

Product Technical Manual

Revision Date: 2021-06-01

TDS Number:

Product Name: Wanhua HW Water-Soluble Polyurethane Chemical Grouting Material

Version: V 3.1

Product Introduction

HW Water-Soluble Polyurethane Chemical Grouting Material is a Japanese Haisol-type polyurethane material synthesized through the reaction of composite polyether polyol and polyisocyanate, forming an isocyanate-terminated hydrophilic chemical grouting material. It is a rapid and efficient anti-seepage and reinforcement solution. Compared to traditional Haisol materials, it incorporates eco-friendly improvements, making it more environmentally sustainable. The product emulsifies upon contact with water to form a gel substance and is widely used for leakage treatment and structural reinforcement in various engineering projects.

Product Features

Relatively low viscosity with excellent hydrophilicity, suitable for construction on damp substrates;

Applicable in water-rich environments, enabling grouting during active water seepage with strong adhesion in moist conditions;

Cured product exhibits rigidity, making it ideal for structural reinforcement treatments;

Enhanced environmental performance, classified as practically non-toxic, adaptable to diverse working conditions;

Single-component packaging, ready to use directly from the container without complex mixing;

Customizable formulations by blending with LW to achieve mixed grout solutions with varying strengths and water expansion ratios.

Product Applications

Anti-seepage and reinforcement treatments for structures in transportation, municipal, and construction industries;

Sealing and strengthening concrete expansion joints, cracks, and construction joints in hydraulic and hydropower engineering projects;

Foundation anti-seepage or curtain grouting treatments for diverse building structures.

Physical and Chemical Properties

Item	Value
Grout viscosity 23±2°C (mPa .s)	≤100
Grout density (g/cm ³)	1.0~1.2
Gel time (min, Grout:Water =100:3)	≤30
Bond strength on wet surfaces (MPa)	≥2.0
Compressive failure strength (at 50% compression) (MPa)	≥20
Acute oral toxicity	Practically non-toxic category

The values provided in this document are typical test values, and specific data may vary slightly depending on environmental conditions. For our company's products, the listed data are not legally binding.

Usage Precautions

Surface Preparation: Clean the surface to remove contaminants and ensure joint cleanliness. Inspect the direction, depth, and condition of cracks.

Grout Hole Installation: Drill angled holes (45 °) along both sides of the crack at intervals of 20–30 cm to ensure effective grout penetration into cracks or voids. Clear debris from holes using compressed air.

Pipe Embedding and Joint Sealing: Embed grout pipes (or boxes) using quick-setting leak-stopping agents (e.g., Dulouwang) or epoxy mortar. Simultaneously seal the joint surface.

Joint Flushing: Flush the joint with pressurized water to assess inter-hole connectivity and verify sealing effectiveness.

Pressure Grouting: Conduct grouting under pressure, typically 0.2–0.4 MPa, not exceeding the structural tolerance.

Vertical joints: Begin grouting from the lowest point, progressing upward.

Horizontal joints: Grout from one end to the other. Pause grouting and clamp the pipeline when pure grout emerges from adjacent holes. Transfer the grout pipe to the next hole and continue grouting until meeting the specified completion criteria.

Curing: After grout solidification, remove pipes and seal openings with leak-stopping agents or epoxy mortar.

Special Notes for Water-Soluble Polyurethane Grouting Materials: Foundation treatments require specialized construction techniques.

Critical Requirements for Buyers: Conduct trials under conditions identical to the actual construction environment to verify the reliability of the grout system for the specific project. By proceeding with formal construction, the buyer is deemed to have confirmed the product's performance. Any failure to adhere to the above procedures shall render the buyer solely responsible for consequences.

Packing Details

25kg.

Storage (Usage) Precautions

Store in a cool, dry place.

Expiration Date

The product should be kept in a dry, cool indoor environment. Classified as fire-resistant and high-temperature resistant, it has a shelf life of at least 12 months under airtight conditions.

Safety Precautions

Our company provides technical consultancy services but assumes no supervisory responsibility. If users, engineers, or contractors dispute or reject our recommendations, they shall bear sole responsibility for any specialized construction procedures. If the material comes into contact with skin, immediately remove contaminated clothing and wash thoroughly with water. If the material enters the eyes, immediately flush with copious amounts of water for at least 15 minutes and seek medical attention. If accidentally swallowed, seek immediate medical attention and provide the product's Safety Data Sheet (SDS) to healthcare professionals.

For more information, please refer to the Safety Data Sheet (SDS) of our products or contact our Customer Service Center.

The indicators and data provided in this document are based on our current level of technical knowledge and practical experience, and are for reference only. Specific guaranteed indicators are subject to the quality assurance certificate or supply contract. The user is responsible for testing the products purchased from our company to verify their suitability for their intended processes and applications, and to achieve the desired objectives. Further application and processing of our products are beyond our control. Therefore, our liability for the products provided is limited to the portion delivered by us and used by you. We do not assume responsibility for indirect losses incurred during the production process using our products as raw materials. Our technical support and customer service center are available to provide consultation and technical services related to our products. We welcome your inquiries and communication via mail or phone.

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