

EPCON™ C8 Xtrem™

SEISMIC REINFORCING BAR - CHEMICAL INJECTION

GENERAL INFORMATION

Performance Related	Installation Related

Product

EPCON™ C8 Xtrem™ is a High Performance Pure Epoxy Anchoring adhesive for use in Cracked and Non-Cracked concrete. For structures subject to external exposure, permanently damp or chemically aggressive conditions.



Compliance

European Technical Assessment - ETA - 07/0189

Design according to:

- AS5216 (formerly TS101)
 - AS1170.4 - Earthquake Actions
 - EN1992-1-1
 - CSTB Seismic Applications Report 3/12-727
- 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

- 100 year working life
- Greater productivity:**
 - Anchors in dry, damp, wet or flooded holes
 - No weather delays
 - Fast, easy dispensing with high flow mixer

Greater security:

- Highest performance in cracked concrete

Versatile

- Anchors all stud & bar diameters in all directions
- Oversized holes*
- Anchors in carbide drilled and diamond cored holes
- For tropical and Cold weather conditions

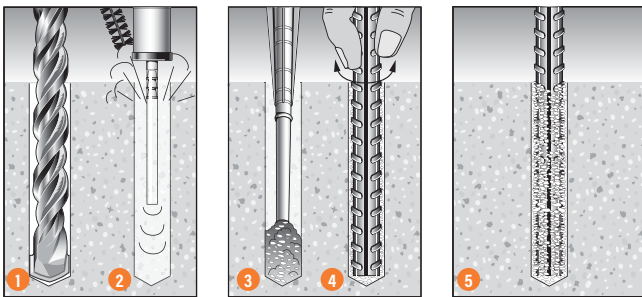
Greater safety:

- Low odour

Fire Rated : Refer Fire rated anchoring section

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™ rebar to bottom of hole while turning.
- Allow EPCON™ C8 Xtrem™ to cure as per setting times.



Principal Applications

- Anchoring into cracked & non cracked concrete
- Road barrier hold down bolts
- Bridge refurbishment
- Road & Rail tunnel construction
- Reinforcing bar from 10 to 32mm
- Starter Bars
- Threaded studs from M8 to M30
- Threaded Stud material: Zn, A4 316, HCR steels
- Threaded Stud material: 5.8, 8.8, 10.9 Grade

Recommended Installation Temperatures

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

Load should not be applied to anchor until the chemical has sufficiently cured as specified.

Service Temperature Limits

-40°C to 80°C

Setting Times EPCON™ C8 Xtrem™

Temperature of base material	Gel Time	Curing time in dry concrete	Curing time in wet concrete
5°C - 9°C	20 min	30 h	60 h
10°C - 19°C	14 min	23 h	46 h
20°C - 24°C	11 min	16 h	32 h
25°C - 29°C	8 min	12 h	24 h
30°C - 39°C	5 min	8 h	16 h
40°C	5 min	6 h	12 h

Note

*Performance of oversized holes was not included in the ETAG test program and therefore is based on testing conducted at Ramset™ Concrete Structures Laboratory.

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STRENGTH LIMIT STATE DESIGN

Installation and seismic performance details:

Anchor size, d_b (mm)	Drilled hole diameter, d_h (mm)	Nominal Yield (kN)	Min Anchor spacing (mm)	min. cover (mm)	Development length require to reach Nominal Yield strength (mm)		
					Concrete Compressive Strength, f'_c		
					20 MPa	25 MPa	30 MPa
10	12	39.3	40	55	543	463	417
12	15	56.5	48	60	652	556	500
16	20	100.5	64	70	870	741	667
20	25	157.0	80	80	1087	926	833
24	30	226.0	100	93	1359	1157	1042
25	30	245.5	100	93	1359	1157	1042
28	35	308.0	112	100	-	1296	1167
32	40	402.0	128	110	-	1481	1333

*Development length require are on service temperature limits -40°C to +40°C only. If service temperature limits is beyond this range please contact Ramset Engineer.

FOR DETAILED STRENGTH LIMIT STATE SEISMIC DESIGN DATA ON EPCON™ C8 Xtrem™, REFER TO SEISMIC REPORT No. CSTB 3/12-727

DESCRIPTION AND PART NUMBERS

Description	Cartridge Size	Part No.
EPCON™ C8 Xtrem™	450 ml	C8-450

Drilled hole depth, h_1 (mm)

$h_1 = h$

h = Effective depth

ENGINEERING PROPERTIES

Typical Engineering Properties of Grade 500 Reinforcing Bar

Rebar Size	10	12	16	20	24	25	28	32
Drilled Hole Dia, d_h (mm)	12	15	20	25	30	30	35	40
Stress Area, A_s (mm ²)	78.5	113	201	314	452	491	616	804
Yield Stress, f_{sy} (MPa)	500	500	500	500	500	500	500	500
Tensile Steel Yield Capacity, N_{sy} (kN)	39.3	56.5	100.5	157.0	226.0	245.5	308.0	402.0

For further information refer to reinforcing bar manufacturer's published information and current revision of AS/NZS 4671