

fischer FIS GREEN 300 T. Injection mortar with approval.

Advantages at a glance

- The first injection mortar made from renewable resources! Biobased 50-85%, certified by DIN CERTCO / TÜV Rheinland.
- Approved for many solid and perforated bricks as well as uncracked concrete.
- Can also be used outdoors.
- With EPD environmental declaration from the Institute for Construction and the Environment (Institut Bauen und Umwelt e. V.).
- Best-possible emission class A+ (according to French VOC directive).
- The product is non-hazardous and therefore does not display any hazardous substances symbols.
- Can be used with the extensive range of fischer accessories.



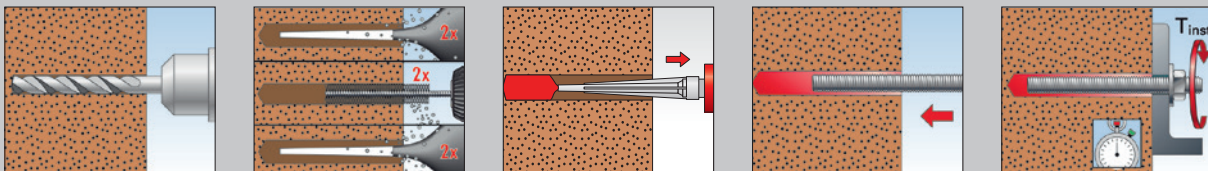
Anchor rod
FIS A

Internal threaded
anchor FIS E

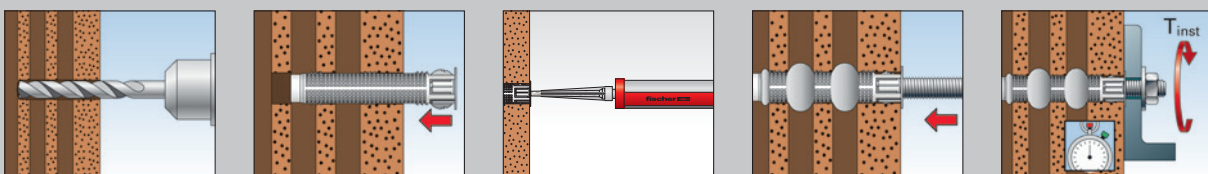
Injection anchor
sleeve FIS H K

Internal threaded
anchor RG M I

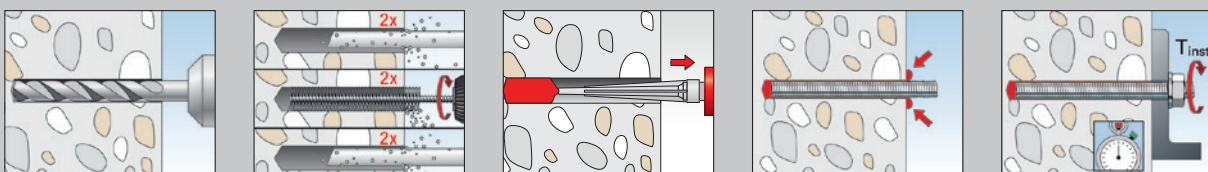
Application in solid brick



Application in perforated brick



Application in concrete



Applications.

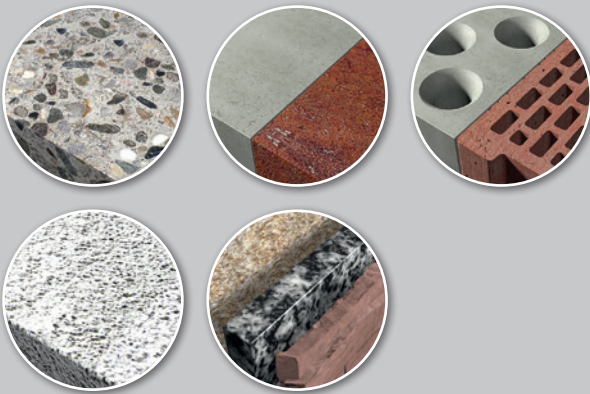
Test mark



The product is certified as per French directive (no. 2011-321 from 23/03/2011) on the labelling of building products for their indoor air emissions. The emissions are rated on a scale of A+ (very low emissions) to C (high emissions).



Recommendation



Approved for:

- Uncracked concrete
- Solid and vertically perforated bricks
- Sand-lime, solid and perforated bricks
- Aerated concrete

Suitable for:

- Hollow blocks made of normal weight concrete
- Natural stone

Typical anchoring solutions

Staircases



Building installation systems



- The injection mortar FIS GREEN is a two-component injection mortar with which high loads can be mounted in concrete, perforated and solid brick both indoors and outdoors.
- Typical applications are mounting kitchen and plumbing components, wood structures, outdoor facilities, canopies, awnings and much more.

Reconstruction of buildings



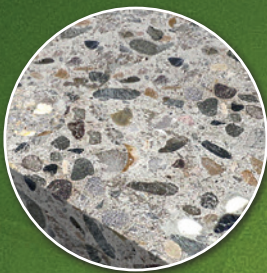
Garden grounds



Selection aid

Injection mortar FIS GREEN accessories.

Concrete



Dispenser unit KPM 2



+

Injection mortar
FIS GREEN 300 T



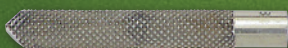
+

Injection anchor rod
FIS A

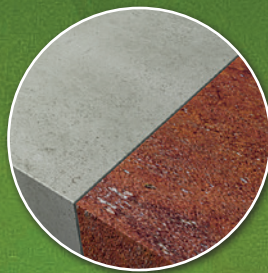


or

Internal threaded anchor
RG M I



Solid brick



Dispenser unit KPM 2



+

Injection mortar
FIS GREEN 300 T



+

Injection anchor rod
FIS A

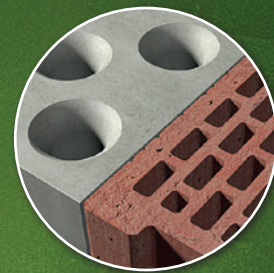


or

Internal threaded anchor
FIS E



Perforated building materials.



Dispenser unit KPM 2



+

Injection mortar
FIS GREEN 300 T



+

Injection anchor sleeve
FIS H K



+

Injection anchor rod FIS A



or

Internal threaded anchor FIS E



Loads.

FIS GREEN in concrete

Injection system FIS GREEN with threaded rod FIS A (property class 5.8)

Highest permissible loads for a single anchor^{1) 6)} in concrete C20/25⁴⁾

For the design the complete approval ETA-14/0408 has to be considered.

Type	Min. effective anchorage depth $h_{ef,min}$ [mm]	Max. effective anchorage depth $h_{ef,max}$ [mm]	Min. member thickness h_{min} [mm]	Max. torque moment $T_{inst,max}$ [Nm]	Non-cracked concrete			
					Permissible tensile load $N_{zul}^{3)}$ [kN]	Permissible shear load $V_{zul}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
					FIS A M8 (5.8)	60		100
		160	190	10,0	9,0	5,1	40	40
FIS A M10 (5.8)	60		100	20,0	7,5	8,6	45	45
		200	230	20,0	13,8	8,6	45	45
FIS A M12 (5.8)	70		100	40,0	9,9	12,0	55	55
		240	270	40,0	20,5	12,0	55	55
FIS A M16 (5.8)	80		116	60,0	13,6	22,3	65	65
		320	356	60,0	37,6	22,3	65	65
FIS A M20 (5.8)	90		138	120,0	16,8	34,9	85	85
		400	448	120,0	58,6	34,9	85	85

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

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.

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

6) 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.

FIS GREEN in concrete

Injection system FIS GREEN with threaded rod FIS A A4 (property class A4-70)

Highest permissible loads for a single anchor^{1) 6)} in concrete C20/25⁴⁾

For the design the complete approval ETA-14/0408 has to be considered.

Type	Min. effective anchorage depth $h_{ef,min}$ [mm]	Max. effective anchorage depth $h_{ef,max}$ [mm]	Min. member thickness h_{min} [mm]	Max. torque moment $T_{inst,max}$ [Nm]	Non-cracked concrete			
					Permissible tensile load $N_{zul}^{3)}$ [kN]	Permissible shear load $V_{zul}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
					FIS A M8 (A4-70)	60		100
		160	190	10,0	9,9	6,0	40	40
FIS A M10 (A4-70)	60		100	20,0	7,5	9,2	45	45
		200	230	20,0	15,7	9,2	45	45
FIS A M12 (A4-70)	70		100	40,0	9,9	13,7	55	55
		240	270	40,0	22,5	13,7	55	55
FIS A M16 (A4-70)	80		116	60,0	13,6	25,2	65	65
		320	356	60,0	42,0	25,2	65	65
FIS A M20 (A4-70)	90		138	120,0	16,8	39,4	85	85
		400	448	120,0	65,7	39,4	85	85

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

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.

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

6) 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.

FIS GREEN in concrete

Injection system FIS GREEN with threaded rod FIS A C (property class C-70)

Highest permissible loads for a single anchor^{1) 6)} in concrete C20/25⁴⁾

For the design the complete approval ETA-14/0408 has to be considered.

Type	Min. effective anchorage depth $h_{ef,min}$ [mm]	Max. effective anchorage depth $h_{ef,max}$ [mm]	Min. member thickness h_{min} [mm]	Max. torque moment $T_{inst,max}$ [Nm]	Non-cracked concrete			
					Permissible tensile load $N_{zul}^{3)}$ [kN]	Permissible shear load $V_{zul}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
FIS A M8 (C-70)	60		100	10,0	6,3	7,4	40	40
		160	190	10,0	12,4	7,4	40	40
FIS A M10 (C-70)	60		100	20,0	7,5	11,4	45	45
		200	230	20,0	19,5	11,4	45	45
FIS A M12 (C-70)	70		100	40,0	9,9	17,1	55	55
		240	270	40,0	28,1	17,1	55	55
FIS A M16 (C-70)	80		116	60,0	13,6	31,4	65	65
		320	356	60,0	52,4	31,4	65	65
FIS A M20 (C-70)	90		138	120,0	16,8	40,4	85	85
		400	448	120,0	74,8	49,1	85	85

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

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.

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

6) 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.

FIS GREEN in perforated brick masonry for push-through installation

Injection system FIS GREEN with threaded rod FIS A⁵⁾ and push-through anchor sleeve FIS HK

Highest permissible loads^{1) 6)} for a single anchor in perforated brick masonry for push-through installation.

For the design the complete approval ETA-10/0383 has to be considered.

Type	Compressive brick strength f_b [N/mm ²]	Brick raw density ρ [kg/dm ³]	Minimum brick dimensions ⁷⁾ (L x W x H) [mm]	Min. effective anchorage depth ⁴⁾ h_{ef} [mm]	Min. member thickness h_{min} [mm]	Maximum torque $T_{inst,max}$ [Nm]	Perforated brick masonry			
							Permissible tensile load ³⁾ N_{zul} [kN]	Permissible shear load ³⁾ V_{zul} [kN]	Min. spacing ²⁾ s_{min} [mm]	Min. edge distance ²⁾ c_{min} [mm]
Perforated sand-lime brick KSL acc. EN 771-2										
M10	≥ 8						1,00	2,57	115	120
M12	≥ 8	$\geq 1,4$	240x175x113	130	175	4,0	0,57	2,14	115	120
M16	≥ 8						0,57	2,14	115	120
Vertically perforated brick Hlz acc. EN 771-1										
M8/M10	≥ 12						0,71	1,57	115	120
M8/M10	≥ 12	$\geq 0,9$	240x175x113	130	175	4,0	0,57	1,71	115	120
M8/M10	≥ 12						1,71	1,71	115	120

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.

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.

Loads.

FIS GREEN in perforated brick masonry for pre-positioned installation

Injection system FIS GREEN with threaded rod FIS A⁵⁾ and anchor sleeve FIS HK

Highest permissible loads^{1) 6)} for a single anchor in perforated brick masonry for pre-positioned installation. For the design the complete approval has to be considered.

Type	Compressive brick strength		Minimum brick dimensions ⁷⁾ (L x W x H) ⁷⁾	Min. effective anchorage depth ⁴⁾ h _{ef} [mm]	Min. member thickness h _{min} [mm]	Maximum torque T _{inst,max} [Nm]	Perforated brick masonry			
	f _b [N/mm ²]	ρ [kg/dm ³]					Permissible tensile load ³⁾ N _{zul} [kN]	Permissible shear load ³⁾ V _{zul} [kN]	Min. spacing ²⁾ s _{min} [mm]	Min. edge distance ²⁾ c _{min} [mm]
Vertically perforated brick Hz acc. EN 771-1										
M8 / M10 / M12	≥ 8	≥ 1,4	230x106x55	85	106	4,0	0,57	0,71	55	100
M8	≥ 12	≥ 0,9	240x175x113	50	175	4,0	0,57	1,14	115	120
M8 / M10				85			0,57	1,57	115	120
M12 / M16				0,71			1,71	115	120	

1) The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_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.

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.

FIS GREEN in solid brick masonry for pre-positioned or push-through installation

Injection system FIS GREEN with threaded rod FIS A⁵⁾

Highest permissible loads^{1) 6)} for a single anchor in solid brick masonry for pre-positioned or push-through installation. For the design the complete approval has to be considered.

Type	Compressive brick strength		Minimum brick dimensions (L x W x H)	Min. effective anchorage depth h _{ef} [mm]	Min. member thickness h _{min} [mm]	Maximum torque T _{inst,max} [Nm]	Solid brick masonry							
	f _b [N/mm ²]	ρ [kg/dm ³]					Permissible tensile load ³⁾ N _{zul} [kN]	Permissible shear load ³⁾ V _{zul} [kN]	Min. spacing ²⁾ s _{min} [mm]	Min. edge distance ²⁾ c _{min} [mm]				
											Brick raw density	Brick raw density	Brick raw density	Brick raw density
Solid brick Mz acc. EN 771-1														
M8	≥ 10	≥ 1,8	240x115x71	50	115	10	0,86	0,71	150	100				
M10	≥ 10			50			0,71	1,00	150	100				
M12	≥ 10			80			1,14	1,00	150	100				
M8	≥ 20			50			1,14	1,14	150	100				
M10	≥ 20			50			1,14	1,43	150	100				
M12	≥ 20			80			1,71	1,29	150	100				
M8	≥ 16		230x108x55	50	108	10	0,57	1,14	150	100				
M10	≥ 16			50			0,71	1,57	150	100				
M12	≥ 16			50			0,86	1,57	150	100				
Solid sand-lime brick KS acc. EN 771-2														
M8	≥ 10			≥ 1,8			240x115x71	50	115	10	0,86	1,14	150	100
M10	≥ 10							50			0,71	1,14	150	100
M10	≥ 10	80	0,86		1,14	240		100						
M12	≥ 10	80	0,86		1,43	240		100						
M8	≥ 20	50	1,14		1,57	150		100						
M10	≥ 20	50	1,00		1,57	150		100						
M10	≥ 20	80	1,29		1,57	240		100						
M12	≥ 20	80	1,29		2,00	240		100						

1) The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_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.

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.

Loads.

FIS GREEN in aerated concrete masonry for pre-positioned or push-through installation

Injection system FIS GREEN with threaded rod FIS A⁵⁾

Highest permissible loads^{1) 6)} for a single anchor in aerated concrete masonry for pre-positioned or push-through installation. For the design the complete approval has to be considered.

Type	Compressive brick strength f_b [N/mm ²]	Brick raw density ρ [kg/dm ³]	Minimum brick dimensions (L x W x H) [mm]	Min. effective anchorage depth h_{ef} [mm]	Min. member thickness h_{min} [mm]	Maximum torque $T_{inst,max}$ [Nm]	Aerated concrete			
							Permissible tensile load ³⁾ N_{zul} [kN]	Permissible shear load ³⁾ V_{zul} [kN]	Min. spacing ²⁾ s_{min} [mm]	Min. edge distance ²⁾ c_{min} [mm]
Aerated concrete blocks										
M8	≥ 1,8	≥ 0,18	500x300x250	100	300	2,0	0,71	0,32	115	80
M10	≥ 1,8	≥ 0,18		100		4,0	0,71	0,32	115	80
M12	≥ 1,8	≥ 0,18		100		4,0	0,89	0,32	115	80
M16	≥ 1,8	≥ 0,18		100		4,0	0,89	0,43	115	80
M8	≥ 4,0	≥ 0,35		100		2,0	0,89	0,54	115	80
M10	≥ 4,0	≥ 0,35		100		4,0	1,07	0,54	115	80
M12	≥ 4,0	≥ 0,35		100		4,0	1,07	0,54	115	80
M16	≥ 4,0	≥ 0,35		100		4,0	0,89	0,54	115	80
M8	≥ 5,4	≥ 0,54		100		2,0	1,25	0,89	115	80
M10	≥ 5,4	≥ 0,54		100		4,0	1,43	0,89	115	80
M12	≥ 5,4	≥ 0,54		100		4,0	1,43	0,89	115	80
M16	≥ 5,4	≥ 0,54		100		4,0	1,07	0,71	115	80

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.

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.

FIS GREEN in solid brick masonry for pre-positioned installation

Injection system FIS GREEN with threaded rod FIS A⁵⁾ and anchor sleeve FIS HK

Highest permissible loads^{1) 6)} for a single anchor in solid brick masonry for pre-positioned installation. For the design the complete approval has to be considered.

Type	Compressive brick strength f_b [N/mm ²]	Brick raw density ρ [kg/dm ³]	Minimum brick dimensions (L x W x H) [mm]	Min. effective anchorage depth ⁴⁾ h_{ef} [mm]	Min. member thickness h_{min} [mm]	Maximum torque $T_{inst,max}$ [Nm]	Solid brick masonry			
							Permissible tensile load ³⁾ N_{zul} [kN]	Permissible shear load ³⁾ V_{zul} [kN]	Min. spacing ²⁾ s_{min} [mm]	Min. edge distance ²⁾ c_{min} [mm]
Solid sand-lime brick KS acc. EN 771-2										
M8/M10	≥ 20	≥ 1,8	240x115x113	85	115	10	0,86	1,86	230	100
M12/M16							2,29	1,86	230	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.

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.