

ChemSet™ 801 Xtrem™ XC²

FIRE RATED CHEMICAL ANCHOR

GENERAL INFORMATION

Performance Related	Material Specification	Installation Related

Product

Chemset™ 801 Xtrem™ XC² is a heavy duty Vinylester for anchoring threaded studs and reinforcing bar into cracked and uncracked concrete.



Compliance

European Technical Assessment (option 1) - ETA-18/0045

Design according to:

- AS5216 (formerly TS101)
- EN1992-4 (formerly ETAG001 Annex C, E & TR045)
- Use enclosed data for simplified calculation method

Use Ramset™ iExpert Anchor Software for optimised calculation or where a greater range of anchor layout detail is needed.

Benefits, Advantages and Features

- Fire rated - MFPA Leipzig GmbH test no. GS 32/17-410-3
- Flooded Holes

Greater productivity:

- Easy dispensing even in cold weather
- Apply torque in 2 hours @ 20°C

Greater security:

- Strong bond
- Rated for sustained loading

Versatile:

- Earthquake, Fire & Flooded Conditions
- Cold and temperate climates

Greater safety:

- Low odour
- Suitable for contact with drinking water
- VOC Compliant

Made in Australia



Principal Applications

- Threaded Studs
- Starter Bars
- Threaded Inserts
- Over-head installation
- Steel Columns
- Hand Rails
- Road Stitching

Recommended Installation Temperatures

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

Service Temperature Limits

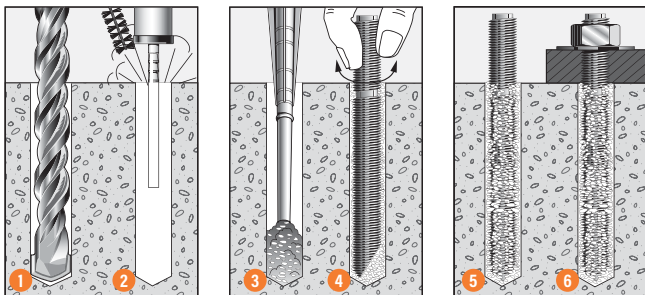
-40°C to 80°C

Setting Times

Temperature of base material	Gel Time	Curing time in dry concrete	Curing time in wet concrete
+5°C	60 min	240 min	480 min
6°C - 10°C	40 min	180 min	360 min
11°C - 20°C	15 min	120 min	240 min
21°C - 30°C	8 min	90 min	180 min
31°C - 40°C	4 min	60 min	120 min

Note: Cartridge temperature minimum +5°C

Installation



- Drill recommended diameter and depth hole.
- Important:** Use Ramset™ Dustless Drilling System to ensure holes are clean. Alternatively clean dust and debris from hole with stiff wire or nylon brush and blower in the following sequence: blow x 2, brush x 2, blow x 2.
- Dispense adhesive to waste until colour is uniform light grey (2-3 trigger pulls). Insert mixing nozzle to bottom of hole. Fill hole to 3/4 the hole depth slowly, ensuring no air pockets form.
- Insert Ramset™ ChemSet™ Anchor Stud/rebar to bottom of hole while turning.
- Allow Chemset™ 801 Xtrem™ XC² to cure as per setting times.
- Attach fixture.

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FIRE RATED CHEMICAL ANCHOR

Installation and fire performance details: ChemSet™ 801 Xtrem™ XC² and Gr 8.8 Typical Threaded Rod

Fire Rated Anchoring Systems

Anchor size, d _b (mm)	Installation Details				Optimum dimensions*			Characteristic values of resistance to tension loads in 20 MPa to 50 MPa concrete strength - N _{RR,S,R} (kN) per anchor *			
	Drilled hole diameter, d _s (mm)	Fixture hole diameter, d _f (mm)	Anchor effective depth, h (mm)	Tightening torque, T, (Nm)	Edge distance, e _c (mm)	Anchor spacing, a _c (mm)	Concrete substrate thickness, b _m (mm)	Fire resistance duration = 30 Min.	Fire resistance duration = 60 Min.	Fire resistance duration = 90 Min.	Fire resistance duration = 120 Min.
M10	12	12	90	20	135	270	120	2.33	1.68	1.04	0.71
M12	14	14	110	40	165	330	140	3.10	2.44	1.79	1.46
M16	18	18	125	95	187	375	160	5.77	4.54	3.33	2.72
M20	22	22	150	180	225	450	190	9.01	7.09	5.2	4.24
			170		255		220				
M24	26	26	160	315	240	480	200	12.9	10.21	7.49	6.11
			210		315		270				
M30	35	33	280	650	420	840	350	20.62	16.23	11.91	9.71

*Note:

Data is valid for Grade 8.8 Typical Threaded only or ChemSet™ Anchor Stud Xtrem™

Data applies to uncracked and cracked reinforced concrete

Data applies to a one-sided fire exposure of the structural elements. For conditions of fire load on several sides, please contact your local Ramset™ engineer

Data is based on concrete cylinder strength between 20 MPa to 50 MPa.

DESCRIPTION AND PART NUMBERS

Description	Cartridge Size	Part No.
ChemSet™ 801 Xtrem™ XC ²	750ml	C801X750 (AU & NZ)
ChemSet™ 801 Xtrem™ XC ²	380ml	C801X380 (AU Only)

ENGINEERING PROPERTIES

ChemSet™ Anchor Studs and Threaded Rod

Anchor Size, d _b	Grade 8.8 Threaded Rod			
	Shank diameter, d _s (mm)	Stressed Area (mm ²)	Yield Strength f _y MPa	UTS f _u MPa
M10	8.6	58	640	800
M12	10.4	84.3	640	800
M16	14.1	157	640	800
M20	17.7	245	640	800
M24	21.2	353	640	800
M30	26.7	561	640	800