



Sustainability

As one of the UK's largest suppliers of building material solutions, CEMEX UK is committed to sustainable development across the business. The principle operations of our business are raw materials extraction, processing, distribution and re-cycling of building materials. CEMEX embraces the challenges of sustainable development, in striving to be socially, economically and environmentally responsible in everything we do to safeguard the needs of future generations. From a commercial perspective, a sustainable approach will allow CEMEX to continue as a preferred supplier to the industry, to drive further efficiencies and to ensure availability of long-term resources.

To deliver this promise CEMEX track the following indicators:

1. Reducing emissions
2. Improving efficiency of production and logistics
3. Developing innovative new products and services
4. Engaging employees
5. Increasing transparent dialogue with stakeholders
6. Measuring and controlling impacts
7. Contributing to sustainable communities

FAQ

Q Which mixes are suitable for trench reinstatement?

A Normally supplied as HAC (Highly Air-entrained Concrete) or HAM (Highly Air-entrained Mortar). Both comply with Roads & Streetworks Act 1991 for C2 or C4 reinstatement material. It may be surfaced at 24 hours.

Q Which mixes are suitable for filling voids?

A HAM with a flowing consistency is normally used for filling redundant fuel tanks, pipes, sewers, etc.

Q What is the typical density of foamed concrete?

A Depending on the aggregates used, typical densities are:
 HAC & HAM: 1,600 - 2,000 kgs/m³
 Pre-formed foam: 1,000 - 1,500 kgs/m³

Q What special precautions need to be taken when using foamed concrete?

A Foamed concrete is a fluid material and may cause flotation of pipes and tanks. To avoid, pour slowly around pipes/tanks, allow concrete to lose workability. Maximum placing thickness using pre-formed foam is one metre (no restriction on HAC/HAM). For reasons of safety, excavations filled with foamed concrete must be guarded whilst the concrete is still fluid.

Q Which mix is suitable for a temporary reinstatement?

A Mortar is more easily removed than concrete, therefore wherever possible C2 HAM should -be specified.



Material Datasheet

FOAMED CONCRETE

Readymix foamed concrete is a highly workable, low density material incorporating up to 50% entrained air. It is generally self levelling, self compacting and may be pumped. Risk of plastic shrinkage or settlement cracking is significantly lower than that of normal concrete.

Foamed concrete is ideal for filling voids such as disused fuel tanks, sewer systems, pipelines and culverts – particularly where access is difficult. It is a recognised medium for the reinstatement of road trenches. Good thermal insulation properties make foamed concrete also suitable for sub-screeds and filling under floor voids.

Readymix foamed concrete has an entrained air content typically of between 10-50%, dependant upon production method and preformed foam or admixture dosage. Dry densities are typically between 800 to 2000 kg/m³. The material typically remains fluid for 2/3 hours after mixing with the foam (dependant upon ambient conditions).

CEMEX Readymix provide a range of foamed concretes.

Readymix Voidfill

A low density flowable fill material to provide a single, engineered solution. The material has guaranteed performance in terms of density, strength, or both. Therefore the density and the strength of the construction layer can be controlled over a greater depth in a one-hit solution compared to traditional fill materials.

Applications

Unwanted voids:

- Pipelines
- Service Ducts and Shafts

Disused structures:

- Culverts
- Redundant Sewers
- Cellars and Basements

Higher Structural stabilisation:

- Bridge Abutments
- Tunnel Stabilisation
- Embankments

Insulating Fill:

- Low density insulating sub-screed
- Insulating fill to house over-sites

Readymix Tankfill

Has a lower water content than the traditional 20:1 sand/cement slurry which makes it more cohesive to eliminate settlement. The more cohesive property allows a controlled discharge into tanks with a restricted entry point. Air and gases in the tank are gradually displaced by the Readmix Tankfill. Being a cellular fill, Readymix Tankfill is less prone to penetration from external contaminants. Readymix Tankfill meets the building regulation codes for fire resistance.

Applications

- Filling of disused petrol and oil tanks
- Filling of effluent and water tanks

Readymix Roadfill

An efficient and cost-effective reinstatement material that complies with the Roads and Streets Works Act 1991. Readmix Roadfill is available as FCR Classes C2 and C4. There is no settlement with Readymix Roadfill so therefore it can be fully resurfaced in one operation. There is also no need for compaction equipment.

Applications

Unwanted voids:

- Reinstatement of temporary opening in streets and highways
- Protection of buried services

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Features and Benefits

Plastic state advantages

Foamed concrete is a versatile and practical material which can be tailored to a variety of project needs and operational conditions:

Feature	Benefits
Produced at the plant or on site.	Immediate placement on delivery. No storage needed. Good workability retention.
Wide range of possible mixes.	Adjustable to meet specific performance requirements. Controlled density and strength.
Stable chemical structure.	No need for soil analysis. No requirement for moisture content checks between layers. Compatible with nearly all building products and materials.
A cellular fill.	Less prone to penetration from external contaminants.

Working improvements

The free-flowing but cohesive properties of foamed concrete provide many working benefits:

Feature	Benefits
Easy to place and finish.	Single process installation, simply pour and level. Reduced labour and supervision costs. Specialist plant (e.g. compactors, vibrators) not needed. Controlled rates of placement to ensure suitability for any loading characteristics.
Pumpable.	Foamed mortars can be pumped significant distances can be placed by conventional concrete pump.
Self compacting and self-levelling.	Ideal for inaccessible trenches where compaction would be difficult or impossible. Allows controlled discharge into narrow openings. Fully fills void space, including undercut pockets. Entirely surrounds and protect pipelines.
Single operation trench reinstatement.	Minimises traffic disruption due to road closure. No need for compaction equipment. No need to stockpile granular-fill material. Helps increase workforce productivity and cost-effectiveness. No revisit due to long term settlement.
Good cohesion.	Prevents bleeding or segregation. Allows controlled discharge through narrow entry points. Does not settle after placing.

Final concrete performance

Plastic state qualities translate into significant final performance benefits:

Feature	Benefits
High entrained air content.	Resistant to freeze/thaw damage. Good thermal and acoustic insulation.
Good cohesion.	Stable foam structure reduces settlement. Reduces bleeding and segregation.
Controlled density and strength.	Low strength allows removal for subsequent access to services. Range of densities and strengths available for each foamed concrete type.

Added value

Foamed concrete:

- Cost compares favourably with other fill materials
- Reduced manpower
- Negligible risk of call-back for subsidence

Specification types

READYMIX foamed concrete can be supplied with or without coarse aggregate depending on the type and application. The stable bubble structure can be introduced into the mix in three ways:

- By adding specially formulated air-entrained admixtures into the concrete during the mixing process. This generally produces an entrained air content of between 10% and 25%. The resultant material is referred to as High Air-entrained Concrete (HAC) or High Air-entrained Mortar (HAM)
- By adding foam generating admixtures to a mortar base mix after mixing or at site. This will produce higher levels of entrained air than air-entraining admixture and consequently a lower density.
- By blending a pre-formed foam into a mortar base mix after mixing or at site.



Health and Safety

CEMEX has a global policy for health and safety that provides a framework, and a UK policy that expands on the corporate policy, which is aligned to UK standards.

CEMEX has a target of zero injuries and does not accept unsafe working practices. Accident prevention, safeguarding employee health and environmental protection are an integral part of our company policy.

Health and safety is part of everyday concern and should be reflected at all times in employee behaviours. CEMEX has extended this commitment to safety beyond the

organisation and is involved with a number of public initiatives to improve safety and awareness.

CEMEX ensures that products are safe to transport, store, handle, use and dispose of. However, some products may carry risks to people's health and safety if the appropriate precautions are not taken. To prevent such risks, CEMEX has a range of product safety sheets, which outline any main hazards and precautions that should be taken when handling these products. These are available on request or can be downloaded from the website.

Contact with wet concrete may cause irritation, dermatitis or severe alkali burns. There is serious risk of damage to the eyes. Wear suitable waterproof protective clothing, gloves and eye / face protection. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. After contact with skin, wash immediately with plenty of clean water. Keep out of reach of children and animals. Contains chromium (VI), may cause allergic reaction.

www.cemex.co.uk/productsafety

WARNING

WET CEMENTITIOUS PRODUCTS such as concrete, mortar and screed MAY CAUSE SERIOUS BURNS in contact with eyes or skin. You MUST wear the appropriate protective clothing at all times.