FISFIX 650

HIGH-PERFORMANCE, HIGH-LOAD ANCHORING EPOXY FOR POST-INSTALLED REBAR & THREADED ROD CONNECTIONS

110 MPa	1 : 1	−40 / +50 °C	650 mL
COMPRESSIVE STRENGTH	MIX RATIO (BY VOLUME)	SERVICE TEMPERATURE	CARTRIDGE VOLUME

DESCRIPTION

FISFIX 650 is a two-component, high-performance epoxy-based chemical anchoring adhesive supplied in a 650 mL side-by-side cartridge with integrated static mixer. Delivering 110 MPa compressive strength with a convenient 1 : 1 mix ratio, FISFIX 650 is designed for large-volume anchoring applications in concrete, masonry, and natural stone substrates. The thixotropic formulation (index ≥ 4.2) allows overhead and horizontal installation without drip.

INTENDED USES

- Anchoring of all grades of rebars and threaded rods in concrete, masonry, natural stone, and solid or hollow bricks and blocks
- Grouting horizontally and vertically where rapid setting and fast turnaround times are needed
- Applications in cooler temperatures and inclement conditions, including −10 °C and wet substrates
- External environments subject to dynamic loads and vibrations
- Anchoring structural steel to concrete — safety barriers, canopies, signs, handrails, racking, machinery, masonry supports, stadium seats, reinforcing and starter bars

CHARACTERISTICS

- High compressive strength (110 MPa) — reliable load transfer for structural anchorages
- Thixotropic consistency (index ≥ 4.2) — non-sag, may be applied overhead
- 1 : 1 mix ratio by volume — dispensed and mixed automatically via static mixing nozzle
- Suitable for cracked and uncracked concrete
- Styrene-free, VOC-compliant and low odour
- Sets up in dry or damp drill holes
- Reduced edge and spacing values allowing critical applications
- Flexible embedment depths from 8d to 12d
- Resistant to a wide range of chemicals

TECHNICAL PROPERTIES

PROPERTY	VALUE
PROCESSING	
Packaging	650 mL side-by-side cartridge, 20 per case
Mix Ratio (A : B)	1 : 1 (by volume)
Colour (mixed)	Grey / Pink

PROPERTY	VALUE
Service Temperature	−40 / +50 °C
Shelf Life	12 months (unopened, +5 to +25 °C)
Viscosity (mixed)	16 Pa·s
Density (cured)	1.5 g/cm³
MECHANICAL (CURED)	
Compressive Strength	**≥ 110 MPa**
Splitting Tensile Strength	≥ 20 MPa
Tensile Modulus	≥ 3,500 MPa
Elongation at Break	≥ 1.7 %
Flexural Strength	≥ 90 MPa
Thixotropy Index	≥ 4.2
Sagging Mobility (25 °C)	≤ 1.4 mm
Heat Distortion Temperature	≥ 66 °C
BOND & SHEAR	
Steel-to-Steel Tensile Shear	≥ 16 MPa
Bond to C30 Concrete (Φ25, L=150 mm)	≥ 11 MPa
Bond to C60 Concrete (Φ25, L=125 mm)	≥ 18 MPa
Steel-to-Steel T-Peel Stripping	≤ 25 mm
Non-volatile Content	≥ 99.5 %

WORKING TIME & CURE TIME

SEASON (TEMPERATURE)	WORKING TIME	FULL CURE
Winter (10 °C)	40–120 min	48 h
Spring & Autumn (23 °C)	40 min	12 h
Summer (30 °C)	30 min	6 h

Working time = open time before gel. Full cure = minimum time before loading. Times are approximate and assume dry drill hole. Double cure time for water-saturated holes.

LOAD CAPACITY — GRADE 40/60 REBAR (C30 CONCRETE, UNCRACKED)

BAR Ø (MM)	HOLE Ø (MM)	MIN DEPTH (MM)	EPOXY (ML)	GRADE 40 (KN)	GRADE 60 (KN)
8	12	≥100	7.5	14.1	20.8
10	14	≥100	10.3	22.0	32.6
12	15	≥120	14.1	31.7	46.9

BAR Ø (MM)	HOLE Ø (MM)	MIN DEPTH (MM)	EPOXY (ML)	GRADE 40 (KN)	GRADE 60 (KN)
18	22	≥180	45.6	71.2	105.6
20	25	≥200	65.4	87.9	130.3
25	32	≥250	134.0	137.4	203.6
28	35	≥280	179.5	172.3	255.4
32	40	≥320	267.9	225.1	333.6

Grade 40 = 280 MPa yield. Grade 60 = 415 MPa yield. Values at rebar yield — no safety factor applied.

LOAD CAPACITY — THREADED ROD (C30 CONCRETE, UNCRACKED)

ROD Ø (MM)	HOLE Ø (MM)	MIN DEPTH (MM)	EPOXY (ML)	GRADE 5.8 (KN)	GRADE 8.8 (KN)
8	12	≥100	7.5	20.1	32.2
10	14	≥100	10.3	31.4	50.2
12	14	≥120	12.3	45.2	72.3
16	18	≥160	27.1	80.4	128.6
20	24	≥200	60.3	125.6	201.0
22	25	≥220	72.0	152.0	243.2
24	28	≥240	98.5	180.9	289.4
27	30	≥270	127.2	228.9	366.2
30	35	≥300	192.3	282.6	452.2
36	42	≥360	332.3	406.9	651.1
39	45	≥390	413.3	477.6	764.2

Grade 5.8 = 400 MPa yield. Grade 8.8 = 640 MPa yield. Epoxy usage based on 2/3 drill hole volume.

INSTALLATION PROCEDURE

Step 1 — Drill Hole

- Drill hole to specified diameter and depth using rotary percussion drill and carbide-tipped bit.

Step 2 — Clean Hole

- Blow out debris with compressed air (≥ 6 bar, oil/water-free). Brush with steel brush. Repeat blow-brush-blow cycle (minimum 2 cycles).

Step 3 — Prepare Cartridge

- Attach static mixing nozzle. Dispense and discard initial material until uniform colour (no streaking) is achieved.

Step 4 — Fill Hole

- Insert nozzle to back of hole. Fill from bottom up to approximately ½ to ¾ full. Withdraw nozzle steadily.

Step 5 — Insert Anchor

- Insert rebar or threaded rod (clean, oil-free) with slow rotating motion. Excess resin should be expelled evenly. Remove excess before it sets.

Step 6 — Curing

- Do not disturb anchor during curing period. Tighten nut to recommended torque — do not overtighten.

CLEAN UP

Collect with absorbent material. Dispose of in accordance with local regulations. Uncured material can be removed with epoxy cleaner. Cured material can only be removed mechanically.

LIMITATIONS

- FISFIX 650 is not intended as a cosmetic or decorative material; staining may occur on porous substrates.
- Pre-condition material to above 10 °C for easier dispensing with manual equipment.
- Minimum concrete age: 28 days (depending on curing conditions).
- Do not thin with solvents — solvents will prevent proper cure.
- FISFIX 650 must only be applied on or into substrates when they are frost-free.

STORAGE

Store in original sealed cartridge at +5 °C to +25 °C. Protect from direct sunlight. Shelf life 12 months from date of manufacture. Pre-condition to 23 °C for easier dispensing.

COMPATIBLE SYSTEM PRODUCTS

CODE	FUNCTION	NOTES
FISFIX 360	Chemical anchoring epoxy	5 : 1 mix, 80 MPa compressive, 360 mL
FISFIX 390	Chemical anchoring epoxy	3 : 1 mix, 90 MPa compressive, 390 mL
FISFIX 450	Heavy-duty anchoring epoxy	2 : 1 mix, 100 MPa compressive, 450 mL
FISFIX 585	Chemical anchoring epoxy	3 : 1 mix, 90 MPa compressive, 585 mL
FCA 10/450	CFRP anchor	Ø10 × 450 mm for FRP system termination
FX 50	Carbon fiber anchor rope	For FRP U-wrap termination

HEALTH & SAFETY

> **NOTE**
> Refer to the current Safety Data Sheet (SDS) for handling, storage, and disposal. Wear nitrile gloves, safety goggles, and respiratory protection. Avoid skin contact with uncured resin. This TDS does not replace the SDS.

LEGAL NOTES