Technical Data Sheet

BC Plast 505

High-Range Water Reducing and Slump Retaining Admixture

1). Product Description

BC Plast 505 is a high-performance, polycarboxylate-based superplasticizer specially designed for concrete mixes requiring high water reduction, improved strength, and extended slump retention. It enables concrete producers to achieve superior workability and fluidity while maintaining optimal rheology and stability during transportation and placement — even under extreme climatic conditions.

2). Primary Applications

- Ready-mix and site-batched concrete
- Concrete with long transportation or placing times
- Hot or cold weather concreting
- High-durability and low-permeability concrete
- Projects with complex casting schedules
- High-quality architectural and prestressed concrete
- Self-compacting or highly flowable concrete

3). Features / Benefits

- Provides high initial slump and long-term slump retention
- Enables high-range water reduction while maintaining workability
- Improves concrete rheology and smoothness
- Maintains workability without affecting strength development
- Produces concrete with high density and reduced permeability
- Reduces shrinkage and creep, improving long-term durability
- Ensures easy placing, pumping, and compaction
- Enhances surface finish and appearance
- Chloride-free — safe for prestressed and reinforced concrete
- Compatible with all types of Portland cement

4). Technical Data

Property	Test Method / Standard	Typical Value
Chemical Base	-	Aqueous solution of polycarboxylate polymers
Appearance / Color	Visual	Light brown liquid
Density @ 20°C	ASTM D891	~1.06 kg/L
pH Value @ 20°C	ASTM E70	3.5 – 5.5
Chloride Ion Content	EN 934-01	Nil (Chloride-Free)
Compressive Strength Development	ASTM C39	Comparable or higher than control mix
Workability Retention @ 30°C	Internal method	> 90 minutes slump retention

5). Recommended Dosage

- Typical dosage: 0.4 – 2.5% by weight of cement.
- For mixes requiring very high workability retention or with highly absorbent aggregates, dosage can be increased up to 2.0% or as per site trials.

6). Directions for Use

Dispensing:

- Add BC Plast 505 directly into the mixing water or freshly mixed concrete.
- Mix thoroughly for at least 60 seconds to ensure uniform dispersion.
- Avoid adding the admixture directly to dry cement.

Mix Design Guidance:

- Adjust water content and fine aggregate proportion as needed to maintain the required flowability.
- For maximum slump retention, use a starting slump above 180 mm.
- Suitable for use with supplementary cementitious materials such as fly ash, GGBFS, and silica fume.

7). Packaging

- 20 kg plastic containers
- 200 kg drums
- 1000 L IBC tanks
- Bulk supply available upon request

8). Shelf Life

8 months from the date of manufacture when stored in original, unopened containers under proper storage conditions.

9)Storage Conditions

- Store in a dry, shaded area at temperatures between +5°C and +35°C.
- Protect from direct sunlight, frost, and contamination.

10). Health & Safety

- Use suitable gloves, goggles, and protective clothing during handling
- Avoid contact with skin and eyes; in case of contact, rinse immediately with clean water and seek medical attention if irritation persists.
- Refer to the BC Plast 505 Safety Data Sheet (SDS) for detailed health, safety, and environmental information.