# 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<br>• Natural stone* |  |  |
| | CRACKED | NON-CRACKED |

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

| | |
|---|---|
| **Material** | EPOXY |
| **Finish** | EPOXY<br>585 ML CARTRIDGE |

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


†Use with Nozzle MCXND1

## Highest Performance

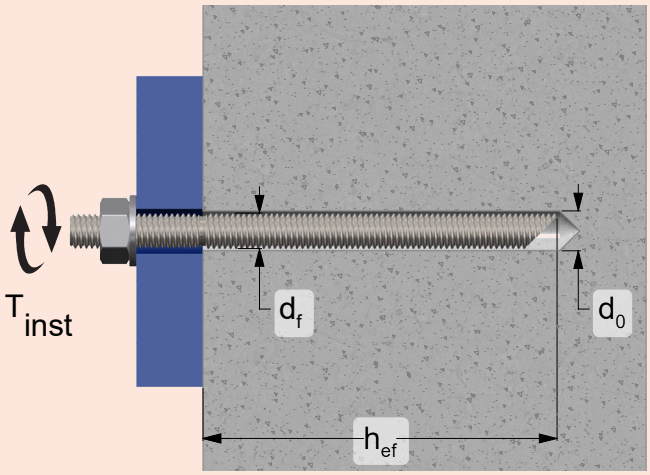
**USE IN CONCRETE STRUCTURAL APPLICATIONS WHERE LOADING, TEMPERATURE AND PERFORMANCE ARE CRITICAL.**

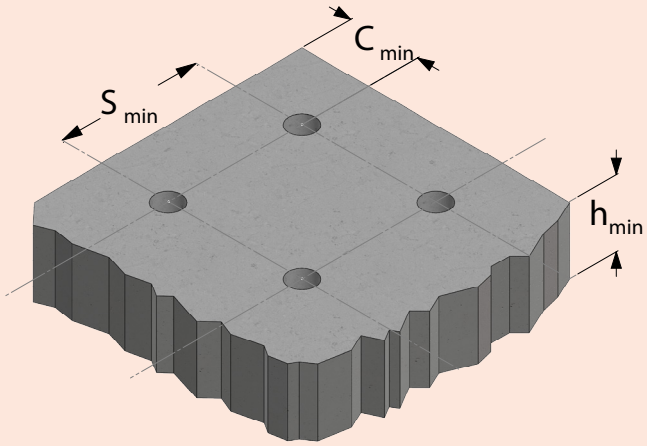
| | | | |
|---|---|---|---|
| ETA | CE | OPT 1 | 24/0514 |
| | | OPT 7 | |
| | | REBAR | 24/0515 |

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

# 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

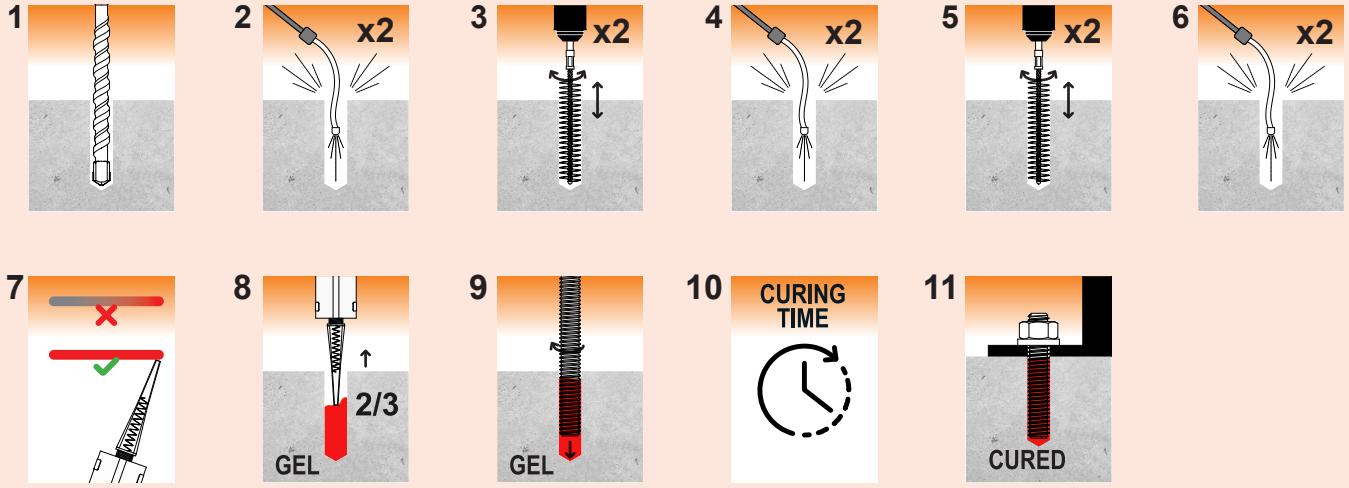
| | | M8 | M10 | M12 | M16 | M20 | M24 | M27 | M30 |
|---|---|---|---|---|---|---|---|---|---|
| **Min. Concrete Thickness** | $h_{min}$ (mm) | $h_{ef}$ + 30mm ≥100mm | | | | $h_{ef}$ + 2 $d_0$ | | | |
| **Min. Edge Distance** | $C_{min}$ (mm) | 35 | 40 | 45 | 50 | 60 | 65 | 75 | 80 |
| **Min. Spacing**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

## 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

- **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 |

- **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 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 |

- **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 | - | - |

- **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 |

- **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 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 |

## 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.**