

CWC®ROBOTECH 5003

Highly Efficient Superplasticizer

Description

CWC®ROBOTECH 5003 is a high-performance super plasticizer suitable for low- and high-grade concrete and intended for applications where high-water reduction and long workability retentions are required.

CWC®ROBOTECH 5003 developed to use in:

- Long workability retention concrete.
- Pumpable concrete
- Wide range of concrete grade ranging from M15 to M40

Indicative characteristics

Form	: Light Brown Liquid
Specific Gravity	: 1.09 ± 0.02
Air entrainment	: ≤ 1.5 % over control mix.
pH	: Min. 6.0
Chloride Content	: Nil, as per BS - 5075 (Part-I)

* The uniformity parameters like specific gravity, pH, chloride content etc. will vary for specific customer requirements and mix design. Please refer to our MTC issued for specific product configuration for measuring our product parameters that will be constantly and consistently administered.

Standard Compliance

CWC®ROBOTECH 5003 complies with IS9103:1999, BS 5075 Part 3 and with ASTM C494 Type 'F' and G admixture depending on dosage used.

Advantages:

1. Good dispersion even in mixes with high fines
2. High workability for longer periods
3. Lower pumping pressure
4. Resistance to segregation even at high workability
5. Extended setting with longer workability
6. Reduced water content for a given workability.
7. Can be achieve 22 – 25% water reduction with optimum dosage of admixture.
8. Reduce rate of workability loss normally associated with super plasticizer. Reduces shrinkage cracking because of lower water cement ratio. Makes concrete water impermeable.
9. Higher ultimate strengths

Domains of application

- Ready mixed concrete
- Long-distance transporting
- Pumped concrete
- High workability without segregation or bleeding
- High performance concrete for durability
- Congested/complex reinforced sections.
- Mixes requiring >20% water reductions.
- Can be used as integral waterproofing for Concrete.

Dispensing

CWC®ROBOTECH 5003 is a ready-to-use liquid which is dispensed into concrete together with mixing water. The plasticizing effect and water reduction are higher if the admixture is added to the damp concrete after 50 to 70% of the mixing water has been added. The addition of CWC®ROBOTECH 5003 to dry aggregate or cement is not

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recommended. Automatic dispensers are available. Thorough mixing is essential and a minimum mixing cycle, after the addition of the **CWC®ROBOTECH 5003**, of 30-40 seconds for forced action mixers is recommended.

Optimum dosage can only be established after trials, considering the rheological characteristics and the required mechanical performances. Rate of addition is generally in the range of 0.5-2.0% by wt of cementitious material.

** Higher dosage can be used if agreed & allowed by clients/consultants

Effects of over dosage

A severe over-dosage of **CWC®ROBOTECH 5003** can result in the following:

- Reduced permeability
- Long extension of initial and final set
- Increase in air entrainment.
- Bleed/segregation of mix, quick loss of workability

A slight overdosing may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provided it is properly compacted and cured. Due allowance should be made for the effect of fluid concrete pressure on form work, and stripping times should be monitored.

Compatibility

CWC®ROBOTECH 5003 is compatible with other CWC admixtures used in the same concrete mix. All admixtures should be added to the concrete separately and must not be premixed together prior to addition. The resultant properties of concrete containing more than one admixture should be assessed by trial mixes.

CWC®ROBOTECH 5003 is suitable for use with all types of Portland cements, SRC cement and cement replacement materials such as PFA, GGBFS and micro silica.

The use of a combination of admixtures in the same concrete mix and or cement replacements may alter the

setting time. Trials should always be conducted to determine such setting times.

Packaging

230 Kgs Barrel & bulk in 10 KL tanker

Shelf Life: If stored in unopened containers at normal ambient temperatures, a shelf-life of approximately 12 months.

Freezing point: Approximately -2°C.

Precautions

Not to be stored at high temperatures for long periods. Should be protected from frost. It is Non-toxic and formulated from chemicals which present no fire or health hazards. Spillages should be washed down immediately with water.

Safety

Before use, refer to the Material Safety Data Sheet.

The MSDS is available on www.cwcchemicals.com

Additional information

The CWC range of associated products includes high strength cementitious, epoxy grout, polyester resin-based mortar, Resin anchoring systems. Also available is a range of products for use in construction; viz., admixtures, curing compounds, release agents, flooring systems and repair mortars.

Separate datasheets are available on these products.

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