

# Expanplast\* Super40

**A high performance concrete admixture based on polycarboxylate technology**

## Uses

Expanplast\* Super40 is a high performance admixture intended for applications where increased early and ultimate compressive strengths are required, and it has been developed for use in:

- High strength self compacting concrete
- Pump concrete
- long workability retention
- High performance concrete
- Pre-cast concrete

## Advantages

- Increased early and ultimate strengths of concrete
- 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

Expanplast\* Super40 conforms with ASTM C494 as Type A, F & G, BSEN 934-2, 2000

## Description

Expanplast\* Super40 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 an electrostatic dispersion occurs but the presence of the lateral chains, linked to the polymer backbone, generate a steric hindrance which stabilises the cement particle's capacity to separate and disperse. This mechanism considerably reduces the water demand in flowable concrete.

Expanplast\* Super40 combines the properties of water reduction and workability retention. It allows the production of high performance concrete and/or concrete with high workability.

Expanplast\* Super40 is a particularly strong hyperplasticiser allowing production of consistent concrete properties around the required dosage.

## Properties

<b>Appearance</b>	: Light brown liquid
<b>pH value</b>	: 4.00 - 7.50
<b>Volumetric mass</b>	: 1.04 - 1.120 @ 20°C

## Dosage

The optimum dosage of Expanplast\* Super40 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 0.25 to 3.50 kg /100 kg of cementitious material.

## Use at other dosages

Dosages outside the normal range quoted above can be used to meet particular mix requirements. Contact Expanchem Fospak for advice in these cases.

## Effects of overdosing

Over dosage may cause delay in the setting time.

## Technical support

Expanchem Fospak provides a technical advisory service for on-site assistance and advice on mix design, admixture selection, evaluation trials and dispensing equipment.

## Instructions for use

### Compatibility

Expanplast\* Super40 should not be used in conjunction with any other admixture unless prior approval is obtained from your local Expanchem Fospak office.

Expanplast\* Super40 is suitable for use with all types of Portland cements and cement replacement materials such as PFA, GGBFS, SRC and microsilica.



CONSTRUCTION CHEMISTRY

### Mixing

When used at the mixing plant, Expanplast\* Super40 should be added in the mixing water.

In some instances, e.g. addition to ready mix concrete on site, Expanplast\* Super40 can be added directly in the truck mixer and mixed at maximum speed for an extra 5 minutes.

### Dispensing

The correct quantity of Expanplast\* Super40 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. Contact Expanchem Fospak for advice regarding suitable equipment and its installation.

### Estimating – packaging

Expanplast\* Super40 is available in 250 kg drums and 1220 kg totes.

### Storage

Expanplast\* Super40 has a minimum shelf life of 12 months provided the temperature is kept within the range of 2°C to 50°C. Should the temperature of the product fall outside this range then contact Expanchem Fospak for advice.

### Precautions

#### Health and safety

Expanplast\* Super40 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.

For further information consult the Material Safety Data Sheet available for this product.

#### Fire

Expanplast\* Super40 is water based and non-flammable.

#### Cleaning and disposal

Spillages of Expanplast\* Super40 should be absorbed onto sand, earth or vermiculite and transferred to suitable containers. Remnants should be hosed down with large quantities of water.

The disposal of excess or waste material should be carried out in accordance with local legislation under the guidance of the local waste regulatory authority.

\* Denotes the trademark registered.

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