

# Plastit® SPC435

## High Performance Hyperplasticiser Admixture, Based on Polycarboxylate

### Uses

Plastit SPC435 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 SPC435 conforms with BS 5075 Part 3 and with ASTM C494 as Type A and Type F, depending on dosage used.

### Description

Plastit SPC435 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 SPC435 combines the properties of water reduction and workability retention. It allows the production of high performance concrete and/or concrete with high workability. Plastit SPC435 is a particularly strong hyperplasticiser allowing production of consistent concrete properties around the required dosage.

### Typical dosage

The optimum dosage Plastit SPC435 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 1,0 kg/100 kg of cementitious material.

### Properties

Appearance	Light Brown Liquid
Specific gravity	1.08 gr/cm <sup>3</sup> 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 <sub>2</sub> O equivalent/litre of admixture. A fact sheet on this subject is available.
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### Instructions for use

#### Compatibility:

Plastit SPC435 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 SPC435 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 SPC435 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 SPC435 is available in 20 kg containers and 200 kg drums.

### Storage

Plastit SPC435 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 SPC435 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 SPC435 is non-flammable.