

Product Overview

Our High-Range Water Reducer (HWR) Series consists of premium polycarboxylate ether (PCE) liquid polymers engineered for advanced concrete technologies. They optimize cement hydration particles, drastically reduce mixing-water requirements and achieve exceptional fluid consistency without segregation or structural retardation.

Technical Specifications & Laboratory Analysis

The metrics below detail empirical parameters evaluated via standardized testing methods.

Specification Parameter	HWR Variant	HWR 55 Variant	Testing Methodology
Physical Appearance	Colorless to Pale Yellow Liquid	Clear to Pale Yellow Liquid	Visual Inspection
Solid Content (%)	50.0 ± 1.0%	55.0 ± 1.0%	Moisture Analyzer
pH Value (@ 25°C)	3.0 – 6.0	3.0 – 6.0	Digital pH Potentiometer
Viscosity (cps) (@ 25°C)	Max 1100 cps	Max 1100 cps	Brookfield Viscometer
Specific Gravity (@ 25°C)	1.00 ± 0.2 gm/cc	1.00 ± 0.2 gm/cc	Hydrometer

Strategic Applications

High-Performance Concrete (HPC): Substantially lowers the water-to-cement (w/c) ratio to optimize density.

Self-Consolidating / High-Flow Concrete: Maximizes flowability for densely reinforced frameworks.

Precast & Prestressed Concrete: Facilitates accelerated strength development cycles.

Ready-Mix Concrete (RMC): Enhances operational performance and slump-retention capacity.

Sustainable Eco-Green Concrete: Promotes high-volume replacement of supplementary cementitious materials (Fly Ash/GGBFS).

Application & Dosage Protocols

Recommended Dosage Range

The generic dose configuration varies from 0.4% to 1.4% by weight of total cementitious materials.

Engineers must adjust precise metrics based on project aggregates, cement classes and environmental temperatures.

Mandatory Rule: Perform laboratory trial concrete mixes on local materials to lock down exact design targets.

Admixture Compatibility

Approved Matrix: Completely compatible with other Polycarboxylate Ether (PCE) variants and Lignosulfonate plasticizers.

Strict Restrictions: Do not blend with Sulfonated Naphthalene Formaldehyde (SNF) or Sulfonated Melamine Formaldehyde (SMF) compound variants. Cross-contamination permanently impairs plasticization mechanisms.

Logistics & Supply Logistics

Industrial Drums: 225 kg net capacity sealed polymers.

Bulk Deliveries: Full industrial road tanker shipments.

Alternative or custom high-capacity containers are supplied on demand.

Warehouse Storage & Shelf Life

Temperature Range: Safely maintain warehousing frameworks between 5°C and 40°C.

Environmental Exposure: Securely guard product units against direct sunlight, freezing temperatures, or localized weather elements.

Handling Note: Direct sunlight or temperatures above 35°C may cause the HDPE drums to bulge slightly.

This is a normal physical reaction caused by water evaporation and does not affect product quality. To resolve this, gently loosen the cap to release the pressure, then tighten it again. Move the HDPE drums to a cool, shaded area.

Aesthetic Variations: Liquid properties may naturally range from light yellow to localized dark brown shades over time. This reaction is cosmetic and exerts zero influence on technical performance.

Shelf Life Maturity: Valid for 12 months from the noted production timestamp when stored in uncompromised original containers.

Health, Safety & Environmental Profiles

Personal Protective Equipment (PPE)

Industrial Skin Guarding: Wear chemical-impervious safety gloves at all application times.

Ocular Protection: Deploy clear safety goggles or face protective shields while dispensing.

First Aid & Hygiene

Decontamination: Completely wash face, skin and hands using soap and clean water at the end of shifts or following incidental exposures.

Hazardous Rating: Formulated with non-hazardous base materials. Exercise standard industrial hygiene procedures during operational handling.

Disclaimer:

The technical data and application guidelines herein are based on laboratory testing and current expertise. They reflect typical product properties and serve as a general guide only. Since site-specific environmental conditions, substrate preparation, material compounding and application methods are beyond our direct control, this information does not constitute a legal warranty or guarantee of performance, express or implied. Users must conduct independent, project-specific trial mixes to verify product suitability for their unique operational requirements prior to commercial use. The manufacturer assumes no liability for site-specific performance failures.