

## PRODUCT DATA SHEET

# Sika AnchorFix® S

Universal, two component adhesive anchoring adhesive

### PRODUCT DESCRIPTION

Sika AnchorFix® S is a polyester based, 2-component, contractor 6-pack (not sold individually), universal anchoring adhesive.

### USES

Sika AnchorFix® S may only be used by experienced professionals.

As a fast curing anchoring adhesive for all grades of:

- Rebars / reinforcing steel
- Threaded rods
- Bolts and special fastening systems
- Concrete
- Solid masonry
- Hard natural stone\*
- Solid rock\*

\* These substrates may vary greatly, in particular with regard to strength, composition and porosity. Therefore, for each application the suitability of Sika Sika AnchorFix® S adhesive must be tested by first applying the Product only to a sample area. Check in particular bond strength, surface staining and discolouration.

### CHARACTERISTICS / ADVANTAGES

- Fast curing
- Non-sag, even overhead
- Low wastage
- Multipurpose

### PRODUCT INFORMATION

<b>Packaging</b>	10 fl.oz. (299 ml) cartridge
<b>Shelf Life</b>	12 months from date of production All Sika AnchorFix® S cartridges have the expiry date printed on the label.
<b>Storage Conditions</b>	Cartridges should be stored in their original packaging, the correct way up, in cool conditions between 41 °F to 77 °F (5 to 25 °C) out of direct sunlight.

# TECHNICAL INFORMATION

## Tensile Adhesion Strength

Anchor Diameter / Rebar	Drill Bit Diameter	Allowable Concrete Capacity / Bond Strength					
		Tension (lb)			Shear (lb)		
		$f'_c = 2,500$ psi (17.2 N/mm <sup>2</sup> )	$f'_c = 4,000$ psi (27.6 N/mm <sup>2</sup> )	$f'_c = 8,000$ psi (55.2 N/mm <sup>2</sup> )	$f'_c = 2,500$ psi (17.2 N/mm <sup>2</sup> )	$f'_c = 4,000$ psi (27.6 N/mm <sup>2</sup> )	$f'_c = 8,000$ psi (55.2 N/mm <sup>2</sup> )
5/16"	3/8"	1,070 (4.8)	1,120 (5.0)	1,200 (5.4)	1,425 (6.4)	1,495 (6.7)	1,605 (7.2)
		1,340 (6.0)	1,400 (6.3)	1,505 (6.8)	1,785 (8.0)	1,870 (8.4)	2,005 (9.0)
		1,605 (7.2)	1,680 (7.6)	1,805 (8.1)	2,140 (9.6)	2,245 (10.1)	2,405 (10.8)
3/8" No. 3	1/2"	1,435 (6.5)	1,505 (6.8)	1,610 (7.3)	1,915 (8.6)	2,005 (9.0)	2,150 (9.7)
		1,795 (8.1)	1,880 (8.5)	2,015 (9.1)	2,390 (10.8)	2,505 (11.3)	2,685 (12.1)
		2,155 (9.7)	2,255 (10.2)	2,420 (10.9)	2,870 (12.9)	3,010 (13.5)	3,225 (14.5)
1/2" No. 4	9/16" 5/8"	2,715 (12.2)	2,845 (12.8)	3,050 (13.7)	3,620 (16.3)	3,795 (17.1)	4,065 (18.3)
		3,395 (15.3)	3,555 (16.0)	3,810 (17.2)	4,525 (20.6)	4,740 (21.3)	5,080 (22.9)
		4,075 (18.3)	4,265 (19.2)	4,575 (20.6)	5,430 (24.4)	5,690 (25.6)	6,100 (27.4)
5/8" No. 5	1 1/16" 3/4"	3,870 (17.4)	4,055 (18.2)	4,345 (19.6)	5,155 (23.2)	5,405 (24.3)	5,795 (26.1)
		4,640 (20.9)	4,865 (21.9)	5,215 (23.5)	6,190 (27.9)	6,485 (29.2)	6,950 (31.3)
		5,415 (24.4)	5,675 (25.5)	6,085 (27.4)	7,220 (32.5)	7,570 (34.1)	8,110 (36.5)
3/4" No. 6	1 3/16" 7/8"	4,610 (20.7)	4,830 (21.7)	5,175 (23.3)	6,145 (27.7)	6,440 (29.0)	6,905 (31.1)
		5,760 (25.9)	6,040 (27.2)	6,470 (29.1)	7,680 (34.6)	8,050 (36.2)	8,630 (38.8)
		6,915 (31.1)	7,245 (32.6)	7,765 (34.9)	9,215 (41.5)	9,660 (43.5)	10,355 (46.6)
1" No. 8	1-1/16" 1-1/8"	7,490 (33.7)	7,850 (35.3)	8,415 (37.9)	9,985 (44.9)	10,465 (47.1)	11,220 (50.5)
		9,360 (42.1)	9,810 (44.2)	10,515 (47.3)	12,485 (56.2)	13,085 (58.9)	14,020 (63.1)
		11,235 (50.6)	11,775 (53.0)	12,620 (56.8)	14,980 (67.4)	15,700 (70.7)	16,825 (75.7)

- The above values represent guideline Allowable Concrete Capacity / Bond Strength working loads based on the adhesive's ability to bond to solid, normal weight concrete when anchor holes are drilled using the recommended drill bit diameter and properly cleaned. Allowable Concrete Capacity / Bond Strength working load values have been reduced using a safety factor of 4.0 in Tension and 3.0 in Shear, applied to the Average Ultimate values. Average Ultimate values were determined by physical testing of cured adhesive anchor samples using ASTM A 193 B7 carbon steel threaded rods. In some critical cases, such as life safety applications, a safety factor of 10.0 or higher may be necessary. Appropriate safety factors must be determined by the responsible, qualified design professional in charge of the actual product installation.
- Allowable Concrete Capacity / Bond Strength working load values must be checked against the Allowable Steel Strength values. The lowest value governs as the allowable performance value of the anchor assembly.
- Tabulated data is applicable to single anchors in normal weight concrete unaffected by potential Edge Distance and/or Anchor Spacing reduction factors. Allowable Concrete Capacity / Bond Strength working load values are valid for anchors installed into dry, uncracked concrete after anchor holes are drilled using a rotary hammer drill and carbide-tipped drill bits meeting ANSI Standard B212.15.
- In-service temperature conditions should remain relatively constant. The maximum recommended long term, ambient and substrate temperature is 122 °F (50 °C) and the maximum recommended short term ambient and substrate temperature is 176 °F (80 °C). Short term ambient and substrate temperatures are those that occur over brief intervals, such as thermal cycling or temporary temperature fluctuations over a 24 hour period.
- Linear interpolation of values is permitted between published embedment depths and/or between typical concrete compressive strengths. Extrapolation of values outside of the range of published Allowable Concrete Capacity / Bond Strength working load values is not permitted.
- As in all applications, adhesive anchor performance data must ultimately be interpreted, reviewed and approved by the responsible, qualified design professional in charge of the actual product installation.

### Service Temperature

Long term	40 °F (4 °C) min. / 122 °F (50 °C) max.	(ETAG 001, Part 5)
Short term (1–2 hours)	176 °F (80 °C)	

# SYSTEM INFORMATION

## System Structure

Installation Specification								
Property	Symbol	Unit						
Threaded Rod Diameter	d	in (mm)	5/16 (8)	3/8 (10)	1/2 (12)	5/8 (16)	3/4 (20)	1 (24)
Drill Bit Diameter (preferred)	d <sub>o</sub>	in (mm)	3/8 (10)	1/2 (12)	9/16 (14)	11/16 (18)	13/16 (22)	1-1/16 (28)
Drill Bit Diameter (maximum)	d <sub>b</sub>	in (mm)	3/8 (10)	1/2 (12)	5/8 (16)	3/4 (20)	7/8 (22)	1-1/8 (28)
Rebar Size	d	in (mm)	-	No. 3 (10)	No. 4 (12)	No. 5 (16)	No. 6 (20)	No. 8 (24)
Drill Bit Diameter (preferred)	d <sub>o</sub>	in (mm)	-	1/2 (12)	9/16 (14)	11/16 (18)	13/16 (22)	1-1/16 (28)
Drill Bit Diameter (maximum)	d <sub>b</sub>	in (mm)	-	1/2 (12)	5/8 (16)	3/4 (20)	7/8 (22)	1-1/8 (28)
Cleaning Brush Size		in (mm)	1/2 (14)		3/4 (20)		1-1/8 (28)	
Min. Concrete Thickness	h min	in (mm)	1.5 x Embedment Depth (i.e. 1.5 x h <sub>eff</sub> )					
Min. Anchor Spacing	s <sub>min</sub>	in (mm)	2 (50)	2 - 3/8 (60)	2 - 3/4 (70)	3 - 3/4 (95)	4 - 3/4 (120)	5 - 3/4 (145)
Min. Edge Distance	c <sub>min</sub>	in (mm)	2 (50)	2 - 3/8 (60)	2 - 3/4 (70)	3 - 3/4 (95)	4 - 3/4 (120)	5 - 3/4 (145)

\*The design professional on the job is ultimately responsible for the interpretation of the data provided above.

## APPLICATION INFORMATION

### Mixing Ratio

Component A : component B = 10 : 1 by volume

### Coverage

Coverage per Typical 10 fl. oz. (300 ml) Cartridge of Sika AnchorFix-S

Anchor size:	(in.)	5/16	3/8	1/2	5/8	3/4	1	
Drill Hole Diameter:	(in.)	3/8	1/2	5/8	3/4	1	1 1/8	
Embedment Depth:	(in.)	2 1/2	3 1/4	4	5	3 3/4	8	
Estimated Number of Fixing *	Cartridge Volume	300 ml	85	35	18	10	6	3
Anchor size:	(in.)	5/16	3/8	1/2	5/8	3/4	1	
Drill Hole Diameter:	(in.)	3/8	1/2	5/8	3/4	7/8	1 1/8	
Embedment Depth:	(in.)	3 1/8	3 3/4	5	6	1	10	
Estimated Number of Fixing *	Cartridge Volume	300 ml	68	27	14	8	7 1/2	2
Anchor size:	(in.)	5/16	3/8	1/2	5/8	3/4	1	
Drill Hole Diameter:	(in.)	3/8	1/2	5/8	3/4	7/8	1 1/8	
Embedment Depth:	(in.)	3 3/4	4 1/2	6	7	1	12	
Estimated Number of Fixing *	Cartridge Volume	300 ml	56	22	11	6	9	2

\*Number of fixings assumes 30ml wastage in initial extrusion and holes filled to 3/4 full

<b>Sag Flow</b>	Non-sag, even overhead		
<b>Product Temperature</b>	Sika AnchorFix® S must be at a temperature of between 41 °F (5 °C) and 68 °F (20 °C) for application.		
<b>Dew Point</b>	<ul style="list-style-type: none"> <li>▪ Beware of condensation.</li> <li>▪ Beware of frost.</li> </ul>		
<b>Cure Time</b>	<b>Temperature</b>	<b>Open time - T<sub>gel</sub></b>	<b>Curing time - T<sub>cur</sub></b>
	96–104 °F (35–40 °C)	1.5 minutes	15 minutes
	87–95 °F (30–35 °C)	2 minutes	20 minutes
	78–86 °F (25–30 °C)	3 minutes	30 minutes
	69–77°F (20–25 °C)	4 minutes	40 minutes
	51–68 °F (10–20 °C)	6 minutes	80 minutes
	41–50 °F (5–10 °C)	12 minutes	120 minutes
*Minimum cartridge temperature: 41 °F (5 °C)			

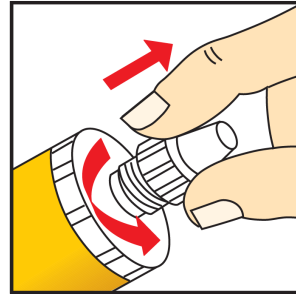
# APPLICATION INSTRUCTIONS

## SUBSTRATE QUALITY

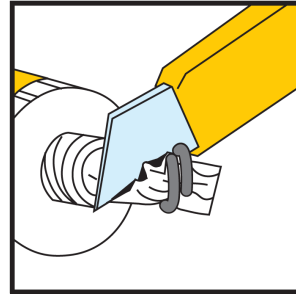
- Mortar and concrete must be at the required strength. No need to be 28 days old.
- Substrate strength (concrete, masonry, natural stone) must be verified.
- Pull-out tests must be carried out if the substrate strength is unknown.
- The anchor hole must always be clean, dry, free from oil and grease etc.
- Loose particles must be removed from the holes.
- Threaded rods and rebars have to be cleaned thoroughly from any oil, grease or any other substances and particles such as dirt etc.

## MIXING

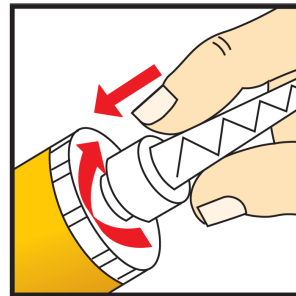
### Getting the cartridge ready



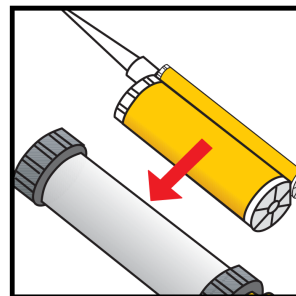
1. Unscrew the cap



2. Cut the film



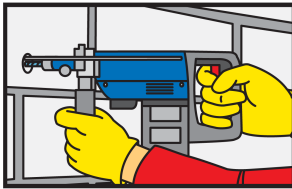
3. Screw on the static mixer



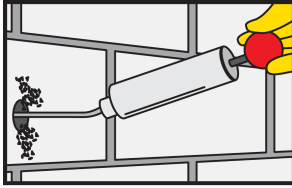
4. Place the cartridge into the gun and start applicatio

## APPLICATION METHOD / TOOLS

### Anchors in solid masonry/concrete



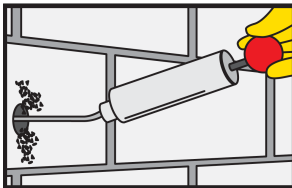
Drilling of hole with an electric drill to the diameter and depth required. Drill hole diameter must be in accordance with anchor size.



The drill hole must be cleaned with a blow pump or by compressed air, starting from the bottom of the hole. (at least 2x) Important: use oil-free compressors.



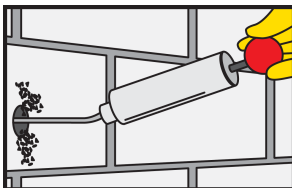
The drill hole must be thoroughly cleaned with the special steel brush (brush at least 2x). The diameter of the brush must be larger than the diameter of the drill hole.



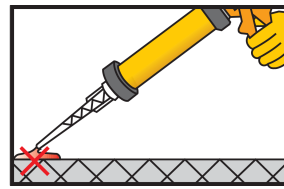
The drill hole must be cleaned with a blow pump or by compressed air, starting from the bottom of the hole (at least 2x). Important: use oil-free compressors.



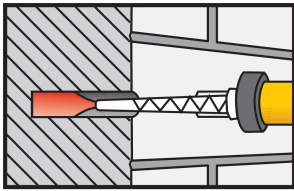
The drill hole must be thoroughly cleaned with the special steel brush (brush at least 2x). The diameter of the brush must be larger than the diameter of the drill hole.



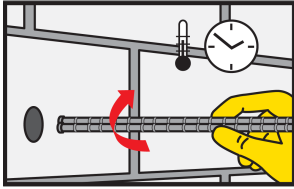
The drill hole must be cleaned with a blow pump or by compressed air, starting from the bottom of the hole (at least 2x). Important: use oil-free compressors.



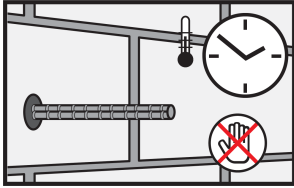
Pump approx. twice until both parts come out uniformly. Do not use this material. Release the gun pressure and clean the cartridge opening with a cloth.



Inject the adhesive into the hole, starting from the bottom, while slowly drawing back the static mixer. In any case avoid entrapping air. For deep holes extension tubing can be used.



Insert the anchor with a rotary motion into the filled drill hole. Some adhesive must come out of the hole. Important: the anchor must be placed within the open time.



During the resin hardening time the anchor must not be moved or loaded. Wash tools immediately with Sika® Colma Cleaner. Wash hands and skin thoroughly with warm soap water.

### CLEANING OF TOOLS

Tools must be cleaned as soon as possible with a clean rag.

### LIMITATIONS

**THE NTSB HAS STATED THAT THIS PRODUCT IS APPROVED FOR SHORT TERM LOADS ONLY AND SHOULD NOT BE USED IN SUSTAINED TENSILE LOAD ADHESIVE ANCHORING APPLICATIONS WHERE ADHESIVE FAILURE COULD RESULT IN A PUBLIC SAFETY RISK. CONSULT A DESIGN PROFESSIONAL PRIOR TO USE.**

\*The design professional on the job is ultimately responsible for the interpretation of the data provided on the product data sheet.

### BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

### OTHER RESTRICTIONS

See Legal Disclaimer.

### ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

## LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at [usa.sika.com](http://usa.sika.com) or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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