



Conplast SP420

Superplasticising Admixture

Uses

High workability retention at high ambient temperature, improve durability and water-tightness, high workability concrete without loss of strength, high early and ultimate strength, pumpable concrete.

Advantages

- **Speeds construction** : Increased workability reduces placing time, equipment and labour element.
- **Self compacting** : Conplast SP420 modified concrete is high fluid and needs little or no compaction.
- **Reduced permeability** : Better dispersion reduces porosity and improves water penetration.
- **Reduced segregation** : Increased cohesion minimises segregation and bleeding, improving surface finish.
- **Longer placing time** : Conplast SP420 gives greater usable life of concrete at high ambient temperatures because of its unique workability retention potential.
- **Improved pumpability** : Increased workability and cohesion aids pumping by reducing line friction, dry packing and slump loss due to temperature.
- **Chloride free** : Safe in prestressed, reinforced or marine concrete and compatible with sulphate resistant cement or marine aggregate.

Standards compliance

Conplast SP420 complies with ASTM C494 type G as a retarding, high range water reducing admixture.

Description

Conplast SP420 is a dark brown liquid based on a blend of specially selected organic polymers.

The plasticising action of Conplast SP420 enables the production of high workability concrete, which maintains its workability for prolonged periods even at high ambient temperatures, without significant retardation of setting times.

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.

Properties

Chloride content: Nil (to BS 5075).

Specific gravity: 1.18 at 30°C

pH at 30°C: 7.0

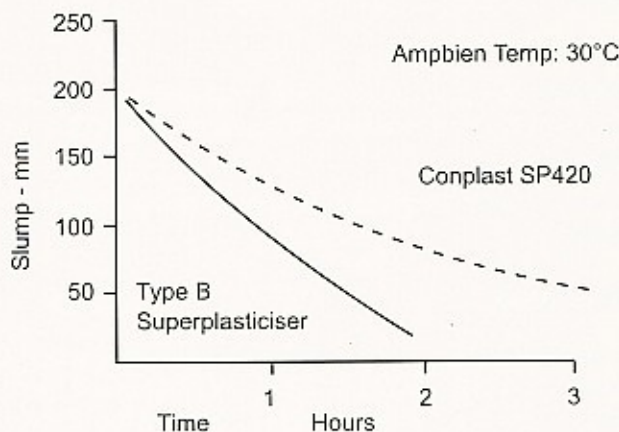
Setting time : Conplast SP420 when used at the recommended dosage level may retard the setting of concrete by approximately 2 hours.

Air entrainment: Approximately 1 to 2 % additional air is entrained.

Compatibility : Conplast SP420 is generally compatible with other FOSROC admixture but it is recommended that all admixtures be added to concrete separately.

Conplast SP420 can be used with all types of Portland Cements. For advice on special cements consult the technical department.

Workability: The addition of Conplast SP420 to a mix without any reduction in water content produces a considerable increase in workability. Loss of workability is inhibited due to the unique properties of Conplast SP420 and enables transportation and placing operations to continue for prolonged periods even at high ambient temperatures.



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Compressive strength : Conplast SP420 is primarily a highly efficient plasticiser giving large increases in workability without significant changes in compressive strength.

Conplast SP420 may be used to produce substantial water reduction resulting in a considerable increase in compressive strength.

Typical Test Results :

Conplast SP420 dosage level litres/100kg of cement	Total W/C Ratio	Slump mm	Air %	Compressive strength N/mm ²		
				1 day	7 days	28 days
Control	0.54	65	1.8	13.5	29.0	38.5
0.35	0.54	160	2.2	10.0	29.0	38.5
1.0	0.54	215	3.3	9.5	28.0	36.5

Mix design

As with all admixture that produce flowing concrete, the design technique should be based on high cohesion pump mix technology.

Specialist advice is available from Fosroc on request and should be sought if the cement content is outside the range 250 to 400 Kg/m³, or if the concrete temperature exceeds 35°C.

Application instructions

Dosage

It is recommended that the optimum dosage is determined by site trials with the actual concrete mix. As a guide, the rate of addition is generally in the range.

0.35 - 2 ltr/100 kg cement :

The higher dosage is used where "flowing concrete" is required and it may be found necessary to modify concrete mix proportions.

Fosroc Technical Department can advise on mix design if required.

Overdosing

An overdose in the recommended amount of Conplast SP420 will result in an increase in the level of retardation and may result in an increase in an air content. However, the ultimate strength of concrete will not generally be impaired as long as good concrete practice is observed.

Dispensing

The correct quantity of Conplast SP420 should be measured by means of a recommended dispenser. The company's technical department should be consulted regarding suitable equipment and its installation.

The measured quantity of Conplast SP420 should be added directly to the mixer and best results are obtained if added at the same time as the mixing water.

Curing

Normal curing methods such as water spray, wet hessian or a Concure* curing membrane should be used.

Cleaning

Spillages of Conplast SP420 can be removed with water.

Estimating

Conplast SP420 is supplied in 20 and 210 litre drums. For larger users storage tanks and dispensing equipment can be supplied.

Storage

Conplast SP420 has a minimum shelf life of 12 months provided the temperature is kept within the range of 2° to 50°C. If this temperature is exceeded in any respect advice should be sought from the supplier.

Precautions

Health and safety

Conplast SP420 is non-toxic. Any splashes should be washed off with water. If contact with eyes occurs, wash immediately with water and seek medical advice.

Fire: Conplast SP420 is non-flammable

Additional information

Conplast SP420 was formerly known as Conplast 423.

Technical data and guidance can be provided on a wide range of concreting aids including accelerators, retarders, air entrainment agents, waterproofers, mould release agents, surface retarders, workability aids and repair materials.

* See separate data sheet.



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