

ChemSet™ EPCON™ G5 Xtrem™

SEISMIC REINFORCING BAR - CHEMICAL INJECTION

AVAILABLE IN NEW ZEALAND ONLY

(Australia refer to ChemSet™ Reo502™ Xtrem™ range)

GENERAL INFORMATION

Performance Related	Installation Related

Product

Chemset™ EPCON™ G5 Xtrem™ is a heavy duty pure Epoxy for anchoring threaded studs and reinforcing bar into cracked and uncracked concrete.



Compliance

European Technical Assessment - ETA-25/0647

Design according to:

- CONCRETE NZ Technical Specification 02:2025
- NZS 3101
- EN 1992-1-1
- 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
- Easy dispensing even in cold weather

Greater security:

- Strong bond
- Rated for sustained loading

Versatile:

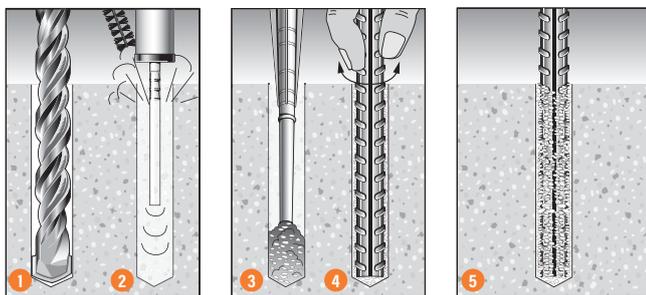
- Anchors in carbide drilled and diamond drilled holes
- Cold and temperate climates

Greater safety:

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

Fire Rated : Refer Fire rated anchoring section

Installation



Important:

1. Drill recommended diameter and depth hole.
2. **Important:** For hammer drilling technique clean dust and debris from hole with stiff wire brush and blower in the following sequence: blow x 2, brush x 2, blow x 2, brush x 2, blow x 2. For diamond drilling technique refer to ETA-25/0647.
3. Screw mixing nozzle onto cartridge and dispense adhesive to waste until colour is orange. Insert mixing nozzle to bottom of hole. Fill hole to 2/3 the hole depth slowly, ensuring no air pockets form.
4. Insert Ramset™ ChemSet™ Anchor Stud/rebar to bottom of hole while turning.
5. Allow Chemset™ EPCON™ G5 Xtrem™ to cure as per setting times.



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 +75°C

Setting Times

Temperature of base material	Gel Time	Curing time in dry concrete	Curing time in wet and flooded concrete
5°C	75 min	30h	60 h
10°C	45 min	22h	44 h
15°C	35 min	14h	28 h
20°C	22 min	7h	14 h
25°C	14 min	5h	10 h
30°C	8 min	4h	8 h
35°C	6 min	3h	6h
40°C	4 min	2h 45min	5h 30min

Seismic Anchors - EPCON™ G5 Xtrem™ - Reinforcing Bar

ChemSet™ EPCON™ G5 Xtrem™

STRENGTH LIMIT STATE DESIGN

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Installation and seismic performance details:

Anchor size, db (mm)	Drilled hole diameter, d _h (mm)	Min. Anchor Spacing (mm)	* Min. Cover with drilling aid (mm)	** Min. Cover without drilling aid (mm)	Nominal Yield Gr500 Rebar (kN)	Development length required to reach Nominal Yield strength in tension L _{sy,t} (mm)		
						Concrete Compressive Strength, f'c		
						20 MPa	25 MPa	30 MPa
10	12	50	41	63	39.3	462	394##	354##
12	15	60	43	69	56.5	554	472	425##
16	20	80	47	82	100.5	739	630	567
20	25	100	52	95	157.1	924	787	708#
25	30	125	67	122	245.4	1155	984	885
28	35	140	70	131	307.9	1293	1102	992
32	40	160	75	144	402.1	1478	1259	1133
40	50	200	83	170	628.3	1848	1574	1417

Note: Development length required is based on service temperature limits -40°C to +75°C.

*Note: Drill aid requirement for both Diamond core and Hammer drilling methods are stipulated in the European Technical Assessment - ETA-25/0647.

**Note: When there is no drilling aid only the Hammer drilling method can be used.

Development length data (L_{sy,t}) is applicable for both Hammer drilling and Diamond drilling technique except where noted by # and ##.

Note: For diamond drilling MULTIPLY L_{sy,t} *1.11.

Note: For diamond drilling the minimum development length is 450mm.

Drilled hole depth, h₁ (mm)

$$h_1 = L_{sy,t}$$

DESCRIPTION AND PART NUMBERS

Description	Cartridge Size	Part No.
ChemSet™ EPCON™ G5 Xtrem™	600 ml	CEG5X600

ENGINEERING PROPERTIES

Typical Engineering Properties of Grade 500 Reinforcing Bar

Rebar Size	10	12	16	20	25	28	32	40
Drilled Hole Dia, d _h (mm)	12	15	20	25	30	35	40	50
Stress Area, A _s (mm ²)	78.5	113	201	314	491	616	804	1260
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	245.5	308.0	402.0	628.0

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