

# DARAFILL<sup>®</sup> LS

Controlled Low Strength Material (CLSM) Performance Additive

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## Product Description

DARAFILL<sup>®</sup> LS 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<sup>®</sup> LS improves fluidity and requires no compaction equipment.

DARAFILL<sup>®</sup> LS is available packaged in one litre bags to treat one cubic meter of concrete or in larger packaging for dosing through a liquid dispenser.

\* CLSM may be referred to as “Flowable Fill”, “Controlled Density Fill” or “Cement Stabilised Sand” in different geographical areas.

## Method Of Use

The use of DARAFILL<sup>®</sup> LS produces 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<sup>®</sup> LS is designed to be used with Portland cement, fly ash and ground granulated blastfurnace slag. CLSM produced using DARAFILL<sup>®</sup> LS is a cost-effective alternative to soil backfill.

## DARAFILL<sup>®</sup> LS and CLSM Applications

DARAFILL<sup>®</sup> LS is designed for CLSM mixtures and is not recommended for use in conventional concrete. DARAFILL<sup>®</sup> LS offers the following benefits:

- Safe, efficient, non-corrosive fill material for trenches, tanks and pipes
- Self-levelling and high lateral flow fills for trenches, undercuts and voids
- Fill for civil engineering and building foundations
- Cost-effective in comparison to compacted soil by increasing efficiency of labour and equipment
- Flexible, mix designs to suit requirements
- Minimises settlement in comparison to compacted soil backfill

## Performance

The addition of DARAFILL<sup>®</sup> LS generates stable air contents of 15 to 25% and significantly reduces mix water requirements by as much as 50%, producing concretes with a final density of 1500 – 1800 kg/m<sup>3</sup>. When used as recommended, DARAFILL<sup>®</sup> LS 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 0.5 to 1.5 N/mm<sup>2</sup> depending on the application requirements
- Increases yield of materials up to 25%
- Provides densities in the range of 1500 to 1800 kg/m<sup>3</sup>
- Aids pumpability and minimises segregation in the 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.

## Storage, Addition Rate, Dispensing and Mix Designs

Store DARAFILL® LS for 2 years in original unopened packaging, above freezing, away from heat sources and out of direct sunlight. Addition rates are typically one litre DARAFILL® LS to dose 1.0 m<sup>3</sup> of CLSM. DARAFILL® LS is supplied in pouches containing one litre. The contents of DARAFILL® LS pouches are added to the CLSM load typically at one litre per m<sup>3</sup>. DARAFILL® LS should be added directly into the mixer after the CLSM load is batched. For optimisation of freight volumes, add DARAFILL® LS at the job site. CLSM with DARAFILL® LS reaches optimum consistency when the mixture reaches a creamy, flowing appearance. For central mix operations, add the contents of DARAFILL® LS pouches into the central mixer and not into trucks to ease discharge from the central mixer. Alternatively DARAFILL® LS is supplied in 1000 litres (in IBC) or 220 litre drums and is added to the premixed concrete on site in the mixer truck at a dosage rate of 1 litre per m<sup>3</sup> of concrete. Mix design information may be obtained from GCP Applied Technologies.

## Typical Properties

DARAFILL® LS	
Appearance	Liquid

## Specification

Material for backfill operations shall be cementitious Controlled Low Strength Material mixtures as supplied by concrete producer and contain DARAFILL® LS CLSM Performance Additive, as manufactured by GCP. Mixture ingredients and proportions shall be submitted for approval. DARAFILL® S CLSM Performance Additive shall be added by the concrete producer personnel as per manufacturer’s recommendations.

## Technical Service

Our Technical Service department of GCP Applied Technologies is available to assist you in the correct use of our performance chemicals.

gcpat.uk | Customer Service: Tel: 01925 855330 Fax: 01925 855350

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