Structaset™ 401

Heavy Duty Anchoring

Ramset™

Injection Adhesives

ISNP S401J (750ml) S401C (380ml)

CERTIFIED
HIGH PERFORMANCE

Key Features

- Fast 50 minute cure
- Strong bond
- Low odour styrene free
- Easy dispensing all year round

Certified for use in contact with drinking water – AS4020

European Technical Approval ETAG 001 Part 5 Option 7

Description

Heavy duty Epoxy Acrylate for anchoring threaded studs and reinforcing bar into solid concrete, stone, hollow brick and hollow concrete block. High bond strength for diamond and carbide drilled holes. Fast cure for high productivity. Non-drip formula, ideal for over-head installation. Styrene free low odour formula. Steel columns, and beams, starter bars, road stitching, seating, hand rails.

Typical Properties

Properties	Typical Value
Appearance	Part A: Off White Part B: Black
	Mixed: Grey
Density	1.67 g / ml
Heat Distortion Temperature	77˚ C (ISO75)
Shore D Hardness	90 (ISO7619)
Compressive Strength	77.8 MPa (ASTM C579-01)
Tensile Strength	15.2 MPa (ASTM D638)
Flexural Strength	29 MPa (ASTM D638)
Service Temperature Limits	-40°C to 80°C
Substrates	Solid Concrete, Solid Brick, Stone (proof loading recommended), Hollow Concrete Block, Hollow Brick

Features & Benefits

- Easy dispensing even in cold weather
- Carbide and diamond drilled holes – strong bond
- Fast cure for high productivity

Related Products

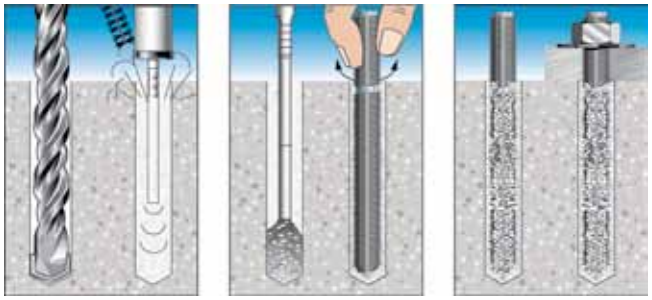
DynaDrill™
Carbide Drill Bits
Diamond Motor
Diamond Core Drill Bits
Impact Wrench
Wet/Dry Vacuum
Hole Cleaning Brushes
Hole Cleaning Pump

Trades & Applications

	Concreter	Building Contractor	Civil Contractor	Steel Fabricator	Balustrade Contractor	Formworker
Threaded Studs		✔	✔	✔	✔	
Starter bars	✔	✔	✔			✔
Hollow Masonry Sleeves		✔		✔	✔	
Threaded Inserts		✔		✔	✔	

Installation in Solid Concrete

1. Drill or core hole to specified diameter and depth
2. Remove dust and debris by brushing and blowing 3 times each (if hole is wet or flooded, remove excess water using wet/dry vacuum)
3. Screw mixing nozzle onto cartridge and dispense 2-3 trigger pulls of adhesive to waste until colour is grey with no streaks
4. Insert tip of nozzle to bottom of hole and dispense adhesive
5. Fill hole to about 2/3 full
6. Insert fixing with rotating motion to release trapped air
7. Wait until adhesive has fully cured before loading (see Working Time / Loading Time chart below)
8. Clean up with Acetone



Refer to Technical Data Sheet and MSDS available from www.ramset.com.au, for precautions and further detailed installation instructions

Recommended Installation Temperatures

	Minimum	Maximum
Substrate	0°C	40°C
Adhesive	5°C	40°C

Working and Loading Time

Substrate Temperature (°C)	Gel Time (min)	Cure Time (min)
5	18	145
10	10	85
20	6	50
25	5	40
30	4	35

Hole Condition

Hole Condition	Suitable
Dry	Yes
Damp (Water removed)	Yes
Wet	No
Flooded	No
Drill Bit Type	
Carbide	Yes
Diamond Core	Yes
Hole Orientation	
Vertical Down	Yes
Horizontal	Yes
Vertical Up (Overhead)	Yes

Structaset™ 401 Anchoring Adhesive

Description	Part No	Box Quantity
Cartridge (380 ml) + 1 Nozzle	S401C	20
Cartridge (750 ml) + 1 Nozzle	S401J	12
ChemSet™ Universal Applicator	CUA	1
Mixing Nozzles for Polyester	ISNP	5
Hole Cleaning Pump	HCP	1
Hole Cleaning Pump High Volume	HCPHV	1

Description	Part No	Box Quantity
Hole Cleaning Brush 13 mm	HCBT13	1
Hole Cleaning Brush 20 mm	HCBT20	1
Hole Cleaning Brush 26 mm	HCBT26	1
Nylon Sleeves for Hollow Block	See Page 104	100
Fine Metal Mesh Sleeves	See Page 104	100

Structaset™ 401 - Indicative Working Loads in 32 MPa Concrete with ChemSet™ Anchor Studs

Thread Size	Drilled Hole Ø (mm)	Min Hole Depth (mm)	Tightening Torque (Nm)	Min Edge Distance (mm)	Min Anchor Spacing (mm)	Max Tensile Load, N_a (kN)	Max Shear Load, V_{as} (kN)*
M8	10	80	10	35	50	**6.5**	4.4
M10	12	90	20	40	60	9.0	7.1
M12	14	110	40	50	75	13.1	10.5
M16	18	125	95	65	100	18.8	19.9
M20	24	150	180	80	120	26.7	29.9
M20	24	170	180	80	120	30.3	29.9
M24	26	160	315	100	145	32.2	43.3
M24	26	210	315	100	145	42.2	43.3

Bold working load values in tension are limited by steel. All other values limited by concrete and adhesive bond
* For shear acting towards a concrete edge please contact a Ramset Engineer for further design assistance
Shear values are for Grade 5.8 carbon steel.

Working load capacity was derived from characteristic ultimate load capacity by applying the following factors:
Tension: Concrete = 3, Steel = 2.2
Shear: Steel = 2.5

The design engineer should ensure the structural element is capable of supporting these loads.
Refer to Ramset™ Specifiers Resource Book for more information or explanation of technical data.