

CIKOflow HY4500

Smart Chemical Solutions



New generation low range concrete plasticizer

Description

CIKOflow HY4500 is a low range water reducing super plasticizer based on modified polycarboxylic ether. It increases the dispersion of cement particles by electrostatic repulsion and steric hindrance that enables the water content in the concrete to perform to maximum efficiency accounting to lesser water-cement ratio with improved workability.

CIKOflow HY4500 is highly suitable for low water-cement concrete mixes maintaining higher workability to produce high strength concrete. It exhibits prolonged workability retention especially in high ambient temperatures.

Properties

- Better dispersion of cement particles with small adsorbed area.
- Exhibits combined properties of high water reduction and prolonged workability retention.
- Maintains concrete flowability over a long time.
- Provides high early compressive and flexural strengths.
- Low water cement ratio yields to low permeability.
- Reduction in permeability, yielding to increased durability.

Application area

CIKOflow HY4500 is suitable for all kinds of high strength, high cement content and low water cement ratio concrete. Typical application includes

- Self compacting concrete
- Hot weather concreting that demands prolonged workability retention
- Precast concrete for early high strength.
- More suitable for congested reinforcement
- To avoid cold joints
- To obtain low heat of hydration

Applicable standards

- CIKOflow HY4500 complies with ASTM C-494 type B, D and G.
- Comply with Qatar Construction Specification QCS.

Physical properties

Form	Liquid
Colour	Clear to light yellow
Specific Gravity	1.065 ± 0.015 at 25 °C
Chloride Content	Nil to BS 5075
Compatibility	Compatible with all types of cement

Dosage

The normal dosage is 0.5 to 3.0 litres per 100kg cement which includes replacements (if any) such as microsilica, GGBFS, calcined clay (metakolin) and fly ash.

The optimum dosage should be determined by conducting laboratory/site trials considering proposed mix design, ambient conditions and performance requirements.

Usage instructions

CIKOflow HY4500 is a ready to use concrete admixture. Required/calculated amount of CIKOflow HY4500 should be measured by means of measuring jar or dispenser and should be added to concrete during mixing process preferably after dispensing 70% of total water.

To attain optimum efficiency of the admixture, it is always recommended to dose CIKOflow HY4500 to wet concrete mix. This can be done by mixing 70-75% of the total water with all other ingredients of concrete followed by the addition of CIKOflow HY4500 diluted with remaining 25-30% water.

NOTE: CIKOflow HY4500 should not be mixed with dry/lump concrete.

Compatibility

CIKOFLOW HY 333 is compatible with all types of cement, fly ash class C and F, GGBS, microsilica and fibers.

With other admixtures

In case of conjunction of CIKOflow HY333 with other types of admixture, please consult CIKO technical service department for assistance.

Packaging

CIKOflow HY4500 is available in 200 litre drums and in 1000 litre IBC tank.

Shelf Life

CIKOflow HY4500 has a minimum shelf life of 12 months if stored in accordance with CIKO instructions.

Storage

CIKOflow HY4500 should be stored under enclosed shaded area.

Precautions

- Dosage shall not be more than the maximum limit

Effect of over dosage:

Over dosage to the extent of double the recommended dosage of CIKOflow HY4500 will result in delayed setting time and increased workability.

Health & Safety

CIKOflow HY4500 should not come in contact with eyes or to be swallowed. If comes in contact with eyes, flush with plenty of fresh water and seek medical advice.

CIKOflow HY4500 is water based material and non-flammable.

Refer Material Safety Data Sheet for further details.

Technical Support

For any technical support, do not hesitate to contact CIKO team at any time as CIKO offers on and off site services to end users, specifier and contractors.

More from CIKO Middle East

A wide range of construction chemical products are manufactured by CIKO Middle East which includes:

- Concrete admixtures and additives
- Waterproofing and damp proof coatings
- Surface treatments
- Flooring and toppings
- Grouts and anchors
- Tile adhesives and grout
- Concrete repair materials
- Adhesives and bonding agent
- Protective coating
- Joint Sealants and Moulding compounds
- Ancillaries