

High performance superplasticising admixture

Uses

- To provide increased ultimate strength gain by significantly reducing water demand in a concrete mix
- To significantly improve the workability and retention of site mixed concrete without increasing water demand.
- To provide improved durability by increasing ultimate strengths and less concrete permeability.
- Specifically developed for use in high quality concrete mixes utilising cement replacements, especially slag cement.

Advantages

- Makes possible major reductions in water:cement ratio which allows the production of high strength concrete without excessive cement contents.
- Increased workability levels are maintained for longer than with ordinary sulphonated melamine and naphthalene admixtures.
- Improved cohesion and particle dispersion minimises segregation and bleeding and improves pumpability.
- Chloride free, safe for use in prestressed and reinforced concrete.

Standards compliance

Conplast SP454S conforms with BS 5075, BS:EN 934-2 and with ASTM C494 as Type G.

Description

Conplast SP454S is a chloride free, superplasticising admixture based on selected polymers. It is supplied as a brown solution which instantly disperses in water.

Conplast SP454S disperses the fine particles in the concrete mix, enabling the water content of the concrete to perform more effectively. The very high levels of water reduction possible allow major increases in strength to be obtained.

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.

Dosage

The optimum dosage of Conplast SP454S to meet specific requirements should always be determined by trial mixes using the materials and conditions that will be experienced in use.

For high strength, water reduced concrete, the normal dosage range is from 1.0 to 2.5 litres/100kg of cementitious material, including PFA, GGBFS and microsilica.

Use at other dosages

Dosages outside the typical ranges quoted above can be used to meet particular requirements, Contact Fosroc for advice.

Effects of overdosing

An overdose of double the amount of Conplast SP454S will result in an increase in retardation as compared to that normally obtained. Provided that adequate curing is maintained, the ultimate strength of the concrete will not be impaired by increased retardation and will generally be increased. The effects of overdosing will be further increased if sulphate resisting cement or cement replacement materials are used.

Typical Properties

Appearance	: Brown liquid
Specific gravity	: 1.21 @ 25°C
Chloride content	: Nil to BS 5075 & BS EN 934-2
Air entrainment	: Less than 2% additional air is entrained at normal dosages.

Instructions for use

Mix design

Where the main requirement is to improve strengths, initial trials should be made with normal concrete mix designs. The addition of the admixture will allow the removal of water from the mix whilst maintaining workability. After initial trials, minor modifications to the overall mix design may be made to optimise performance.

Where the main requirement is to provide high workability concrete, the mix design should be one suitable for use as a pump mix. Advice on mix design for flowing concrete is available from Fosroc.

Fosroc Conplast SP454S

Compatibility

Conplast SP454S is compatible with other Fosroc admixtures used in the same concrete mix. All admixtures should be added to the concrete separately and must not be premixed together prior to addition. The resultant properties of concrete containing more than one admixture should be assessed by trial mixes.

Conplast SP454S 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 Conplast SP454S should be measured by means of a recommended dispenser. Normally, the admixture should then be added to the concrete with the mixing water to obtain the best results. Where high workability concrete is required from normal workability concrete delivered to site, Conplast SP454S may also be added to concrete direct into a readymix truck. Full blending of the admixture and the concrete should be ensured by mixing at high speed for a period of at least two minutes.

Contact Fosroc for advice regarding suitable equipment and its installation.

Estimating

Supply

Conplast SP454S

210 litre drum, 1000 litre totes or bulk

For larger users, storage tanks can be supplied.

Storage

Conplast SP454S should be recirculated once a day for 10 minutes and 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 contact Fosroc for advice.

Precautions

Health and safety

Conplast SP454S does not fall into the hazard classifications of current regulations (see notes 1 and 2 below). 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

Conplast SP454S is water based and non-flammable.

Cleaning and disposal

Spillages of Conplast SP454S 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.

Additional information

Note 1: CPL Regulations 1984 Supply - Schedule 1

Note 2: HSE publication Guidance Note EH40

* Denotes the trademark of Fosroc International Limited

† See separate data sheet



Al Gurg Fosroc LLC

Post Box 657, Dubai
United Arab Emirates

www.fosroc.com

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.**

Head Office

telephone: (+9714) 2039699

fax: (+9714) 2859649

email: agf@fosroc.com

Regional offices

Abu Dhabi, Al Gurg Fosroc
Bahrain, YBA Kanoo
Kuwait, Boodai
Oman, Al Amana
Qatar, Tadmur

telephone: 673 1779
telephone: 17738200
telephone: 4817618
telephone: 24815080
telephone: 4665501

fax: 673 1449
fax: 17732828
fax: 4832124
fax: 24817554
fax: 4664147

email: abudhabi@fosroc.com
email: bahrain@fosroc.com
email: kuwait@fosroc.com
email: oman@fosroc.com
email: qatar@fosroc.com

