XCHEM® PRO

E701 EPOXY

Complies with **AS 5216** and **NCC** (National Construction Code)

E701 XCHEM® PRO EPOXY 585 ml

Description

A two-component chemical anchoring injection system in a 3:1 ratio. Pure epoxy with very high bond strength developed to anchor threaded rods and rebar into concrete.

Applications	Highlights	
• Cracked and non-cracked concrete • Natural stone*		
	CRACKED	NON-CRACKED

Features	
• Suitable for high loads featuring large diameters and deep embedments • Longer gel working time makes it suitable for large holes and high temperatures • No shrinkage • Solvent-free resin	• Use in wet or flooded holes • High durability • Chemical resistance • Used for diamond-drilled holes • Dustless drilling • Nine helical mixing deflectors inside nozzle†

Material	EPOXY
Finish	EPOXY 585 ML CARTRIDGE

* Natural stone not included in ETA. Tensile load capabilities may vary in natural stone. Preliminary tests prior to application are recommended.

AS 5216

SEISMIC C1 & C2

FIRE RATED



†Use with Nozzle MCXND1



Highest Performance

USE IN CONCRETE STRUCTURAL APPLICATIONS WHERE LOADING, TEMPERATURE AND PERFORMANCE ARE CRITICAL.

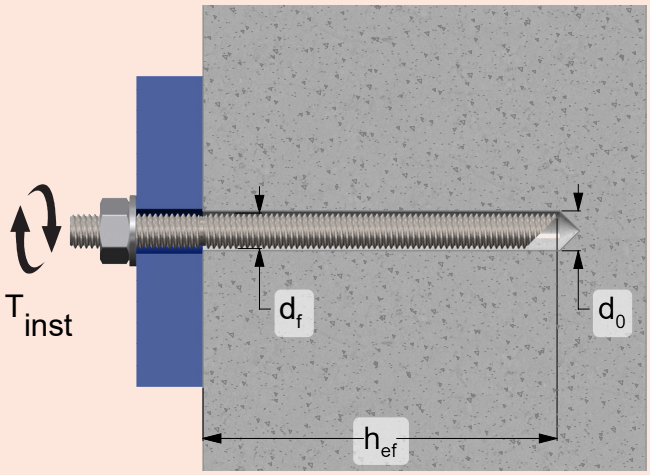
ETA	CE	OPT 1	24/0514
		OPT 7	
		REBAR	24/0515

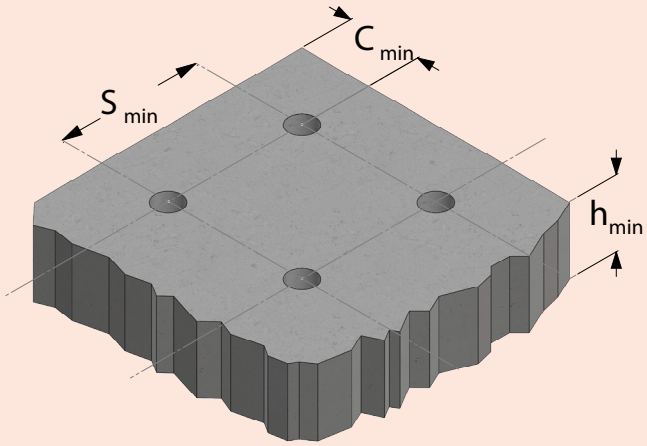
A+	LEED	WRAS APPROVED MATERIAL
VOC / A+ GRADE	LEED TESTED	POTABLE WATER

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XCHEM® PRO

E701 EPOXY





Installation Parameters

		M8	M10	M12	M16	M20	M24	M27	M30
Effective Anchor Depth	h_{ef} (mm)	60–160	60–200	70–240	80–320	90–400	96–480	108–540	120–600
Hole Diameter	d_0 (mm)	10	12	14	18	22	28	30	35
Fixture Hole	d_f (mm)	9	12	14	18	22	26	30	33
Max. Torque	T_{inst} (Nm)	10	20	40	60	120	160	250	300

Member Thickness, Edge Distance and Spacing

		M8	M10	M12	M16	M20	M24	M27	M30
Min. Concrete Thickness	h_{min} (mm)	h_{ef} + 30mm ≥100mm				h_{ef} + 2 d_0			
Min. Edge Distance	C_{min} (mm)	35	40	45	50	60	65	75	80
Min. Spacing	S_{min} (mm)	40	40	60	75	95	115	125	140

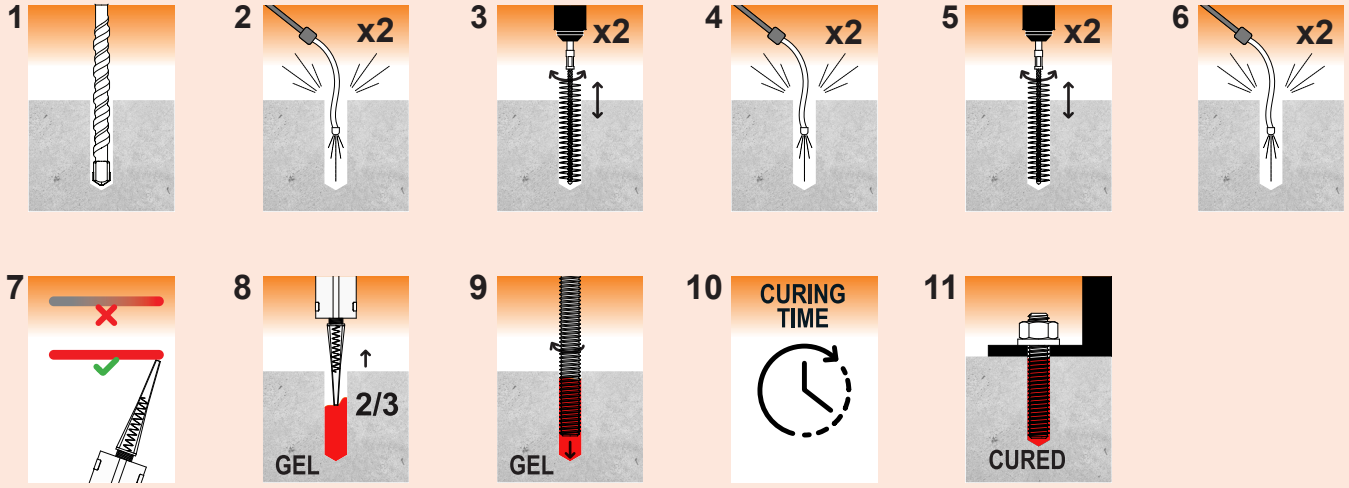
Chemical Volume Calculator

		M8	M10	M12	M16	M20	M24	M27	M30
Volume of Chemical per cm of Hole Depth	mL / cm	0.5	0.8	1.0	1.7	2.5	4.1	5.4	6.4
Standard Hole Depth	mm	80	90	110	125	170	210	250	300
Volume Required for Standard Hole	mL	4	7	11	21	43	86	134	192
Total Holes per 585mL Tube		133	82	49	26	13	6	4	3

*Volume calculation based on 2/3 standard hole depth filled and 5% product waste due to initial and residual mixing.

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Installation



Refer to technical assessment (**ETA**) document for full installation.

Use with **MCXND1**



Working and curing times

Base Material Temp.	5°C - 9°C	10°C - 14°C	15°C - 19°C	20°C - 24°C	25°C - 29°C	30°C - 39°C	40°C +
Gel Working Time	70 mins	32 mins	28 mins	25 mins	22 mins	20 mins	18 mins
Curing Time Dry Concrete	60 h	40 h	30 h	18 h	17 h	16 h	12 h
Curing Time Wet Concrete	120 h	80 h	60 h	36 h	34 h	32 h	24 h

Note: resin temperature must be at least 20°C

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- **Design Resistance:** ultimate design loads in kN for single anchor in C20/25.
  Temperature 24°C average–40°C maximum (short-term temperature)
  No influence of edge distances or anchor spacing considered.
- **Shear Loads:** steel strength without lever arm.

Design Resistance Dry/Wet Hammer-Drilled Holes

Steel Decisive

Non-cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rd} [kN]	12.0	19.3	28.0	52.0	81.3	117.3	153.3	187.3
	Shear	V_{Rd} [kN]	7.2	12.0	16.8	31.2	48.8	70.4	92.0	112.0
8.8	Tension	N_{Rd} [kN]	19.3	27.1	39.7	56.8	90.9	134.8	169.2	225.6
	Shear	V_{Rd} [kN]	12.0	18.4	27.2	50.4	78.4	112.8	147.2	179.2
A4-70	Tension	N_{Rd} [kN]	13.9	21.9	31.6	56.8	90.9	132.1	169.2	210.2
	Shear	V_{Rd} [kN]	8.3	12.8	19.2	35.3	55.1	79.5	103.2	125.6
A4-80	Tension	N_{Rd} [kN]	18.1	27.1	39.7	56.8	90.9	134.8	169.2	225.6
	Shear	V_{Rd} [kN]	11.3	17.3	25.6	47.4	73.7	106.0	138.3	168.4

Cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rd} [kN]	10.7	14.3	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	7.2	12.0	16.8	31.2	48.8	70.4	92.0	112.0
8.8	Tension	N_{Rd} [kN]	10.7	14.3	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	12.0	18.4	27.2	50.4	78.4	112.8	147.2	179.2
A4-70	Tension	N_{Rd} [kN]	10.7	14.3	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	8.3	12.8	19.2	35.3	55.1	79.5	103.2	125.6
A4-80	Tension	N_{Rd} [kN]	10.7	14.3	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	11.3	17.3	25.6	47.4	73.7	106.0	138.3	168.4

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  Temperature 24°C average–40°C maximum (short-term temperature)
  No influence of edge distances or anchor spacing considered.
- **Shear Loads:** steel strength without lever arm.

Design Resistance Dry/Wet Hollow/Vacuum-Drilled Holes

Steel Decisive

Non-cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rd} [kN]	12.0	19.3	28.0	52.0	81.3	117.3	153.3	187.3
	Shear	V_{Rd} [kN]	7.2	12.0	16.8	31.2	48.8	70.4	92.0	112.0
8.8	Tension	N_{Rd} [kN]	17.1	24.1	35.3	53.5	90.9	134.8	180.5	240.7
	Shear	V_{Rd} [kN]	12.0	18.4	27.2	50.4	78.4	112.8	147.2	179.2
A4-70	Tension	N_{Rd} [kN]	13.9	21.9	31.6	53.5	90.9	132.1	171.7	210.2
	Shear	V_{Rd} [kN]	8.3	12.8	19.2	35.3	55.1	79.5	103.2	125.6
A4-80	Tension	N_{Rd} [kN]	17.1	24.1	35.3	53.5	90.9	134.8	180.5	240.7
	Shear	V_{Rd} [kN]	11.3	17.3	25.6	47.4	73.7	106.0	138.3	168.4

Cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rd} [kN]	-	-	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	-	-	16.8	31.2	48.8	70.4	92.0	112.0
8.8	Tension	N_{Rd} [kN]	-	-	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	-	-	27.2	50.4	78.4	112.8	147.2	179.2
A4-70	Tension	N_{Rd} [kN]	-	-	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	-	-	19.2	35.3	55.1	79.5	103.2	125.6
A4-80	Tension	N_{Rd} [kN]	-	-	19.9	28.4	48.3	67.4	84.6	112.8
	Shear	V_{Rd} [kN]	-	-	25.6	47.4	73.7	106.0	138.3	168.4

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- **Design Resistance:** ultimate design loads in kN for single anchor in C20/25.
  Temperature 24°C average–40°C maximum (short-term temperature)
  No influence of edge distances or anchor spacing considered.
- **Shear Loads:** steel strength without lever arm.

Design Resistance Dry/Wet Hammer-Drilled Holes - Seismic Loads

Steel Decisive

C1			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rd} [kN]	10.7	12.9	19.9	27.7	46.6	64.9	73.3	88.7
	Shear	V_{Rd} [kN]	7.2	12.0	16.8	31.2	48.8	70.4	92.0	112.0
8.8	Tension	N_{Rd} [kN]	10.7	12.9	19.9	27.7	46.6	64.9	73.3	88.7
	Shear	V_{Rd} [kN]	12.0	18.4	27.2	50.4	78.4	112.8	147.2	179.2
A4-70	Tension	N_{Rd} [kN]	10.7	12.9	19.9	27.7	46.6	64.9	73.3	88.7
	Shear	V_{Rd} [kN]	8.3	12.8	19.2	35.3	55.1	79.5	103.2	125.6
A4-80	Tension	N_{Rd} [kN]	10.7	12.9	19.9	27.7	46.6	64.9	73.3	88.7
	Shear	V_{Rd} [kN]	11.3	17.3	25.6	47.4	73.7	106.0	138.3	168.4

C2			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rd} [kN]	-	-	9.0	8.0	14.8	36.2	-	-
	Shear	V_{Rd} [kN]	-	-	16.8	31.2	48.8	70.4	-	-
8.8	Tension	N_{Rd} [kN]	-	-	9.0	8.0	14.8	36.2	-	-
	Shear	V_{Rd} [kN]	-	-	27.2	50.4	78.4	112.8	-	-
A4-70	Tension	N_{Rd} [kN]	-	-	9.0	8.0	14.8	36.2	-	-
	Shear	V_{Rd} [kN]	-	-	19.2	35.3	55.1	79.5	-	-
A4-80	Tension	N_{Rd} [kN]	-	-	9.0	8.0	14.8	36.2	-	-
	Shear	V_{Rd} [kN]	-	-	25.6	47.4	73.7	106.0	-	-

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- **Shear Loads:** steel strength without lever arm.
- **Working Loads:** in kg for single anchor in C20/25.
  Temperature 24°C average–40°C maximum (short-term temperature)
  No influence of edge distances or anchor spacing considered.
  Calculated as Design Resistance/1.4 for both Tension and Shear.

Working Load Dry/Wet Hammer-Drilled Holes

Steel Decisive

Non-cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rw} [kg]	870	1400	2030	3780	5920	8540	11160	13640
	Shear	V_{Rw} [kg]	520	870	1220	2270	3550	5120	6690	8150
8.8	Tension	N_{Rw} [kg]	1400	1970	2890	4130	6620	9810	12320	16420
	Shear	V_{Rw} [kg]	870	1330	1980	3660	5700	8210	10710	13040
A4-70	Tension	N_{Rw} [kg]	1010	1590	2290	4130	6620	9610	12320	15300
	Shear	V_{Rw} [kg]	600	930	1400	2560	4010	5780	7510	9140
A4-80	Tension	N_{Rw} [kg]	1310	1970	2890	4130	6620	9810	12320	16420
	Shear	V_{Rw} [kg]	820	1250	1860	3440	5360	7710	10070	12260

Cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rw} [kg]	770	1040	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	520	870	1220	2270	3550	5120	6690	8150
8.8	Tension	N_{Rw} [kg]	770	1040	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	870	1330	1980	3660	5700	8210	10710	13040
A4-70	Tension	N_{Rw} [kg]	770	1040	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	600	930	1400	2560	4010	5780	7510	9140
A4-80	Tension	N_{Rw} [kg]	770	1040	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	820	1250	1860	3440	5360	7710	10070	12260

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  Temperature 24°C average–40°C maximum (short-term temperature)
  No influence of edge distances or anchor spacing considered.
  Calculated as Design Resistance/1.4 for both Tension and Shear.

Working Load Dry/Wet Hollow/Vacuum-Drilled Holes

Steel Decisive

Non-cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rw} [kg]	870	1400	2030	3780	5920	8540	11160	13640
	Shear	V_{Rw} [kg]	520	870	1220	2270	3550	5120	6690	8150
8.8	Tension	N_{Rw} [kg]	1240	1750	2570	3890	6620	9810	13140	17520
	Shear	V_{Rw} [kg]	870	1330	1980	3660	5700	8210	10710	13040
A4-70	Tension	N_{Rw} [kg]	1010	1590	2290	3890	6620	9610	12490	15300
	Shear	V_{Rw} [kg]	600	930	1400	2560	4010	5780	7510	9140
A4-80	Tension	N_{Rw} [kg]	1240	1750	2570	3890	6620	9810	13140	17520
	Shear	V_{Rw} [kg]	820	1250	1860	3440	5360	7710	10070	12260

Cracked Concrete			M8	M10	M12	M16	M20	M24	M27	M30
Embedment Depth (mm)			80	90	110	125	170	210	250	300
5.8	Tension	N_{Rw} [kg]	-	-	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	-	-	1220	2270	3550	5120	6690	8150
8.8	Tension	N_{Rw} [kg]	-	-	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	-	-	1980	3660	5700	8210	10710	13040
A4-70	Tension	N_{Rw} [kg]	-	-	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	-	-	1400	2560	4010	5780	7510	9140
A4-80	Tension	N_{Rw} [kg]	-	-	1440	2060	3510	4900	6160	8210
	Shear	V_{Rw} [kg]	-	-	1860	3440	5360	7710	10070	12260

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Packaging

585 mL tube.

Storage

24 months (from 5–25°C) or at lower temperatures for shorter periods of time (e.g. during transport).
Higher temperatures shorten storage life. Store the cans in an upright position. Avoid direct sunlight.

Health, safe handling and disposal information

Additional information on safety, safe handling instructions, personal protective equipment and disposal information is in a safety data sheet. Safety data sheets are available at **hobson.com.au**



Warning



(A,B) (B) (A,B) (A,B)

NOTE: Instructions contained in this document are based on Hobson's research and experience.
However, due to specific conditions and working methods, preliminary tests prior to any application of XCHEM™ products are recomended.

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