# 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.**




### Principal Applications

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

## 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

**Greater security:**

- Strong bond
- Rated for sustained loading

**Versatile:**

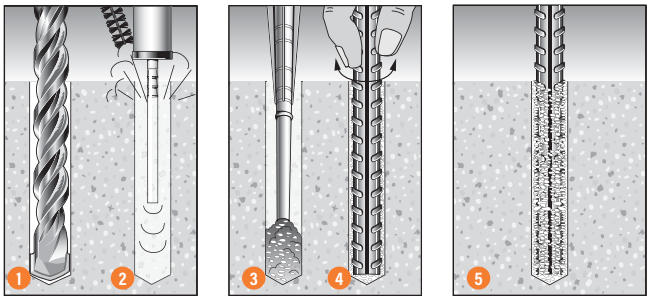
- Anchors in carbide drilled and diamond drilled holes
- Cold and temperate climates

**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.

## Installation & Substrate Temperature Range

| Minimum | Maximum |
|---|---|
| 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 |

# ChemSet™ EPCON™ G5 Xtrem™

## STRENGTH LIMIT STATE DESIGN

AVAILABLE IN NEW ZEALAND ONLY



### 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.

Developement 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, $h_1$ (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