

Chelfix PUR Injection

Polyurethane Based, High Quality, Water Reactive Injection System

Product Description

Chelfix PUR Injection is a two-component, solvent-free, low-viscosity polyurethane injection system. It is specially formulated to react with water, rapidly forming a strong, flexible seal capable of withstanding high hydrostatic pressures. Designed for both dry and wet conditions, it effectively seals cracks, joints, and voids in concrete, masonry, and rock structures.



Areas of Application

- Injection of wet/dry cracks in concrete, masonry, and brickwork
- High-pressure sealing against water leaks in:
 - Retaining/diaphragm walls
 - Dams, tunnels, and rock formations
 - HDPE/LDPE membrane systems
- Pre-injection in NATM or TBM tunneling in wet environments
- Sealing of joints, voids, and segregation zones in concrete
- Soil stabilization and anchoring in saturated or dry gravel fills
- Curtain grouting behind porous reinforced concrete
- Suitable for potable water contact applications



Key Advantages

- Solvent-free and filler-free formulation
- Rapid curing, adjustable with catalyst
- Excellent adhesion to wet and dry substrates
- Resistant to most acids, bases, fuels, and solvents
- High resistance to hydrostatic pressure
- Non-shrinking and non-toxic
- Compatible with potable water systems (BS 6920 compliant)
- Very low viscosity for deep crack penetration

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Technical Data

| Property: | |
|--------------------------------------|---|
| Chemical Base | Polyurethane |
| Isocyanates | 17 ± 2 % (EN ISO 1242: 2006) |
| Density | Component A: 1.15 ± 0.03 (gr / ml) (EN ISO 2811-2: 2002) Catalyst: 0.90 ± 0.03 (gr / ml) |
| Viscosity | A Component: 50-100 mPA.s (EN ISO 3219: 1994) Catalyst: 40-60 mPA.s |
| Flashing Point | > 100°C |
| Curing Time and Catalyst Dosage | |
| Catalyst Dosage (% by weight) Approx | Curing Time (at 20°C) |
| 1% (1:100) | ~ 300 seconds (5 minutes) |
| 2% (1:50) | ~ 120 seconds (2 minutes) |
| 5% (1:20) | ~ 60 seconds (1 minutes) |
| 6.7% (1:15) | ~ 45 seconds |
| 10% (1:10) | ~ 30 seconds |

Note: Shake the catalyst well before mixing. Adjust dosage based on site conditions and required reaction speed.

Application/ Guidelines

- Surface Preparation:** Clean cracks and remove loose material. Pre-seal cracks >3 mm using fast-setting PLUG material.
- Drilling Holes:** Drill at 45° angle to the structure, half the wall depth. Space 15–90 cm depending on crack width and flow.
- Installing Packers:** Insert and securely tighten packers into drilled holes.
- Pre-Flushing:** Inject water before resin to remove dust and activate reaction conditions in the crack.
- Mixing Resin & Catalyst:**
 - Mix component A with the pre-determined amount of catalyst just before injection.
 - Avoid water contact with unmixed resin to prevent premature foaming.
- Injection:**
 - Start with low pump pressure; increase gradually (14 to 200 bar depending on conditions).
 - Continue until resin visibly exits from the crack or adjacent port.
 - Repeat the process for each packer sequentially.
 - Re-inject earlier ports if necessary after curing begins.
- Post-Injection:**
 - Do not remove packers until full curing is complete.
 - Clean tools and pump with solvent or warm soapy water within 30 minutes.
 - Hardened resin can only be removed mechanically.

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Storage & Shelf Life

- Shelf Life: **12 months** in original, unopened packaging
- Storage Conditions: Store in a **cool, dry place** between **+10°C to +30°C**
- Protect from moisture and direct sunlight

Packaging

- **21.5 kg Set**
- **5.375 kg Set**

Compliance & Safety

- **BS 6920** certified for potable water contact
- Follow local disposal regulations
- Use appropriate PPE; refer to MSDS for full safety guidance