

DARAFILL[®] Dry

Controlled Low Strength Material Performance Additive*

Product Description

DARAFILL[®]Dry CLSM performance Additive produces flowable fill or engineered Controlled Low Strength Material (CLSM)* that is highly flowable, volume stable and excavatable in the future. By developing a stable air matrix in the CLSM mixture, DARAFILL Dry improves flowability and reduces the required amount of mix water up to 50%, compared to a water-based CLSM. DARAFILL Dry is packaged in bags.

Uses

The use of DARAFILL Dry CLSM Performance Additive is to produce a low water content CLSM that is primarily used to improve flowability, lower densities, eliminate segregation and settlement and control strength development in applications where future excavation is required. DARAFILL Dry is designed to be used with cement, and pozzolans such as pulverised fuel ash (PFA) and ground blast furnace slag (GGBS). The addition of DARAFILL Dry is a cost-effective alternative to a water-based CLSM mixture. CLSM is also a cost-effective alternative to soil backfill.

Performance

The addition of DARAFILL Dry generates stable air contents of 15 % to 30% and significantly reduces mix water requirements by as much as 50% when compared to water-based CLSM. When used as recommended, DARAFILL Dry enhances plastic and hardened properties of CLSM accordingly.

- Provides a CLSM which is highly flowable with no segregation.
- Controls strength development for future excavatability, usually in the range of 0.35 to 1.40 MPa depending on the application requirements.
- Increases yield of materials up to 30%.
- Provides densities in the range of 1440 to 1920 kg/m³.
- Aids pumpability and minimises segregation in pump between loads. Pre-job testing with actual equipment and intended configuration is strongly recommended.
- Reduces buoyancy problems in CLSM around embedded pipes and tanks when compared to water-based CLSM.

DARAFILL Dry CLSM Performance Additive and CLSM Applications

DARAFILL Dry is designed for CLSM mixtures and is not recommended for use in conventional concrete. DARAFILL Dry offers the following benefits:

Safe, efficient, non-corrosive fill material for trenches, tanks and pipes

- Self-levelling and high lateral flow fills for the trenches, undercuts and voids
- Cost-effective in comparison to compacted soil by increasing efficiency of labour and equipments
- Minimises settlement in comparison to compacted-soil backfill

Specification

Material for backfill operations shall be cementitious Controlled Low Strength Material mixtures as supplied by concrete producer and contain DARAFILL Dry CLSM Performance Additive, as manufactured by GCP Applied Technologies, Cambridge, MA. Mixture ingredients and proportions shall be submitted for approval. DARAFILL Dry CLSM Performance Additive shall be added by the concrete producer personnel as per manufacturer's recommendations.

Storage, Addition Rate, Dispensing and Mix Designs

DARAFILL Dry bags have a storage tolerance in the temperature range of 0 °C to 55 °C. Store DARAFILL Dry above freezing, away from heat sources and out of direct sunlight.

Addition rates are typically one bag (containing 0.17 kg DARAFILL Dry) to dose 0.75 m³ of CLSM and one large bag (containing 0.68 kg DARAFILL Dry) to dose 3 m³ of CLSM

The contents of DARAFILL Dry CLSM Performance Additive bags are added in their entirety to the CLSM load. DARAFILL Dry should be added directly into mixers after the CLSM load is batched. For optimisation of freight volumes, add DARAFILL Dry at the job site. CLSM with DARAFILL Dry reaches optimum consistency when the mixture reaches a creamy, flowing appearance. For central mix operations, add the contents of DARAFILL Dry bags into the central mixer, not into trucks, to ease discharge from the central mixer

Mix design information may be obtained from your GCP Applied Technologies representative. If water-based CLSM is now being used, a mix design adjustment will be required in order to use DARAFILL Dry CLSM Performance Additive.

Technical Service

The Technical Service Department of GCP Applied Technologies is available to assist you in the correct and best use of our products. These resources and advice are at your disposal entirely without obligation

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