

POWERFLOW 704

High RANGE WATER REDUCING & RETARDING ADMIXTURE

DESCRIPTION

Powerflow 704 is a high range water reducing admixture formulated specifically to extend the working time of flowing concrete in tropical conditions. Powerflow 704 does not contain calcium chloride or any other ingredients that would promote the corrosion of steel.

PRIMARY APPLICATIONS

- Reinforced concrete
- Normal strength concrete
- Industrial slabs
- Lightweight concrete
- Mass concrete
- Parking structures
- Watertight concrete

FEATURES/ BENEFITS

- Produces "flowing" concrete with controlled delay of slump loss and workability.
- Greatly reduces water requirements.
- Reduces segregation and bleeding in the plastic concrete.
- Reduces cracking and permeability of hardened concrete.
- When used to produce "flowing" concrete, significantly reduces concrete placement time and cost.

PACKAGING

Powerflow 704 is packaged in bulk, 1000 Ltr (1160 Kg) IBC, 200 Ltr (232 Kg) drums.

TECHNICAL INFORMATION

Chemical Base:

Aqueous Solution of Modified salts of sulfonated Co-Polymers.

Technical Data:

Description	Standard	Typical Values
Form	Visual	Liquid
Appearance / Colour	Visual	Dark Brown
Specific Gravity	ASTM - D1298	1.155-1.165 @ 25 °C
Typical Dosage		0.8- 2.5 % of Binder

Standard:

This Product Conforms to the requirements of ASTM C 494, Type D & G, and EN 934-2

SHELF LIFE

1 year in original, unopened container.

SPECIFICATIONS/COMPLIANCES

Powerflow 704 meets or exceeds the following requirements:

- ASTM C 494, Type D & G

DIRECTIONS FOR USE

- AASHTO M 194

Powerflow 704 can be added to the initial batch water or directly on the freshly batched concrete. However, better results have been observed batching directly on the freshly batched concrete. It should not come into contact with dry cement or other admixtures until mixed thoroughly with the concrete batch.

When designing mixes for use with Powerflow 704, ACI 211.1 and ACI 211.2 recommendations should be followed. After the initial mix is established, the sand to coarse aggregate ratio may be adjusted to maintain homogeneity of the “flowing” concrete mix. For “flowing” concrete, charge all concrete materials into the mixer and mix five minutes or 70 revolutions to the initial specified slump. Add Powerflow 704 and mix an additional 3 minutes.

Powerflow 704 is used at a range of 6 to 32 oz per 100 lbs (390 to 2080 mL per 100 kg) cementitious material depending on the temperature and retention requirements. When Powerflow 704 is added, at a rate of 12 oz per 100 lbs (750 mL per 100 kg) cementitious, to a 1” to 3” (25 to 76 mm) slump concrete, it will produce flowable concrete with a slump of 7” to 9” (180 to 230 mm).

The slump loss will be gradual depending upon dosage and trial mixes. It will be advised to conduct trial mixes to achieve required workability and retention of concrete. Increase of dosage for more than 1500 mL per 100 Kg can cause excess retardation of concrete. An increase in concrete temperature will cause an increase in slump loss and decrease in initial set time.

PRECAUTIONS/Limitations

Formwork

Forms for walls or narrow sections must be watertight, strong and have good bracing. During the “flowing period”, when the concrete is at a slump of 7” to 9” (180-230 mm), the concrete will exert a higher pressure at the base of the form than conventional concrete. Formwork for slabs is the same as for conventional concrete.

- The use of Powerflow 704 varies with every application. It is recommended to run trial mixes before use to determine optimal performance of Powerflow 704.
- To minimize concrete problems at concrete temperatures higher than 75°F (24°C), or in windy weather, follow recommendations of ACI 305R-10 report, “Hot Weather Concreting.”
- Powerflow 704 must be protected from freezing.
- In all cases consult the Safety Data Sheet before use.



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