EPCON G5 Pro High Strength Epoxy Adhesive

Ramset™

Approvals / Listings

100 YEARS WORKING LIFE

LOW VOC

ETA CE European Technical Agrement

ETA-18/0675
ETA-20/0752

POTABLE WATER AS PER AS4020

FIRE TEST 4 hours fire tested.

- ETA approved for crecked concrete and seismic zone
- 4 hours FRP as per ISO834
- Potable water as per AS4020
- Low VOC as per Green Star GBCA

Performance Related					Material Specification		
Dynamic Load	Pull down	Cracked Concrete	Fire Resistant	Seismic	Hot dipped Galvanised	Stainless Steel	Zinc Plated
					GAL	A4 316	Zn

Description

EPCON G5 Pro High Strength Epoxy
A high performance chemical epoxy adhesive. Fast cure with extended working time for use in tropical climate. Works well in dry, damp, wet and flooded holes.

Substrates

- Concrete (cracked and non-cracked)
- Solid block
- Solid brick
- Natural stone

Features and Benefits

Formulated for hot or warm weather

- High strength epoxy with 100 years working life
- Fire rated: tested up to 4 hours FRP
- Shorter curing time with extended working time
- Works in damp holes and underwater applications
- Low shrinkage, suitable for cored and oversized holes
- Virtually odorless, can be used indoors
- Easy handling and installations
- Re-sealable tip

Applications

- Reinforcing and starter bars
- Underwater fixings
- Diaphragm wall fixings
- Guard rail fixings
- Parapet wall fixings
- Tunnel fixings
- Floor slabs

Specification

EPCON G5 Pro is a heavy duty, pure epoxy injection chemical anchor.

Setting characteristics at 27°C:

- Working time: 12 minutes
- Full cure time: 4 hours.

Base Material Temperature (C°)	Working Time	Cure Time
35	6 minutes	2 hours
30	8 minutes	4 hours
25	12 minutes	6 hours
20	18 minutes	8 hours
15	25 minutes	12 hours
10	40 minutes	18 hours

Installation temperature

~ Substrate: 5°C to 40°C

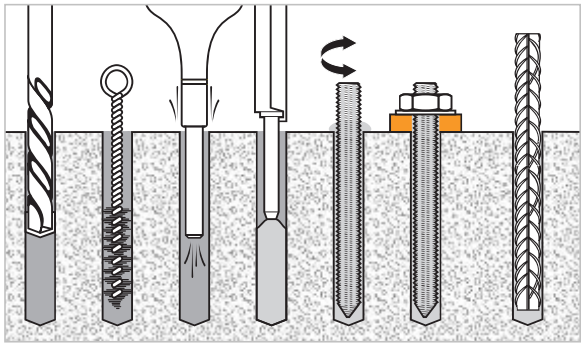
- Load should not be applied to anchor until the chemical has sufficiently cured as specified

Service temperature

-40°C to 70°C

Installation

1. Drill correct diameter hole to recommended depth.
2. Clean hole thoroughly with brush and air pump 3~4 times.
3. Assemble nozzle onto cartridge. Dispense and discard enough chemical until uniform mix is achieved. Inject from the bottom of the hole gradually, filling in until 40% full.
4. Insert the rod/stud or rebar by hand to full depth, using slow rotating movement.
5. Allow EPCON G5 PRO to cure for specified period before loading.



Product Range - EPCON G5™ PRO Epoxy Resin Adhesive

Part No.	Description	Order Qty
G5 PRO	EPCON G5 PRO (600ml)	15
ISNE	ISNE Nozzle	5
CUAP	CUAP Chemset Universal Applicator	1
CUAR-18V	CUAR 18V Chemset Universal Powered Applicator	1

EPCON G5™ PRO - Recommended Working Loads in 40N/mm² non-cracked Concrete - Anchor Studs

Thread Ø	Hole Ø (mm)	Fixture Hole Ø (mm)	Embedment Depth (mm)	Hole Depth (mm)	Torque (Nm)	Shear Load (kN)	Tension Load (kN)
M8	10	10	80	80	10	5.0	11.8
M10	12	12	90	90	20	7.7	14.7
M12	14	14	110	110	40	11.3	21.6
M16	18	18	125	125	80	21.0	26.1
M20	22	22	170	170	120	32.7	44.4
M24	26	26	210	210	160	47.0	65.9
M30	35	33	280	280	200	74.7	86.9

* Safety factor for all loads = 3
* This table does not consider edge distance and anchor spacing effects. Please refer to Ramset Design Guide for more information
* Recommended shear load is limited by anchor stud grade 8.8 refer to ISO 898-1:2009(E). For loading of other material grade, please contact Ramset Technical Department.
* Pull out test for single anchor = working load x 1.5
* For cracked concrete design condition or anchor size larger than M30, please contact Ramset for further support.

Rebar Fixing with EPCON G5 PRO - for loading and installation, please refer to following pages.

STRENGTH LIMIT STATE DESIGN (Rebar Fixing)

RAMSET CHEMSET INJECTION SYSTEM - EPCON G5 PRO
METHOD STATEMENT FOR
INSTALLATION OF REBARS

BAR DIA	HOLE SIZE	GROUTED LENGTH	CHAR. ULT. TENSILE LOAD as per BS5080 Part 1	*YIELD STRENGTH OF 500N/mm² HIGH YIELD DOWEL BAR*
Y10	14 mm	100 mm	42.1 kN	*39.3 kN*
Y12	16 mm	120 mm	56.8 kN	*56.6 kN*
Y16	20 mm	160 mm	103.7 kN	*100.5 kN*
Y20	25 mm	200 mm	159.1 kN	*157.1 kN*
Y25	32 mm	250 mm	246.5 kN	*245.4 kN*
Y32	40 mm	320 mm	428.5 kN	*402.1 kN*

* It is based on non-cracked concrete with strength 30MPa.

- Please apply appropriate factor of safety to get your design working load.
- Pull Out Test Per BS5080: Part 1 had been performed on full range of high yield dowels bar of yield strength 500N/mm². Please consult Ramset technical team for rebar size Y40 or above.
- No load reduction to be applied for installation conditions including dry, water-saturated， water-filled, and underwater applications.
- **For design condition under 1-4 hours FRP, please consult RAMSET technical team.**

Installation Procedure

1) Drill a hole to the correct diameter and depth for particular rebar size being installed.
2) Wire brush the hole using wire brush, blow out all dust with forced air and leave no slurry.
3) Insert nozzle and fill the hole to at least one third its depth. When starting new cartridges or new nozzle， dispense and discard enough adhesive until uniform light grey colored is achieved.
4) Before the G5 PRO gels, insert rebar into the bottom of hole with a slow twisting motion. Wipe off the excess resin if necessary.
5) After the G5 PRO has fully cured, attach the fixture.