TECHNICAL DATA SHEET

TEKNODURE HS100

Ultra-high Strength Grout



PREMCRETE

TEKNODURE HS100



DESCRIPTION

TEKNODURE HS100 is an ultra-high strength, shrinkage-compensated cementitious grout formulated with advanced cement technology, polymers and hybrid admixtures to provide exceptional mechanical performance and durability. When mixed with water, it produces a highly flowable grout with a low water demand, enabling placement in critical load-bearing applications.

The hardened grout provides outstanding compressive strength, excellent resistance to dynamic loading and long-term dimensional stability.

TEKNODURE HS100 is chloride-free and suitable for use in contact with steel reinforcement. Its dense microstructure provides excellent resistance to freeze-thaw cycling, low water absorption and enhanced resistance to oil and seawater. An underwater grade,

TEKNODURE HS100 AW, is available for applications requiring placement below water level.

USES

Typical applications include bridge bearing installations, critical load transfer base plates, wind turbine foundations, crane rail systems, heavy-duty machinery foundations and other structural applications where exceptionally high mechanical properties are required.

ADVANTAGES

- Ultra-high compressive strength.
- Excellent flow characteristics.
- Shrinkage compensated.
- Chloride free.
- Excellent resistance to dynamic and cyclic loading.
- Suitable for critical structural applications.
- Low permeability and high durability.
- Complies with SHW Clause 2601 requirements for bedding mortars.

TEKNODURE HS100

TECHNICAL & PERFORMANCE PROPERTIES

Property	Test Method	Value
Compressive Strength	N/A	40 MPa @ 1 Day 65 MPa @ 3 Days 70 MPa @ 7 Days 100 MPa @ 28 Days
Flexural Strength @ 20°C	N/A	5 MPa @ 1 Day 10 MPa @ 7 Days 12.5 MPa @ 28 Days
Tensile Splitting Strength @ 20°C	N/A	7 MPa @ 28 Days
Density		2193 Kg/ M^3
Modulus of Elasticity 28 days	ASTM C469-02	28.2GPa
Initial Set Time	N/A	180 mins
Final Set Time	N/A	240 mins
Efflux / flow (Clause 2601 compliant)	ASTM C230	222.5% at 20°C; 218% at 5°C
Expansion (Clause 2601 compliant)	N/A	> 0.25% and < 2.5%
Elastic Stability (Clause 2601 compliant)	N/A	< 1%
Flow between glass plate (Clause 2601 compliant)	N/A	No segregation or bleed

INSTALLATION PROCEDURE

Surface Preparation

Formwork should be rigid, watertight and constructed around the area to be grouted. Adequate grout head should be provided to ensure complete filling beneath the base plate or structural element. The substrate should be thoroughly pre-soaked with clean water and brought to a saturated surface-dry (SSD) condition before grout placement. All surplus surface water must be removed prior to application.

Mixing

Add 4.0–4.5 litres of clean water per 25 kg bag. Place the measured water into a suitable mixing vessel and gradually introduce the powder while mixing with a slow-speed paddle mixer. For larger volumes, a forced-action pan mixer may be used following site trials. Continue mixing until a smooth, homogeneous and lump-free consistency is achieved. TEKNODURE HS100 may be used in sections up to 350 mm deep.

Application

Place TEKNODURE HS100 within 15 minutes of mixing. Pour continuously from one side of the formwork only, maintaining a consistent grout head to minimise air entrapment and ensure complete filling of the void. Continuous placement is essential to achieve optimum performance.

Curing

Exposed grout surfaces should be cured using PREMCRETE CUREAID 1000 or an approved curing compound in accordance with good concrete practice. Protect freshly placed grout from rapid moisture loss, direct sunlight and strong winds.

Equipment Cleaning

Clean tools and equipment immediately after use with clean water. Hardened material can only be removed mechanically.

TEKNODURE HS100

PACKAGING & COVERAGE

Pack Size

25Kg pack.

Yield

Approximately 13.5 litres of mixed grout per 25 kg bag when mixed with 4.5 litres of clean water.



STORAGE & SHELF LIFE

Store in unopened bags in clean, dry conditions at temperatures between 6°C and 30°C. Under these conditions, the product has a shelf life of 6 months from the date of manufacture.

HEALTH & SAFETY

See separate material safety datasheetfor information relating to safe handling, storage and disposal.

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