

# INDOSIT™ LP 9001

(PC Based Superplasticizer for Concrete)



INDOSIT™ LP 9001 is a new generation superplasticiser based on polycarboxylate ether. It is developed to achieve high early strengths for all grades of concrete where high early strength and performance is required. INDOSIT™ LP 9001 is compatible with all Portland cements meeting recognized international standards and is free from chlorides and has been formulated to comply with ASTM 0494 for Types A and F admixtures

## Typical Applications

- Pumped concrete
- Self compacting concrete
- High Grade concrete M45 and Above}
- Concrete requiring long workability and Long retention

## Action

INDOSIT™ LP 9001 is differentiated from conventional super plasticisers in that it is based on a unique polycarboxylate ether polymer with long lateral chains. Conventional super plasticisers, such as those based on sulphate melamine and naphthalene formaldehyde condensates, at the time of mixing, get adsorbed onto the surface of the cement particles. This adsorption takes place at a very early stage in the hydration process. The sulphonic groups of the polymer chains increase the negative charge on the surface of the cement particle and dispersion of the cement occurs by electrostatic repulsion. The long lateral chains of INDOSIT™ LP 9001 greatly improve cement dispersion. At the start of the mixing process the same electrostatic dispersion occurs as described previously but the presence of the lateral chains, linked to the polymer backbone, generate a strategic hindrance that stabilises the cement particles capacity to separate and disperse. This mechanism provides flow-able concrete with greatly reduced water demand. The excellent dispersion properties of INDOSIT™ LP 9001 make it the ideal admixture for precast concrete where low water cement ratios are required. This property allows the production of very high early and high ultimate strength concrete with minimal voids and therefore optimum density. Due to the strength development characteristics, the elimination or reduction of steam curing in precast works may be considered as an economical option. With high workability without segregation or bleeding, less vibration is required.

## Advantages

- High water reduction : Excellent early and ultimate strengths. Possibility of elimination of steam curing. Less permeable, highly durable concrete.
- High flow-ability : Ease of placing and compaction. Less vibration required even in case of steel reinforcement congestion. Less workmanship required.
- Non retarding : Faster turnaround of forms and shorter stripping times.
- Superior workability : Improves concrete finish. Excellent surface appearance and texture.

**Reduced slump loss:**

INDOSIT™ LP 9001 can be stored for 6 months if stored at temperatures above 12C, in tightly sealed original drums. If found to be frozen, thaw it and reconstitute by stirring.

- No re-tempering.
- Ease of delivery to point of placement.
- Low shrinkage and creep
- Improves dimensional stability.
- Reduces risk of cracks.
- Superior cohesion
- Ease of pumping.
- High elastic modulus
- Superior load bearing capacity.
- Minimal bleed water:
- Excellent concrete quality

**Properties**

Appearance	: Golden yellow colored liquid
pH	: 6.5-7.5
SG @ 25°C	: 1.02 ± 0.05 gm/cc
Viscosity on 84 Ford Cup	: 25 ± 5 sec Chloride content: Nil to IS: 456
Alkali content	: Typically less than 1.5 g /Litre of (Di-Sodium Oxide equivalent) admixture.
Chloride Content	: Nil

**Dosage**

The normal dosage for INDOSIT™ LP 9001 is between 0.5 – 1.5% of cementitious materials. Dosages outside this range are permissible subject to trial mixes. Dosage outside the normal range quoted above can be used to meet particular mix requirements.

**Dispensing**

INDOSIT™ LP 9001 is a ready-to-use admixture that is added to the concrete the time of hatching. The maximum effect is achieved when the INDOSIT™ LP 9001 is added after the addition of 50 to 70% of the water. INDOSIT™ LP 9001 must not be added to the dry materials. A separate dispenser and feed line must be used.

**Packaging**

INDOSIT™ LP 9001 is available in 230kg drums or in bulk delivery.

**Manufacturer**

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