

Flo-Add HF

Hydrogen free expansive and plasticising grout additive



Description

Flo-Add HF is a hydrogen free expansive and plasticising additive for cementitious grout. The addition of Flo-Add HF to the cementitious mixes will produce a high flowable expansive grout; Flo-Add HF reduces the water demand, producing high strength with low permeability and excellent bond to steel.

Applications

- ▲ Duct grouting.
- ▲ Post tensioned cables.
- ▲ Pre-stressed structural elements.
- ▲ Where an expansive and flowable grout is required.

Advantages

- ▲ Non-Shrink hydrogen free expansion system to prevent steel corrosion.
- ▲ High Flow grout without bleeding.
- ▲ High bond to steel.
- ▲ Low permeability grout at low water cement ratio.
- ▲ High initial and ultimate strength.
- ▲ Chloride free.

Method of Use

Proposed Mix

Flo-Add HF	OPC	Water	Yield
0.520 kg	50 kg	16 ± 2	33 ltr

Mixing

- ▲ To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used for quantities up to 50 kg.
- ▲ High shear vane mixer is required when mixing large quantities.
- ▲ The required water content should accurately measured and added into the mixer. While mixing, Flo-Add HF is then added into the mixer. Then slowly add the cement.
- ▲ Mix for 5 minutes until smooth even consistency is achieved.

Technical Properties @ w/c = 0.32:

Colour:	Brown
Fresh wet density:	2.0 ± 0.1 g/cm ³
Bleeding: ASTM C940	Pass, no bleeding
Compressive strength: ASTM C109/109M-11	> 25 MPa @ 1 day > 50 MPa @ 7 days > 60 MPa @ 28 days
Expansion:	Up to 2%
Flow characteristics: (directly after mixing) ASTM C939-87	< 32 sec
Working time:	30 min (Re-mixing is required to achieve the needed flow directly before the application)
Initial setting time: ASTM C191	3 - 4 hr
Chloride content: BS 5075	Nil
Compatibility:	Compatible with all types of cement

Note: The results were obtained when OPC (complies with ASTM C150-02a with compressive strength @ 28 days > 42.5 MPa) is used.

Higher compressive strength results can be achieved when OPC > 52.5 MPa is used. Where added water needs to be adjusted based on the mentioned range. It is important to conduct trials so as to choose the best source of OPC for the needed application.

Compressive strength @ 1 day is under restraint. Compressive strength @ 7 & 28 days is under wet cure.

Compressive strength results were obtained when 16 litre of water is used in the mix.

The results were obtained when 16 litre of clean water was used for mixing.

Placing and Finishing

Enough materials should be available to achieve continuous fill and to complete the work. Pouring of the mixed grout should be started from one side only to avoid air entrapment.

Flo-Add HF

Areas to be grouted should be clean, sound and must be pre-wetted with clean water.

The mixed grout should be placed during the flowability time to gain the full benefit of the expansion process. Care should be taken to keep the unrestrained surface areas of the grout to a minimum.

Curing

Grouts mixed with Flo-Add HF are a cementitious based, they should be treated in a similar way to concrete.

Curing can be conducted by either using concrete curing compound such as Setseal 22 or by using wet hessian and polyethylene.

Cleaning

All tools should be cleaned immediately after finishing by water. Hardened materials can be cleaned mechanically.

Packaging

Flo-Add HF is available in 0.520 kg bags.

Dosage

Flo-Add HF dosage is 520 g per 50 kg of OPC.

Storage

Flo-Add HF has a shelf life of 12 months from date of manufacture if stored at temperatures between 2°C and 50°C.

If these conditions are exceeded, DCP Technical Department should be contacted for advice.

Cautions

Health and Safety

Flo-Add HF is of low hazard and may cause irritation to skin or eyes.

In case of accidental contact with skin or eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice if necessary.

For further information refer to the Material Safety Data Sheet.

Fire

Flo-Add HF is nonflammable.

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- ▲ Tile adhesives and grouts.
- ▲ Building products.
- ▲ Structural strengthening.

Note:

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