

## 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
- Easy dispensing and no mixing with pre-filled cartridges
- Moisture tolerant
- Fast-setting
- Non-sag gel consistency
- Excellent adhesion

### PROPERTIES

ASTM C-881/ AASHTO M-235, Types I, II, IV, V\* Grade 3, Classes B & C, Except for minimum gel time due to fast set

Mix ratio: 1 part A to 1 part B by volume

Mixed color: Gray

Consistency: Non-sag gel

Gel Time: 60 gm mass - 9 minutes at 24°C

Compressive Strength: ASTM D-695:  
93 MPa at 7 days

Concrete Bond Strength: ASTM C-882:  
22.0 MPa at 2 days  
23.4 MPa at 14 days

Water Absorption: ASTM D-570 - 0.16%

Tensile Strength ASTM D638  
7 days 48.2 MPa

### Ultimate Tension Loads

(Pull Out Tests with Threaded Rod)

Rod Diameter	Hole Diameter	Hole Depth	27 MPa	38 MPa
10mm	11mm	86mm	3742 kg	4173 kg
10mm	11mm	143mm	5153 kg	5325 kg
13mm	14mm	114mm	5320 kg	5860 kg
13mm	14mm	190mm	7716 kg	8782 kg
16mm	19mm	143mm	8560 kg	10405 kg
16mm	19mm	238mm	11911 kg	14043 kg
19mm	22mm	171mm	11734 kg	13317 kg
19mm	22mm	286mm	15576 kg	17400 kg

### VOC

Sure Anchor I J51 has a VOC content of 0 g/L .

### Estimating Guide

Rebar Size	Hole Diameter	Hole Depth	Anchors Per 600ml Cart.
10mm	11mm	86mm	112
10mm	11mm	143mm	71
13mm	14mm	114mm	61
13mm	14mm	190mm	36
16mm	19mm	143mm	26
16mm	19mm	238mm	15
19mm	22mm	171mm	17
19mm	22mm	286mm	10
25.4mm	28.575mm	228.6mm	9
31.75mm	34.925mm	286mm	5

### Packaging

ITEM #	PACKAGE	SIZE
139887AU	Unicartridge	250 ml
69359AU	Cartridge	600ml

### STORAGE

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

## TECHNICAL DATA SHEET

**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 nylon bristle brush. Remove all water and dust with clean compressed air prior to installation. Air and surface temperature must be 5°C or above.

**Mixing:**

Condition material to 18°- 29°C before using. Extrude material through static mixing nozzle into a waste pail until a smooth uniform color without streaking has been achieved.

**Placement:**

For use as a structural adhesive, apply the material neat and work into the substrate. The glue line should not exceed 0.3 cm. When used as a chemical anchor, the annular space around the bolt in the hole should not exceed 0.3 cm. When dispensing the epoxy using the cartridges, first cut the static mixing nozzle mixer tip to the preferred opening for the job. Next, remove the "D" cartridge plugs from the extrusion throat end of the cartridge. Place the static mixing nozzle and securely hand tighten making sure that there is no slack. Place the assembled cartridge into a manual dispensing gun.

Start installation by extruding material into a waste pail until a smooth uniform color without streaking has been achieved. Discard the first material that is extruded from the end of the nozzle until the uniform streak-free color is achieved. Off color or streaking will result in an off ratio mix, and the Sure Anchor I J51 will not set properly or develop maximum strength.

Whenever the dispensing is interrupted or otherwise stopped for more than 15 minutes, recheck the extruded Sure Anchor I J51 for uniform streak-free color before use. Always establish uniform non-streak color before use to verify proper mixing.

To produce a mortar for interior patching repairs, mix 1 to 1-1/2 parts by volume of clean, dry, well graded silica sand to one part by volume of mixed epoxy. Place the mortar, working it into the concrete substrate. Each mortar lift should not exceed 25mm.

**General Application Procedure:**

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 .5 MPa 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. Repeat.

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: Check cartridge for expiration date to confirm the material is within the expiration date and for any physical defects. Cartridges shall have been stored at temperatures between 4.4°C and 35°C. Review SDS before use. Concrete temperature must be 10°C minimum. Condition cartridge and contents to a temperature of 18.3°C to 35°C for easier dispensing. 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 some mixed epoxy through the mixing nozzle and discard until the color of the extruded material becomes uniform.

After uniform 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 two-thirds 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.

**TECHNICAL DATA SHEET**

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**

Minimum cure time required before the design or allowable load may be applied. Anchors are to be undisturbed during the minimum cure time.

Substrate Temp.	Gel Time	Minimum Cure Time
Celcius	Minutes	Hours
10	30	12
15.5	18	8
21	9	2.5
26.6	7	2
32	5	1.5
37.7	3	1

**CLEAN UP**

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

**LIMITATIONS**

**FOR PROFESSIONAL USE ONLY**

Per NTSB Safety Recommendations, the use of adhesive anchors is prohibited in sustained overhead load anchoring applications.

Always test a small amount to insure that the product is mixed thoroughly and that the material will harden properly before proceeding  
Do not thin with solvents  
Surface and ambient temperature must be 5°C or above  
For applications with constant high temperature 49°C, contact Dayton Superior  
Do not expose stored product to cold or freezing temperature below 2°C for any length of time  
Note: High temperature will accelerate the setting time and cool temperature will slow the setting time. As a general rule, the gel time of the epoxy will be cut in half for each 10° to 15° increase in temperature above 24°C and the gel time will double for each 10° to 15° drop below 24°C.  
Minimum age of concrete must be 7 days from date of placement.

**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**

Dayton Superior Corporation (Australia) PTY LTD  
5A Connection Drive  
Campbellfield, VIC 3061  
Australia  
Australia Phone: +61 1300 DAYTON (329866)  
Fax: +61 (0)2 8095 6363  
Website: www.daytonsuperior.com.au

**TECHNICAL DATA SHEET****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.

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.