

TECHNICAL DATA SHEET

DESCRIPTION

Sure Anchor™ I J51 is two component, moisture tolerant, 100% solids, high modulus epoxy gel adhesive that meets ASTM C881 and AASHTO M235.

USE

Sure Anchor™ I J51 is ideal for anchoring bolts, dowels, and reinforcing steel in concrete. It is also ideal for vertical and horizontal structural bonding and patching. Sure Anchor™ I J51 may also be used to seal cracks and set injection ports prior to injection grouting.

FEATURES

- High-strength structural adhesive
- Ideal for anchoring dowels, bolts, reinforcing steel and threaded rod
- Moisture tolerant
- Fast-setting
- Non-sag gel consistency

PROPERTIES

ASTM C881, AASHTO M235, Types I, II, IV, V Grade 3, Classes B & C, Except for gel time due to fast set

Mix ratio 1 part A to 1 part B by volume

Gel Time 60 gm mass 12 minutes at 73°F (23°C), 32 minutes at 50°F (10°C)

Compressive Strength ASTM D695

7 days at 40°F (4°C)- 11,500 psi (79.28 MPa)
7 days at 60°F (15°C)- 12,500 psi (86.18 MPa)

Concrete Bond Strength ASTM C882

2 days at 40°F (4°C)- 2,950 psi (20.33 MPa)
2 days at 60°F (15°C)- 3,000 psi (20.68 MPa)
14 days at 40°F (4°C)- 2,960 psi (20.40 MPa)
14 days at 60°F (15°C)- 3,160 psi (21.78 MPa)

Water Absorption ASTM D570 - 0.1%

Tensile Strength ASTM D638 7 days 7,000 psi (48.2 MPa)

Tension Loads

ASTM E488 pull out tests in 6000 psi concrete at 7-days with threaded rod and rebar. Average of 5 specimens embedded into dry, drilled holes.

Threaded Rod				
Size	Hole Diameter	Hole Depth	Pull Out	
1/2" (1.3 cm)	9/16" (1.4 cm)	3-1/2" (8.9 cm)	11000 lbs	48.9 kN
5/8" (1.6 cm)	3/4" (1.9 cm)	4-3/8" (11.1 cm)	14000 lbs	62.2 kN
3/4" (1.9 cm)	7/8" (2.2 cm)	5-1/4" (13.3 cm)	15100 lbs	67.1 kN
1" (2.5 cm)	1-1/8" (2.8 cm)	7" (17.7 cm)	17000 lbs	75.6 kN

Steel Rebar				
Size	Hole Diameter	Hole Depth	Pull Out	
#4	9/16" (1.4 cm)	3-1/2" (8.9 cm)	11500 lbs	51.1 kN
#5	3/4" (1.9 cm)	4-3/8" (11.1 cm)	15800 lbs	70.2 kN
#6	7/8" (2.2 cm)	5-1/4" (13.3 cm)	16200 lbs	72.0 kN
#8	1-1/8" (2.8 cm)	7" (17.7 cm)	19000 lbs	84.5 kN

Note:

The data shown is typical for controlled laboratory conditions. Reasonable variation from these results can be expected due to interlaboratory precision and bias. When field testing the material, other factors such as variations in installation, temperature, and application conditions should be considered.

VOC

Sure Anchor™ I J51 has a VOC content of 0 g/L . Compliant with all Canadian and U.S. VOC regulations including Federal EPA, OTC, LADCO, SCAQMD & CARB

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Estimating Guide

Rod Diameter	Hole Diameter	Hole Depth	Anchor per 20 oz
3/8" (1 cm)	7/16" (1.2 cm)	3-3/8" (8.6 cm)	112
3/8" (1 cm)	7/16" (1.2 cm)	5-5/8" (14.3 cm)	71
1/2" (1.3 cm)	9/16" (1.4 cm)	4-1/2" (11.4 cm)	61
1/2" (1.3 cm)	9/16" (1.4 cm)	7-1/2" (19 cm)	36
5/8" (1.6 cm)	3/4" (1.9 cm)	5-5/8" (14.3 cm)	26
5/8" (1.6 cm)	3/4" (1.9 cm)	9-3/8" (23.8 cm)	15
3/4" (1.9 cm)	7/8" (2.2 cm)	6-3/4" (17.1 cm)	17
3/4" (1.9 cm)	7/8" (2.2 cm)	11-1/4" (28.6 cm)	10
1" (2.5 cm)	1-1/8" (2.8 cm)	9" (22.8 cm)	9

Packaging

PRODUCT CODE	PACKAGE	SIZE	
		Gallons/Ounce	Liters
100907	Unicartridge	8.5 oz	250 ml
100908	Cartridge	20 oz	600 ml
100909	Cartridge	50.7 oz	1500 ml
69364	Unit	1 gal	3.8
69368	Unit	2 gal	7.6
69365	Unit	10 gal	37.9

When using a pneumatic dispenser for the 1500ml cartridges the pressure to the gun must be 60-70psi to get consistent mixing

STORAGE

The material should be stored at 40°-95°F (5°-35°C). Use prior to the "best used by date" on product label.

Surface Preparation:

Surface to be bonded must be clean and sound. Remove dust, dirt, grease, laitance, curing compounds and other foreign matter by sandblasting, mechanical abrasion or hydro blasting. For drilled holes, clean with a bristle brush.

Remove all water and dust with clean compressed air prior to installation. Air and surface temperature must be 40°F (5°C) or above.

Mixing

Condition material to 65°- 85°F (18°- 29°C) before using, "pre-purging" the cartridge before putting on the static mixer to ensure uniform mixing. Premix each component, then mix equal volumes of Part A and Part B for 3 minutes with a low speed drill, a jiffy mixer or paddle. Mix only what can be used during the pot life.

Placement:

Step 1: Drill hole in concrete using a rotary-percussion power drill (rotary-hammer drill) and a carbide-tipped SDS or SDS-Plus type drill bit complying with ANSI B212.15-1994, to the diameter and embedment depth adhering to minimum spacing, minimum edge distance, and minimum concrete member thickness.

Caution: Wear suitable eye and skin protection. Avoid inhalation of dust during drilling and debris removal.

Step 2: Blow out hole using oil-free compressed air at a minimum of 70 psi with a nozzle. While blowing air, insert the nozzle into the hole until in contact with the bottom for not less than one second, and then withdraw.

Step 3: Insert a cleaning brush for the proper drill hole diameter. Thrust the brush to the bottom of the borehole while twisting. Once the brush is in contact with the bottom of the hole, turn the brush one-half revolution, and then quickly withdraw the brush with a vigorous, twisting pull. Repeat.

Step 4: Repeat blow out of hole with air as per Step 2 above. Concrete shall be dry before injection of adhesive.

Step 5: When using cartridge insert the cartridge into the extrusion tool, and attach the supplied mixing nozzle to the cartridge. Do not modify mixing nozzle. Prior to injection, dispense material through the mixing nozzle in a continuous bead until a uniform light gray color is achieved. Initial dispensed material will be darker gray in color and should not be used for installation. After uniform light gray color is achieved, insert the end of the mixing nozzle into the borehole until in contact with the bottom. Then, dispense the adhesive while slowly withdrawing the nozzle until borehole is approximately 1/2 - 2/3 full, and then withdraw the mixing nozzle. Keep the nozzle attached on partially used cartridges. A new mixing nozzle must be used if the gel time has been exceeded between injections.

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Step 6: Mark the anchor rod with the required embedment depth. Insert the clean and oil-free anchor rod into the adhesive in the borehole, turning it slowly as it is pushed downward until contact with the bottom of the borehole. Make sure the hole is completely filled with adhesive and that no gaps appear between the anchor rod and borehole.

Step 7: Adjust the alignment of the anchor in the hole immediately. Do not disturb it between the Gel Time and the Minimum Cure Time. Do not torque or apply load to the anchor until the Recommended Cure Time.

Cure Time

Gel time per ASTM C881.

Substrate Temp.		Gel Time	Full Cure Time
Fahrenheit	Celsius	Minutes	Hours
40	5	45	48
65	18	15	36
70	21	9	24
80	27	7	12
90	32	5	9
100	38	3	6

CLEAN UP

Tools and Equipment: Clean before the epoxy sets. Use xylene or Citrus Cleaner J48.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

Do not thin with solvents
Surface and ambient temperature must be 40°F (5°C) or above
Do not expose stored product to cold or freezing temperature (below 35°F, 2°C) for any length of time

PRECAUTIONS

READ SDS PRIOR TO USING PRODUCT

- Component A – Irritant
- Component B – Corrosive
- Product is a strong sensitizer
- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (goggles, safety glasses and/or face shield)

- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed.
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements
- Cured epoxy resins are innocuous

MANUFACTURER

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WARRANTY

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

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Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.