

Plastit® SPC100

High Range Water Reducing Admixture, Based on Polycarboxylate

Uses

Plastit SPC100 is a high performance hyperplasticiser intended for applications where increased early and ultimate compressive strengths are required, and it has been developed for use in:

- Self compacting concrete
- Pumped concrete
- High performance concrete
- Per-cast concrete

Advantages

- Increased early and ultimate compressive strengths
- Increased flexural strength
- Improved adhesion to reinforcing and stressing steel
- Improved resistance to carbonation
- Lower permeability
- Increased resistance to aggressive atmospheric conditions
- Reduced shrinkage and creep
- Increased durability

Standards compliance

Plastit SPC100 conforms with BS 5075 Part 3 and with ASTM C494 as Type A and Type F, depending on dosage used.

Description

Plastit SPC100 is differentiated from conventional superplasticisers in that it is based on a unique carboxylic ether polymer with long lateral chains. This greatly improves cement dispersion. At the start of the mixing process electrostatic dispersion occurs but the presence of the lateral chains, linked to the polymer backbone. Generate a steric hindrance which stabilizes the cement particle's capacity to separate and disperse. This mechanism considerably reduces the water demand in flowable concrete.

Plastit SPC100 is a particularly strong hyperplasticiser allowing production of consistent concrete properties around the required dosage.

Typical dosage

The optimum dosage Plastit SPC100 to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use. The normal dosage range is between 0.4 to 1.2 kg/100 kg of cementitious material.

Properties

Appearance	Light Brown Liquid
Specific gravity	1.09 gr/cm ³ at 20°C
Chloride	Nil to BS5075
Air entrainment	Typically less than 2% additional air is entrained at normal dosages.

Alkali content	Typically less than 5 g. Na ₂ O equivalent/litre of admixture. A fact sheet on this subject is available.
----------------	--

Instructions for use

Compatibility

Plastit SPC100 is compatible with other CAPCO admixtures in the same concrete mix. All admixtures should be added to the concrete separately and must not be premixed together prior to addition. The performance of concrete containing more than one admixture should be assessed by trial mixes.

Plastit SPC100 is suitable for use with all types of Portland cements, SRC cements and cement replacement materials such as PFA, GGBFS and microsilica.

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.

Dispensing

The correct quantity of Plastit SPC100 should be measured by means of a recommended dispenser. The admixture should then be added to the concrete with the mixing water to obtain the best results.

Packaging

Plastit SPC100 is available in 20 kg containers and 200 kg drums.

Storage

Plastit SPC100 has a minimum shelf life of 12 months provided the temperature is kept within the range of 5°C to 35°C. Should the temperature of the product fall outside this range then contact CAPCO for advice.

Freezing point: Approximately -2°C

Precautions

Health and safety:

Plastit SPC100 does not fall into the hazard classifications of current regulations. However, it should not be swallowed or allowed to come into contact with skin and eyes.

Suitable protective gloves and goggles should be worn.

Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately - do not induce vomiting.

Fire:

Plastit SPC100 is non-flammable.

Plastit[®] SPC100

Sample Test Results

Table 1:

Plastit SPC100 Kg per 100 kg cement	W/C ratio	Air content in fresh concrete (%)	Time (min)				
			0	15	30	45	60
			Slump (cm)				
0	0.5	1.8	8	-	-	-	-
0,35	0.5	1.2	21	19	18	16	15