

# Loads

Permissible loads <sup>1)</sup> in kN for a single anchor							
Anchor type	Anchorage depth h <sub>ef</sub> [mm]	Aircrete blocks		Non-cracked aircrete panels (wall, ceiling and roof panels)		Cracked aircrete panels (wall, ceiling and roof panels)	
Minimum compressive strength f <sub>b</sub> [N/mm²]		2	4	3.3	4.4	3.3	4.4
Injection system FIS V							
FIS V in conical drill hole (ETA-10/0383), with cone drill PBB, valid for temperature range -40 °C to +80 °C and dry masonry (d/d)							
M8, M10 and M12	75	0.71, (0.89) <sup>2)</sup>	1.07, (1.61) <sup>2)</sup>	For anchorage in non-cracked aircrete panels, the values from the aircrete blocks column can be used as "recommended loads".		-	-
M8, M10 and M12	95	0.89, (0.89) <sup>2)</sup>	1.25, (1.61) <sup>2)</sup>			-	-
FIS E 11x85 M6, FIS E 11x85 M8	85	0.71, (0.89) <sup>2)</sup>	1.07, (1.61) <sup>2)</sup>			-	-
Injection system FIS V							
FIS V in cylindrical drill hole (ETA-10/0383), , valid for temperature range -40 °C to +80 °C and dry masonry (d/d)							
M6	100	0.54, (0.43) <sup>2)</sup>	0.54, (0.71) <sup>2)</sup>	For anchorage in non-cracked aircrete panels, the values from the aircrete blocks column can be used as "recommended loads".		-	-
M8	100	0.54, (0.43) <sup>2)</sup>	0.71, (0.71) <sup>2)</sup>			-	-
M10	100	0.54, (0.43) <sup>2)</sup>	1.07, (0.71) <sup>2)</sup>			-	-
M12	100	0.71, (0.54) <sup>2)</sup>	0.89, (0.89) <sup>2)</sup>			-	-
M16	100	0.71, (0.43) <sup>2)</sup>	0.71, (0.71) <sup>2)</sup>			-	-
FIS E 11x85	85	0.54, (0.43) <sup>2)</sup>	0.71, (0.71) <sup>2)</sup>			-	-
FIS E 15x85	85	0.54, (0.43) <sup>2)</sup>	0.54, (0.71) <sup>2)</sup>			-	-
When dimensioning, observe the approval certificate ETA-10/0383 in its entirety. Permissible edge distances and spacing and the minimum member thickness h <sub>min</sub> should be taken from the approval.							
Aircrete anchor FPX-I (ETA-12/0456)							
M6-M12	70	0.40	0.89	0.80	1.20	0.60	0.80
When dimensioning, observe the approval certificate ETA-12/0456 in its entirety. Permissible edge distances and spacing and the minimum member thickness h <sub>min</sub> should be taken from the approval.							
Frame fixing SXRL 10 (ETA-07/0121), SXRL 14 (ETA-14/0297)							
SXRL 10	70	0.27	0.71	For anchorage in non-cracked aircrete panels, the values from the aircrete blocks column can be used as "recommended loads".		-	-
SXRL 10	90	0.32	0.89			-	-
SXRL 14	70	0.32	0.89			-	-
SXRL 14	90	0.43	1.07			-	-
When dimensioning, observe the approval certificates ETA-07/0121 and ETA-14/0297 in their entirety. Permissible edge distances and spacing and the minimum member thickness h <sub>min</sub> should be taken from the approval.							
Aircrete anchor GB with fischer safety screw (Z-21.2-123)							
GB 8	50	0.20	0.40	For anchorage in non-cracked aircrete panels, the values from the aircrete blocks column can be used as "recommended loads".		-	-
GB 10	55	0.25	0.60			-	-
GB 14	75	0.40	0.90			0.30	0.30
When dimensioning, observe the approval certificate Z.21.2-123 in its entirety. Permissible edge distances and spacing and the minimum member thickness h <sub>min</sub> should be taken from the approval.							
Recommended loads <sup>3), 4), 5)</sup> for a single anchor universal anchor UX (without approval)							
UX 6x50	50	0.06	0.20	0.08	0.20	-	-
UX 8x50	50	0.11	0.30	0.15	0.30	-	-
UX 10x60	60	0.16	0.40	0.22	0.40	-	-

<sup>1)</sup> The partial safety factors of the resistances and a partial safety factor of the effect of F = 1.4, which are regulated in the approval, are considered.

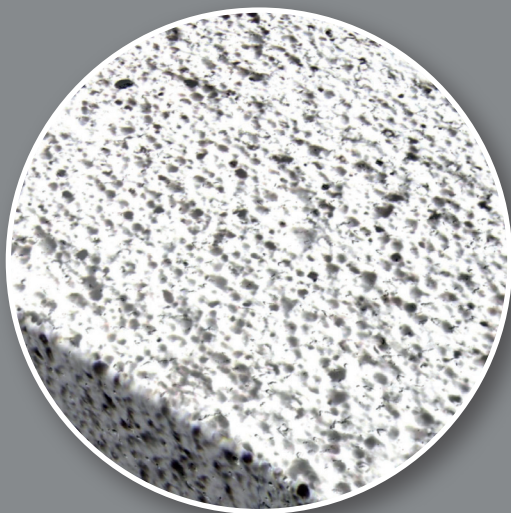
<sup>2)</sup> Values in brackets apply for the approved shear load, see ETA-10/0383

<sup>3)</sup> Applies to tension load, shear load and diagonal pull under each angle

<sup>4)</sup> Contains safety factor 7

<sup>5)</sup> Load values apply when using with wood screws:  
UX 6 with screw diameter 5 mm  
UX 8 with screw diameter 6 mm  
UX 10 with screw diameter 8 mm

## What is aircrete?



The building material "aircrete" is commonly known as aerated concrete. Aircrete is a solid building material with porous microstructures; the building material has a lot of pores (air pockets) and a low compressive strength. Aircrete has the disadvantage that it takes on moisture a lot quicker than it releases it; as such, external walls made from aircrete must always be covered with a layer of plaster or a different "skin".

As a result of the low compressive strength and the porous microstructures, special care should be taken when drilling holes and cleaning drill holes.

Special anchors should be used for the best anchorage in aircrete, e.g. anchors with a long expansion part (SXRL 10 or 14) or anchors with interlocking or adhesive bonds (FPX-I or FIS V injection systems).

## Our all-round service for you.



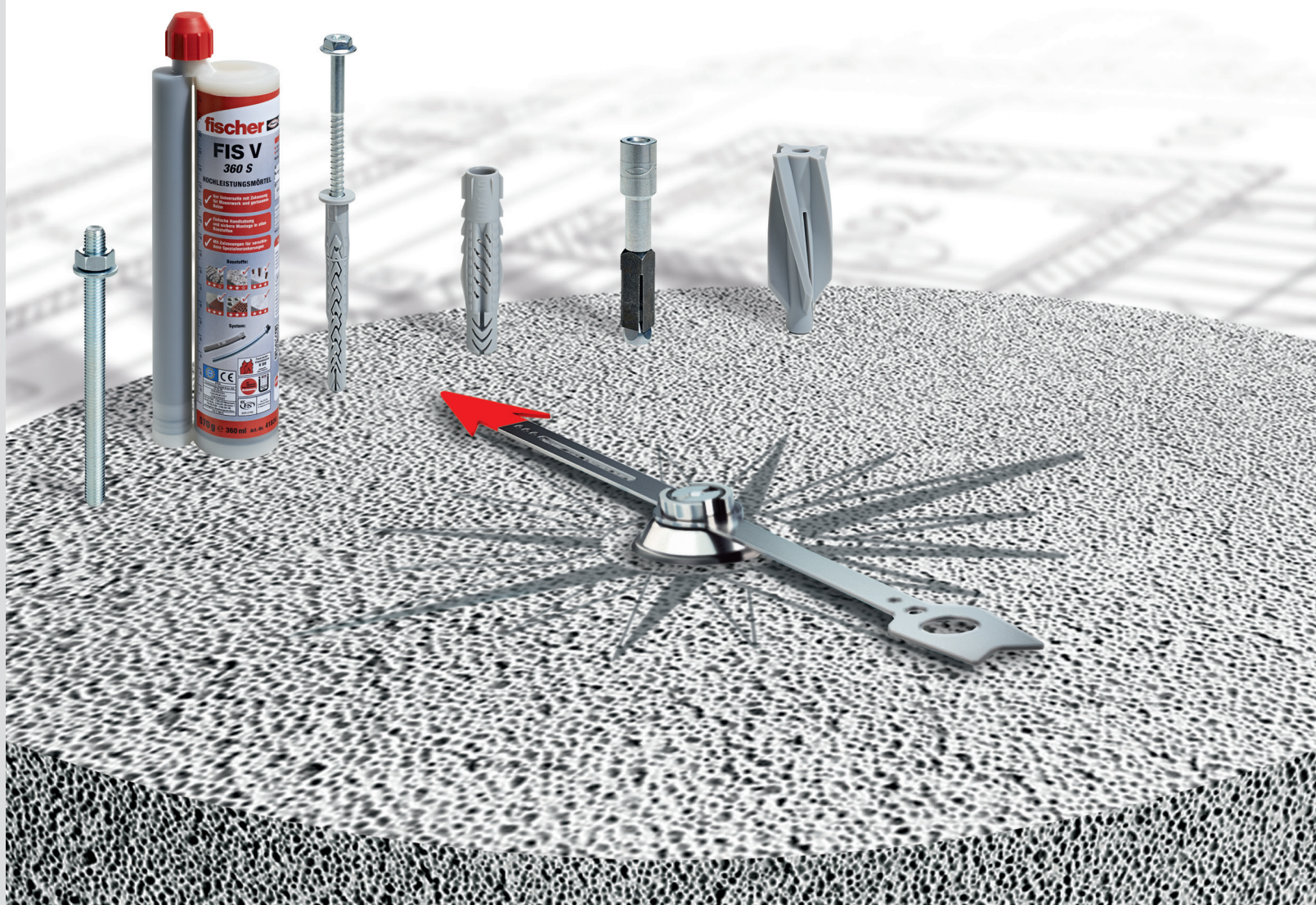
We are a reliable partner, one that will stand by your side and address your individual requirements with advice and action:

- Our products range from chemical systems and steel anchors to plastic anchors.
- Competence and innovation through own research and development.
- Global presence and active sales service in more than 100 countries.
- Qualified application-specific advice for economic installation solutions that are compliant with directives. If need be we are there for you – even at the construction site.
- Training measures (some with certification) at your premises or at the fischer ACADEMY.
- Construction and design software for challenging fixings.

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*innovative solutions*





# fischer fixing compass Aircrete.



**fischer**   
innovative solutions





# Our aircrete professionals safely ensure the very best hold.

## Injection system FIS V

Our strongest solution for aircrete.

Maximum load-bearing capacity

Conical drill hole: 1.25 kN (125 kg)

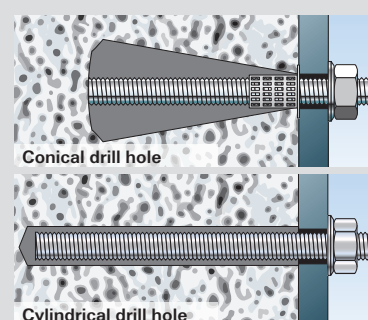


Cylindrical drill hole: 1.07 kN (107 kg)



fischer high-performance mortar FIS V – bonds the anchor part to a conical or cylindrical drill hole in the aircrete and allows for heavy loads

- Highest loads in conical undercut drill holes – use fischer cone drill bit
- Reduced load-bearing capacity in cylindrical drill holes – use standard drill bit – push-through installation possible
- Non-bearing plaster layers can be easily bridged
- Approved for aircrete masonry
- Full load-bearing capacity after mortar curing time – *HIGH SPEED* mortar after just 30 minutes

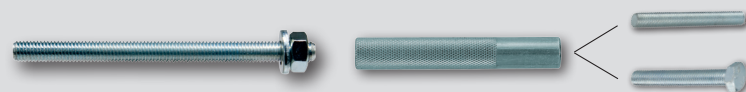


Conical drill hole

Cylindrical drill hole

### Designs

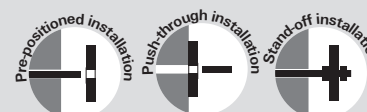
System can be used with:



Metric anchor rod FIS A for internal and external use

Metric internal thread anchor FIS E for internal use with metric screws and anchor rods

### Type of installation



Cone drill PBB to create an undercut

## Aircrete anchor FPX-I

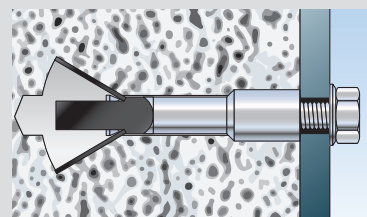
The instantly and high load-bearing internal thread professional for aircrete.

Maximum load-bearing capacity: 1.20 kN (120 kg)



fischer aircrete anchor FPX-I with internal thread – ensures a strong hold thanks to the self-undercutting technology

- High loads thanks to the self-undercutting technology – the drill hole is created with a standard drill bit
- Simple and innovative screw installation with automatic setting control
- Approved for aircrete masonry and aircrete ceiling panels
- Can be loaded immediately after installation



### Type



Aircrete anchor FPX-I with metric internal thread for indoor applications with metric screws and anchor rods

### Type of installation



## Aircrete anchor GB

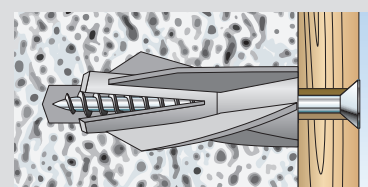
The special anchor for aircrete with simple hammer-set installation.

Maximum load-bearing capacity: 0.90 kN (90 kg)

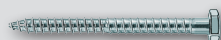


**fischer aircrete GB – the special anchor geometry allows for a form locking and ideal pressure distribution.**

- Medium loads through optimum pressure distribution in aircrete
- Simple hammer-set installation with a hammer
- Spiral-shaped outer ribs, cut deeply into the aircrete
- Ideal for non-plastered surfaces
- Approval with the fischer safety screw for aircrete masonry and aircrete ceiling panels (only GB 14)
- Can be loaded immediately after installation



### Designs



Aircrete anchor GB for use with fischer screws or conventional wood screws

### Type of installation



## Frame fixing SXRL

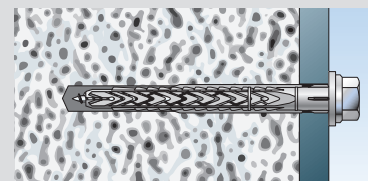
The simple solution for push-through installation in aircrete.

Maximum load-bearing capacity: 1.07 kN (107 kg)



**fischer frame fixing SXRL – the long expansion part offers an even load distribution in the aircrete and, therefore, a high load-bearing capacity**

- High loads through long, powerful expansion part
- Pre-assembled set comprising fixing sleeve and safety screw
- Quick and easy push-through installation
- Approved for the anchorage of multiple fixings, e.g. façade sub-structures
- Can be loaded immediately after installation



### Designs



Frame fixing SXRL-T for timber constructions

Frame fixing SXRL-FUS for metal constructions

### Type of installation



## Universal fixing UX

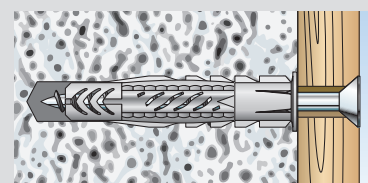
The universal solution in aircrete.

Maximum load-bearing capacity: 0.40 kN (40 kg)

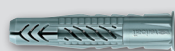


**fischer universal fixing UX – the universal expansion part ideally adapts to the building material for lightweight loads**

- Good load-bearing capacity with low anchorage depth thanks to the universal expansion part
- Quick and easy installation
- Can be loaded immediately after installation

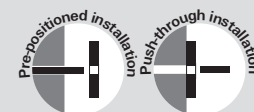


### Designs












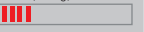


Universal fixing UX with or without edge for the use of screws, hooks and eyes in gvz. and A4.

### Type of installation



# The right fixing for every application.

Designation	fischer Injection system FIS V		fischer aircrete anchor FPX-I	fischer frame fixing SXRL		fischer aircrete anchor GB	fischer universal fixing UX
	in undercut drill hole	in cylindrical drill hole		14	10		
Illustration							
Possible max. load	1.25 kN (125 kg) 	1.07 kN (107 kg) 	1.20 kN (120 kg) 	1.07 kN (107 kg) 	0.89 kN (89 kg) 	0.90 kN (90 kg) 	0.40 kN (40 kg) 
Approval	Single point fixing	Single point fixing	Single point fixing	Multiple fixing	Multiple fixing	Single point fixing	No approval
Functionality	Undercut (bonded)	Bonded	Undercut	Expansion	Expansion	Interlocking	Expansion
Application Ceiling with approval	No	No	Yes	No	No	Yes, with GB 14 and fischer safety screw	No
Application out- doors	Yes, with anchor rod A4	Yes, with anchor rod A4	No	Yes, with screw A4	Yes, with screw A4	Yes, with screw A4	Yes, with screw A4
Pre-positioned installation	Yes	Yes	Yes	No	No	Yes	Yes
Push-through installation	No	Yes, with annular gap filling	No	Yes	Yes	No	Yes
Offset installation	Yes	Yes	Yes	No	No	No	No
Type of connec- tion	External and internal thread	External and internal thread	internal thread	Safety screw	Safety screw	Safety screw	Chipboard screw
Usage length (conditional)	Anchor rod length	Anchor rod length	Anchor rod length	up to 290 mm	up to 220 mm	up to 100 mm	screw length
Anchorage depth	75 mm and 95 mm	100 mm	70 mm	70 mm and 90 mm	70 mm and 90 mm	Depends on the anchor size	Depends on the anchor size

## Please note

Loading capacity	Note curing time	Note curing time	Instantly load-bearing	Instantly load-bearing	Instantly load-bearing	Instantly load-bearing	Instantly load-bearing
Installation	Sophisticated installation, accessories like cone bolt required	Sophisticated installation, accessories required	Simple installation with setting control	Simple and quick installation.	Simple and quick installation.	Simple hammer-set installation	Simple and quick installation
Installation through tiles	Yes	Yes	Yes, if the tiles are drilled out larger	Yes	Yes	No	Yes
Removal	Surface-flush removal with internal thread anchor	Surface-flush removal with internal thread anchor	Surface-flush removal	Surface-flush removal	Surface-flush removal	Surface-flush removal	Surface-flush removal

## Application examples

- Canopies - Awnings - Cable trays on the wall - Cantilever arms	- Suspended ceilings - Pipelines on the ceiling - Hand rails - Wall cabinets	- Wood façade sub-structures - Aluminium façade sub-structures - Wall cabinets - Fixing of wooden beams	- Pipe fixings - Shelf fixings - Trellis - Screen mountings - Suspended ceilings (GB 14)	- Lighting, lamps - Small shelves - Towel rails - Mirror cabinets
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