



# Fosroc Structuro W440

## A Superior high performance concrete hyperplasticiser based on polycarboxylate technology

### Uses

Structuro W440 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
- Concrete requiring long workability retention
- High performance concrete
- Pre-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

Structuro W440 conforms with BS 5075, BS:EN 934-2 and with ASTM C494 as Type F and G.

### Description

Structuro W440 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.

Structuro W440 combines the properties of water reduction and workability retention. It allows the production of high performance concrete and/or concrete with high workability.

Structuro W440 is a particularly strong hyperplasticiser allowing production of consistent concrete properties around the required dosage.

### Technical support

Fosroc provides a technical advisory service for on-site assistance and advice on admixture selection, evaluation trials and dispensing equipment. Technical data and guidance can be provided for admixtures and other products for use with fresh and hardened concrete.

### Typical Properties

<b>Appearance</b>	: Light yellow coloured liquid
<b>Specific gravity</b>	: 1.08 @ 25°C
<b>Chloride content</b>	: Nil to BS 5075 / BS:EN934

### Typical Dosage

The optimum dosage of Structuro W440 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 0.2 to 2.0 litres/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 Fosroc for advice in these cases.

### Effects of overdosing

Overdosage may cause delay in the setting time.

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## Instructions for use

### Compatibility

Structuro W440 should not be used in conjunction with any other admixture unless prior approval is obtained from your local Fosroc office.

Structuro W440 is suitable for use with all types of Portland cements and cement replacement materials such as PFA, GGBFS, SRC and microsilica.

### Mixing

When used at the mixing plant, Structuro W440 should be added in the mixing water.

In some instances, e.g. addition to ready mix concrete on site, Structuro W440 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. Structuro 480\* is recommended at a dosage between 1.0 - 4.0 litre per cubic metre.

### Dispensing

The correct quantity of Structuro W440 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 Fosroc for advice regarding suitable equipment and its installation.

### Estimating

### Supply

Structuro W440  
1000 litre totes

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For larger users, storage tanks can be supplied.

## Storage

Structuro W440 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 Fosroc for advice.

## Precautions

### Health and safety

Structuro W440 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

Structuro W440 is water based and non-flammable.

### Cleaning and disposal

Spillages of Structuro W440 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 of Fosroc International Limited

† See separate data sheet



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## Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

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