

# Expanplast\* Super20



CONSTRUCTION CHEMISTRY

**A high performance concrete superplasticiser based on polycarboxylic technology**

## Uses

Expanplast\* Super 20 is a high performance superplasticiser 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
- Concrete requiring long workability retention
- High performance concrete
- Pre-cast concrete

## Advantages

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

## Description

Expanplast\* Super 20 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. Expanplast\* Super 20 combines the properties of water reduction and workability retention. It allows the production of high performance concrete and/or concrete with high workability.

Expanplast\* Super 20 is a particularly strong superplasticiser allowing production of consistent concrete properties around the required dosage.

## Technical support

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

## Properties

**Appearance** : Light brown liquid

**pH** : 6.5

**Specific gravity** : 1.065 @ 20°C ± 0.005

## Dosage

The optimum dosage of Expanplast\* Super 20 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 0.50 to 1.75 liters / 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 for advice in these cases.

## Effects of overdosing

Over dosage may cause delay in the setting time.

## Instructions for use

### Compatibility

Expanplast\* Super 20 should not be used in conjunction with any other admixture unless prior approval is obtained from your local Fospak Expanchem office.

Expanplast\* Super 20 is suitable for use with all types of Portland cements, OPC, SRC and cement replacement materials such as PFA, GGBFS, and microsilica.

### Mixing

When used at the mixing plant, Expanplast\* Super 20 should be added in the mixing water. In some instances, e.g. addition to ready mix concrete on site, Expanplast\* Super 20 can be added directly in the truck mixer and mixed at maximum speed for an extra 5 minutes. For self compacting concrete, a viscosity enhancer eg. Expanplast\* Super 40 is recommended.



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### Dispensing

The correct quantity of Expanplast\* Super 20 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 Fospak Expanchem for advice regarding suitable equipment and its installation.

### Estimating – packaging

Expanplast\* Super 20 is available in 250 kg. drums, bulk delivery is also available for large projects.

### Storage

Expanplast\* Super 20 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 Fospak Expanchem office for advice.

### Precautions

#### Health and safety

Expanplast\* Super 20 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\* Super 20 is water based and non-flammable.

\* Denotes the trademark registered.

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