



Product Information

The Polyester 2 Part Injection Resin is a general purpose resin suitable for solid brickwork and natural stone as well as hollow base materials using suitable sleeves. Polyester resin can also be used in Concrete but more suitable J-Fix Resins are available. It can be used for installing Studs, Rebar and Internal Threaded Sockets in dry conditions.

Features

- 1 Expansion free
- 2 Easy to dispense
- 3 Close Spacing and Edge Distance
- 4 Minimum waste

Installation Data

| Thread Diameter | Drill Hole Diameter | Hole Depth | Maximum Fixture Thickness | Fixture Clearance Hole | Minimum Structure Thickness | Tightening Torque |
|-----------------|---------------------|------------|---------------------------|------------------------|-----------------------------|-------------------|
| mm | mm | mm | mm | mm | mm | mm |
| 8 | 10 | 80 | 18 | 10 | 100 | 7 |
| 10 | 12 | 90 | 25 | 12 | 120 | 11 |
| 12 | 14 | 110 | 34 | 14 | 140 | 25 |
| 16 | 18 | 125 | 45 | 18 | 160 | 50 |
| 20 | 25 | 170 | 55 | 22 | 220 | 115 |
| 24 | 28 | 210 | 55 | 26 | 260 | 140 |

Setting Times

| Base Material Temp °C | Gel Time Mins | Load Time Mins |
|-----------------------|---------------|----------------|
| 0 | 45 | 180 |
| 5 | 25 | 120 |
| 10 | 15 | 90 |
| 15 | 10 | 60 |
| 20 | 8 | 45 |
| 25 | 5 | 30 |

Recommended Loads for Brick and Block

| Thread Diameter | Brick | | Block | |
|-----------------|----------------------------------|---------------|---------------------------------|---------------|
| | 20 N/mm ² Solid Brick | | 7 N/mm ² Solid Block | |
| | Rec Load kN | Rec Torque Nm | Rec Load kN | Rec Torque Nm |
| mm | | | | |
| 8 | 1.5 | 4 | 0.9 | 3 |
| 10 | 3.0 | 7 | 1.4 | 6 |
| 12 | 4.2 | 11 | 2.5 | 10 |
| 16 | 5.1 | 25 | 4.0 | 23 |

Resin Fixing per Cartridge

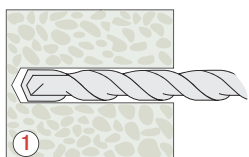
| Thread Diameter | Hole Diameter | Hole Depth | 380 |
|-----------------|---------------|------------|-----|
| mm | mm | mm | mm |
| 8 | 10 | 80 | 110 |
| 10 | 12 | 90 | 60 |
| 12 | 14 | 110 | 40 |
| 16 | 18 | 125 | 20 |
| 20 | 25 | 170 | 9 |
| 24 | 28 | 210 | 5 |

Loads are for any direction
Maintain Spacing as per Concrete Loads
but only 1 fixing per brick is recommended

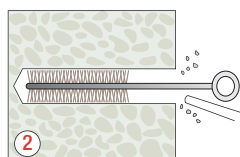
Do not fix closer than 1 brick away from a free edge
Due to the variable nature of Brickwork and Blockwork these figures
are for guidance only. For critical applications a site test is recommended

Installation Instructions

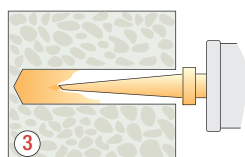
Solid Materials



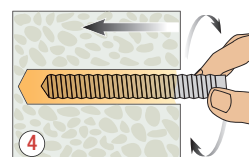
1 Drill hole of correct diameter and to correct depth. If holes formed using diamond drill sides must be roughened using a rotary percussion bit



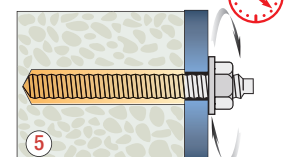
2 Clean hole by brushing and blowing to remove drilling debris and dust



3 Inject resin into hole after ensuring that the 2 parts are mixing correctly. Fill hole approx 1/3 full, filling hole from the bottom towards the top

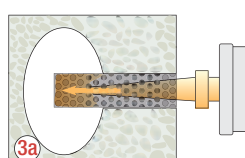
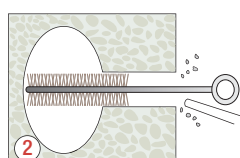
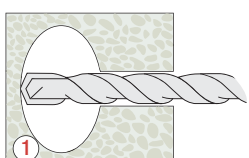


4 Insert stud rotating by hand to ensure an even distribution of the resin around the hole

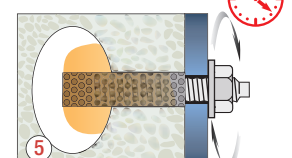
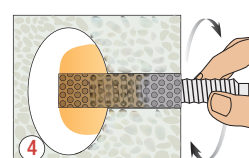


5 Allow the resin to cure for appropriate time. Attach fixture and tighten anchor to Recommended Torque

Hollow Materials



3a For Hollow Materials insert perforated sleeve first and inject resin to fill sleeve. Filling sleeve from the bottom towards the top



| Performance Data (20/25 Concrete) | | | | | | | | | |
|-----------------------------------|------------------------------|-------|----------------------|-------|---------------------|-------|------------|------------------|---------|
| Thread Diameter mm | Characteristic Resistance kN | | Design Resistance kN | | Recommended Load kN | | Spacing mm | Edge Distance mm | |
| | Tensile | Shear | Tensile | Shear | Tensile | Shear | | Tensile & Shear | Tensile |
| 8 | 14.5 | 9.0 | 6.9 | 7.2 | 4.9 | 5.1 | 100 | 80 | 90 |
| 10 | 22.1 | 14.0 | 10.5 | 11.2 | 7.5 | 8.0 | 130 | 90 | 125 |
| 12 | 31.7 | 21.0 | 15.1 | 16.8 | 10.8 | 12.0 | 150 | 110 | 160 |
| 16 | 36.1 | 39.0 | 17.2 | 31.2 | 12.3 | 22.3 | 170 | 130 | 270 |
| 20 | 58.4 | 61.0 | 27.8 | 48.8 | 19.9 | 34.9 | 210 | 150 | 300 |
| 24 | 80.6 | 88.0 | 38.4 | 70.4 | 27.4 | 50.3 | 240 | 190 | 360 |

Reduced Design Resistance (kN) • Divide Loads by 1.4 for Recommended Loads

| Edge Distance (C20/25 Concrete) for single anchors | | | | | | | | | | | | | Spacing (C20/25 Concrete) | | | | | | | |
|--|--------------------|------|------|------|------|------|------------------|------|------|------|------|------|---------------------------|--|------|------|------|------|------|------|
| Edge mm | Tensile Resistance | | | | | | Shear Resistance | | | | | | Spacing mm | Tensile Resistance per Pair of Anchors | | | | | | |
| | M8 | M10 | M12 | M16 | M20 | M24 | M8 | M10 | M12 | M16 | M20 | M24 | | M8 | M10 | M12 | M16 | M20 | M24 | |
| 40 | 4.5 | | | | | | | | | | | | 40 | 9.7 | | | | | | |
| 45 | 4.8 | 6.8 | | | | | | | | | | | 45 | 10.0 | 14.1 | | | | | |
| 50 | 5.1 | 7.2 | | | | | 4.0 | | | | | | 50 | 10.4 | 14.5 | | | | | |
| 55 | 5.4 | 7.6 | 9.8 | | | | 4.4 | | | | | | 55 | 10.7 | 14.9 | 20.6 | | | | |
| 60 | 5.7 | 8.1 | 10.3 | | | | 4.8 | | | | | | 60 | 11.0 | 15.3 | 21.1 | | | | |
| 65 | 6.0 | 8.5 | 10.8 | 11.2 | | | 5.2 | 5.8 | | | | | 65 | 11.4 | 15.8 | 21.6 | 23.8 | | | |
| 70 | 6.3 | 8.9 | 11.3 | 11.6 | 17.4 | | 5.6 | 6.3 | | | | | 70 | 11.7 | 16.2 | 22.1 | 24.3 | | | |
| 80 | 6.9 | 9.7 | 12.2 | 12.6 | 18.7 | | 6.4 | 7.2 | 8.4 | | | | 80 | 12.4 | 17.0 | 23.2 | 25.3 | | | |
| 90 | | 10.5 | 13.2 | 13.5 | 20.0 | 24.3 | 7.2 | 8.1 | 9.5 | | | | 90 | 13.1 | 17.8 | 24.2 | 26.3 | 39.7 | | |
| 100 | | | 14.1 | 14.4 | 21.3 | 25.7 | | 9.0 | 10.5 | | | | 100 | 13.8 | 18.6 | 25.2 | 27.3 | 41.0 | | |
| 110 | | | 15.1 | 15.3 | 22.6 | 27.1 | | 9.9 | 11.6 | | | | 110 | | 19.4 | 26.2 | 28.3 | 42.4 | | |
| 125 | | | | 16.7 | 24.6 | 29.2 | | 11.2 | 13.1 | 14.4 | | | 120 | | 20.2 | 27.2 | 29.3 | 43.7 | 54.6 | |
| 130 | | | | 17.2 | 25.2 | 29.9 | | | 13.7 | 15.0 | | | 130 | | 21.0 | 28.2 | 30.4 | 45.0 | 56.1 | |
| 150 | | | | | 27.8 | 32.7 | | | 15.8 | 17.3 | 24.4 | | 140 | | | 29.2 | 31.4 | 46.3 | 57.6 | |
| 160 | | | | | | 34.2 | | | 16.8 | 18.5 | 26.0 | | 150 | | | 30.2 | 32.4 | 47.7 | 59.2 | |
| 170 | | | | | | 35.6 | | | | 19.6 | 27.7 | | 160 | | | | 33.4 | 49.0 | 60.7 | |
| 190 | | | | | | 38.4 | | | | | 22.0 | 30.9 | 37.2 | 170 | | | | 34.4 | 50.3 | 62.2 |
| 200 | | | | | | | | | | | 23.1 | 32.5 | 39.1 | 190 | | | | | 53.0 | 65.2 |
| 210 | | | | | | | | | | | 24.3 | 34.2 | 41.1 | 210 | | | | | 55.6 | 68.3 |
| 230 | | | | | | | | | | | 26.6 | 37.4 | 45.0 | 230 | | | | | | 71.3 |
| 270 | | | | | | | | | | | 31.2 | 43.9 | 52.8 | 240 | | | | | | 72.8 |
| 300 | | | | | | | | | | | | 48.8 | 58.7 | | | | | | | |
| 330 | | | | | | | | | | | | | 64.5 | | | | | | | |
| 360 | | | | | | | | | | | | | 70.4 | | | | | | | |

Influence of Concrete Strength

| Concrete Strength | | C20/25 | C25/30 | C30/37 | C40/50 | C45/55 | C50/60 |
|-------------------|-------------------|--------|--------|--------|--------|--------|--------|
| Cylinder | N/mm ² | 20 | 25 | 30 | 40 | 45 | 50 |
| Cube | N/mm ² | 25 | 30 | 37 | 50 | 55 | 60 |
| Factor | | 1.00 | 1.10 | 1.22 | 1.41 | 1.48 | 1.55 |

When using concrete factors check all other information to ensure Steel Strength and Pull out Resistance is not exceeded

Steel Design Resistance for single anchor

| | | M8 | M10 | M12 | M16 | M20 | M24 | |
|---------|----|------|------|------|------|------|-------|--------------------------|
| Tension | kN | 12.0 | 19.3 | 28.0 | 52.0 | 82.0 | 118.0 | Grade 5.8 |
| | kN | 13.9 | 21.4 | 31.5 | 58.8 | 92.0 | 132.0 | Stainless Steel Grade 70 |
| Shear | kN | 7.2 | 11.2 | 16.8 | 31.2 | 48.8 | 70.4 | Grade 5.8 |
| | kN | 8.3 | 12.8 | 18.5 | 35.2 | 55.1 | 79.4 | Stainless Steel Grade 70 |

Anchor Mechanical Properties

| | | M8 | M10 | M12 | M16 | M20 | M24 | |
|--------------------------|-------------------|-----|-----|-----|-----|-----|-----|---------------------|
| Nominal Tensile Strength | N/mm ² | 500 | 500 | 500 | 500 | 500 | 500 | Zinc plated & H.D.G |
| | | 700 | 700 | 700 | 700 | 700 | 700 | Stainless Steel |
| Yield Strength | N/mm ² | 400 | 400 | 400 | 400 | 400 | 400 | Zinc plated & H.D.G |
| | | 450 | 450 | 450 | 450 | 450 | 450 | Stainless Steel |
| Nut A/F | mm | 13 | 17 | 19 | 24 | 30 | 36 | |
| Washer Diameter | mm | 16 | 21 | 24 | 30 | 37 | 44 | |