



Xtramix Concrete Solutions LLC.

اكسترامكس للحلول الخرسانية ذ.م.م

Xtramix Group of Companies

Technical R&D

XCS - Product Datasheet

Controlled Low Strength Flowable Fill using Air-Entraining Liquid Admixture – XCS®CLSFF

Description

Controlled Low Strength Flowable Fill using Air-Entraining Liquid Admixture (CLSFF) has been developed through trials, in conjunction with Contractors site requirements, to be compliant where future excavation is required. CLSFF is a mixture of 5mm crushed sand, dune sand water, air-entraining liquid admixture admixtures.

A wet density within the range of 1600-1800kg/m³ is achieved with the blending of Fine aggregate in compliance with BS 882 Table 4, Portland Cement, and a carefully developed a stable-air matrix in the CLSFF mixture. Strict batching guidelines are required to create this specialist product, which is suitable as a backfill material. CLSFF mixture is flowable (in excess of 500mm), and it has high workability which allows it to be pumped.



To improve the workability, an additional super plasticiser chemical admixture, in compliance with ASTM C494 Type B and BS 5075 part 1 or BS EN 943 part 2, is also used. The dosage of the super plasticiser admixture is carefully regulated based on the site workability requirement.

Technical Data

- W/C 1.40
- Cement content 120 kg/m³
- Workability highly pumpable
- Compressive strength up to 1MPa at 28d, depending on the application requirements
- Maximum fine aggregate size 5mm
- Free from bleeding & segregation
- Wet density average 1630 kg/m³
- Surface dry sample density 1560 kg/m³
- Flow retention at 30 minutes 500mm average

Placing Method

It is typically pumped or placed using direct chute from the transit-mixer or bucket.

The location to be poured will be inspected by our experts, who may recommend method of placement



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Uses

Controlled Low Strength Flowable Fill using Air-Entraining Liquid Admixture is fill for trenches, undercuts, pipes, tanks, voids, the gap between concrete & its foundation at any depth, self-leveling, backfilling, slope stabilizing, etc. XCS Technical Department and Site Teams are always on hand to provide guidance.

Benefits

- It can be placed using any method
- CLSFF is prepared in the batching plant to maintain consistent quality
- Cost effective alternative to soil or related materials backfilling
- CLSFF makes re-excavatable depending on the performance requirements
- Technical support by XCS all the times
- Controlled Low Strength Flowable Fill mix is locally produced to enhance LEED MR-5 and Estidama SM-9 under 'Stewarding Materials' category to achieve Pearl Building Rating System
- QC Technicians are deployed at site for density & workability checking

Safety Precautions

During placement if pump is use the pressure shall be carefully regulated in order to avoid spillages at pump joints. Controlled Low Strength Flowable Fill application shall be done under the direct supervision of an XCS Foreman.

Quality & Care

Controlled Low Strength Flowable Fill using Air-Entraining Liquid Admixture has been developed by XCS Technical R&D Team to meet the ADAC special project requirements, and taking into account GCC weather conditions. It is produced by XCS Abu Dhabi in our batching plants is designed under our Integrated Management System (IMS) independently certified to conform to the requirements of quality ISO 9001, environmental ISO 14001 and occupational health & safety ISO 18001 standards.

Performance Record

Controlled Low Strength Fill was used in different projects like

- Al Naboodah for ADAC 45100015 Design & Build (9) Code E-Hard Stands at Abu Dhabi International Airport

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