

GENERAL CATALOGUE





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 customer 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 well 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 masonry. 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 through the fixture into the drill hole. Both the drill diameter for the plug and through the fixture are the same.



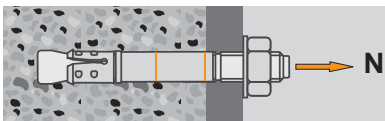
Some more general tips

- 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_{fx}) 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.

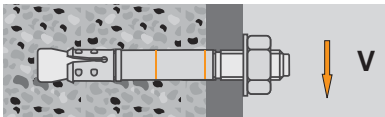
Types of load

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

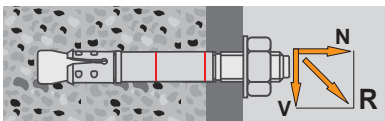
Tension load



Shear load



Oblique load



Types of anchorage

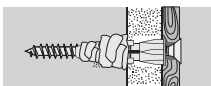
Expansion by friction:

The plug is expanded against the base material.



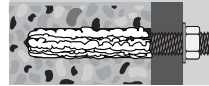
Geometrical expansion:

The plug locks itself in the shape of the perforations or cavities of the base material.



Expansion by adhesion:

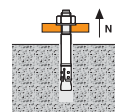
By means of chemical mortar the anchor is bonded to the base material, resulting in a stress-free anchoring.



Types of failure

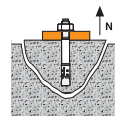
Anchor pull-out

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.



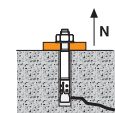
Base material failure:

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.



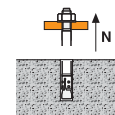
Material splitting:

This is caused because of too small edge distances or too small spacing of the anchors, or because of too small dimensions of the base material part.



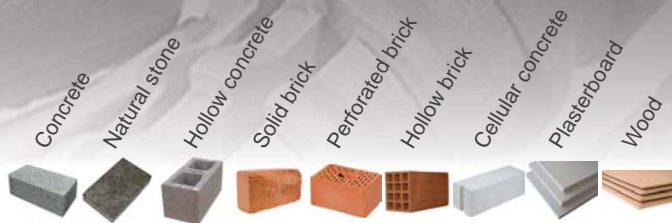
Steel failure:

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.



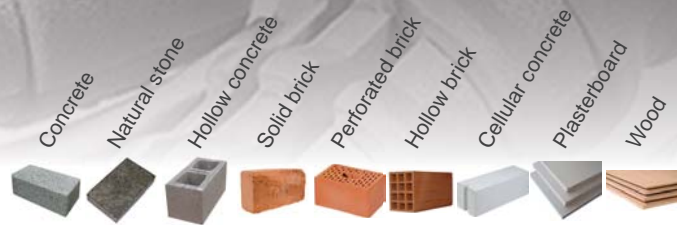
Download here:
Declarations of Performance
(DoP)





GENERAL FIXINGS	Nylon wall plug without collar	SM00P		14	■	■	□	■	■		□			
	Nylon wall plug with collar	SM0PB		16	■	■	□	■	■		□			
	Nylon multifunctional plug with collar	SM0BP		18	■	■	■	■	■		□			
	Nylon multifunctional plug with collar, long version	SMLBP		20	■	■	■	■	■		□			
	Nylon multifunctional plug without collar, long version	SM0LP		22	■	■	■	■	■		□			
	Multifunctional plug with chipboard screw	SMPUS		24	■	■	■	■	■		□			
	Multifunctional plug with cup hook	SMPSH		26	■	■	■	■	■		□			
	Multifunctional plug with L-hook	SMPSD		26	■	■	■	■	■		□			
	Multifunctional plug with hex lag screw	SMPZS		28	■	■	■	■	■		□			
	Long multifunctional plug with chipboard screw	SMLPS		31	■	■	■	■	■		□			
	Long multifunctional plug with hex lag screw	SMLPZ		33	■	■	■	■	■		□			
	Nylon 4-side expansion universal plug with collar	SM0UP		36	□	■	□	■	■	□	□	■		
	Nylon universal plug with collar	SMXUP		38	■	■	■	■	■	■	□	■		
	Nylon universal plug with collar	SMMFP		40	□	■	□	■	■	□	□	■		
	Long nylon plug with long expansion zone	SMLPL		42	■	■	□	■	■	□	□			
	Metal universal plug	SMMUP		44	■		■	■	□		□			
	Brass anchor	SMMSP		46	■	■		■						
	Aerated concrete plug	SMCBP		48							■			
	Aerated concrete nail	SMCBN		50							■			

CAVITY FIXINGS	Plasterboard plug	SMGKP		58								■		
	Nylon cavity anchor	SMPCA		60					□	■		■		
	Nylon cavity anchor	SMTVP		62						■		■		
	Metal cavity anchor	SMHWP		64								■		
	Metal cavity anchor	SMWPL		64								■		
	Metal cavity anchor	SMWPC		64								■		
	Spring toggle with screw	SMRSV		66								■		
	Spring toggle with cup hook	SMRHA		66								■		
	Spring toggle with threaded rod	SMRST		66								■		
	Spring toggle with eye hook	SMRSO		66								■		
	Gravity anchor	SMPHA		68								■		
	Gravity anchor	SMPST		68								■		
	Gravity anchor	SMPAN		68								■		



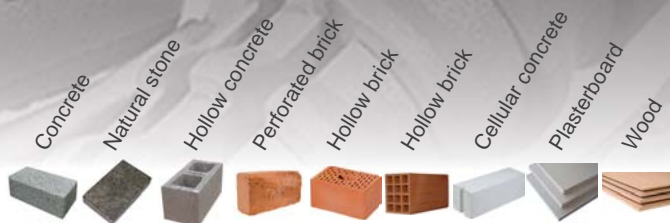
Hammer nail plug with countersunk collar	SMPKK		72	■	■		■	□		□			
Hammer nail plug with mushroom-shaped collar	SM0SP		76	■	■		■	□		□			
Hammer nail plug with cylindrical collar	SMPCK		78	■	■		■	□		□			
Hammer nail plug with metric thread	SMSPM		80	■	■		■	□		□			
Hammer drive anchor with nail	SM0HN		82	■			■	□					
Frame plug with countersunk head and pozidriv screw	SM0RP		84	■	■	■	■	■	■	□			
Frame plug with countersunk head and T-drive screw	SMRPT		86	■	■	■	■	■	■	□			
Frame plug with countersunk head and hex screw with pressed-on washer	SMRPF		88	■	■	■	■	■	■	□			
Frame plug with countersunk head and hex screw	SMRPZ		90	■	■	■	■	■	■	□			
Frame plug with cylinder head and hex screw with pressed-on washer	SMRPC		92	■	■	■	■	■	■	□			
Metal frame anchor	SMMKP		94	■		□	■	□					
Window frame screw with cylinder head, T25	SMC25		96	■			■	□					
Window frame screw with cylinder head, T30	SMC30		98	■			■	□					
Window frame screw with countersunk head, T30	SMP30		100	■			■	□					
Universal spacer screw, with T25 recess	SMAFS		102									■	
Selfdrilling adjustable screw, with T25 recess	SMVAS		104									■	
Express nail	SMANH		106	■			■						

FRAME FIXINGS

Scaffold fixing	SMSFP		110	■			■						
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Drop-in anchor	SM0IA		114	■	■								
Through bolt with ETA option 1 - type S-KA	SM1KA		116	■	■		□						
Through bolt with ETA option 7 - type SMK	SM7KA		119	■	■								
4 shield expansion anchor "PFG"	SM00K		124	■	■	□	■	■					
4 shield expansion anchor "PFG"	SM00T		126	■	■	□	■	■					
4 shield expansion anchor "PFG"	SM00H		128	■	■	□	■	■					
4 shield expansion anchor "PFG"	SM00O		130	■	■	□	■	■					
4 shield expansion anchor "PFG"	SM0TR		132	■	■	□	■	■					
Concrete screw with hexagon head	SMMZK		134	■	■		■	■					
Concrete screw with countersunk head	SMMVK		136	■	■		■	■					
High-performance anchor with threaded rod	SMZAK		138	■									
High-performance anchor with hexagon head screw	SMZAT		144	■									
High-performance anchor with countersunk head screw	SMZAV		150	■									

HEAVY DUTY ANCHORS



CHEMICAL ANCHORS	Chemical resin polyester S-IRP	SMCH1 P		158	■	■		■	■	■							
	Chemical resin vinylester S-IRV	SMCH1 V		160	■	■											
	Chemical resin vinylester "winter" S-IRW	SMCH1 W		162	■	■											
	Accessories for drill hole cleaning : blow-out pump	SMCH2		165													
	Accessories for drill hole cleaning : wire brush	SMCH3		165													
	Accessories for cartridges : round mixer nozzle	SMCH4		165													
	Accessories for cartridges : extension for mixer nozzle	SMCH4B		165													
	Accessories for cartridges : dispenser	SMCH5		165													
	Accessories for cartridges : perforated sleeves	SMCH6		165													
	Accessories for cartridges : perforated sleeves	SMCH6		165					■	■							
	Internal threaded socket	SMCH7		165	■			■									
	Spin-in capsule "S-SCV"	SMCAD		166	■												
	Threaded rod for chemical anchors	SM0AS		168	■			■	■	■							

INSULATION FIXINGS	Insulation fixing with nail - ETA approved	SM60K		172	■			■	□								
	Insulation fixing with long expansion zone and steel nail	SM60L		146	□			□	■	■							
	Insulation fixing with synthetic nail	SM90N		176	■			■	□								
	Insulation fixing 8mm with wall tie	SMI08		178	■			■									
	Insulation fixing 10mm with wall tie	SMI10		180	□			□	■								
	Insulation washers	SMOLP		182													

ELECTRICAL FIXINGS	Fixing pin	SMSLP		186	■												
	Nail clips	SMKCR		188							□			■			
	Cable tie	SMAND		189													
	Self-adhesive base for cable ties	SMPZV		191													
	2-way mounting base	SMSZR		191													
	Plug for cable tie	SMPLG		191	■												
	Plug for mounting base	SMSPL		191													
	Velcro strip "back to back"	SMVEL		191													
	Setting tools for cable ties	SMTNG		191													
	Clip fixing single type	SMPCE		192	■												
	Clip fixing twin type	SMPCD		193	■												

■ Best suitable for

□ Also suitable for



MANUFACTURER OF HIGH QUALITY NYLON FIXINGS

FRAME PLUGS

- > ETA certified
- > Perfect for frames and facades
- > Different collars and screws



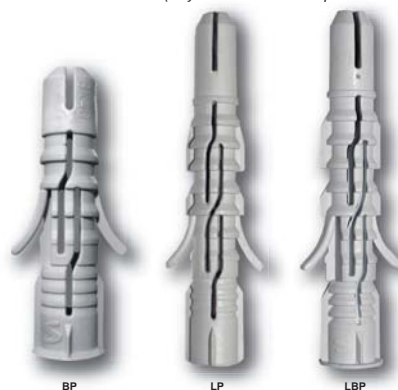
HAMMER NAIL PLUGS

- > ETA certified
- > Premounted screw nail
- > Different collar shapes



MULTIFUNCTIONAL PLUGS

- > Normal and long type
- > Long type with and without collar
- > ETA certified (only in combination with particular screws)



UNIVERSAL PLUGS

- > 4-side expansion zones
- > Perfect hold in all building materials
- > Type XUP available in 2014

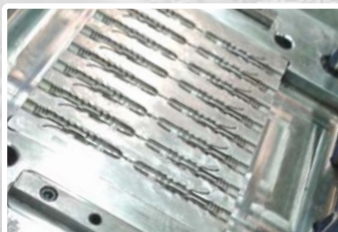


WALL PLUGS

- > New design
- > Available with and without collar



PRODUCTION
state of the art machinery



R&D
high end nylon anchors



CERTIFIED
ETA approved anchors



PACKAGING
possibility for private label