Sika AnchorFix® -1

Fast Curing Anchoring Adhesive

Description

Sika AnchorFix-1 is a solvent and styrene free polyester based two-component anchoring adhesive. The two parts found within a single cartridge and are mixed in one action through a static mixing nozzle.

Uses

Sika AnchorFix-1 can be used as a fast curing anchoring adhesive for:

- Reinforced bar.
- Threaded rods.
- Anchor bolts.
- Fastening systems.

It can be used to install these fixtures into:

- Concrete.
- Hard natural stone.
- Solid rock.
- Hollow and solid masonry.

Advantages

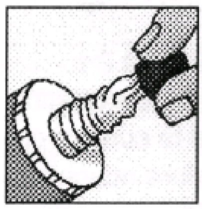
- Static mixing nozzle means more consistent mixing.
- Fast curing (as low as 25 minutes).
- Styrene and solvent free.
- Easy to apply using a standard cartridge gun.
- Can be used close to concrete edges and for close anchor spacing.

Storage and Shelf Life

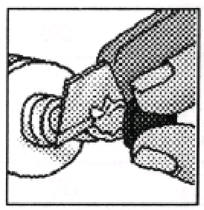
Minimum shelf life is approximately 12 months. Store under controlled conditions in original unopened containers. Store between 0°C and 20°C and out of direct sunlight.

Instructions for Use

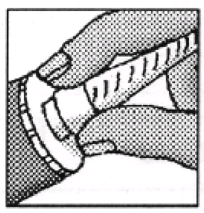
Mixing



Unscrew the cap and pull the red plug out (leaving the plastic attached).



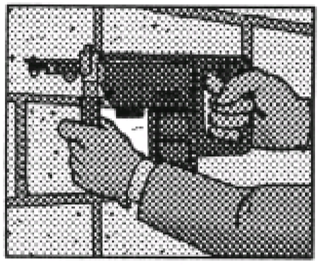
Cut the film to remove the red plug.



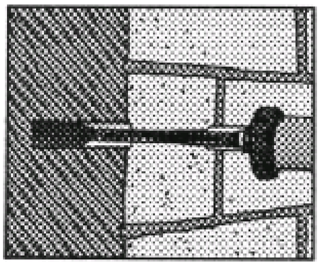
Attach the mixer nozzle to the end of the cartridge and insert the cartridge into the applicator gun. Dispense the material until an even colour is achieved.

Construction

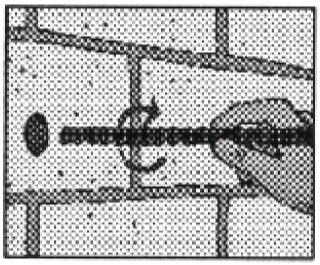
Installation to solid substrates



Drill correct diameter hole to recommended depth. Clean the hole thoroughly with a nylon brush. Remove any debris using compressed air, hand pump, vacuum pump etc.

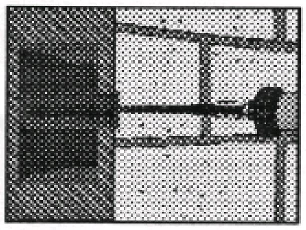


Insert mixer nozzle to far end of hole and inject the material.

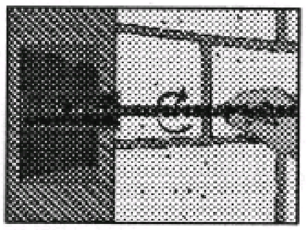


Insert the fixing immediately to the bottom of the hole using a slow twisting motion. Allow the material to cure as per the recommendations before attaching fixings and applying loads.

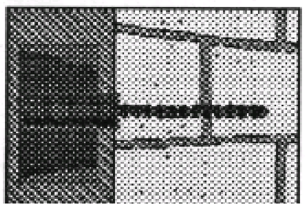
Installation to hollow substrates



Drill the hole and insert correct perforated sleeve. Insert the mixer nozzle to the far end of the sleeve and completely fill the sleeve with resin.



Insert the fixing into the sleeve slowly using a slight twisting motion. A solid body of resin mortar is perforated through the sleeve behind the block.



Allow the material to cure as per the recommendations before attaching fixings and applying loads.

Technical Data (Typical)

Colour	Light grey when mixed
Consistency	Creamy paste when mixed
Application Temperature	Between 5°C and 30°C (substrate and ambient)
Density	1.6kg/litre (mixed)

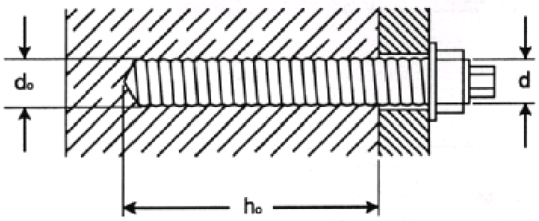
Curing

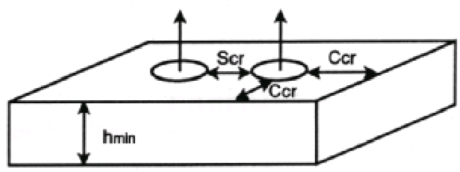
Application Temperature	Gel Time	Curing Time
30°C	3 min	25 min
20°C	7 min	50 min
10°C	22 min	150 min
5°C	50 min	200 min

Compressive Strength	>40MPa after 4 hours >50MPa after 7 days
Flexural Strength	>18MPa after 7 days
Tensile Strength	>7MPa after 7 days
Packaging	300ml net proportioned cartridge packs (12 cartridges per box)

Load Capacity

Load capacity data for all thread studs





Stud Diameter d (mm)	Hole Diameter d_o (mm)	Hole Depth h_o (mm)	Required close edge distance to achieve N_{rec} c_{cr} (mm)	Required anchor spacing to achieve N_{rec} s_{cr} (mm)	Min. concrete member thickness b_{min} (mm)	Characteristic load in min. 30N/mm^2 Concrete N_{RK} (Kn)	Recommended load in min. 30N/mm² concrete N_{rec} (kn)
8	10	80	120	80	110	14.9	5.0
10	12	90	135	90	120	24.8	8.2
12	14	110	165	110	140	31.3	10.4
16	18	125	190	125	165	44.0	14.7
20	24	170	255	170	220	63.2	21.6
24	26	210	315	210	270	80.3	26.5

Load capacity data for reinforcing bar anchors

Bar diameter (mm)	6	8	10	12	16	20	25	32
Hole diameter (mm)	8	10	12	14	20	25	32	38

Equation for tensile load capacity

$$\frac{hef - 50}{2.5} = N_{RK}$$

Equation for close spacing reduction factors in tension and shear

Rfa = 0.4 + [0.8 (8 (mm) / hef (mm))]
when [C (mm) / hef (mm)] $\geq$0.28

Equation for shear load capacity

$$\frac{hef.do.fcm.0.5}{1000} = V_{RK}$$

Equation for close edge distance reduction factors in tension only

RfcN = 0.4 + [0.4 (C (mm) / hef (mm))]
when [C (mm) / hef (mm)] $\geq$0.5

Equation for close edge distance reduction factors in shear only

RfcV = 0.25 + [0.8 (C (mm) / hef (mm))]
when [C (mm) / hef (mm)] $\geq$0.8

h_{ef} = effective anchorage depth (mm)
N_{RK} = anchor characteristic load under tension (kN)
VRK = anchor characteristic load under shear (kN)
do = hole diameter (mm)
fcm = concrete compressive strength (N/mm^2)
S = distance between anchors (mm)
C = distance of anchor from free edge (mm)

Construction

Important Notes	• Sika AnchorFix-1 can withstand prolonged temperatures between +50°C and -40°C. • The curing time for Sika AnchorFix-1 is the time after which the anchor has a large proportion of it's ultimate load capacity. The strength of the anchor will increase after the loading time but it has sufficient capacity to be put into service after this time. • For details of the accessories required for Sika AnchorFix-1 please contact your Sika Sales Office.
Handling Precautions	• Avoid contact with skin, eyes and avoid breathing it's vapour. • Wear protective gloves when mixing or using this product. • If poisoning occurs, contact a doctor or the Poisons Information Centre. • If swallowed, do NOT induce vomiting. Give a glass of water. • If skin contact occurs, wash immediately and thoroughly with soap and water. • If in contact with the eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor. • A full material safety data sheet is available from Sika on request.
Important Notification	The information, and, in particular, the recommendations relating to the application and end-use of Sika's products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. . In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request. PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.

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