



55.1 GENERAL INFORMATION

PERFORMANCE RELATED	INSTALLATION RELATED

Product

EPCON™ C8 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.

100 YEARS DESIGN LIFE

**Benefits, Advantages and Features**

European Technical Approval option1 for use in cracked and non cracked concrete – ETA-10/0309:

- Highest level of European approval for chemical anchors
- 100 year design life
- Approved for flooded holes
- Approved for floor, wall, & overhead applications
- Data for Sustained Loading
- CSTB Seismic Applications Report 3/12-727

**Greater productivity:**

- Anchors in dry, damp, wet or flooded holes
- No weather delays
- Fast, easy dispensing with high flow (pneumatic) mixer
- Jumbo dispensing cartridge 900ml

Greater security:

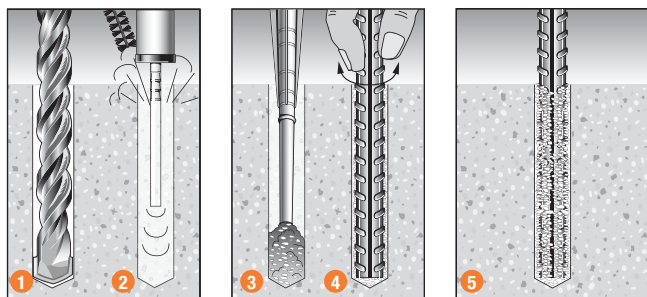
- Highest performance in cracked concrete

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.
- Non-flammable.

Fire Rated: Refer Fire rated anchoring section**Installation**

1. Drill recommended diameter and depth hole.
2. **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 4, brush x 3, blow x 4, brush x 3, blow x 4.
3. Insert mixing nozzle to bottom of hole.
Fill hole to 3/4 the hole depth slowly, ensuring no air pockets form.
4. Insert rebar to bottom of hole while turning.
5. Allow Ramset EPCON™ C8 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 8 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

Installation temperature limits:

- Substrate: 5°C to 40°C
- Adhesive: 5°C to 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

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

Installation and seismic performance details:

Anchor size, d_b (mm)	Drilled hole diameter, d_h (mm)	Anchor effective depth, h (mm)	Optimum dimensions*			Reduced Characteristic Capacity Cracked Concrete Seismic Tension, $N_{Rd, sis}$ (kN) **		
			Anchor spacing, a_c (mm)	Edge distance, e_c (mm)	Concrete substrate thickness, b_m (mm)	Concrete Compressive Strength, f'_c		
						20 MPa	25 MPa	30 MPa
10	12	90	180	90	120	6.5	7.6	8.5
12	15	110	220	110	140	9.5	11.2	12.4
16	20	125	250	125	160	14.5	17.0	18.8
20	25	170	340	170	215	24.6	28.8	32.0
24/25	30	210	420	210	270	37.9	44.5	49.5
28	35	270	540	270	340	54.6	64.1	71.3
32	40	300	600	300	380	69.4	81.4	90.5

* For anchor spacings or edge distances less than the optimum, please refer to the simplified strength limit state design process to verify capacity.

** Tension values are based 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, REFER TO SEISMIC REPORT No. CSTB 3/12-727

55.2 DESCRIPTION AND PART NUMBERS

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

Drilled hole depth, h_1 (mm)
 $h_1 = h$
 h = Effective depth

55.3 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 AS/NZS 4671:2001