fischer greenline

The first range of fixing products with renewable resources.

fischer

innovative solutions

greenline

greenline

The fixing assortment made with sustainable natural sources.

Sustainable building
With the introduction of its greenline products, fischer is the first manufacturer worldwide to offer a range of bio-based fixing systems. Customers who place a high value on using sustainable resources when building and renovating are now able to make knowledgeable choices when it comes to the selection of fixings.

Grown naturally
All greenline products are produced with renewable resources. They do not encroach on natural habitats or areas dedicated to areas of cultivation. The renewable material is authorised by an independent test and certification to DIN CERTCO/ TÜV Rheinland. The products belong to the class "BIOBASED 50-85%". With FIS GREEN, the first mortar with renewable resources, fischer gained the 2nd place of the innovation award "Bio-based Material of the Year 2014" offered by the nova Institute.

Secure
The safety aspect of greenline products has not been compromised. They have the same features and load-bearing capacity as the grey coloured originals. Just 100% fischer nylon quality - made in Germany!

greenline

- safe and durable like the grey-coloured originals
- environmentally friendly due to renewable resources

More info
You can find further information on the greenline products online at:
www.fischer.de/greenline or mobile under:

Do you want to know which anchors we recommend for which application?
Find out how in our virtual environment at:
http://www.fischer.de/virtual-house
or mobile at:

UX GREEN - universal plug

The nylon plug for all construction materials

e.g. curtain poles

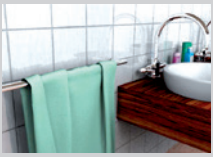
e.g. light shelves

- Expands or knots according to the substrate which makes it universally suitable for almost all building materials.
- For fixing pictures, lights, curtain poles, light wall units and much more.
- Tensile load-bearing capacity: e.g. UX GREEN 8x50 R in vertically perforated brick up to 20 kg.

Suitable for the following building materials:

SX GREEN - expansion plug

The powerful nylon plug with 4-way expansion



e.g. towel rails

e.g. TV brackets

- Maximum retaining values in many building materials due to 4-fold expansion.
- For fixing pictures, lights, light shelves, TV brackets and much more.
- Tensile load-bearing capacity: e.g. SX GREEN 6x30 in concrete up to 65 kg.

Suitable for the following building materials:

for all construction materials | solid building materials and masonry | panel building materials

GK GREEN - gypsum plasterboard plug

The fastest installation in gypsum plasterboard

e.g. lights

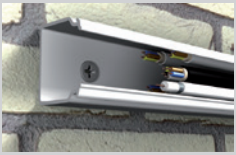
e.g. pictures

- Specially for gypsum plasterboard. The self-tapping and positive external thread ensures a secure grip.
- For fixing pictures, lights, electrical installations, decorative items and much more.
- Tensile load-bearing capacity: e.g. GK GREEN in gypsum plasterboard 12.5 mm to 8 kg.

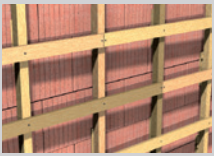
Suitable for the following building material:

N GREEN - nail plug

Ready to use - fast and efficient installation.



e.g. profiles



e.g. sub-structures

- For rapid installation in many different construction materials. With integrated hammer-in stop to prevent premature expansion of the plug during installation.
- For fixing in push-through installation of frames, profiles, substructures made of wood, metal and much more.
- Tensile load-bearing capacity: e.g. N GREEN 8x80/40 in solid sand lime brick up to 24 kg.

Suitable for the following building materials:

GB GREEN - aerated concrete plug

Safety in aerated concret

e.g. heaters

e.g. pipes

- Especially designed for unplastered, aerated concrete walls and panels. Positively cutting, spiral-formed outer fins ensure a secure grip.
- For fixing pictures, lights, shelves, cable lines, piping and much more.
- Tensile load-bearing capacity: e.g. GB GREEN 8 in aerated concrete PB2 up to 20 kg.

Suitable for the following building material:

FID GREEN - insulation plug

Thermal bridge-free fixing in insulating materials

e.g. outdoor lighting

e.g. letter boxes

- Especially designed for fixing in pressure-resistant, plastered and unplastered insulation boards made of polystyrene and polyurethane. The self-tapping external thread ensures a secure grip.
- For fixing outdoor lighting, movement sensors, letter boxes, signs and more.
- Tensile load-bearing capacity: e.g. FID GREEN 50 in polystyrene PS15 up to 5 kg.

Suitable for the following building materials:

for all construction materials | solid building materials and masonry | panel building materials

FIS GREEN - injection mortar

Heavy loads - easily installed

e.g. plumbing components

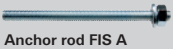
e.g. satellite dishes

e.g. TV brackets

e.g. wood constructions

e.g. gardens

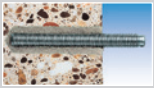
- Two-component injection mortar, free from styrene. For heavy loads.
- Powerful grip. Can be used universally in almost all building materials.
- For fixing suspended shelves, kitchen and sanitary components, household units, wooden structures, gates, flat screens, satellite dishes and much more.
- FIS GREEN can be used with standard dispensers. For use with anchor rods FIS A, in perforated brick plus anchor sleeve FIS H K.
- Tensile load-bearing capacity FIS GREEN with FIS A M10 in solid sand lime brick (KSV 28)170 kg.



Anchor rod FIS A

Anchor sleeve FIS HK

Dispenser KPM



Concrete

Perforated brick

Aerated concrete

Suitable for the following building materials:

Loads

Recommended loads / anchors in kg (1kg ~ 10 N)

Universal plug UX GREEN Highest recommended loads[1] for a single anchor.

Type			UX GREEN 6 x 35 R	UX GREEN 6 x 50 R
Screw diameter	Ø	[mm]	5	5
Recommended loads in the respective base material F_{rec} [2]				
Concrete	≥ C20/25	[kg]	40	60
Solid brick	≥ Mz 12	[kg]	20	30
Hollow sand lime stone	≥ KSL 12	[kg]	40	40
Vertically perforated brick	≥ Hlz 12	[kg]	20	20
Aerated concrete	≥PB4, PP4 (G4)	[kg]	20	20
Gypsum plasterboard	12,5 mm	[kg]	10	10
Gypsum plasterboard	25 mm	[kg]	15	15
Gypsum fibreboard	(Fermacell)	[kg]	20	20
Plaster wall	ρ≥0,9 kg/dm³	[kg]	-	-

[1] Includes the safety factor 7. [2] Valid for tensile load, shear load and oblique load under any angle.

Universal plugr UX GREEN with hook screws Highest recommended loads1) for a single anchor.

Type			UX GREEN 6 x 35 R RH
Recommended loads in respective building material F_{rec} [2]			
Concrete	≥ C20/25	[kg]	25
Vertically perforated brick	≥ Hlz 12	[kg]	20
Gypsum plasterboard	12.5 mm	[kg]	5

[1] Includes the safety factor 4 (failure by bending the hook). [2] Valid for tensile load, shear load and oblique load under any angle.

Plasterboard fixing GK GREEN Highest recommended loads[1] for a single anchor.

Type			
Chipboard screw	Ø	[mm]	
Recommended loads in respective base material F_{rec} [2]			
Gypsum plasterboard	9.5 mm	[kg]	
Gypsum plasterboard	12.5 mm	[kg]	
Gypsum plasterboard	2 x 12.5 mm	[kg]	

[1] Required safety factors are considered. [2] Valid for tensile load, shear load and oblique load under any angle.

The given loads are valid for wood screws with the specified diameter.

	UX GREEN 8 x 50 R	UX GREEN 10 x 50 R	UX GREEN 12 x 70
	6	8	10
	60	100	150
	30	50	70
	50	60	80
	20	20	30
	30	40	60
	10	10	-
	15	15	-
	20	25	-
	15	35	45

The given loads are valid for the included hook screws.

	UX GREEN 6 x 35 R WH	UX GREEN 8 x 50 R RH	UX GREEN 8 x 50 R WH
	30	40	45
	20	20	20
	5	5	5

The given loads are valid for chipboard screws with the specified diameters.

	GK GREEN
	4.0 - 5.0
	7
	8
	11

Loads

Recommended loads / anchors in kg (1kg ~ 10 N)

Expansion plug SX GREEN

Highest recommended loads[1] for a single anchor.

Type			SX GREEN 5x25	SX GREEN 6 x 30 SX GREEN 6 x 50
Screw diameter	Ø	[mm]	4	5
Min. edge distance in concrete	c_{min}	[mm]	-	35
Recommended loads in the respective base material F_{rec} [2]				
Concrete	≥ C20/25	[kg]	30	65
Solid brick	≥ Mz 12	[kg]	25	30
Solid sand lime brick	≥ KS 12	[kg]	30	50
Aerated concrete	≥ PB2, PP2 (G2)	[kg]	3	3
Aerated concrete	≥PB4, PP4 (G4)	[kg]	9	9
Vertically perforated brick	≥ Hlz 12 (ρ ≥ 1.0 kg/dm³)	[kg]	7	7
Perforated sand-lime brick	≥ KSL 12	[kg]	17	30
Plaster wall		[kg]	-	-

[1] Includes the safety factor 7. [2] Valid for tensile load, shear load and oblique load under any angle.

Hammerfix N GREEN

Highest recommended loads[1] for a single anchor.

Type			
Screw nail diameter	Ø	[mm]	
Recommended loads in the respective base material F_{rec} [2]			
Concrete	≥ C20/25	[kg]	
Solid brick	≥ Mz12	[kg]	
Solid sand-lime brick	≥ KS12	[kg]	
Solid brick of lightweight aggregate concrete	≥ V4	[kg]	
Aerated concrete	≥ PB2	[kg]	
Aerated concrete	≥ PB4	[kg]	

[1] Includes the safety factor 4. [2] Valid for tensile load, shear load and oblique load under any angle.

Insulation fixing FID green

Highest recommended loads[1] for a single anchor. The given loads are valid for chipboard screws wit

Model			
Screw diameter	Ø	[mm]	
Recommended loads in the respective base material F_{rec} [2]			
Polystyrene	PS 15	[kg]	
Polystyrene	PS 20	[kg]	

[1] Includes the safety factor 5. [2] Applies to tension load, shear load and diagonal pull under each angle.

The given loads are valid for wood screws with the specified diameter.

	SX GREEN 8 x 40 SX GREEN 8 x 65	SX GREEN 10 x 50	SX GREEN 12 x 60
	6	8	10
	40	50	65
	70	120	170
	60	65	70
	60	120	170
	4	9	14
	14	30	45
	17	17	26
	35	30	35
	26	37	100

The given loads are valid for screw nails with the specified diameter.

	N GREEN 6	N GREEN 8
	4	5
	20	27
	18	24
	17	24
	12	15
	4	5
	10	13

th maximum diameter.

	FID GREEN 50	FID GREEN 90
	4.5 - 5.0	6
	5	8
	9	14

Loads

Recommended loads / anchors in kg (1kg ~ 10 N)

Aircrete anchor GB GREEN Highest recommended loads[1] for a single anchor in aerated concrete.

Type	
Min. spacing [7]	s_{min}
Min. edge spacing [2]	c_{min}
Min. edge distance to solidified joints [6]	c_{min}
Min. member thickness	h_{min}
Anchoring depth	h_{ef} (h_v)
Recommended load in the respective base material F_{rec} [)	
Aerated concrete	PB2, PP2 (G2)
Aerated concrete	P3.3 (GB3.3)
Aerated concrete	≥ PB4, PP4, P4,4 (≥ G4 , GB4,4)

[1] Required safety factors are considered. [2] Minimum permissible edge distance. [3] Valid for tensile load, shear load and oblique load under any angle without any bending. [4] gvz and A4. [5] The minimum member thickness of aerated concrete roof- and

Injection system FIS GREEN in concrete with threaded rod FIS A (property class 5.8) · Highest permiss

Type	**Min. effective anchorage depth** $h_{ef,min}$ **[mm]**	**Max. effective anchorage depth** $h_{ef,max}$ **[mm]**	**Min. member thickness** h_{min} **[mm]**
FIS A M8 (5.8)	60		100
		160	190
FIS A M10 (5.8)	60		100
		200	230
FIS A M12 (5.8)	70		100
		240	270
FIS A M16 (5.8)	80		116
		320	356
FIS A M20 (5.8)	90		138
		400	448

1) The partial safety factors for material resistance as regulated in the approval as well as a partial safety factor for load actions of γ_L = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s ≥ 3 x h_{ef} and an edge distance c ≥ 1,5 x h_{ef}.

2) Minimum possible axial spacings resp. edge distance while reducing the permissible load.

3) For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

The given loads are valid for fischer- safety screws[4] acc. attached table.			
		GB GREEN 8	**GB GREEN 10**
	[mm]	150 (100)[8]	200 (150)[8]
	[mm]	100 (75)[8]	150 (100)[8]
	[mm]	9	10
	[mm]	75	100
	[mm]	50	55
	[kg]	20	25
	[kg]	30	50
	[kg]	40	60

ceiling slaps is 150 mm. [6] Only in aerated concrete walls [7] Minimum possible axial spacing while reducing the recommended load. [8] Values in brackets apply to PB2, PP2 (G2).

sible loads for a single anchor[1, 5] in concrete C20/25[4] - For the design the complete approval ETA-14/0408 has to be considered.				
	Non-cracked concrete			
Max. torque moment	**Permissible tensile load**	**Permissible shear load**	**Min. spacing**	**Min. edge distance**
$T_{inst,max}$	N_{zul} [3]	V_{zul} [3]	s_{min} [2]	c_{min} [2]
[Nm]	**[kN]**	**[kN]**	**[mm]**	**[mm]**
10,0	6,3	5,1	40	40
10,0	9,0	5,1	40	40
20,0	7,5	8,6	45	45
20,0	13,8	8,6	45	45
40,0	9,9	12,0	55	55
40,0	20,5	12,0	55	55
60,0	13,6	22,3	65	65
60,0	37,6	22,3	65	65
120,0	16,8	34,9	85	85
120,0	58,6	34,9	85	85

4) For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

5) The given loads are valid for temperatures in the substrate up to +50 °C (resp. short term up to 80 °C). Erection of the drill hole by hammer drilling with best possible drill hole cleaning according approval. The anchor may be installed in dry or wet concrete.

Loads

Highest permissible loads for a single anchor[1) 6)].
For the design the complete approval ETA-14/0408 has to be considered.

Type	Compressive brick strength	Brick raw density	Minimum brick dimensions	Min. effective anchorage depth
	f_b [N/mm²]	ρ [kg/dm³]	(L x W x H) [mm]	h_{ef} [mm]
Injection system FIS GREEN in solid brick masonry with threaded rod FIS A[5)] for pre-positioned or push-through installation				
Solid brick Mz acc. EN 771-1				
M8	≥ 10	≥ 1,8	240x115x71	50
M10	≥ 10			50
M12	≥ 10			80
Solid sand-lime brick KS acc. EN 771-2				
M8	≥ 10	≥ 1,8	240x115x71	50
M10	≥ 10			50
M10	≥ 10			80
M12	≥ 10			80
Injection system FIS GREEN in perforated brick masonry for push-through installation with threaded rod FIS A and push-through anchor sleeve FIS HK				
Perforated sand-lime brick KSL acc. EN 771-2				
M10	≥ 8	≥ 1,4	240x175x113[7)]	130[4)]
M12	≥ 8			
M16	≥ 8			
Vertically perforated brick Hlz acc. EN 771-1				
M8/M10	≥ 12	≥ 0,9	240x175x113[7)]	130[4)]
M8/M10	≥ 12			
M8/M10	≥ 12			
Injection system FIS GREEN in aerated concrete masonry with threaded rod FIS A[5)] for pre-positioned or push-through installation				
Aerated concrete masonry				
M8	≥ 1,8	≥ 0,18	500x300x250	100
M10	≥ 1,8	≥ 0,18		100
M12	≥ 1,8	≥ 0,18		100
M16	≥ 1,8	≥ 0,18		100

1) The required partial safety factors for material resistance as well as a partial safety factor for load actions of $\gamma_L = 1{,}4$ are considered.
2) Minimum possible edge distance resp. axial spacing for anchor groups. For further measures e.g. the corresponding axial spacing for anchor groups or the minimum distance between anchor groups please see approval.
3) For combinations of tensile loads, shear loads, bending moments as well as reduced axial spacings (anchor groups) see approval.

Min. member thickness	Maximum torque	Permissible tensile load[3)]	Permissible shear load[3)]	Min. spacing[2)]	Min. edge distance[2)]
h_{min} [mm]	$T_{inst,max}$ [Nm]	N_{zul} [kN]	V_{zul} [kN]	s_{min} [mm]	c_{min} [mm]
115	10	0,86	0,71	150	100
		0,71	1,00	150	100
		1,14	1,00	150	100
115	10	0,86	1,14	150	100
		0,71	1,14	150	100
		0,86	1,14	240	100
		0,86	1,43	240	100
175	4,0	1,00	2,57	115	120
		0,57	2,14	115	120
		0,57	2,14	115	120
175	4,0	0,71	1,57	115	120
		0,57	1,71	115	120
		1,71	1,71	115	120
300	2,0	0,71	0,32	115	80
	4,0	0,71	0,32	115	80
	4,0	0,89	0,32	115	80
	4,0	0,89	0,43	115	80

4) The maximum anchorage depth is corresponding with the relevant anchor sleeves FIS HK (see technical data).
5) gvz, A4 and C.
6) The given loads are valid for installation and use of fixations in dry masonry for temperatures in the substrate up to +50 °C (resp. short term up to 80 °C) and drillhole cleaning according approval. The given brick types in combination with the permissible loads are only an extract of the approval.
7) Hole patterns see approval.

Our all-round service for you.

As a reliable partner we would be glad to provide you with advice and assistance at any time:

- Our products range from chemical systems and steel anchors to plastic dowels.
- Expertise and innovation through own research, development and production.
- Worldwide presence and active sales service in over 100 countries. You can find detailed information on the products and the fischer company group at www.fischer.de

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