

Flo-Add 1

Expansive and plasticising grout admixture



Description

Flo-Add 1 is an expansive and plasticising admixture for cementitious grout where a low water to cement ratio and positive expansion are required.

Applications

Flo-Add 1 is ideally designed for use in the following applications:

- ▲ Bed plate grouting.
- ▲ Duct grouting.
- ▲ Grouting tunnel lining.
- ▲ Non-shrink infilling grouts.
- ▲ Post tensioned cables.

Advantages

- ▲ Non-Shrink: Gaseous expansion system compensates for plastic shrinkage and settlement in cementitious grouts.
- ▲ High Flow: Excellent grout fluidity at reduced water to cement ratio, for ease of placement or injection.
- ▲ Durability: Low water to cement ratio ensures low permeability and long term performance.
- ▲ Chloride free.
- ▲ Iron free.

Method of Use

Proposed Mix

| | Flo-Add 1 | OPC | Sand | Water | Yield |
|-----------|-----------|-------|-------|--------|--------|
| Mix No. 1 | 227 g | 50 kg | - | 21 ± 2 | 37 ltr |
| Mix No. 2 | 227 g | 50 kg | 50 kg | 23 ± 2 | 59 ltr |

Note: For grout, mortar or concrete mixes with an aggregate cement ratio more than 1, use 4 x 227 g units of Flo-Add 1 per 100 kg of cement.

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.

Technical Properties:

| | |
|---|---|
| Colour: | Brown |
| Fresh wet density: | |
| Mix No. 1 | 1.9 ± 0.1 g/cm ³ |
| Mix No. 2 | 2.1 ± 0.1 g/cm ³ |
| Compressive strength: | @ 7 days |
| ASTM C109/109M-11 | > 30 MPa (without sand) |
| | > 35 MPa (with sand) |
| | @ 28 days |
| | > 45 MPa (without sand) |
| | > 50 MPa (with sand) |
| Expansion: | Up to 5% |
| ASTM C827/C827M-10 | |
| Flow characteristics: | < 32 sec |
| ASTM C939-87 within 30 min from mixing. | Re-mixing is needed to keep the needed flow |
| Bleeding: | Pass, no bleeding |
| ASTM C940 | |
| Initial setting time: | 4.5 - 5.5 hr |
| ASTM C191 | |
| Chloride content: | Nil |
| BS5075 | |
| Compatibility: | Flo-Add 1 is compatible with all types of Portland 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.

Flo-Add 1

The required water content should accurately measured and added into the mixer or a mixing bucket. Add the full amount of Flo-Add 1 powder at first and mix for 1 - 2 minutes. Then slowly add cement (and sand if required) and mix for 4 - 5 minutes until smooth even consistency is achieved.

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.

Areas to be grouted should be clean, sound and must be pre-wetted with clean water. The mixed grout should be placed directly after mixing. Working time will be within 30 minutes and remixing will be needed directly before the application to get the needed flow and expansion. Care should be taken to keep the unrestrained surface areas of the grout to a minimum.

Curing

Self curing, only exposed areas should be properly cured with water.

Cleaning

All tools should be cleaned immediately after application using fresh water. Hardened materials should be cleaned mechanically.

Packaging

Flo-Add 1 is available in 0.227 and 5 kg bags.

Dosage

Flo-Add 1 dosage is 227 g/50 kg of OPC.

Storage

Flo-Add 1 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 advise.

Cautions

Health and Safety

Flo-Add 1 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 advise if necessary.

For further information refer to the Material Safety Data Sheet.

Fire

Flo-Add 1 is nonflammable.

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- ▲ Concrete repair.
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- ▲ Adhesives.
- ▲ Tile adhesives and grouts.
- ▲ Building products.
- ▲ Structural strengthening.

Note:

We endeavour to ensure that any information, advice or recommendation we may give in product literature is accurate and correct. However, because we have no control over where and how products are applied, we cannot accept any liability arising from the use of the products.