



Conplast SD100

Mix improving admixture for semi-dry concrete

Uses

- To improve the quality and consistency of semi-dry concrete products produced by modern paving and masonry block machines
- To increase strength of finished product without increasing cement content
- To provide smoother, faster machine operation

Advantages

- Allows higher early and later age strengths to be obtained without additional cement
- Strengths, can be maintained at lower cement contents
- Improves 'green' strength, resulting in fewer losses due to breakage
- Improves mix rheology under vibration, allowing smoother machine operation with reduced cycle times
- Improves uniformity of filling moulds, reducing standard deviation and giving better dimensional control of product

Description

Conplast SD100 mix improver is chloride free and specially formulated for optimum performance with modern concrete block paving and masonry production equipment. It is supplied as a brown solution which instantly disperses in water.

Conplast SD100 disperses the fine particles in the mix and produces a rheological flow as moulds are filled and compacted. This enhances the production process, improving filling and compaction and reducing pre and final vibration times. The enhanced dispersion also improves the consistency of the final product strength and surface finish.

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 dosage

The optimum dosage of Conplast SD100 to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use. This allows the optimisation of admixture dosage, mix design and equipment settings and provides a complete assessment of the final product. A starting point for such trials is to use a dosage within the normal typical range of 0.10 to 0.40 litres / 100 kg of cementitious material, including PFA, GGBFS or microsilica.

Use at other dosages

Dosages outside the typical range quoted above may be used if necessary and suitable to meet particular mix requirements, provided that adequate supervision is available. Compliance with requirements must be assessed through trial mixes. Contact the Fosroc Customer Service Department for advice in these cases.

Properties

Appearance:	Brown liquid
Specific gravity:	Typically 1.13 at 20°C
Chloride content:	Nil to BS 5075
Alkali content:	Typically less than 3.0 g. Na ₂ O equivalent / litre of admixture.

Instructions for use

Compatibility

Conplast SD100 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 mixed together prior to addition. The resultant properties of concrete containing more than one admixture should be assessed by the trial mix procedure recommended on this data sheet to ensure that effects such as unwanted retardation do not occur.



Conplast SD100 is suitable for use with all types of ordinary Portland cements and cement replacement materials such as PFA, GGBFS and silica fume. Further information on such usage is provided elsewhere on this data sheet.

Dispensing

Conplast SD100 is supplied ready for use and for best results the correct quantity should be measured by means of a recommended dispenser and then sprayed either onto the aggregate/sand held, into the loading hopper or into the mixer itself. Spraying ensures a more effective dispersion through a semi-dry concrete mix. Contact the Fosroc Customer Service Department for advice regarding suitable equipment and its installation.

Effects of overdosing

An overdose of double the intended amount of **Conplast SD100** is likely to lead to excessive workability, making the mix too workable for use. There is also likely to be some setting retardation and reduction in early age strength.

Curing

Normal curing procedures for semi-dry concrete should be maintained.

Typical performance examples

Many variables in concreting materials and conditions can affect the selection and use of an admixture. Trials should be made using relevant materials and conditions in order to determine the optimum mix design and admixture dosage to meet specific requirements. It is important that such a trial procedure also assesses the potential benefits of making slight changes to block making equipment settings to take full advantage of the improvements in mix rheology and compaction that will be available.

Typical performance examples from evaluation studies of **Conplast SD100**, are included on this data sheet. The values quoted are representative of results obtained and are provided as illustrations of performance in different situations. Because of the variability of concreting materials, the results should only be taken as typical of the performance to be expected. Results quoted in individual examples should not be taken as necessarily directly comparable with other examples given here or results obtained elsewhere for **Conplast SD100** or other products.

Unless otherwise specified, all testing was carried out to the relevant parts of applicable British Standards.

Example 1 : To increase strength and reduce SD with masonry blocks

Machine type:	Static
Aggregate:	Natural
Curing:	Low pressure steam
Block type:	7.0 N/mm ²
Cement:	OPC with partial PFA replacement

Mix	Density kg/m ³	Compressive strength N/mm ²	
		7 days	SD
Control	2115	8.6	2.0
Conplast SD100	2135	10.8	1.4

Example 2 : To increase strength of lightweight masonry blocks

Machine type:	Static
Aggregate:	Sintered PFA
Curing:	Air, ambient temperature with insulation to retain heat
Block type:	3.5 N/mm ²
Cement:	OPC with partial PFA replacement

Mix	Density kg/m ³	Compressive strength
		7 days, N/mm ²
Control	1550	3.7
Conplast SD100	1590	4.9

Example 3 : To increase strength and reduce SD with paving blocks

Machine type:	Static
Aggregate:	Natural
Curing:	Air, ambient temperature with insulation to retain heat
Cement:	OPC with partial PFA replacement

Mix	Density kg/m ³	Compressive strength N/mm ²	
		7 days	SD
Control	2310	51.0	2.3
Conplast SD100	2335	62.5	1.4

Example 4 : To increase strength and reduce cycle time with paving blocks

Machine type: Static
Aggregate: Natural
Curing: Air, ambient temperature with insulation to retain heat
Cement: OPC

Mix	Density kg/m ³	Compressive strength 7 days, N/mm ²	Pre-vibration time seconds
Control	2325	53.5	4.0
Conplast SD100	2340	63.5	3.4

Example 5 : To maintain strength at reduced cement content with paving blocks

Machine type: Static
Aggregate: Natural
Curing: Air, ambient temperature with insulation to retain heat
Cement: OPC

Mix	Density kg/m ³	Compressive strength 7 days, N/mm ²	Cement Content kg/m ³
Control	2320	53.0	425
Conplast SD100	2335	54.0	385

Limitations

Conplast SD100 may be too effective for use with block manufacturing equipment which provides very high intensity vibration during compaction. Similarly, if aggregate stock piles are very wet the improvement in water effectiveness may produce excessive workability. In such situations contact the Fosroc Customer Service Department for advice.

Estimating – packaging

Conplast SD100 is available in drum and bulk supply. For larger users, storage tanks can be supplied. Details of specific packaging volumes are available on request.

Storage

Conplast SD100 has a minimum shelf life of 12 months provided the temperature is kept within the range of 2^oC to 50^oC. Should the temperature of the product fall outside this range then the Fosroc Customer Service Department should be contacted for advice.

Precautions

Health and safety

Conplast SD100 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 Product Safety Data Sheet available for this product.

Fire

Conplast SD100 is water based and non-flammable

Cleaning and disposal

Spillages of Conplast SD100 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.

C.H.I.P. Chemicals (Hazard information and Packaging) Regulations 1993.

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Conplast SD100 is the trade mark of Fosroc International Limited

FOSROC



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