

# CHEMFIT STRUCTBOND 9600

**Two Part Thixotropic, Moisture Tolerant, Solvent Free Structural Adhesive and Repair Mortar – For Bonding Concrete, Metal, Masonry; Repairing Cracks; Anchoring Rebars**

## PRODUCT DESCRIPTION

**ChemFit StructBond 9600** is a high-performance, two-part, thixotropic, moisture tolerant, solvent-free structural adhesive and repair mortar based on advanced epoxy technology. The solvent-free, 100% solids formulation provides zero VOC emissions, making it safe for indoor and confined space use. The thixotropic, non-sag consistency allows easy application on vertical and overhead surfaces without dripping. Moisture tolerance ensures reliable curing even on damp substrates or in water-filled holes. Ideal for structural bonding, crack repair, and rebar anchoring in concrete, metal, and masonry.

## PRIMARY APPLICATIONS

**ChemFit StructBond 9600** is recommended for use in conditions such as:

- Structural bonding of concrete to concrete, concrete to steel, and concrete to masonry
- Repair of cracks, spalls, and honeycombs in concrete elements
- Anchoring of reinforcing bars (rebar) and threaded rods into concrete and masonry
- Fixing metal plates, brackets, and machinery to concrete bases
- Patching and rebuilding damaged concrete or stone surfaces
- Floor and slab joint filling where high strength is required
- Marine and industrial structure repairs (resistant to water and chemicals)

## KEY FEATURES AND BENEFITS

- **Two-part** – Consistent mix ratio; high reliability
- **Thixotropic** – Non-sag; ideal for vertical and overhead work
- **Moisture tolerant** – Cures on damp surfaces and in water-filled holes
- **Solvent free** – Zero VOC; safe for confined spaces; no odour
- **High strength** – Excellent compressive, tensile, and bond strength
- **Good chemical resistance** – Resists oils, fuels, dilute acids, alkalis
- **Low shrinkage** – Dimensionally stable after cure
- **Easy to mix and apply** – Trowel or cartridge injection
- **Available in 1.2 kg and 6 kg packs** – Convenient sizes for small to medium repairs

## PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Two components: resin (liquid/paste) + hardener (paste)
Mixed colour	Light gray
Basis	High strength epoxy resin
Solvent content	Nil
VOC	Zero
Viscosity (mixed)	Thixotropic paste (non-sag)
Mix ratio by weight	As per pack (refer to label)
Density (mixed)	~1.85 kg/L
Pot life (at 25°C, 100g mass)	30 – 45 minutes
Tack-free time (at 25°C)	3 – 5 hours
Full cure (structural load)	7 days
Application temperature	+5°C to +35°C
Service temperature	-30°C to +80°C

## MECHANICAL PROPERTIES

Property	Value (typical at 7 days / 25°C)
Compressive strength (ASTM D695)	65 – 85 MPa (9,400 – 12,300 psi)
Tensile strength (ASTM C307)	12 – 20 MPa (1,740 – 2,900 psi)
Flexural strength (ASTM C580)	25 – 40 MPa (3,600 – 5,800 psi)
Bond strength – concrete shear (ASTM C882)	> Concrete substrate failure (> 15 MPa)
Bond strength – steel (tensile)	> 12 MPa (1,740 psi)
Tensile elastic modulus	~6,000 MPa
Shrinkage	< 0.02%

## PACKAGING AND STORAGE

### Packaging:

- 1.2 kg pack (pre-weighed resin + hardener)
- 6 kg pack (pre-weighed resin + hardener)

**Storage:**

- Store in original sealed containers at +10°C to +30°C
- Protect from direct sunlight, moisture, and freezing
- Keep containers tightly closed when not in use

**Shelf life:** 24 months from date of manufacture when stored properly

**DOSAGE AND COVERAGE RATES**

**Coverage:** Approximately 1.9 kg per square metre per millimetre of thickness.

Thickness (mm)	Coverage per 1.2 kg pack (m <sup>2</sup> )	Coverage per 6 kg pack (m <sup>2</sup> )
1 mm	0.63	3.15
2 mm	0.32	1.58
3 mm	0.21	1.05
5 mm	0.13	0.63
10 mm	0.063	0.315

**For rebar anchoring (hole filling):** Example: 12 mm diameter rod, 100 mm embedment depth → Hole volume ~18 mL → Adhesive weight ~33 g per hole.

**NOTE:** Coverage is approximate; varies with substrate porosity and surface texture.

**APPLICATION GUIDLINES**

**Surface Prep:**

- Substrate clean, dry, sound, free of dust, oil, grease, laitance
- Concrete: mechanically abrade (grinding, shot blasting, scabbling) to open texture
- Steel: remove rust and scale by sandblasting or wire brushing
- For crack repair: chase crack to sound base, clean with compressed air

**Mixing:**

- Pre-mix resin component individually; combine with hardener as per pack ratio
- Mix with low-speed drill (400-600 rpm) for 2-3 minutes until uniform colour
- Scrape sides and bottom; avoid air entrapment
- Use entire batch within pot life (30-45 min @25°C)

### Application:

- Apply by trowel, spatula, or putty knife
- For bonding: apply thin coat (1-2 mm) to both surfaces, press together
- For crack repair: inject or trowel into prepared crack; overfill slightly
- For vertical/overhead: thixotropic nature prevents sagging; apply in layers if thick (>15 mm)
- For rebar anchoring: inject adhesive into hole, insert rebar with twisting motion

### Curing:

- Allow full cure (7 days) before structural loading
- For damp substrates or water-filled holes: double cure time
- Protect from water and chemicals during first 24 hours
- Do not apply below +5°C or if freezing expected within 24h

## HEALTH AND SAFETY

Epoxy resin may cause skin and eye sensitisation. If eye contact: rinse 15 minutes with water, seek medical aid. Skin: wash with soap and water. If swallowed: do not induce vomiting – seek medical aid. Use nitrile gloves, safety glasses, protective clothing. Ensure ventilation. Refer SDS.

## CLEANG OF TOOLS

Clean tools with acetone, xylene, or epoxy thinner immediately after use. Cured epoxy requires mechanical removal.

## APPROVALS AND STANDARDS

**ChemFit StructBond 9600** conforms to the following standards:

- **ASTM C881 / C881M** – Type II, IV, Grade 3, Class B and C (structural epoxy bonding systems)
- **ASTM D695** – Compressive strength testing
- **ASTM C882** – Bond strength by slant shear
- **ASTM E488** – Strength of adhesive anchors (method)
- Two part, thixotropic, moisture tolerant, solvent free structural adhesive
- Suitable for bonding concrete, metal, masonry; crack repair; rebar anchoring

## LEGAL NOTES

*All technical data provided in this Product Data Sheet is based on laboratory testing under controlled conditions. Actual field performance may vary due to differences in substrates, application methods, site conditions, and environmental factors. ChemFit makes no warranty of merchantability or fitness for a particular purpose. Users shall conduct their own trials to validate product suitability for the intended application. ChemFit reserves the right to modify product specifications without prior notice. For the most current documentation, request the latest Product Data Sheet and Safety Data Sheet from ChemFit.*

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