

Sika® AnchorFix®-2CA

Cold Weather Epoxy Acrylate Hybrid Anchoring Gel

Description	Sika® AnchorFix®-2CA is a 100% solid, solvent-free, structural epoxy acrylate hybrid anchoring gel. Using the latest technology, Sika® AnchorFix®-2CA has been engineered to gun at -26°C (-15°F), set up quickly in damp and water-filled holes, and attain high early strength. Hand guns are only recommended for temperatures above -7°C (20°F). Pneumatic guns provide efficiency anytime and are essential for product temperatures below -7°C (20°F).
Where to Use	<ul style="list-style-type: none"> ■ Heavy duty anchoring of rebar, threaded rods and epoxy coated smooth dowels in all concrete, brick, or stone masonry. ■ Best choice for structural bonding of heavy loads. ■ Grouting bolts, dowels, pins, vertical and overhead, where extremely rapid setting, fast turn-around times are needed. ■ Performs in damp or water-filled holes.
Advantages	<ul style="list-style-type: none"> ■ Sets up in damp or water-filled holes. ■ Cures down to -26°C (-15°F). ■ Styrene-free. ■ Meets performance requirements of ASTM C 881, Types I, II*, IV & V*; Classes A, B & C; Grade 3. ■ Passed ICC-ES AC 58 (sec. 5.3.3), ASTM E 1512 (Sec. 7.1 & 7.5) Elevated Temperature Creep Test. ■ Ministry of Transport Québec acceptance. ■ Ministry of Transport Ontario acceptance. ■ Canadian Food Inspection Agency acceptance. <p>*With exception of gel time</p>

Technical Data

Packaging	275 mL (9.3 fl. oz.) cartridge 825 mL (28 fl oz) cartridge
Colour	Grey
Shelf Life	1 year in original unopened packaging. Store at 5° - 27°C (40° - 80°F)
Mixing Ratio	A:B = 10:1 by volume

Properties at 23°C (73°F) and 50% R.H.

Consistency ASTM C 881	Gel
Gel Time ASTM C 881	7.5 min
Compressive Strength ASTM D 695	72.7 MPa (10540 psi)
Compressive Modulus ASTM D 695	1 827 MPa (265000 psi)
Absorption ASTM D 570	0.08%
Heat Deflection Temperature ASTM D 648	62°C (144°F)
Bond Strength ASTM C 882	
2 days	19.9 MPa (2890 psi)
14 days	22.4 MPa (3250 psi)
Elongation at Break ASTM D 638	1.32%
Density ASTM D 1875	
Component A	1.55 kg/L (12.92 lb/US gal.)
Component B	1.64 kg/L (13.69 lb/US gal.)



1 ULTIMATE TENSION VALUES FOR THREADED ROD IN CONCRETE*									
ANCHOR DIAMETER (in)	BIT DIAMETER (in)	EMBEDMENT (in)	CRITICAL EDGE DISTANCE, C _{cr} (in)	MINIMUM EDGE DISTANCE, C _{min} (in)	ULTIMATE BOND STRENGTH (lb _f)		ALLOWABLE STEEL STRENGTH (lb _f)		
					CONCRETE STRENGTH (f' _c)	CONCRETE STRENGTH (f' _c)	A36/A307	A193 B7	300 SERIES STAINLESS
3/8	7/16	1 1/16	4 1/2	1 1/2	3520	5330	2110	4550	3630
3/8	7/16	3 3/8	4 1/2	1 1/2	10685	10785	2110	4550	3630
1/2	9/16	2 1/4	6	2	6435	9780	3750	8100	6470
1/2	9/16	4 1/2	6	2	15405	19985	3750	8100	6470
5/8	3/4	2 13/16	7 1/2	2 1/2	10600	17315	5870	12655	10130
5/8	3/4	5 5/8	7 1/2	2 1/2	29465	32730	5870	12655	10130
3/4	7/8	3 3/8	9	3	15780	24285	8460	18220	12400
3/4	7/8	6 3/4	9	3	28995	43460	8460	18220	12400
7/8	1	3 15/16	10 1/2	3 1/2	17425	31795	11500	24800	16860
7/8	1	7 7/8	10 1/2	3 1/2	40235	56865	11500	24800	16860
1	1 1/8	4 1/2	12	4	22980	35400	15020	32400	22020
1	1 1/8	9	12	4	54715	54945	15020	32400	22020
1 1/4	1 3/8	5 5/8	13 1/2	5	33220	54230	23480	50610	34420

2 TENSION AND SHEAR VALUES FOR REINFORCING STEEL*									
ANCHOR SIZE	BIT DIAMETER (in)	EMBEDMENT (in)	CRITICAL EDGE DISTANCE, C _c (in)	MINIMUM EDGE DISTANCE, C _{min} (in)	TENSION ULTIMATE BOND STRENGTH (lb _f)		ALLOWABLE STEEL STRENGTH TENSION OR SHEAR (lb _f)		
					CONCRETE STRENGTH (f' _c)	CONCRETE STRENGTH (f' _c)	Grade 40	Grade 60	
# 3	7/16	3 3/8	4 1/2	1 1/2	6220	6220	2200	2640	
# 4	5/8	4 1/2	6	2	16430	16430	4000	4800	
# 5	3/4	5 5/8	7 1/2	2 1/2	23310	23310	6200	7440	
# 6	7/8	6 3/4	9	3	31145	31145	8800	10560	
# 7	1	7 7/8	10 1/2	3 1/2	36975	36975	12000	14400	
# 8	1 1/8	9	12	4	43320	43320	15600	18720	
# 9	1 3/8	11 1/4	13 1/2	5	61340	61340			

3 ALLOWABLE SHEAR VALUES - THREADED ROD IN 2000 PSI (min) CONCRETE*									
ANCHOR DIAMETER (in)	BIT DIAMETER (in)	EMBEDMENT (in)	CRITICAL EDGE DISTANCE (in)	ALLOWABLE SHEAR LOADS		ALLOWABLE SHEAR LOAD			
				BASED ON BOND STRENGTH (lb _f)	BASED ON BOND STRENGTH (lb _f)	A36/A307	A193 B7	300 SERIES STAINLESS	
3/8	7/16	3 3/8	1 3/4	1100	1100	1080	2345	1870	
1/2	9/16	4 1/2	1 3/4	1425	1425	1930	4170	3330	
5/8	3/4	5 5/8	1 3/4	2175	2175	3030	6520	5220	
3/4	7/8	6 3/4	1 3/4	2535	2535	4360	9390	6390	
7/8	1	7 7/8				5930	12780	8680	
1	1 1/8	9				7740	16690	11340	
1 1/4	1 3/8	11 1/4				12100	26070	17730	

***NOTES - TABLES 1, 2, AND 3**

- The tabulated shear and tension values are for anchors installed in normal weight concrete having reached the designated ultimate compressive strength at the time of installation. Linear interpolation may be used for concrete strengths between those listed.
- Allowable loads must be the lesser of the allowable steel strength and the allowable bond strength. Typically, allowable bond strength is equal to the ultimate bond strength divided by the safety factor of 4.
- Anchors installed at the minimum edge distance must have the tabulated allowable tension load multiplied by a 0.65 reduction factor. Linear interpolation of allowable loads may be used for anchors installed at a distance between critical and minimum edge distances.

How to Use

Surface Preparation Application

Surface must be clean and sound. Surface/holes may be dry, damp or water-filled. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles and disintegrated materials.

275 / 825 mL (9.3 / 28 fl oz) cartridge

- Remove D plugs from small end of cartridge.
- Slide retaining nut over static mixer or secure static mixer to cartridge by screwing it onto cartridge.
- Place assembled cartridge into approved pneumatic or hand gun.
- Extrude adhesive until grey colour is achieved. Dispense under constant uniform pressure. If dispensing is altered, re-establish grey colour prior to continuing. When using a handgun, release pressure from gun by pressing thumb button at every pause in dispensing. Re-establish grey colour prior to continuing.

Anchoring bolts, dowels and pins

- Drill holes to proper diameter and length.
- Clean holes with a nylon brush.
- Blow concrete dust from hole with oil-free compressed air from bottom up.
- Static mixer should be placed in back of hole. Fill hole while pulling static mixer out using constant uniform pressure, filling hole 1/2 full. Rotate the bolt as it is inserted to the back of the hole. Annular space should not exceed 3 mm (1/8 in). Depth of embedment is typically 9 times the bolt diameter.



Curing	Temperature	Gel Time	Cure Time
	-26°C (-15°F)	8 hrs	36 hrs*
	-21°C (-5°F)	6 hrs	28 hrs*
	-18°C (0°F)	4 hrs	24 hrs*
	-15°C (5°F)	3 hrs	22 hrs*
	-7°C (20°F)	45 min	6 hrs
	4°C (40°F)	20 min	90 min
	10°C (50°F)	15 min	60 min
	16°C (60°F)	8 min	45 min
	21°C (70°F)	7 min	35 min
	27°C (80°F)	6 min	30 min
	38°C (100°F)	5 min	25 min
	49°C (120°F)	4 min	20 min

* Contact Sika Technical Service for cold weather applications.

Clean Up Collect with absorbent material. Dispose of in accordance with local disposal regulations. Uncured material can be removed with Sika® Equipment Cleaner/Epoxy Thinner. Cured material can only be removed mechanically.

- Limitations**
- Concrete or masonry surface must be frost-free.
 - Do not thin. Solvents will prevent proper cure.
 - Minimum age of concrete must be 3-7 days, depending on curing and drying conditions.

Caution Irritant to skin and eyes. Use of safety goggles and chemical resistant gloves are recommended. Use of a NIOSH/MSHA organic vapour respirator recommended if ventilation is inadequate. Consult product label for more information.

First Aid In case of skin contact, wash with soap and water. For eye contact flush immediately with plenty of water for at least 15 min. Contact a physician. For respiratory problems, transport victim to fresh air. Remove contaminated clothing and wash before re-use.

For more information, consult Sika Material Safety Data Sheet.

KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY



ESTIMATING GUIDE - NUMBER OF HOLES/CARTRIDGE OF 825 ML (28 FL. OZ)

		HOLE DEPTH (in)																		
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
THREADED ROD IN CONCRETE																				
ROD SIZE (in)	HOLE SIZE (in)																			
3/8	7/16	244	163	122	98	81	70	61	55	50	45	41	38	36	33	31	29	28	27	25
1/2	9/16	173	116	87	70	59	50	43	37	36	32	29	27	24	23	22	20	19	19	18
5/8	3/4	89	60	45	36	31	25	23	20	18	17	15	14	13	13	11	11	10	10	9
3/4	7/8	71	47	36	29	24	20	18	17	14	13	13	11	10	10	9	9	9	8	8
7/8	1	60	39	31	24	20	15	15	14	13	11	10	10	9	9	8	8	8	8	6
1	1 1/8	48	33	24	20	17	14	13	11	10	9	9	8	8	6	6	6	6	5	5
1 1/8	1 1/4	43	29	22	18	15	13	11	10	9	9	8	8	6	6	5	5	5	5	5
1 1/4	1 3/8	37	25	19	15	13	11	10	9	8	8	6	6	6	5	5	5	5	4	4
1 1/2	1 5/8	29	20	15	13	10	9	8	6	6	6	5	5	5	4	4	4	4	4	4
REBAR IN CONCRETE																				
REBAR SIZE (in)	HOLE SIZE (in)																			
# 3	1/2	207	139	104	84	70	60	52	47	42	38	36	33	31	28	27	25	24	23	22
# 4	5/8	162	108	81	65	55	47	41	37	33	31	28	25	24	22	20	19	19	18	17
# 5	3/4	131	88	66	52	45	38	33	29	27	24	22	20	19	18	17	15	15	14	14
# 6	7/8	104	70	52	41	36	31	27	24	22	19	18	17	15	14	14	13	13	11	11
# 7	1	92	61	46	37	31	27	23	20	19	17	15	14	14	13	11	11	10	10	10
# 8	1 1/8	79	52	39	32	27	23	20	18	17	15	14	13	11	11	10	10	9	9	9
# 9	1 3/8	39	27	20	17	14	11	10	9	9	8	8	6	6	5	5	5	5	5	4
# 10	1 1/2	38	25	19	15	13	11	10	9	8	8	6	6	6	5	5	5	5	5	4

The information, and in particular, the recommendations relating to the application and end-use of Sika 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, within their shelf life. 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 recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. 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 or can be accessed in the Internet under www.sika.ca.



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