M8

DESCRIPTION

- Cost-efficient anchor with technical approval for use in cracked and non-cracked concrete C20/25 to C50/60.

ADVANTAGES

- Vast range for flexible use for medium and heavy load applications.
- Completely mounted with washer and nut.
- The drive-in pin protects the thread from damage.

APPLICATIONS

- For use in cracked and non-cracked concrete of C20/25 to C50/60 strenght class, in accordance with ENV 206:1990-03.
  For the fixing of steel structures, railings, staircases, gates, machines, ...

FUNCTIONING

- Pre-positioned and push-through installation.
- Prior to installation, place the nut in the optimal position (the drive-in pin projects by approx. 3 mm out of the hexagon nut).
- When applying the torque, the cone bolt will expand the clip in the drill hole.
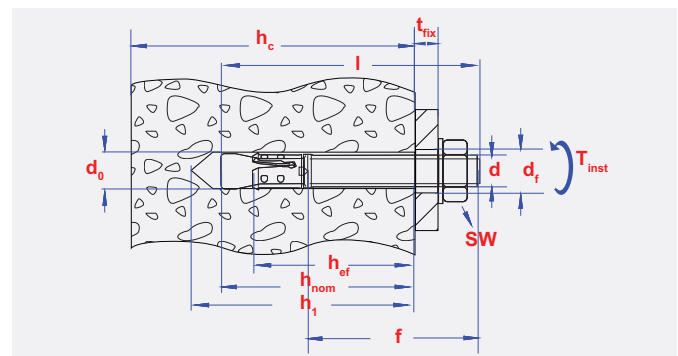
INSTALLATION SCHEME
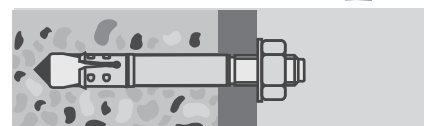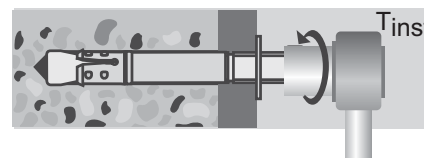
TECHNICAL DATA TYPE S-KA

d	l	d_0	h_1	T_{inst}	d_f	h_{ef}	t_{fix}	f	SW
[mm]	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]	[mm]	[mm]
*M 6	65	6	50	7	7	35	15	38	10
*M 6	100	6	50	7	7	35	50	60	10
M 8	72	8	60	20	9	45	10	32	13
M 8	92	8	60	20	9	45	30	52	13
M 8	112	8	60	20	9	45	50	72	13
M 8	147	8	60	20	9	45	80	107	13
M 10	92	10	75	35	12	60	10	47	17
M 10	102	10	75	35	12	60	20	57	17
M 10	112	10	75	35	12	60	30	67	17
M 10	132	10	75	35	12	60	50	87	17
M 10	162	10	75	35	12	60	80	115	17
M12	103	12	90	50	14	70	5	53	19
M12	118	12	90	50	14	70	20	68	19
M12	128	12	90	50	14	70	30	78	19
M12	148	12	90	50	14	70	50	98	19
M12	163	12	90	50	14	70	65	113	19
M12	178	12	90	50	14	70	80	115	19
M16	123	16	110	120	18	85	5	65	24
M16	138	16	110	120	18	85	20	80	24
M16	168	16	110	120	18	85	50	110	24

TECHNICAL DATA TYPE S-KAH (A4)

d	l	d_0	h_1	T_{inst}	d_f	h_{ef}	t_{fix}	f	SW
[mm]	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]	[mm]	[mm]
*M 6	65	6	50	7	7	35	15	28	10
*M 8	52	8	45	15	9	30	2	23	13
M 8	72	8	60	15	9	45	10	32	13
M 8	92	8	60	15	9	45	30	52	13
M 8	112	8	60	15	9	45	50	72	13
M 10	92	10	75	35	12	60	10	47	17
M 10	112	10	75	35	12	60	30	57	17
M12	118	12	90	70	14	70	20	68	19

* Do not belong to ETA

TENSION AND SHEAR LOADS [1] [2]

d	Non-cracked concrete C20/25		Cracked concrete C20/25	
	N_{sk}	[3] V_{sk}	N_{sk}	[3] V_{sk}
[mm]	[kN]	[kN]	[kN]	[kN]
*M 6	1,8	1,8	-	-
M 8	3,6	4,8	2,0	4,8
M 10	6,3	8,7	3,6	8,7
M12	7,9	11	4,8	11
M16	16,7	21	9,5	21

Option 1 - according to Design Method A

* Not part of ETA approvals. Figures are manufacturer's recommendations.

[1] Load figures include the resistances' partial safety factors as per approvals and a partial safety factor on the action of γF= 1.4. Load figures apply for a rebar spacing s ≥ 15 cm or alternatively for a rebar spacing s ≥ 10 cm in combination with a rebar diameter of ds ≤ 10 mm.
[2] Concrete is considered uncracked when the value of tension within the concrete is σL + σR ≤ 0. In the absence of detailed verification σR = 3 N/mm² can be assumed (σL equals the tension within the concrete as a result of external loads, forces on anchor included; σR equals the tension coming from shrinkage or creep of the concrete, as well as displacements of supports or temperature variations).
[3] Shear load figures apply for an anchor without influence of a concrete edge. For shear loads close to an edge (c ≤ 10 x hef), concrete edge failure has to be checked as per ETAG, Annex C, Design Method A.

Tensile load   **Shear load**

GEOMETRICAL INSTALLATION DATA

d	$C_{cr,N}$	$S_{cr,N}$	h_{min}	s_{min}	c_{min}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 8	68	135	100	50	50
M 10	90	180	120	55	50
M12	105	210	140	60	55
M16	128	255	170	70	85

Smart ®

Through bolt with ETA option 1 - type S-KA

Through bolt with ETA option 1 - type S-KA

CARTON BOX PACKING

size	pgb code	EAN13	🗆	
M 8x72	SM1KA308072 Z	5902134717142	50	
M 8x92	SM1KA308092 Z	5902134717159	50	
M 8x112	SM1KA308112 Z	5902134717166	40	
M 8x147	SM1KA308147 Z	5902134717173	40	
M 10x92	SM1KA310092 Z	5902134717180	40	
M 10x102	SM1KA310102 Z	5902134717197	25	
M 10x112	SM1KA310112 Z	5902134717203	25	
M 10x132	SM1KA310132 Z	5902134717210	25	
M 10x162	SM1KA310162 Z	5902134717227	25	
M12x103	SM1KA312103 Z	5902134717234	20	
M12x118	SM1KA312118 Z	5902134717241	20	
M12x128	SM1KA312128 Z	5902134717258	20	
M12x148	SM1KA312148 Z	5902134717265	20	
M12x163	SM1KA312163 Z	5902134717272	20	
M12x178	SM1KA312178 Z	5902134717289	20	
M16x123	SM1KA316123 Z	5902134717296	10	
M16x138	SM1KA316138 Z	5902134717302	10	
M16x168	SM1KA316168 Z	5902134717319	10	

WINDOW BOX PACKING

size	pgb code	EAN13	🗆	
M 8x72	SM1KAE08072 Z	5902134718347	25	
M 8x92	SM1KAE08092 Z	5902134718354	25	
M 8x112	SM1KAE08112 Z	5902134718361	20	
M 8x147	SM1KAE08147 Z	5902134718378	20	
M 10x92	SM1KAE10092 Z	5902134718385	20	
M 10x102	SM1KAE10102 Z	5902134718392	15	
M 10x112	SM1KAE10112 Z	5902134718408	15	
M 10x132	SM1KAE10132 Z	5902134718415	15	
M 10x162	SM1KAE10162 Z	5902134718422	15	
M12x103	SM1KAE12103 Z	5902134718439	10	
M12x118	SM1KAE12118 Z	5902134718446	10	
M12x128	SM1KAE12128 Z	5902134718453	10	
M12x148	SM1KAE12148 Z	5902134718460	10	
M12x163	SM1KAE12163 Z	5902134718477	10	
M12x178	SM1KAE12178 Z	5902134718484	5	
M16x123	SM1KAE16123 Z	5902134718491	5	
M16x138	SM1KAE16138 Z	5902134718507	5	
M16x168	SM1KAE16168 Z	5902134718514	5	

S-KAH : stainless steel A4 available upon resuest.

S-KAK: hot dip galvanized steel available upon request.

S-KAH HCR: high corrosion resistant stainless steel available upon request.

Heavy duty fixings

SM00K

4 SHIELD EXPANSION ANCHOR "PFG"

TYPE K

BEST SUITABLE FOR
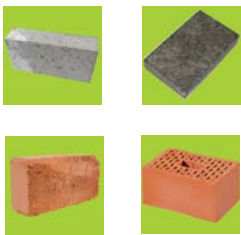
ALSO SUITABLE FOR

DESCRIPTION

• 4 shield anchor with loose bolt and washer.

ADVANTAGES

• Anchor designed for medium-heavy and heavy fixings in solid materials.
• The 4-way expansion structure allows solid anchoring, also in more porous (old) bricks.
• ETA approval option 8 of use in non-cracked concrete.

APPLICATIONS

• For the fixing of steel structures, railings, staircases, gates, machines, ...

FUNCTIONING

• Pre-positioned installation.
• When applying the torque, the cone is pulled into the expansion sleeve and expands it in the drill hole.
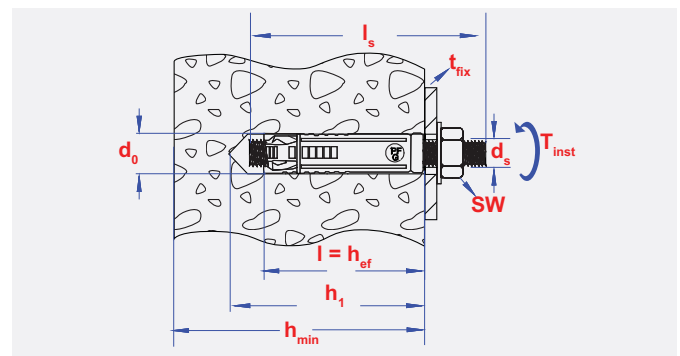
TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}	SW
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	62	10	45	40	15	10
M 6	77	10	45	40	30	10
M 8	78	14	55	50	20	13
M 8	88	14	55	50	30	13
M 8	103	14	55	50	45	13
M 8	143	14	55	50	85	13
M 10	84	16	65	60	10	17
M 10	94	16	65	60	20	17
M 10	104	16	65	60	30	17
M 10	114	16	65	60	40	17
M 10	124	16	65	60	50	17
M 10	144	16	65	60	70	17
M 12	115	20	85	80	20	19
M 12	125	20	85	80	30	19
M 12	145	20	85	80	50	19
M 12	160	20	85	80	65	19

INSTALLATION SCHEME

Smart®

TENSION AND SHEAR LOADS [1] [2]

Non-cracked concrete C20/25

d	T_{inst}	N_{sk}	V_{sk} [3]
[mm]	[Nm]	[kN]	[kN]
*M 6	10	2,4	4,6
M 8	25	4,3	8,4
M 10	50	5,7	13,3
M12	85	7,6	19,
M16	120	11,9	35,9

Option 8 - according to Design Method A

* Not part of ETA approvals. Figures are manufacturer's recommendations.

[1] Load figures include the resistances' partial safety factors as per approvals and a partial safety factor on the action of γF= 1.4. Load figures apply for a rebar spacing s ≥ 15 cm or alternatively for a rebar spacing s ≥ 10 cm in combination with a rebar diameter of ds ≤ 10 mm.
[2] Concrete is considered uncracked when the value of tension within the concrete is σL + σR ≤ 0. In the absence of detailed verification σR = 3 N/mm² can be assumed (σL equals the tension within the concrete as a result of external loads, forces on anchor included; σR equals the tension coming from shrinkage or creep of the concrete, as well as displacements of supports or temperature variations).
[3] Shear load figures apply for an anchor without influence of a concrete edge. For shear loads close to an edge (c ≤ 10 x hef), concrete edge failure has to be checked as per ETAG, Annex C, Design Method A.

4 shield expansion anchor "PFG"

4 shield expansion anchor "PFG"

CARTON BOX PACKING

size	pgb code	EAN13	
M 6x62	SM00K306060 Z	5902134717555	50
M 6x77	SM00K306075 Z	5902134717562	50
M 8x78	SM00K308075 Z	5902134717579	50
M 8x88	SM00K308085 Z	5902134717586	50
M 8x103	SM00K308100 Z	5902134717593	50
M 8x143	SM00K308140 Z	5902134717609	25
M 10x84	SM00K310080 Z	5902134717616	25
M 10x94	SM00K310090 Z	5902134717623	25
M 10x104	SM00K310100 Z	5902134717630	25
M 10x114	SM00K310110 Z	5902134717647	25
M 10x124	SM00K310120 Z	5902134717654	25
M 10x144	SM00K310140 Z	5902134717661	25
M 12x115	SM00K312110 Z	5902134717678	10
M 12x125	SM00K312120 Z	5902134717685	10
M 12x145	SM00K312140 Z	5902134717692	10
M 12x160	SM00K312155 Z	5902134717708	10

WINDOW BOX PACKING

size	pgb code	EAN13	
M 6x62	SM00KE06060 Z	5902134719122	25
M 6x77	SM00KE06075 Z	5902134719139	25
M 8x78	SM00KE08075 Z	5902134719146	25
M 8x88	SM00KE08085 Z	5902134719153	25
M 8x103	SM00KE08100 Z	5902134719160	25
M 8x143	SM00KE08140 Z	5902134719177	15
M 10x84	SM00KE10080 Z	5902134719184	15
M 10x94	SM00KE10090 Z	5902134719191	15
M 10x104	SM00KE10100 Z	5902134719207	15
M 10x114	SM00KE10110 Z	5902134719214	15
M 10x124	SM00KE10120 Z	5902134719221	15
M 10x144	SM00KE10140 Z	5902134719238	15
M 12x115	SM00KE12110 Z	5902134719245	5
M 12x125	SM00KE12120 Z	5902134719252	5
M 12x145	SM00KE12140 Z	5902134719269	5
M 12x160	SM00KE12155 Z	5902134719276	5

SM00T

4 SHIELD EXPANSION ANCHOR "PFG"

TYPE T

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• 4 shield anchor with threaded rod, washer and nut.

ADVANTAGES

• Anchor designed for medium-heavy and heavy fixings in solid materials.
• The 4-way expansion structure allows solid anchoring, also in more porous (old) bricks.
• ETA approval option 8 of use in non-cracked concrete.

APPLICATIONS

• For the fixing of steel structures, railings, staircases, gates, machines, ...

FUNCTIONING

• Pre-positioned installation.
• When applying the torque, the cone is pulled into the expansion sleeve and expands it in the drill hole.
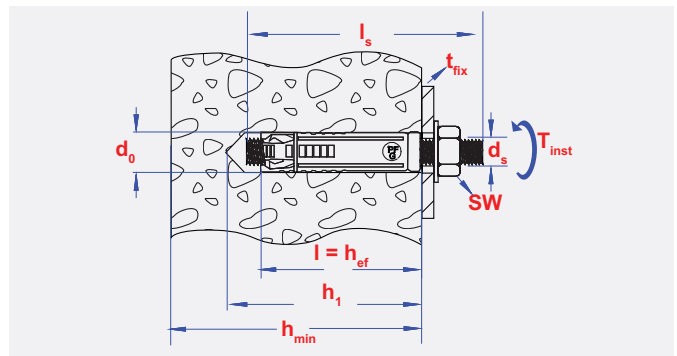
TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}	SW
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	60	10	45	40	15	10
M 6	80	10	45	40	35	10
M 8	83	14	55	50	25	13
M 8	93	14	55	50	35	13
M 8	103	14	55	50	45	13
M 10	86	16	65	60	15	17
M 10	106	16	65	60	35	17
M 10	126	16	65	60	55	17
M 10	156	16	65	60	85	17
M 12	115	20	85	80	20	19
M 12	145	20	85	80	50	19
M 12	165	20	85	80	70	19

INSTALLATION SCHEME

Smart®

TENSION AND SHEAR LOADS [1)] [2)]

Non-cracked concrete C20/25

d	T_{inst}	N_{sk}	[3)] V_{sk}
[mm]	[Nm]	[kN]	[kN]
*M 6	10	2,4	4,6
M 8	25	4,3	8,4
M 10	50	5,7	13,3
M12	85	7,6	19,
M16	120	11,9	35,9

Option 8 - according to Design Method A

* Not part of ETA approvals. Figures are manufacturer's recommendations.

[1)] Load figures include the resistances' partial safety factors as per approvals and a partial safety factor on the action of γF= 1.4. Load figures apply for a rebar spacing s ≥ 15 cm or alternatively for a rebar spacing s ≥ 10 cm in combination with a rebar diameter of ds ≤ 10 mm.
[2)] Concrete is considered uncracked when the value of tension within the concrete is σL + σR ≤ 0. In the absence of detailed verification σR = 3 N/mm² can be assumed (σL equals the tension within the concrete as a result of external loads, forces on anchor included; σR equals the tension coming from shrinkage or creep of the concrete, as well as displacements of supports or temperature variations).
[3)] Shear load figures apply for an anchor without influence of a concrete edge. For shear loads close to an edge (c ≤ 10 x hef), concrete edge failure has to be checked as per ETAG, Annex C, Design Method A.

4 shield expansion anchor "PFG"

4 shield expansion anchor "PFG"

CARTON BOX PACKING

size	pgb code	EAN13	
M 6x60	SM00T306050 Z	5902134717739	50
M 6x80	SM00T306070 Z	5902134717746	50
M 8x83	SM00T308070 Z	5902134717753	50
M 8x93	SM00T308080 Z	5902134717760	50
M 8x103	SM00T308090 Z	5902134717777	50
M 10x86	SM00T310070 Z	5902134717784	25
M 10x106	SM00T310090 Z	5902134717791	25
M 10x126	SM00T310110 Z	5902134717807	25
M 10x156	SM00T310140 Z	5902134717814	25
M 12x115	SM00T312090 Z	5902134717821	25
M 12x145	SM00T312120 Z	5902134717838	25
M 12x165	SM00T312140 Z	5902134717845	10

WINDOW BOX PACKING

size	pgb code	EAN13	
M 6x60	SM00TE06050 Z	5902134719320	25
M 6x80	SM00TE06070 Z	5902134719337	25
M 8x83	SM00TE08070 Z	5902134719344	25
M 8x93	SM00TE08080 Z	5902134719351	25
M 8x103	SM00TE08090 Z	5902134719368	25
M 10x86	SM00TE10070 Z	5902134719375	15
M 10x106	SM00TE10090 Z	5902134719382	15
M 10x126	SM00TE10110 Z	5902134719399	15
M 10x156	SM00TE10140 Z	5902134719405	15
M 12x115	SM00TE12090 Z	5902134719412	10
M 12x145	SM00TE12120 Z	5902134719429	10
M 12x165	SM00TE12140 Z	5902134719436	5

Smart®

SM00H

4 SHIELD EXPANSION ANCHOR "PFG"

TYPE H

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- 4 shield anchor with internal thread, for use with standard screws or threaded rods.
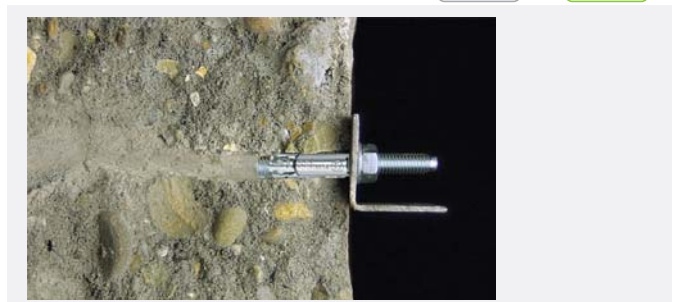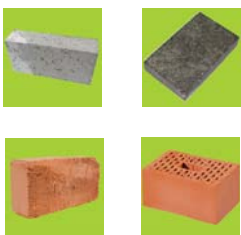
ADVANTAGES

- Anchor designed for medium-heavy and heavy fixings in solid materials.
- The 4-way expansion structure allows solid anchoring, also in more porous (old) bricks.
- ETA approval option 8 of use in non-cracked concrete.

APPLICATIONS

- For the fixing of steel structures, railings, staircases, gates, machines, ...

FUNCTIONING

- Pre-positioned installation.
- When applying the torque, the cone is pulled into the expansion sleeve and expands it in the drill hole.
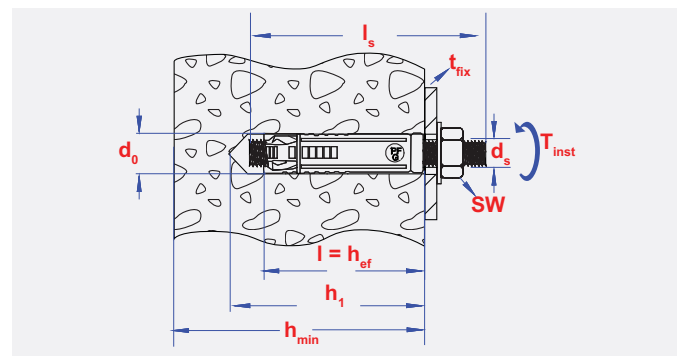
TECHNICAL DATA

d	l	d_0	h_1	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]
M 6	40	10	45	40
M 8	50	14	55	50
M 10	60	16	65	60
M 12	80	20	85	80

INSTALLATION SCHEME

Smart®

TENSION AND SHEAR LOADS [1] [2]

Non-cracked concrete C20/25

d	T_{inst}	N_{sk}	[3] V_{sk}
[mm]	[Nm]	[kN]	[kN]
*M 6	10	2,4	4,6
M 8	25	4,3	8,4
M 10	50	5,7	13,3
M12	85	7,6	19,
M16	120	11,9	35,9

Option 8 - according to Design Method A

* Not part of ETA approvals. Figures are manufacturer's recommendations.

[1] Load figures include the resistances' partial safety factors as per approvals and a partial safety factor on the action of γF= 1.4. Load figures apply for a rebar spacing s ≥ 15 cm or alternatively for a rebar spacing s ≥ 10 cm in combination with a rebar diameter of ds ≤ 10 mm.
[2] Concrete is considered uncracked when the value of tension within the concrete is σL + σR ≤ 0. In the absence of detailed verification σR = 3 N/mm² can be assumed (σL equals the tension within the concrete as a result of external loads, forces on anchor included; σR equals the tension coming from shrinkage or creep of the concrete, as well as displacements of supports or temperature variations).
[3] Shear load figures apply for an anchor without influence of a concrete edge. For shear loads close to an edge (c ≤ 10 x hef), concrete edge failure has to be checked as per ETAG, Annex C, Design Method A.

4 shield expansion anchor "PFG"

4 shield expansion anchor "PFG"

CARTON BOX PACKING

size	pgb code	EAN13		
M 6x40	SM00H306040 Z	5902134717876	50	
M 8x50	SM00H308050 Z	5902134717883	50	
M 10x60	SM00H310060 Z	5902134717890	50	
M 12x80	SM00H312080 Z	5902134717906	25	

WINDOW BOX PACKING

size	pgb code	EAN13		
M 6x40	SM00HE06040 Z	5902134719085	25	
M 8x50	SM00HE08050 Z	5902134719092	25	
M 10x60	SM00HE10060 Z	5902134719108	25	
M 12x80	SM00HE12080 Z	5902134719115	10	

SM00O

4 SHIELD EXPANSION ANCHOR "PFG"

TYPE O

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• 4 shield anchor with forged eye bolt.

ADVANTAGES

• Anchor designed for medium-heavy and heavy fixings in solid materials.
• The 4-way expansion structure allows solid anchoring, also in more porous (old) bricks.
•

APPLICATIONS

• For the fixing of steel structures, railings, staircases, gates, machines, ...

FUNCTIONING

• Pre-positioned installation.
• When applying the torque, the cone is pulled into the expansion sleeve and expands it in the drill hole.

TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	70	10	45	10	40
M 8	90	14	55	11,8	50
M 10	110	16	65	14,5	60
M 12	140	20	85	17	80

INSTALLATION SCHEME

Smart®

Heavy duty fixings

TENSION LOADS [1]

Non-cracked concrete C20/25

d	T_{inst}	N_{sk}
[mm]	[Nm]	[kN]
M 6	10	2,0
M 8	25	3,6
M 10	50	4,8
M 12	85	6,3
M 16	120	9,9

[1]Not part of ETA approvals. Figures are manufacturer's recommendations.

4 shield expansion anchor "PFG"

4 shield expansion anchor "PFG"

CARTON BOX PACKING

size	pgb code	EAN13		
M 6x70	SM00O306070 Z	5902134717920	25	
M 8x90	SM00O308090 Z	5902134717937	25	
M 10x110	SM00O310110 Z	5902134717944	10	
M 12x140	SM00O312140 Z	5902134717951	10	

WINDOW BOX PACKING

size	pgb code	EAN13		
M 6x70	SM00OE06070 Z	5902134719283	15	
M 8x90	SM00OE08090 Z	5902134719290	15	
M 10x110	SM00OE10110 Z	5902134719306	5	
M 12x140	SM00OE12140 Z	5902134719313	5	

SM0TR

4 SHIELD EXPANSION ANCHOR "PFG"

Z zinc pl. **Cr3+** environmental friendly

TYPE TR
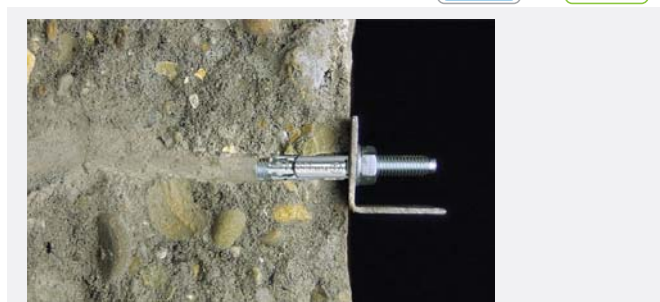
BEST SUITABLE FOR
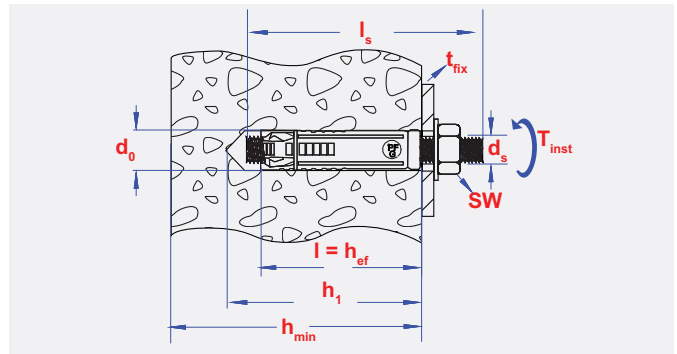
ALSO SUITABLE FOR

DESCRIPTION

- 4 shield anchor with forged hook bolt.

ADVANTAGES

- Anchor designed for medium-heavy and heavy fixings in solid materials.
- The 4-way expansion structure allows solid anchoring, also in more porous (old) bricks.
-

APPLICATIONS

- For the fixing of steel structures, railings, staircases, gates, machines, ...

FUNCTIONING

- Pre-positioned installation.
- When applying the torque, the cone is pulled into the expansion sleeve and expands it in the drill hole.
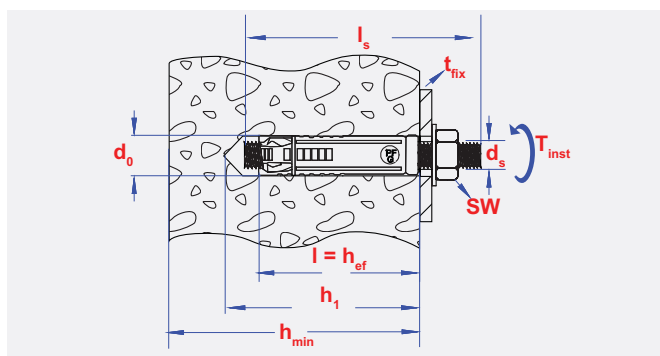
TECHNICAL DATA

d	l	d_0	h_1	d_s	h_{ef}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
M 6	70	10	45	8	40
M 8	90	14	55	10	50
M 10	110	16	65	12,5	60
M 12	140	20	85	16	80

INSTALLATION SCHEME

Smart®

TENSION LOADS [1]

Non-cracked concrete C20/25

d	T_{inst}	N_{sk}
[mm]	[Nm]	[kN]
M 6	10	2,0
M 8	25	3,6
M 10	50	4,8
M 12	85	6,3
M 16	120	9,9

[1] Not part of ETA approvals. Figures are manufacturer's recommendations.

4 shield expansion anchor "PFG"

4 shield expansion anchor "PFG"

CARTON BOX PACKING

size	pgb code	EAN13		
M 6x70	SM0TR306070 Z	5902134717975	25	
M 8x90	SM0TR308090 Z	5902134717982	25	
M 10x110	SM0TR310110 Z	5902134717999	10	
M 12x140	SM0TR312140 Z	5902134718002	10	

WINDOW BOX PACKING

size	pgb code	EAN13		
M 6x70	SM0TRE06070 Z	5902134719443	15	
M 8x90	SM0TRE08090 Z	5902134719450	10	
M 10x110	SM0TRE10110 Z	5902134719467	5	
M 12x140	SM0TRE12140 Z	5902134719474	5	

Smart®

SMART CHEMICAL ANCHORS

POLYESTER
STYRENE FREE

VINYLESTER
STYRENE FREE

S-IRP
280 & 380ml

S-IRV
280 & 380ml

APROBATA TECHNICZNA ITB
nr AT-15-9078/2013
CERTIFIKAT ZGODNOŚCI
wydany przez ITB
Deklaracja zgodności nr
AT-15/004-13 wydana dn.
01/03/2013

European Technical Approval
ETA-12/0552

Advantages at a glance

- 280ml with peeler system; 380ml iwht coaxial cartridge.
- Styrene free 2-component resin.
- The S-IRV can be used in wet enironments and has high chemical and temperature resistance.
- The S-IRP is suitable for all general fixing into masonry and concrete.
- All accessories also available!

Smart®
Intelligent anchoring solutions

Chemical fixings

Smart®

SMCH1 P

CHEMICAL RESIN POLYESTER S-IRP

TYPE S-IRP

280ml
(peeler cartridge)

380ml
(coaxial cartridge)

P polyester

STYRENE FREE

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

• Versatile injection mortar for use in concrete and masonry.

ADVANTAGES

• 2-component injection chemical anchor based on polyester resin without styrene.
• Adapted to horizontal and vertical installations.
• Fast curing and low odor for internal use.

APPLICATIONS

• Especially suitable for hollow materials and medium loads. Threaded rod fixation for non-structural applications.

FUNCTIONING

• Read the installation instructions carefully.
• Resin and hardener are stored in two separate chambers and are not mixed and activated until extrusion through the static mixer.
• Partially used cartridges can be reused, simply by changing the static mixer.

INSTALLATION SCHEME

Solid materials   **Hollow materials**

Chemical resin polyester S-IRP

CARTON BOX PACKING

size	pgb code	EAN13		
300	SMCH13300 P	5902134718903	1	
410	SMCH13410 P	5902134718910	1	

Chemical fixings

Smart®

WORKING AND HARDENING TIMES

Temp.		0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C
	working time	25'	15'	12'	8'	6'	4'	3'	2'
	loading time	180'	120'	90'	60'	45'	30'	20'	10'

PERFORMANCE DATA FOR RODS INTO HOLLOW STRUCTURES

sleeve dxl	rod cl. 5.8	d_0 [mm]	h_1 [mm]	h_{ef} [mm]	T_{inst} [Nm]	$f_{cm\ 4,5\ MPa}$		$f_{cm\ 6,0\ MPa}$	
						N_{sk}	V_{sk}	N_{sk}	V_{sk}
16x85	M 8	16	90	85	4	0,4kN	1,1kN	-	-
16x85	M10	16	90	85	4	0,4kN	1,1kN	-	-
16x85	M12	16	90	85	4	0,4kN	1,1kN	-	-
16x130	M 8	16	135	130	4	-	-	0,7kN	1,5kN
16x130	M 10	16	135	130	4	-	-	0,7kN	1,5kN
16x130	M 12	16	135	130	4	-	-	0,7kN	1,5kN

PERFORMANCE DATA FOR RODS INTO CONCRETE C20/25

rod cl. 5.8	d_0 [mm]	h_{ef} [mm]	T_{inst} [Nm]	C_{cr} [mm]	S_{cr} [mm]	[1]N_{sk} [kN]	V_{sk} [kN]
M 8	10	80	10	80	160	4,9	5,8
M10	12	90	20	90	180	6,8	9,2
M12	14	110	40	110	220	11,5	13,4
M 16	18	125	60	125	250	16,0	24,9
M20	24	170	100	170	340	27,1	39,2

[1] *Load figures include the resistances' safety factor of γF= 3,0.*

Chemical fixings

![Smart logo]

SMCH1 V

CHEMICAL RESIN VINYLESTER S-IRV

TYPE S-IRV

280ml
(peeler cartridge)

380ml
(coaxial cartridge)

SUITABLE FOR

DESCRIPTION

• Solid injection mortar for use in concrete.

ADVANTAGES

• 2-component injection chemical anchor based on vinylester resin without styrene.
• Dynamic and long term load resistance.
• Usable in wet environments and high chemical and temperature resistance. Low odor for internal use.

APPLICATIONS

• Especially suitable for high load values in concrete applications. Recommended for threaded rod and rebar, either for fixation of structural components.

FUNCTIONING

• Read the installation instructions carefully.
• Resin and hardener are stored in two separate chambers and are not mixed and activated until extrusion through the static mixer.
• Partially used cartridges can be reused, simply by changing the static mixer.

INSTALLATION SCHEME
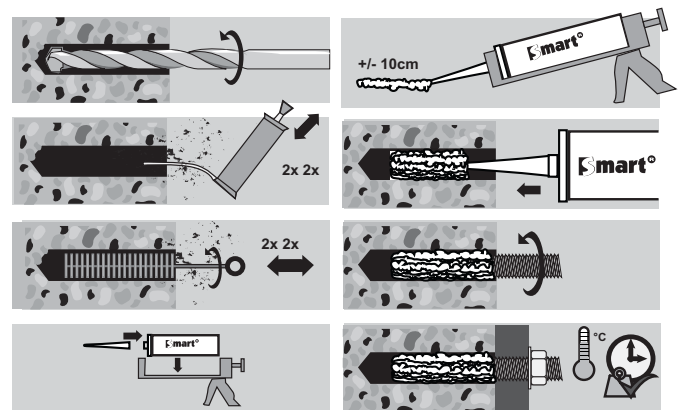
Chemical resin vinylester S-IRV

CARTON BOX PACKING

ml	pgb code	EAN13		
280	SMCH13300 VE+	5902134718941	1	
380	SMCH13410 VE+	5902134718965	1	

Smart®

WORKING AND HARDENING TIMES

Temp.	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C
working time	45'	30'	20'	12'	7'	4'	3'	2'
loading time	210'	150'	90'	60'	45'	30'	30'	20'

PERFORMANCE DATA FOR STANDARD APPLICATIONS OF RODS INTO CONCRETE C20/25

rod cl. 8.8	d_0 [mm]	h_{ef} [mm]	T_{inst} [Nm]	C_{cr} [mm]	S_{cr} [mm]	[1] N_{sk} [kN]	V_{sk} [kN]
* M 8	10	80	10	80	160	11,6	8,1
M10	12	90	20	90	180	18,4	12,9
M12	14	110	40	110	220	25,3	18,7
M 16	18	125	80	125	250	30,5	34,9
* M20	24	175	120	170	340	44,7	54,4
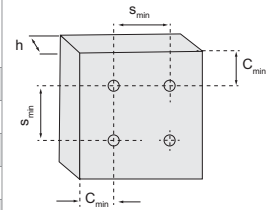
[1] Load figures include the resistances' safety factor of $\gamma F = 3,0$.

* Do not belong to ETA.

PERFORMANCE DATA FOR REBAR INTO CONCRETE C20/25 (ACCORDING TO EUROCODE 2)

Rod d_s [mm]	d_0 [mm]	h_{ef} (embedment depth) F_s (tension load)	Admissable load F_s in C20/25 concrete [1] High adherence 500MPa steel rebar					
			[mm] [kN]	[mm] [kN]	[mm] [kN]	[mm] [kN]	[mm] [kN]	[2][mm] [2] [kN]
8	10	I_v $F_{s\,(C20/25)}$	80 6,8	120 10,2	160 13,6	200 17,0	240 20,4	258 21,9
10	12	I_v $F_{s\,(C20/25)}$	100 10,2	150 15,3	200 20,4	250 25,4	300 30,5	336 34,2
12	16	I_v $F_{s\,(C20/25)}$	120 16,3	180 24,4	240 32,6	300 40,7	360 48,9	362 49,2
14	18	I_v $F_{s\,(C20/25)}$	140 21,4	210 32,1	280 42,8	350 53,4	420 64,1	438 66,9
16	20	I_v $F_{s\,(C20/25)}$	160 27,1	240 40,7	320 54,3	400 67,9	480 81,4	515 87,4
18	22	I_v $F_{s\,(C20/25)}$	180 33,6	270 50,4	360 67,2	450 84,0	540 100,8	593 110,6
20	25	I_v $F_{s\,(C20/25)}$	200 42,4	300 63,6	400 84,8	500 106,0	600 127,2	644 136,6
25	32	I_v $F_{s\,(C20/25)}$	250 67,9	375 101,8	500 135,7	625 169,6	750 203,6	786 213,4
28	35	I_v $F_{s\,(C20/25)}$	280 83,1	420 124,7	560 166,3	700 207,8	840 249,4	902 267,7
32	40	I_v $F_{s\,(C20/25)}$	320 108,6	480 162,9	640 217,1	800 271,4	960 325,7	1031 349,7
36	45	I_v $F_{s\,(C20/25)}$	360 131,4	540 197,2	720 262,9	900 328,6	1080 394,3	1212 442,6
40	55	I_v $F_{s\,(C20/25)}$	400 170,4	600 255,6	800 340,8	1000 426,0	1200 511,2	1283 546,4

[1] Maximum loads according to steel strength for 500MPa reinforcing bars.
[2] Method of calculation: Fs (kN) = d0 . lv Ψc/100
d_0 and l_v in mm, spacing min. 10 d_s, edge distance min. 5 d_s

Smart®

Accessories for drill hole cleaning : blow-out pump

size	pgb code	EAN13		
230	SMCH2301　N	5902134722689	1	

Accessories for cartridges : dispenser

size	pgb code	EAN13		
150-280ml	SMCH53150300S	5902134722733	1	
410ml	SMCH53400　S	5902134722740	1	

Accessories for drill hole cleaning : wire brush

size	pgb code	EAN13		
13	SMCH3313　S	5902134722696	1	
15	SMCH3315　S	5902134722702	1	
19	SMCH3319　S	5902134722719	1	

Accessories for cartridges : perforated sleeves

CARTON BOX PACKING

size	pgb code	EAN13		
16	SMCH6316085 N	5902134722757	20	
16	SMCH6316130 N	5902134722764	20	
20	SMCH6320085 N	5902134722771	20	

Accessories for cartridges : round mixer nozzle

size	pgb code	EAN13		
1	SMCH4301　N	5902134722726	10	

Threaded rod for chemical anchors

CARTON BOX PACKING

size	pgb code	EAN13		
M 8x110	SM0AS308　Z	5902134723716	10	
M 10x130	SM0AS310　Z	5902134723723	10	
M 12x160	SM0AS312　Z	5902134723730	10	
M 16x190	SM0AS316　Z	5902134723747	10	
M 20x260	SM0AS320　Z	5902134723754	6	
M 24x300	SM0AS324　Z	5902134723761	6	

Upon request also available in stainless steel A4 and hot dip galvanised.

Accessories for cartridges : extension for mixer nozzle

size	pgb code	EAN13		
7	SMCH4302　N	5902134723693	10	
8	SMCH4303　N	5902134723709	10	

CHEMICAL RESINS

	POLYESTER	VINYLESTER
Styrene free	STYRENE FREE	STYRENE FREE
Suitable temperatures °C	low °C — normal °C	low °C — normal °C
Base materials		
Fixings in wet conditions	—	
Curing time at room temperature	**45 min.**	**45 min.**
Mechanical resistance	KG KG	KG KG — KG KG — KG KG
Chemical resistance	—	
Technical approvals CE	ITB	ETA CE European Technical Approval ETA 12-0552

SMART INSULATION PLUG
type 60K

Advantages at a glance

✔ The plastic nail reduces te heat transmission.

✔ Special disc profile allows optimum adhesion of plaster.

✔ Low anchorage depth for quick installation.

✔ Available in diameter 8mm (SM60E) and diameter 10mm (SM60K).

✔ Lengths up to 260mm.

ETA CE

European Technical Approval

ETAG 014

Insulation fixings

![Smart logo]

SM60K

INSULATION FIXING WITH NAIL - ETA APPROVED

ETA **CE**
European Technical Approval
ETAG 014

PP poly-propylene

TYPE 60K

TYPE 60E

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- Insulation plug with 60mm disc and short expansion segment.

ADVANTAGES

- The plastic nail reduces the heat transmission. The version with steel nail has a cover cap to reduce the heat transmission and to prevent marks on the plaster surface.
- Simple hammer-in for quick installation. The special disc profile allows optimum adhesion of plaster.
- Low anchorage depth reduces the drilling depth.

APPLICATIONS

- For the fixing of pressure-resistant insulation materials such as: polystyrene boards, ...

FUNCTIONING

- Push-through installation.
- The plug will expand in when the nail is hammered-in.
- Non-bearing layers, such as adhesive and/or old render and plaster, must be included in the anchor's useful length.
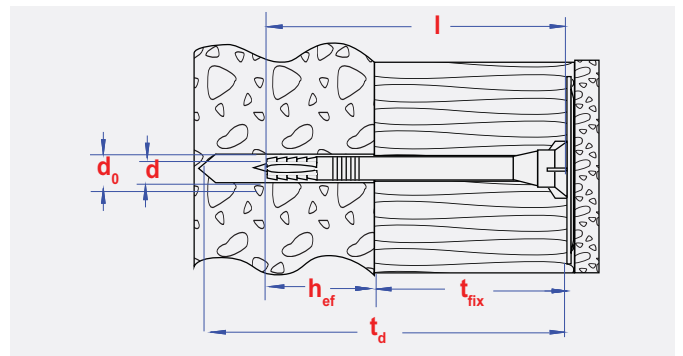
TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	70	10	60	50	20
10	90	10	60	50	40
10	100	10	60	50	50
10	120	10	60	50	70
10	140	10	60	50	90
10	160	10	60	50	110
10	180	10	60	50	130
10	200	10	60	50	150
10	220	10	60	50	170
10	260	10	60	50	210

INSTALLATION SCHEME

Insulation fixings

Smart®
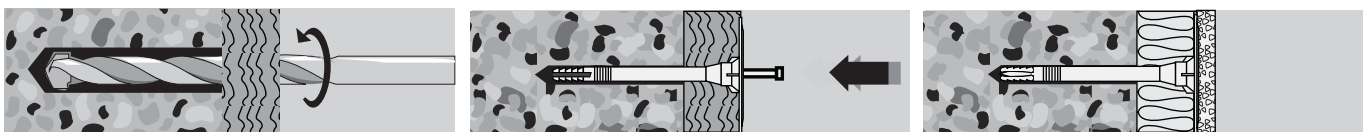
TENSION LOADS [1]

d	Standard	Bulk density	Min. compressive strength	N_{sk}
[mm]		[kg/dm³]	[N/mm²]	[kN]
Concrete C12/15	EN 206-1			0,25
Concrete C16/20 ÷ C50/60	EN 206-1			0,38
Clay bricks	EN 771-1	≥ 1,46	33,9	0,45

[1] Load figures include the resistances' partial safety factors as per approvals and a partial safety factor on the action of γF= 2,0.

ANCHOR SPACING

Min. base material thickness	h [mm]	100
Min. spacing	S_{min} [mm]	100
Min. edge distance	C_{min} [mm]	100
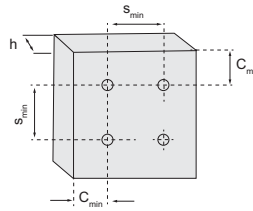
Insulation fixing with nail - ETA approved

Insulation fixing with nail - ETA approved

CARTON BOX PACKING

size	pgb code	EAN13		
10x70	SM60K310070 N	5902134722788	250	
10x90	SM60K310090 N	5902134722795	200	
10x100	SM60K310100 N	5902134722801	200	
10x120	SM60K310120 N	5902134722818	150	
10x140	SM60K310140 N	5902134722825	250	
10x160	SM60K310160 N	5902134722832	200	
10x180	SM60K310180 N	5902134722849	200	
10x200	SM60K310200 N	5902134722856	150	
10x220	SM60K310220 N	5902134722863	100	
10x260	SM60K310260 N	5902134722870	100	

CARTON BOX PACKING

size	pgb code	EAN13		
8x90	SM60E308090 NZN	5902134722450	250	
8x110	SM60E308110 NZN	5902134722467	250	
8x130	SM60E308130 NZN	5902134722474	200	
8x150	SM60E308150 NZN	5902134722481	150	
8x170	SM60E308170 NZN	5902134722498	150	
8x190	SM60E308190 NZN	5902134722504	100	
8x210	SM60E308210 NZN	5902134722511	100	
8x240	SM60E308240 NZN	5902134722528	100	

Insulation fixings

Smart®

SM50N

INSULATION FIXING WITH SYNTHETIC NAIL

PP
poly-
propylene

TYPE 50N
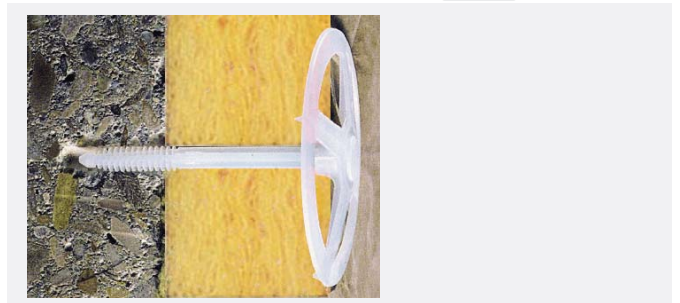
BEST SUITABLE FOR

ALSO SUITABLE FOR
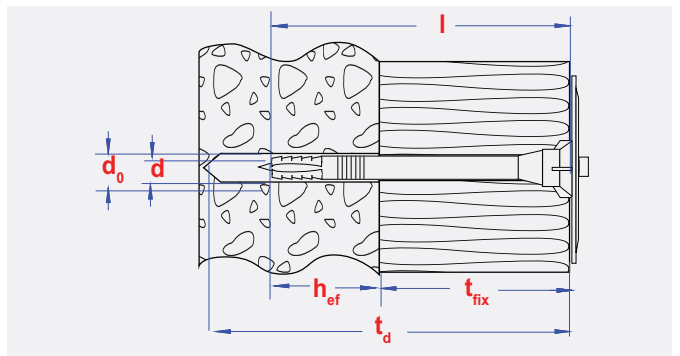
DESCRIPTION

- Insulation plug with 50mm disc.

ADVANTAGES

- The glass-fibre-reinforced plastic nail reduces the heat transmission.
- Simple hammer-in for quick installation.
- Low anchorage depth reduces the drilling depth.

APPLICATIONS

- For the fixing of pressure-resistant insulation materials such as: polystyrene boards, ...

FUNCTIONING

- Push-through installation.
- The plug will expand in when the nail is hammered-in.
- Non-bearing layers, such as adhesive and/or old render and plaster, must be included in the anchor's useful length.

TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	70	10	40	30	40
10	90	10	40	30	60
10	110	10	40	30	80
10	130	10	40	30	100
10	150	10	40	30	120

Insulation fixings

INSTALLATION SCHEME

Smart®

Insulation fixing with synthetic nail

CARTON BOX PACKING

size	pgb code	EAN13		
10x70	SM50N310070 N	5902134712239	250	
10x90	SM50N310090 N	5902134712246	250	
10x110	SM50N310110 N	5902134712253	250	
10x130	SM50N310130 N	5902134712260	250	
10x150	SM50N310150 N	5902134712277	250	

SM90N

INSULATION FIXING WITH SYNTHETIC NAIL

PP
poly-
propylene

TYPE 90N
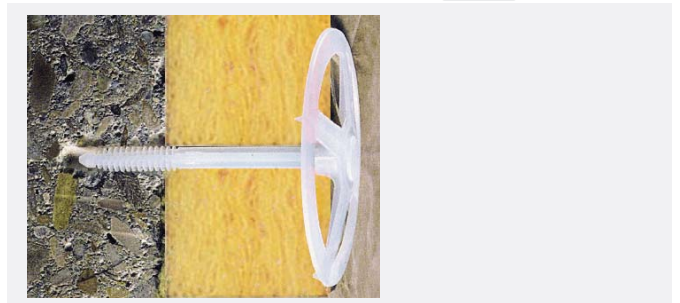
BEST SUITABLE FOR
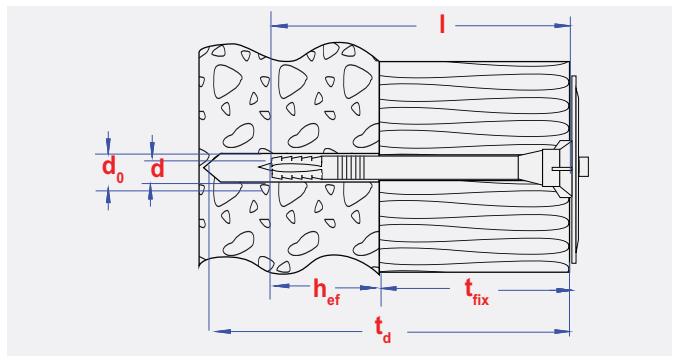
ALSO SUITABLE FOR

DESCRIPTION

- Insulation plug with 90mm disc suitable for all conventional insula-tion boards.

ADVANTAGES

- The glass-fibre-reinforced plastic nail reduces the heat transmis-sion.
- Simple hammer-in for quick installation.
- Low anchorage depth reduces the drilling depth.

APPLICATIONS

- For the fixing of soft and pressure-resistant insulation materials such as mineral wool, glass wool, polystyrene, PU panels, ...

FUNCTIONING

- Push-through installation.
- The plug will expand in when the nail is hammered-in.
- Non-bearing layers, such as adhesive and/or old render and plas-ter, must be included in the anchor's useful length.

TECHNICAL DATA

d	l	d_0	h_1	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	70	10	40	30	40
10	90	10	40	30	60
10	110	10	40	30	80
10	130	10	40	30	100
10	150	10	40	30	120
10	180	10	40	30	150
10	210	10	40	30	180

INSTALLATION SCHEME

Insulation fixings

Smart®
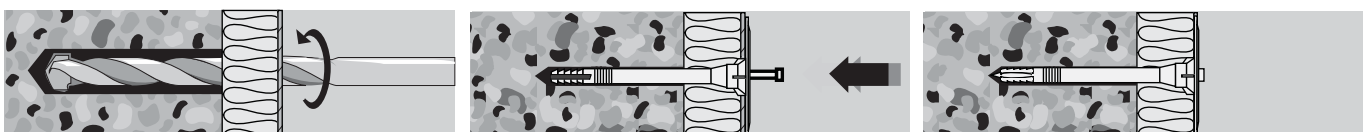
Insulation fixing with synthetic nail

CARTON BOX PACKING

size	pgb code	EAN13	
10x70	SM90N310070 N	5902134710167	250
10x90	SM90N310090 N	5902134710174	250
10x110	SM90N310110 N	5902134710181	250
10x130	SM90N310130 N	5902134710198	250
10x150	SM90N310150 N	5902134710204	150
10x180	SM90N310180 N	5902134710211	150
10x210	SM90N310210 N	5902134710228	100

Smart®

SMI08

INSULATION FIXING 8MM WITH WALL TIE

NZN
nylon
zinc pl.

BEST SUITABLE FOR

ALSO SUITABLE FOR

60mm

DESCRIPTION

- The combined fixing for cavity wall anchors and insulation panels. With 60mm disc.

ADVANTAGES

- Anchor designed to fix the cavity wall and insulation material with one product.
- The combination of the wall tie with a plug reduces the heat transmission and risk for thermal bridges.
- The wall ties can be placed when laying the bricks: no risks of injuries due to protruding metal pins.

APPLICATIONS

- For the fixing of the cavity wall anchor together with the insulation board.

FUNCTIONING

- Push-through installation.
- The plug will expand in when the wall tie is hammered-in.
- The plug length is determined by the insulation panel thickness + minimum anchorage depth.

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}	S
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
8	115	8	60	4	220	50	65	
8	135	8	60	4	220	50	85	
8	135	8	60	4	250	50	85	
8	155	8	60	4	250	50	110	
8	155	8	60	4	300	50	110	
8	175	8	60	4	300	50	130	

INSTALLATION SCHEME

Smart®

Insulation fixings

Insulation fixing 8mm with wall tie

CARTON BOX PACKING

size	pgb code	EAN13		
8x115	SMI083115220NZN	5902134802411	250	
8x135	SMI083135220NZN	5902134802428	250	
8x135	SMI083135250NZN	5902134802435	250	
8x155	SMI083155250NZN	5902134802442	250	
8x155	SMI083155300NZN	5902134802459	250	
8x175	SMI083175300NZN	5902134802466	250	

Insulation fixings

SMI10

INSULATION FIXING 10MM WITH WALL TIE

NZN
nylon
zinc pl.

TYPE I10

BEST SUITABLE FOR

ALSO SUITABLE FOR

DESCRIPTION

- The combined fixing for cavity wall anchors and insulation panels. With 60mm disc.

ADVANTAGES

- Anchor designed to fix the cavity wall and insulation material with one product.
- The combination of the wall tie with a plug reduces the heat transmission and risk for thermal bridges.
- The wall ties can be placed when laying the bricks: no risks of injuries due to protruding metal pins.

APPLICATIONS

- For the fixing of the cavity wall anchor together with the insulation board.

FUNCTIONING

- Push-through installation.
- The plug will expand in when the wall tie is hammered-in.
- The plug length is determined by the insulation panel thickness + minimum anchorage depth.

TECHNICAL DATA

d	l	d_0	h_1	d_s	l_s	h_{ef}	t_{fix}
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
10	120	9,5	70	4	220	60	60
10	140	9,5	70	4	250	60	80
10	160	9,5	70	4	250	60	100
10	160	9,5	70	4	300	60	100
10	180	9,5	70	4	300	60	120
10	200	9,5	70	4	300	60	140
10	220	9,5	70	4	320	60	160
10	260	9,5	70	4	360	60	200
10	300	9,5	70	4	400	60	240

INSTALLATION SCHEME

Insulation fixings

Smart®

Insulation fixing 10mm with wall tie

CARTON BOX PACKING

size	pgb code	EAN13		
10x120	SMI103120220NZN	5902134802480	250	
10x140	SMI103140250NZN	5902134802497	250	
10x160	SMI103160250NZN	5902134802503	250	
10x160	SMI103160300NZN	5902134802510	250	
10x180	SMI103180300NZN	5902134802527	250	
10x200	SMI103200300NZN	5902134802534	250	
10x220	SMI103220320NZN	5902134802541	250	
10x260	SMI103260360NZN	5902134802558	200	
10x300	SMI103300400NZN	5902134802565	200	

Insulation fixings

Smart®

SMOLP

INSULATION WASHERS
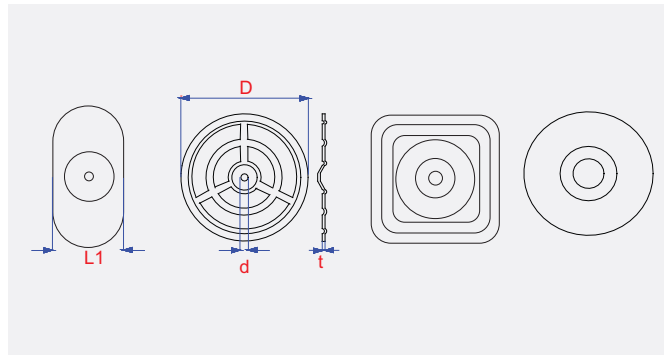
DESCRIPTION

• Insulation discs for use with screws and express nails.

ADVANTAGES

• Various disc shapes and diameters.

APPLICATIONS

• For use with dense insulation materials (such as polystyrene, polyurethane etc).

FUNCTIONING

• Push-through installation.
• The screw length = panel thickness + minimum installation depth.

TECHNICAL DATA

d	D	t
[mm]	[mm]	[mm]
6	64	0,5

TECHNICAL DATA

d	D	t	L$_1$
[mm]	[mm]	[mm]	[mm]
5,5	82	1	40

TECHNICAL DATA

d	D	t
[mm]	[mm]	[mm]
5	70	0,7
8	70	0,7
9	70	0,8

TECHNICAL DATA

d	D	t
[mm]	[mm]	[mm]
6	50	4

TECHNICAL DATA

d	D	t
[mm]	[mm]	[mm]
3,6	65	
3,6	65	

Smart®

Insulation washers

CARTON BOX PACKING

size	pgb code	EAN13		
Square	SMOLP306064 Z	5902134713762	100	

Insulation washers

CARTON BOX PACKING

size	pgb code	EAN13		
Round	SMOLP306050 N	5902134712420	250	

Insulation washers

CARTON BOX PACKING

size	pgb code	EAN13		
Oval	SMOLP305582 Z	5902134710242	100	

Insulation washers

CARTON BOX PACKING

size	pgb code	EAN13		
Green	SMOLP3UNIGRON	5902134713779	250	
Red	SMOLP3UNIROON	5902134713755	250	

Insulation washers

CARTON BOX PACKING

size	pgb code	EAN13		
Round	SMOLP305070 Z	5902134710235	100	
Round	SMOLP308070 Z	5902134713199	100	
Round	SMOLP309070 Z	5902134713748	100	

Insulation fixings

Smart®

DRILLS & BITS

- METAL
- WOOD
- MASONRY CONCRETE
- CERAMIC GLASS
- SDS

SHARPWARE™
the cutting edge

www.pgb-europe.com

Electrical fixings

Smart®

149

SMSLP

FIXING PIN

TYPE SLP

SUITABLE FOR

l

d

DESCRIPTION

• Special hardened nail for use in concrete.

ADVANTAGES

• Simple and fast installation with a hammer. No predrilling required.
• Use with setting tool for safe and secure installation.
• Grooved shaft. Version with or without metric thread end.

APPLICATIONS

• For the fixing of conduit clips, perforated band, pipe clamps, ...

FUNCTIONING

• Direct hammer-in installation.

TECHNICAL DATA

d	l
[mm]	[mm]
4	18

TECHNICAL DATA

d	l
[mm]	[mm]
6	18
6	25

INSTALLATION SCHEME

Smart®
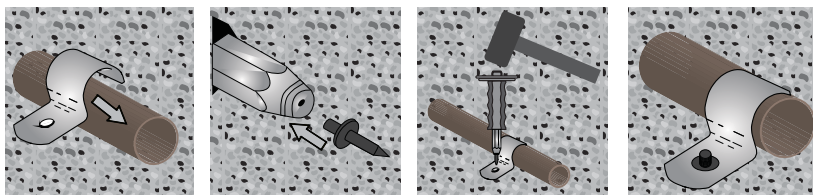
Fixing pin

Fixing pin

CARTON BOX PACKING

size	pgb code	EAN13		
4x18	SMSLP340018 SS	5902134712871	200	

CARTON BOX PACKING

size	pgb code	EAN13		
	SMSLP300004 SS	5902134801742	1	
	SMSLP300006 SS	5902134719047	1	

Fixing pin

CARTON BOX PACKING

size	pgb code	EAN13		
6x18	SMSLP360018 ZS	5410439350433	200	
6x25	SMSLP360025 ZS	5902134719054	200	

Smart®

SMKCR

NAIL CLIPS

TYPE KCR

N
nylon
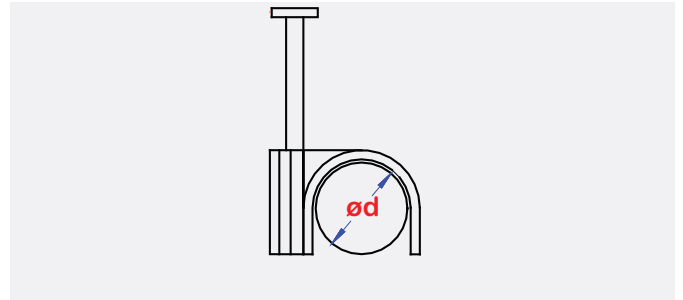
BEST SUITABLE FOR

ALSO SUITABLE FOR

Nail clips

CARTON BOX PACKING

d	pgb code	EAN13		
4	SMKCR304 N	5902134801841	100	
5	SMKCR305 N	5902134801858	100	
6	SMKCR306 N	5902134801865	100	
8	SMKCR308 N	5902134801889	100	
10	SMKCR310 N	5902134801896	100	
12	SMKCR312 N	5902134801902	100	

DESCRIPTION

• The quick fixing for electric cables.

ADVANTAGES

• Pre-assembled for quick and easy use.

APPLICATIONS

• For the fixing of electic cables.

FUNCTIONING

• Direct hammer-in installation.
• Position the nail clip with the laid cable. Hammer in the pre-assembled nail with a hammer.

Smart®

SMAND

CABLE TIE

N
nylon

TYPE AND
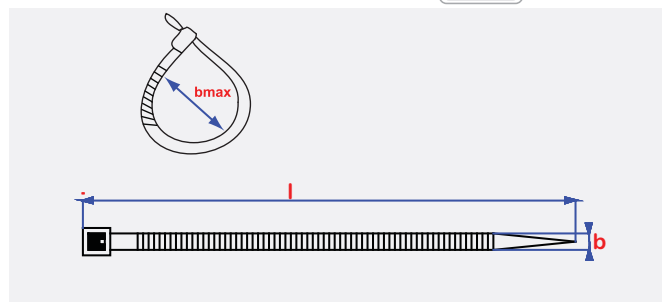
DESCRIPTION

• For the bundling of cables and pipes.

ADVANTAGES

• Long-lasting nylon PA 6.6.
• The black version is made from UV-stabilised material and therefore suited for outdoor use.
• According to UL 94 class 2. Temperature range -40°C to +85°C.

APPLICATIONS

• For the bundling of electric cables, ...

FUNCTIONING

•
• Pull the band through the head of the cable tie.
•

TECHNICAL DATA

b	l	b_{max}		b	l	b_{max}	
[mm]	[mm]	[mm]	[kg/max]	[mm]	[mm]	[mm]	[kg/max]
2,5	100	22	8	2,5	100	22	8
2,5	200	53	8	2,5	200	53	8
3,6	140	33	18	3,6	140	33	18
3,6	200	53	18	3,6	200	53	18
3,6	302	76	18	3,6	302	76	18
4,8	200	50	22	4,8	200	50	22
4,8	302	76	22	4,8	302	76	22
4,8	370	102	22	4,8	370	102	22
4,8	430	110	22	4,8	430	110	22
7,6	300	76	54	7,6	300	76	54
7,6	370	102	54	7,6	370	102	54
7,6	540	140	54	7,6	540	140	54
				9	710	190	79

TECHNICAL DATA

PA12 nylon

A2 inox

b	l	b_{max}		b	l	
[mm]	[mm]	[mm]	[kg/max]	[mm]	[mm]	[kg/max]
9	180	45	55	4,6	360	45
9	260	62	55	4,6	360	45
9	360	93	55	7,9	360	114
9	510	140	55	7,9	360	114

TECHNICAL DATA

b	l	b_{max}		colour
[mm]	[mm]	[mm]	[kg/max]	
4,8	200	50	22	Brown
4,8	200	50	22	Blue
4,8	200	50	22	Green
4,8	200	50	22	Grey
4,8	200	50	22	Orange
4,8	200	50	22	Purple
4,8	200	50	22	Red
4,8	200	50	22	Yellow

Electrical fixings

Smart®

Cable tie

CE EN 50146
cable ties for electrical installations

size	pgb code	EAN13		
2,5x100	SMAND,25100 NW	5902134803920	1000	
2,5x200	SMAND,25200 NW	5902134803944	1000	
3,6x140	SMAND,36140 NW	5902134712505	100	
3,6x200	SMAND,36200 NW	5902134804002	1000	
3,6x302	SMAND,36302 NW	5902134804026	1000	
4,8x200	SMAND,48200 NW	5902134712529	100	
4,8x302	SMAND,48302 NW	5902134804163	1000	
4,8x370	SMAND,48370 NW	5902134804194	1000	
4,8x430	SMAND,48430 NW	5902134804217	1000	
7,6x300	SMAND,76300 NW	5902134804231	600	
7,6x370	SMAND,76370 NW	5902134804255	600	
7,6x540	SMAND,76540 NW	5902134722375	600	

Cable tie

CE EN 50146
cable ties for electrical installations

size	pgb code	EAN13		
4,8x200	SMAND,48200 NB	5902134804064	1000	
4,8x200	SMAND,48200 NBL	5902134803432	100	
4,8x200	SMAND,48200 NG	5902134804088	1000	
4,8x200	SMAND,48200 NGR	5902134804095	1000	
4,8x200	SMAND,48200 NO	5902134804101	1000	
4,8x200	SMAND,48200 NPA	5902134804118	1000	
4,8x200	SMAND,48200 NR	5902134803524	100	
4,8x200	SMAND,48200 NY	5902134804149	1000	

Cable tie

CE EN 50146
cable ties for electrical installations

size	pgb code	EAN13		
2,5x100	SMAND,25100 NZ	5902134803937	1000	
2,5x200	SMAND,25200 NZ	5902134802053	100	
3,6x140	SMAND,36140 NZ	5902134803999	1000	
3,6x200	SMAND,36200 NZ	5902134804019	1000	
3,6x302	SMAND,36302 NZ	5902134712574	100	
4,8x200	SMAND,48200 NZ	5902134804156	1000	
4,8x302	SMAND,48302 NZ	5902134804170	1000	
4,8x370	SMAND,48370 NZ	5902134804200	1000	
4,8x430	SMAND,48430 NZ	5902134804224	1000	
7,6x300	SMAND,76300 NZ	5902134804248	600	
7,6x370	SMAND,76370 NZ	5902134804262	600	
7,6x540	SMAND,76540 NZ	5902134722382	600	
9x710	SMAND,90710 NZ	5902134713816	100	

Cable tie

CE EN 50146
cable ties for electrical installations

size	pgb code	EAN13		
9x180	SMAND,90180 P12	5902134803357	100	
9x260	SMAND,90260 P12	5902134803364	100	
9x360	SMAND,90360 P12	5902134803371	100	
9x510	SMAND,90510 P12	5902134803388	100	

Cable tie

CE EN 50146
cable ties for electrical installations

size	pgb code	EAN13		
4,6x360	SMAND,46200 A2	5902134803395	100	
4,6x360	SMAND,46360 A2	5902134803401	100	
7,9x360	SMAND,79360 A2	5902134803418	100	
7,9x360	SMAND,79520 A2	5902134803425	100	

Smart®

Self-adhesive base for cable ties

size	pgb code	EAN13		
19x19	SMPZV,019019NW	5902134803609	100	
28x28	SMPZV,028028NW	5902134803623	100	

Self-adhesive base for cable ties

size	pgb code	EAN13		
19x19	SMPZV,019019NZ	5902134803616	100	
28x28	SMPZV,028028NZ	5902134803630	100	

Plug for cable tie

size	pgb code	EAN13		
10x43	SMPLG,10043 NZ	5902134803548	100	

Plug for mounting base

size	pgb code	EAN13		
6x37	SMSPL,06037 NZ	5902134803555	100	

2-way mounting base

size	pgb code	EAN13		
15x7	SMSZR,151007NW	5902134803562	100	
26x10	SMSZR,231610NW	5902134803586	100	

Velcro strip "back to back"

size	pgb code	EAN13		
20x3	SMVEL,200003NZ	5902134803531	1	

Setting tools for cable ties (DIY type)

size	pgb code	EAN13		
up to 4,8mm	SMTNG,000002NST	5902134803647	1	

Setting tools for cable ties (PRO type)

size	pgb code	EAN13		
up to 4,8mm	SMTNG,000003NST	5902134803654	1	

Setting tools for cable ties (for A2 cable ties)

size	pgb code	EAN13		
up to 7,6mm	SMTNG,000004NST	5902134803661	1	

Setting tools for cable ties (for PA12 cable ties)

size	pgb code	EAN13		
9,0mm	SMTNG,000006NST	5902134803678	1	

Electrical fixings

Smart®

SMPCD

CLIP FIXING TWIN TYPE

TYPE PCD

N nylon

SUITABLE FOR

DESCRIPTION

• Clip fixing for pipes and cables.

ADVANTAGES

• Plug and clamp in one anchor.
• Only 3 different sizes for a whole range of cable sizes.
• Small drill diameter and short drilling depth.

APPLICATIONS

• For the fixing of cable bundles, individual electrical cables, plastic pipes, ...

FUNCTIONING

•
• The clip fixing is set into the drill hole without the need for any additional screws.
• The clip will lock itself in the drill hole.

TECHNICAL DATA

b	l	d_0	h_1
[mm]	[mm]	[mm]	[mm]
16	19	6	25
20	25	6	30
24	28	6	35

Clip fixing twin type

CARTON BOX PACKING

size	pgb code	EAN13		
16x19	SMPCD,1619 NW	5902134803685	50	
20x25	SMPCD,2025 NW	5902134803692	25	
24x28	SMPCD,2428 NW	5902134803708	25	

Smart®

SMPCE

CLIP FIXING SINGLE TYPE

TYPE PCE

N nylon

SUITABLE FOR

DESCRIPTION

• Clip fixing for pipes and cables.

ADVANTAGES

• Plug and clamp in one anchor.
• Only 3 different sizes for a whole range of cable sizes.
• Small drill diameter and short drilling depth.

APPLICATIONS

• For the fixing of cable bundles, individual electrical cables, plastic pipes, ...

FUNCTIONING

•
• The clip fixing is set into the drill hole without the need for any additional screws.
• The clip will lock itself in the drill hole.

TECHNICAL DATA

b [mm]	l [mm]	d$_0$ [mm]	h$_1$ [mm]
16	19	6	25
20	25	6	30
24	28	6	35

Clip fixing single type

CARTON BOX PACKING

size	pgb code	EAN13	
16x19	SMPCE,1619 NW	5902134803715	100
20x25	SMPCE,2025 NW	5902134803722	50
24x28	SMPCE,2428 NW	5902134803739	50

Electrical fixings

Smart®

Smart®

DIY CONCEPT

The new SMART concept:
Optimal product presentation.

NEW

✓ **Attractive and informative packaging**

The SMART blister packaging is a new concept in the market of anchors. The packaging informs the consumer to make the right choice, which increases customer satisfaction.

✓ **Color coded**

The color coded packaging allows fast browsing and offers a clear overview, assisting the consumer in his choice.

✓ **High yield per meter**

The packaging was designed in such a way that up to 18 articles can be displayed next to each other, thus increasing the benefit of the shop.

✓ **Content in accordance to demand**

The content was selected to target occasional users offering professional quality.

✓ **Practical order quantities**

The minimum order quantities are chosen per blister type in order to achieve an optimal stock level. Not too little and not too much.

✓ **Top quality products**

The products that are used in the SMART concept are top quality products. Our main items have obtained the CE / ETA approvals.

- *Product information in 4 languages;*
- *Safe opening and closing of the packaging: no sharp edges;*
- *The product is 100% visible;*
- *Price code on each blister;*
- *Barcode on the front of the blister;*
- *Cardboard back made out of recycled materials.*

Smart®
Intelligent anchoring solutions

Nylon wall plug without collar

N
nylon

pgb code	EAN13	d	l	d$_s$		🗍	⬓	
SM00PH04020 N	5902134714813	4	20	2,0-3,0		40	12	
SM00PH05025 N	5902134714820	5	25	3,0-4,0		40	6	
SM00PH06030 N	5902134714837	6	30	4,0-5,0		30	6	
SM00PH08040 N	5902134714844	8	40	4,5-6,0		15	6	
SM00PH10050 N	5902134714851	10	50	6,0-8,0		8	6	
SM00PH12060 N	5902134714868	12	60	8,0-10		4	6	
SM00PH14070 N	5902134714875	14	70	10-12		3	6	

Nylon multifunctional plug with collar

N
nylon

pgb code	EAN13	d	l	d$_s$		🗍	⬓	
SM0BPH05025 N	5902134714899	5	25	3,0-4,0		15	12	
SM0BPH06030 N	5902134714905	6	30	4,0-5,0		15	6	
SM0BPH08040 N	5902134714912	8	40	4,5-6,0		12	6	
SM0BPH10050 N	5902134714929	10	50	6,0-8,0		6	6	
SM0BPH12060 N	5902134714936	12	60	8,0-10		4	6	
SM0BPH14070 N	5902134714943	14	70	10-12		3	6	
SM0BPH05025GN	5902134714950	5	25	3,0-4,0		50	6	
SM0BPH06030GN	5902134714967	6	30	4,0-5,0		50	4	
SM0BPH08040GN	5902134714974	8	40	4,5-6,0		35	4	
SM0BPH10050GN	5902134714981	10	50	6,0-8,0		25	4	
SM0BPH12060GN	5902134714998	12	60	8,0-10		20	4	
SM0BPH05025XN	5902134715001	5	25	3,0-4,0		100	4	
SM0BPH06030XN	5902134715018	6	30	4,0-5,0		100	4	
SM0BPH08040XN	5902134715025	8	40	4,5-6,0		70	4	
SM0BPH10050XN	5902134715032	10	50	6,0-8,0		40	4	

Smart®

Nylon multifunctional plug without collar, long version

N nylon

pgb code	EAN13	d	l	d$_s$				
SM0LPH06050 N	5902134715049	6	50	4,0-5,0		10	6	
SM0LPH08060 N	5902134715056	8	60	4,5-6,0		8	6	
SM0LPH10070 N	5902134715063	10	70	6,0-8,0		5	6	
SM0LPH06050GN	5902134715070	6	50	4,0-5,0		40	4	
SM0LPH08060GN	5902134715087	8	60	4,5-6,0		30	4	
SM0LPH10070GN	5902134715094	10	70	6,0-8,0		20	4	

Multifunctional plug with chipboard screw

NZN nylon zinc pl.

pgb code	EAN13	d	l	d$_s$	l$_s$			
SMPUSH05025 NZN	5902134715254	5	25	3	30	20	6	
SMPUSH06030 NZN	5902134715261	6	30	4	35	15	6	
SMPUSH08040 NZN	5902134715278	8	40	4	50	7	6	
SMPUSH10050 NZN	5902134715285	10	50	5	45	4	6	

Multifunctional plug with panhead screw

NZN nylon zinc pl.

pgb code	EAN13	d	l	d$_s$	l$_s$			
SMCUSH05025 NZN	5902134715322	5	25	3,5	35	15	6	
SMCUSH06030 NZN	5902134715339	6	30	4,5	40	10	6	
SMCUSH08040 NZN	5902134715346	8	40	5	50	6	6	
SMCUSH10050 NZN	5902134715353	10	50	6	60	4	6	

DIY concept

Smart®

Multifunctional plug with hex lag screw

NZN nylon zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMPZSH10050 NZN	5902134715292	10	50	6	60	6	6	
SMPZSH12060 NZN	5902134715308	12	60	8	70	3	6	
SMPZSH14070 NZN	5902134715315	14	70	10	100	2	6	

Multifunctional plug with cup hook

NZN nylon zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMPSHH06030 NZN	5902134715438	6	30	4	35	10	6	
SMPSHH08040 NZN	5902134715445	8	40	5	45	5	6	
SMPSHH10050 NZN	5902134715452	10	50	6	55	2	6	

Multifunctional plug with white cup hook

GP plasticized

pgb code	EAN13	d	l	d_s	l_s			
SMPSHH06030 NGP	5902134715469	6	30	3,5	30	6	6	
SMPSHH08040 NGP	5902134715476	8	40	4,4	30	4	6	

Multifunctional plug with L-hook

NZN nylon zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMPSDH06030 NZN	5902134715360	6	30	4	38	10	6	
SMPSDH08040 NZN	5902134715377	8	40	5	48	5	6	
SMPSDH10050 NZN	5902134715384	10	50	6	60	3	6	

Smart®

Multifunctional plug with white L-hook

pgb code	EAN13	d	l	d_s	l_s	🔲	▱	
SMPSDH06030 NGP	5902134715414	6	30	3,2	40	6	6	
SMPSDH08040 NGP	5902134715421	8	40	4	60	4	6	

Multifunctional plug with slotted L-hook

pgb code	EAN13	d	l	d_s	l_s	🔲	▱	
SMPZDH08040 NZN	5902134715391	8	40	5,2	50	4	6	
SMPZDH10050 NZN	5902134715407	10	50	6	65	4	6	

Multifunctional plug with eye hook

pgb code	EAN13	d	l	d_s	l_s	🔲	▱	
SMPSOH06030 NZN	5902134715483	6	30	3,5	30	6	6	
SMPSOH08040 NZN	5902134715490	8	40	4,4	40	4	6	

Multifunctional plug with white eye hook

pgb code	EAN13	d	l	d_s	l_s	🔲	▱	
SMPSOH06030 NGP	5902134715506	6	30	3,5	25	6	6	
SMPSOH08040 NGP	5902134715513	8	40	4,4	40	4	6	

Smart®

Nylon 3-side expansion universal plug with collar

N nylon

pgb code	EAN13	d	l	d$_s$			
SMSUPH05032 N	5902134715100	5	32	3,0-4,0		20	12
SMSUPH06036 N	5902134715117	6	36	4,0-5,0		20	6
SMSUPH08050 N	5902134715124	8	50	4,5-6,0		8	6
SMSUPH10060 N	5902134715131	10	60	6,0-8,0		6	6
SMSUPH12070 N	5902134715148	12	70	8,0-10		4	6
SMSUPH14070 N	5902134715155	14	70	10-12		2	6

Nylon universal plug with collar

N nylon

pgb code	EAN13	d	l	d$_s$			
SM0UPH06035 N	5902134715162	6	35	4		20	6
SM0UPH08050 N	5902134715179	8	50	4,5		8	6
SM0UPH10060 N	5902134715186	10	60	5		6	6

Long nylon plug with long expansion zone

N nylon

pgb code	EAN13	d	l	d$_s$	l$_s$		
SMLPLH08080 N	5902134715193	8	80	5,0-6,0	85	6	6
SMLPLH08100 N	5902134715209	8	100	5,0-6,0	105	4	6
SMLPLH08120 N	5902134715216	8	120	5,0-6,0	125	4	6
SMLPLH10080 N	5902134715223	10	80	6,0-8,0	85	4	6
SMLPLH10100 N	5902134715230	10	100	6,0-8,0	105	4	6
SMLPLH10120 N	5902134715247	10	120	6,0-8,0	125	4	6

Smart®

Metal universal plug

Z zinc pl.

pgb code	EAN13	d	l	d$_s$		▯	▱	
SMMUPH06032 Z	5902134715865	6	32	5,0-6,0		20	6	
SMMUPH08038 Z	5902134715872	8	38	6,0-8,0		10	6	
SMMUPH08060 Z	5902134715889	8	60	6,0-8,0		8	6	
SMMUPH10060 Z	5902134715896	10	60	8-10		5	6	

Brass anchor

MS Brass
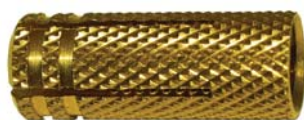
pgb code	EAN13	d	l	d$_s$		▯	▱	
SMMSPH05 MS	5902134716398	5	20	M 5		15	12	
SMMSPH06 MS	5902134716404	6	24	M 6		15	12	
SMMSPH08 MS	5902134716411	8	27	M 8		10	6	
SMMSPH10 MS	5902134716428	10	32	M 10		5	12	
SMMSPH12 MS	5902134716435	12	40	M 12		4	6	

Aerated concrete plug

N nylon

pgb code	EAN13	d	l	d$_s$		▯	▱	
SMCBPH06 N	5902134716442	6	50	5-6 / M 6		4	6	
SMCBPH08 N	5902134716459	8	60	7-8 / M 8		2	6	

Ceiling nail anchor

Z zinc pl.

pgb code	EAN13	d	l	d$_s$			
SMPSAH06035 Z	5902134716473	6	35			4	12
SMPSAH06065 Z	5902134716480	6	65			4	6

Nylon cavity anchor

N nylon

pgb code	EAN13	d	l	d$_s$	l$_s$		
SMPCAH08040 N	5902134715520	8	40	3,5-4,0		5	6
SMCASH08040 NZN	5902134715537	8	40	3,5	55	5	6

Nylon cavity anchor with various screws

N nylon

pgb code	EAN13	d	l	d$_s$	l$_s$		
SMPV0H08040 N	5902134715544	8	40	3,5-4,0		10	6
SMPV1H08040 N	5902134715551	8	40	4	45	6	6
SMPV2H08040 N	5902134715568	8	40	4	45	6	6
SMPV3H08040 N	5902134715575	8	40	4	45	6	6
SMPV4H08040 N	5902134715582	8	40	4	45	6	6
SMPV5H08040 N	5902134715599	8	40	4	45	6	6

Smart®

Metal cavity anchor

pgb code	EAN13	d	l	d$_s$	l$_s$	🔲	◰	
SMHWPH04032 Z	5902134715605	4	32	M 4	30	10	6	
SMHWPH04038 Z	5902134715612	4	38	M 4	39	8	6	
SMHWPH04046 Z	5902134715629	4	46	M 4	52	8	6	
SMHWPH04059 Z	5902134715636	4	59	M 4	65	4	6	
SMHWPH05037 Z	5902134715643	5	37	M 5	45	6	6	
SMHWPH05052 Z	5902134715650	5	52	M 5	58	4	6	
SMHWPH05065 Z	5902134715667	5	65	M 5	71	2	6	
SMHWPH06037 Z	5902134715674	6	37	M 6	45	4	6	
SMHWPH06052 Z	5902134715681	6	52	M 6	58	4	6	
SMHWPH06065 Z	5902134715698	6	65	M 6	71	4	6	

Metal cavity anchor

pgb code	EAN13	d	l	d$_s$	l$_s$	🔲	◰	
SMWPLH04032 Z	5902134715735	4	32	M 4	30	5	6	
SMWPLH04038 Z	5902134715742	4	38	M 4	39	5	6	

Metal cavity anchor

pgb code	EAN13	d	l	d$_s$	l$_s$	🔲	◰	
SMWPCH04032 Z	5902134715711	4	32	M 4	30	5	6	
SMWPCH04038 Z	5902134715728	4	38	M 4	39	5	6	

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Spring toggle with screw

Z zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMRSVH04050 Z	5902134715827	4	50	M 4	50	2	6	
SMRSVH04075 Z	5902134715834	4	75	M 4	75	2	6	

Spring toggle with cup hook

Z zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMRHAH04070 Z	5902134715797	4	70	M 4	75	2	6	

Spring toggle with threaded rod

Z zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMRSTH04080 Z	5902134715810	4	80	M 4	80	2	6	

Spring toggle with eye hook

Z zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMRSOH04070 Z	5902134715803	4	70	M 4	70	2	6	

DIY concept

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Gravity anchor

pgb code	EAN13	d	l	d$_s$	l$_s$			
SMPHAH06075 Z	5902134715858	6	75	M 6	75	2	6	

Gravity anchor

pgb code	EAN13	d	l	d$_s$	l$_s$			
SMPSTH06095 Z	5902134715841	6	95	M 8	100	2	6	

Plasterboard plug

pgb code	EAN13	d	l	d$_s$	l$_s$			
SMGKPH04 N	5902134715759	13	32	3,5-4,5		10	6	
SMGKPH04S N	5902134715766	13	32	4	40	6	6	

Plasterboard plug

pgb code	EAN13	d	l	d$_s$	l$_s$			
SMGKPH01 Z	5902134715773	14	35	3,5-4,5		10	6	
SMGKPH01S Z	5902134715780	14	35	4	40	6	6	

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Hammer nail plug with countersunk collar

pgb code	EAN13	d	l					
SMPKKH05030 NZN	5902134715902	5	30				20	6
SMPKKH05040 NZN	5902134715919	5	40				15	6
SMPKKH05050 NZN	5902134715926	5	50				15	6
SMPKKH06040 NZN	5902134715933	6	40				10	6
SMPKKH06040GNZN	5902134716022	6	40				35	4
SMPKKH06060 NZN	5902134715940	6	60				10	6
SMPKKH06060GNZN	5902134716039	6	60				35	4
SMPKKH06080 NZN	5902134715957	6	80				10	6
SMPKKH06080GNZN	5902134716046	6	80				30	4
SMPKKH08045 NZN	5902134715964	8	45				10	6
SMPKKH08045GNZN	5902134716053	8	45				30	4
SMPKKH08060 NZN	5902134715971	8	60				7	6
SMPKKH08060GNZN	5902134716060	8	60				25	4
SMPKKH08080 NZN	5902134715988	8	80				6	6
SMPKKH08080GNZN	5902134716077	8	80				20	4
SMPKKH08100 NZN	5902134715995	8	100				6	6
SMPKKH08100GNZN	5902134716084	8	100				15	4
SMPKKH08120 NZN	5902134716008	8	120				5	6
SMPKKH08140 NZN	5902134716015	8	140				4	6

Hammer nail plug with countersunk collar and stainless steel nail.

pgb code	EAN13	d	l					
SMPKKH06040 NA2	5902134716961	6	40				10	6
SMPKKH06060 NA2	5902134716978	6	60				10	6
SMPKKH08080 NA2	5902134716985	8	80				6	6

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Hammer nail plug with mushroom-shaped collar

NZN nylon zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SM0SPH06040 NZN	5902134716091	6	40	4	50	6	6	
SM0SPH06060 NZN	5902134716107	6	60	4	70	5	6	

Hammer nail plug with metric thread

NZN nylon zinc pl.

pgb code	EAN13	d	l	d_s				
SMSPMH06040 NZN	5902134716114	6	40	M 6		10	6	
SMSPMH07040 NZN	5902134716121	7	40	M 7		8	6	

Frame plug with countersunk head and pozidriv screw

NZN nylon zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SM0RPH10100 NZN	5902134716138	10	100	7	107	2	6	
SM0RPH10120 NZN	5902134716145	10	120	7	127	2	6	
SM0RPH10140 NZN	5902134716152	10	140	7	147	2	6	

Frame plug with countersunk head and Torx screw

NZN nylon zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMRPTH10080 NZN	5902134716206	10	80	7	87	2	6	
SMRPTH10100 NZN	5902134716213	10	100	7	107	2	6	
SMRPTH10120 NZN	5902134716220	10	120	7	127	2	6	
SMRPTH10140 NZN	5902134716237	10	140	7	147	2	6	

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Frame plug with countersunk head and hex screw with pressed-on washer

NZN
nylon
zinc pl.

pgb code	EAN13	d	l	d$_s$	l$_s$	🔲	⬛	
SMRPFH10080 NZN	5902134716169	10	80	7	87	2	6	
SMRPFH10100 NZN	5902134716176	10	100	7	107	2	6	
SMRPFH10120 NZN	5902134716183	10	120	7	127	2	6	
SMRPFH10140 NZN	5902134716190	10	140	7	147	2	6	

Metal frame anchor

Z
zinc pl.

pgb code	EAN13	d	l			🔲	⬛	
SMMKPH10075 ZNB	5902134716244	10	72			4	6	
SMMKPH10090 ZNB	5902134716251	10	92			4	6	
SMMKPH10110 ZNB	5902134716268	10	112			4	6	
SMMKPH10130 ZNB	5902134716275	10	132			4	6	

Window frame screw with cylinder head, T30

Z
zinc pl.

pgb code	EAN13	d	l			🔲	⬛	
SMC30H75072 Z	5902134716312	8	72			6	6	
SMC30H75092 Z	5902134716329	8	92			6	6	
SMC30H75112 Z	5902134716336	8	112			4	6	
SMC30H75132 Z	5902134716343	8	132			4	6	

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Window frame screw with countersunk head, T30

Z zinc pl.

pgb code	EAN13	d	l					
SMP30H75072 Z	5902134716350	8	72			6	6	
SMP30H75092 Z	5902134716367	8	92			6	6	
SMP30H75112 Z	5902134716374	8	112			4	6	
SMP30H75132 Z	5902134716381	8	132			4	6	

Universal spacer screw, with T25 recess

Z zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SMAFSH60080 Z	5902134716282	6	80	6	80	8	6	
SMAFSH60100 Z	5902134716299	6	100	6	100	6	6	
SMAFSH60120 Z	5902134716305	6	120	6	120	6	6	

Drop-in anchor

Z zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SM0IAH06 Z	5902134716565	6	25	M 6	11	8	12	
SM0IAH08 Z	5902134716572	8	30	M 8	13	6	12	
SM0IAH10 Z	5902134716589	10	40	M 10	15	4	12	
SM0IAH12 Z	5902134716596	12	50	M 12	19	2	12	

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Drop-in anchor

A4 inox

pgb code	EAN13	d	l	d_s	l_s			
SM0IAH06 A2	5902134716992	6	25	M 6	11	4	12	
SM0IAH08 A2	5902134717005	8	30	M 8	13	4	12	
SM0IAH10 A2	5902134717012	10	40	M 10	15	2	12	
SM0IAH12 A2	5902134717029	12	50	M 12	19	2	12	

Through bolt with ETA option 1 - type S-KA

Z zinc pl.

pgb code	EAN13	d	l	d_s	l_s			
SM1KAH06065 Z	5902134716602	6	65	7	7	6	6	
SM1KAH06100 Z	5902134716619	6	100	7	7	4	6	
SM1KAH08072 Z	5902134716626	8	72	20	9	4	6	
SM1KAH08092 Z	5902134716633	8	92	20	9	4	6	
SM1KAH08112 Z	5902134716640	8	112	20	9	2	6	
SM1KAH10092 Z	5902134716657	10	92	35	12	2	6	
SM1KAH10102 Z	5902134716664	10	102	35	12	2	6	
SM1KAH10132 Z	5902134716671	10	132	35	12	2	6	
SM1KAH12103 Z	5902134716688	12	103	50	14	2	6	
SM1KAH12118 Z	5902134716695	12	118	50	14	2	6	

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Through bolt with ETA option 1 - type S-KA

A4 inox

pgb code	EAN13	d	l	d$_s$	l$_s$	▯	▱	
SM1KAH06065 A4	5902134717036	6	65	7	7	2	6	
SM1KAH08052 A4	5902134717043	8	52	15	9	2	6	
SM1KAH08072 A4	5902134717050	8	72	15	9	2	6	
SM1KAH08092 A4	5902134717067	8	92	15	9	2	6	
SM1KAH08112 A4	5902134717074	8	112	15	9	2	6	
SM1KAH10092 A4	5902134717081	10	92	35	12	2	6	
SM1KAH10112 A4	5902134717098	10	112	35	12	2	6	
SM1KAH12118 A4	5902134717104	12	118	70	14	2	6	

4 shield expansion anchor "PFG" with loose bolt

Z zinc pl.

pgb code	EAN13	d	l			▯	▱	
SM00KH06060 Z	5902134716701	6	60			5	6	
SM00KH06075 Z	5902134716718	6	75			4	6	
SM00KH08075 Z	5902134716725	8	75			4	6	
SM00KH08085 Z	5902134716732	8	85			2	6	
SM00KH08100 Z	5902134716749	8	100			2	6	
SM00KH08140 Z	5902134716756	8	140			2	6	
SM00KH10080 Z	5902134716763	10	80			2	6	
SM00KH10090 Z	5902134716770	10	90			2	6	
SM00KH10100 Z	5902134716787	10	100			2	6	
SM00KH10110 Z	5902134716794	10	110			2	6	
SM00KH10120 Z	5902134716800	10	120			2	6	
SM00KH10140 Z	5902134716817	10	140			2	6	
SM00KH12080 Z	5902134716824	12	110			1	6	
SM00KH12120 Z	5902134716831	12	125			1	6	

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DIY concept

4 shield expansion anchor "PFG" with threaded rod

pgb code	EAN13	d	l					
SM00TH06050 Z	5902134716916	6	50			4	6	
SM00TH06070 Z	5902134716923	6	80			4	6	
SM00TH08070 Z	5902134716930	8	80			4	6	
SM00TH08090 Z	5902134716947	8	90			3	6	
SM00TH10090 Z	5902134716954	10	90			2	6	

4 shield expansion anchor sleeve "PFG"

pgb code	EAN13	d	l					
SM00HH06040 Z	5902134716848	6	40			4	6	
SM00HH08050 Z	5902134716855	8	50			4	6	
SM00HH10060 Z	5902134716862	10	60			2	6	

4 shield expansion anchor "PFG" with forged eye hook

pgb code	EAN13	d	l	d_s				
SM00OH06070 Z	5902134716893	6	70	10		4	6	
SM00OH08090 Z	5902134716909	8	90	11,8		2	6	

4 shield expansion anchor "PFG" with forged cup hook

pgb code	EAN13	d	l	d_s				
SM0TRH06070 Z	5902134716879	6	70	8		2	6	
SM0TRH08090 Z	5902134716886	8	90	10		2	6	

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Nail clips

pgb code	EAN13	d				🗍	⬓	
SMKCRH04 NW	5902134716497	4				15	12	
SMKCRH05 NW	5902134716503	5				15	12	
SMKCRH06 NW	5902134716510	6				15	12	
SMKCRH08 NW	5902134716534	8				10	12	
SMKCRH10 NW	5902134716541	10				8	6	
SMKCRH12 NW	5902134716558	12				7	6	

Washbasin wall fixing set

pgb code	EAN13	d	l	d_s	l_s	🗍	⬓	
SNWASC08100 NZN	5902130000000	12	60	8	100	10	2	
SNWASC08120 NZN	5902130000000	12	60	8	120	10	2	
SNWASC10120 NZN	5902130000000	14	70	10	120	10	2	
SNWASC10140 NZN	5902130000000	14	70	10	140	10	2	

Vertical toilet fixing set

pgb code	EAN13	d	l	d_s	l_s	🗍	⬓	
SN0WCC06080 NZN	5902130000000	10	50	6	80	10	2	

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PRODUCTION PLANT PGB-POLSKA
2013 -2014

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