

Estop Microcrete

High Performance Micro Concrete

Description

Estop Microcrete is a high performance micro concrete, supplied as a ready to use, blend of dry powder and 3mm to 6mm Graded Chippings.

Estop Microcrete is a blend of Portland Cement, graded fillers and chemical additives which impart controlled expansion in the plastic state whilst minimising water demand. The fillers grading is designed to aid uniform mixing and to eliminate segregation under pumping pressures. The low water requirement ensures fast strength gain and long-term durability.

Estop Microcrete has been tested in accordance to BS 1881:Part 116:1983, on Compressive Strength Test, ASTM C1202:1997, on Rapid Chloride Permeability Test, ASTM C940:1998, on Expansion & Bleeding Test, Taywood Engineering Method, on Sorptivity Test and complied with the specification in this data sheet.

Uses

Estop Microcrete is used for general purpose grouting where it is essential to eliminate shrinkage. It is recommended for grouting of base plate, strengthening and repairs of structural concrete. It can also be used for anchoring a wide range of fixings.

Advantages

- Prepackaged material overcomes potential on-site batching variations.
- High early strength.
- High ultimate strength and low permeability provide maximum protection against CO² and chloride.
- Fluid consistency allows self compaction.
- Shrinkage compensated.
- Non chloride content.
- Low alkali content minimises risk of alkali-silica reaction.

Standards Compliance

- BS 1881; part 116
- ASTM C1202 : 1997
- ASTM C940 : 1998
- Taywood Engineering Method

Properties

Water powder ratio at 0.102 (28°C)

| Test Method for | Typical Result |
|---|---|
| Compressive strength BS 1881; part 116:1983 | 26 N/mm ² @ 1 Day 70 N/mm ² @ 7 Days 80 N/mm ² @ 28 Days |
| Expansion Characteristic ASTM C940:1998 | 1.0% – 3.5% |
| Time for expansion Start: Finish: | 15 minutes 2 hours |
| Fresh wet density: | 2250 kg/m ³ |
| Rapid Chloride Permeability (Coulombs) After 28 days ASTM C1202 : 1997 | <1000 |
| Sorptivity Taywood Engineering Method | < 1.2 mm/ $\sqrt{\text{min}}$ |

Application instructions

Preparation

The unrestrained surface area of the repair must be kept to a minimum. The formwork should include drainage outlets for pre-soaking and, if beneath a soffit, provision for air venting. Provision must also be made for suitable access points to pour or pump the mixed micro-concrete into place.

Substrate shall be free from any contaminated material, loose particle, oil, paint, grease etc. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting.

Expose fully corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended for this process.

Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with the clean water immediately after grit-blasting to remove corrosion products from pits and imperfections within its surface.

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Substrate Priming

Substrates should be saturated by filling the prepared formwork with clean water. Prior to the application of Estop Microcrete any excess water should be removed.

Mixing

Estop Microcrete must be thoroughly mixed. A forced-action mixer is essential. Mixing in a suitably sized drum using an approved spiral paddle in a slow speed (400/500 rpm) heavy-duty drill is acceptable. Free-fall mixers must not be used. Mixing of part bags is not recommended.

It is essential that machine mixing capacity and labour availability is adequate to enable the placing operation to be carried out continuously. Measure 2.4 – 2.8 litres clean water and pour three-quarters into the mixer. With the machine in operation, add one full 25 kg bag of Estop Microcrete and mix for one minute before adding the rest of the water. Mix for a further 2 to 3 minutes until a smooth even consistency is obtained. The quantities mixed may be scaled up as required.

When the drill and paddle mixing method is used, the complete 2.4 – 2.8 litres of water should be placed in the mixing drum. While the paddle rotation, add one full 25kg bag of Estop Microcrete and mix for 2 to 3 minutes until a smooth even consistency is achieved.

Placing

The mixed material should be placed within 30 minutes of mixing in order to gain the full benefit of fluidity and of the expansion process.

Curing

The formwork should be left in place until the compressive strength of the Estop Microcrete is 10N/mm² or as otherwise specified by the Supervising Officer. Estop Microcrete must be cured immediately after the formwork is stripped, sprayed with a liquid curing membrane such as Estocure R90. In fast drying conditions, supplementary curing with polythene sheeting taped down at the edges must be used.

Limitation

Estop Microcrete is not suitable to be used for unrestrained grouting.

Cleaning

Estop Microcrete should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

Packing & Size

| | |
|------------------|------------|
| Estop Microcrete | 25 kg bags |
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Yield

| | |
|------------------|--------------------------------------|
| Estop Microcrete | Approximately 12.20 litres/25 kg bag |
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Technical Support

Estop offers a comprehensive range of high performance, high quality of repair product for both new and existing concrete surfaces. In addition, the company offers a technical support package to specifies, end-users and contractors, as well as on-site technical assistance.

Storage

Estop Microcrete should be stored on pallets in dry conditions. Under these conditions, the product will have a shelf life of 12 months.

Precaution

Estop Microcrete should not be in contact with skin and eyes. Avoid inhalation of dust during mixing. Wear gloves, goggles and dust mask.

Additional Information

Estop manufactures and offers a wide range of complementary products, which includes waterstops, waterproofing products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spalled concrete are available.

Important Note

Estop products are guaranteed against defective materials and manufacture and are sold subject to its standard Terms and Conditions of Sale, copies of which may be obtained on request. Whilst Estop endeavors to ensure that any advice, recommendation, specification or information in may give is accurate and correct, it shall not, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation or information given by it.