



HYDROBLOC HP

1

Premium Non-Shrink Precision Grout

High Performance, High Strength, Non-Metallic, Non-Shrink

Product Description:

HYDROBLOC HP is a premium quality, high-strength, non-shrink, non-metallic cementitious precision grout requiring only the addition of clean water. It is formulated using selected Portland cement, graded silica aggregates, densifiers, shrinkage-compensating technology and advanced superplasticizers to deliver excellent flowability, dimensional stability and long-term durability. HYDROBLOC HP is designed for precision grouting applications where high early strength, excellent load transfer, low permeability and controlled expansion are required. The product is free from chlorides, metallic aggregates and gas-forming expansion agents.

Key Features & Benefits:

- Non-shrink, non-metallic precision grout with controlled post-hardening expansion.
- High early and ultimate compressive strengths for demanding structural applications.
- Excellent flowability and pumpability for complete filling beneath base plates and equipment.
- Low permeability with excellent resistance to water and chloride ingress.
- Superior bond to concrete and steel with excellent dimensional stability.
- Chloride-free formulation suitable for reinforced concrete and steel elements.
- Can be poured or pumped; suitable for hot climate applications.
- Reduced cracking, bleeding and segregation risk.
- Suitable for dynamic and static load applications with high vibration resistance.
- Enhanced sulfate and chloride resistance for aggressive environments

Areas Of Application:

- Precision grouting beneath machine base plates.
- Turbines, generators and heavy industrial equipment foundations.
- Crane rail grouting and anchor bolt grouting.
- Bridge bearing installations.
- Precast concrete connections.
- Structural column and beam connections.
- Steel stanchion base plates.
- Repair and reinstatement of structural concrete elements.

Surface Preparation:

Concrete substrates must be structurally sound, clean and free from dust, laitance, oil, grease, paint, curing compounds, loose particles and any contaminants that may affect adhesion.

- Mechanically prepare concrete surfaces to achieve an open textured profile.
- Saturate concrete thoroughly with clean water for a minimum of 4 hours prior to grouting.
- Remove all standing water before grout placement.
- Ensure the substrate is in Saturated Surface Dry (SSD) condition.

Steel surfaces must be free from rust, scale, oil and contaminants



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Mixing Instructions:

Use a slow-speed drill, mechanical grout mixer or paddle mixer operating at approximately 400-500 rpm.

- Measure the required quantity of clean water.
- Pour the measured water into a clean mixing vessel.
- Slowly add HYDROBLOC HP powder while mixing continuously.
- Mix for 3-5 minutes until the grout is homogeneous and lump-free.
- Allow the mixture to stand for 1 minute.
- Remix briefly before application.

Do not add additional water once mixing has commenced. Do not retemper grout after initial set begins.

Application Guidelines:

Formwork:

- Formwork must be rigid, watertight and properly sealed.
- Provide sufficient hydrostatic head to maintain continuous grout flow.
- The pouring side should preferably be maintained 50-100 mm higher than the underside of the base plate to ensure complete filling.

Placement:

Pour continuously from one side only and allow grout to flow naturally beneath base plates and equipment.

- Do not vibrate the grout.
- Where necessary, use steel straps, rodding techniques or chains to assist grout movement and eliminate trapped air.
- Maintain uninterrupted placement until completion.

Application Method	Recommended Thickness
Flowable Consistency	10 - 100 mm
Fluid Consistency	10 - 80 mm

For sections exceeding 100 mm thickness, consult Hydrobloc Technical Services for aggregate extension procedures.

Coverage/ Consumption:

- Water addition: 3.5 - 4.0 litres per 25 kg bag.
- Yield: approximately 12.0 - 13.0 litres per 25 kg bag.
- Approximate material requirement: 77 - 83 bags per m³, depending on placement consistency and site conditions.
- Actual consumption may vary depending on substrate profile, formwork, wastage and application method.



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Curing & Protection:

Proper curing is essential. Immediately after initial surface hardening, protect the exposed grout surface using wet hessian, polyethylene sheeting or an approved curing compound.

- Maintain curing for a minimum of 3 days.
- Protect freshly placed grout from direct sunlight, wind, rain, frost and excessive vibration.
- Clean tools and equipment immediately after use with water.
- Hardened material can only be removed mechanically.

Packaging:

HYDROBLOC HP is supplied in 25 kg moisture-resistant bags.

Storage & Shelf life:

- Store in unopened original packaging in dry conditions above ground level.
- Protect from moisture, direct sunlight and extreme temperatures.
- Shelf life is 12 months from date of manufacture when stored under recommended conditions.

Health & Safety:

- Wear suitable gloves, eye protection and protective clothing.
- Avoid inhalation of dust and prolonged skin contact.
- Wash exposed skin thoroughly after handling.
- Keep out of reach of children.
- Refer to the latest Safety Data Sheet (SDS) before use.

Technical Data:

Property	Typical Value
Appearance	Grey Powder
Consistency	Flowable / Fluid
Water Addition	3.5 – 4.0 Litres per 25 kg bag
Yield	12.0 – 13.0 Litres per 25 kg bag
Wet Density	2.25 – 2.30 kg/L
Working Time @ 25°C	30 – 45 Minutes
Initial Set	3 – 4 Hours
Final Set	5 – 7 Hours
Bleeding	Nil
Segregation	Nil
Chloride Content	Nil
Flow Cone CRD-C611	18 – 24 Seconds



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Hardened Properties

Property	Typical Value
Compressive Strength @ 24 Hours	28 – 35 MPa
Compressive Strength @ 3 Days	50 – 60 MPa
Compressive Strength @ 7 Days	65 – 75 MPa
Compressive Strength @ 28 Days	85 – 95 MPa
Flexural Strength @ 28 Days	12 – 15 MPa
Tensile Splitting Strength @ 28 Days	6 – 8 MPa
Bond Strength to Concrete	>2.5 MPa
Modulus of Elasticity	>30 GPa
Expansion @ 28 Days	+0.01% to +0.04%
Water Absorption	Very Low
Permeability	Extremely Low
Thermal Expansion Coefficient	10×10^{-6} mm/mm/°C

Performance Characteristics

Property	Value
Non-Shrink Performance	ASTM C1107 Grade B
Expansion Technology	Post-hardening expansion
Gas-Forming Expansion	Not used
Load Transfer	Excellent
Vibration & Dynamic Loading Resistance	High
Durability in Aggressive Environments	Excellent
Sulfate & Chloride Resistance	Enhanced
Shrinkage Cracking	Reduced
Dimensional Stability	Superior long-term stability