



cemlite® HE

Fast Setting, Ultra Lightweight, Strong Composite Moulding, Applied Finish and Repair Material with High Early Strength Gain

Product Overview:

cemlite® HE is a patented higher early strength gain, faster setting and hardening version of patented **cemlite®** lightweight two-pack reactive but easy one step preparation, water-based composite moulding, hand lay-up / trowel / float applied finish and repair material.

Supplied in ready-to-use powder form, **cemlite® HE** incorporates Ability's modern, lightweight, hollow micro/macro ceramic **E-Spheres®** technology.

Patented **cemlite® HE** delivers a high early strength (20MPa @ 24 hours and 34MPa @ 7 Days) load bearing material with almost half the weight of conventional 20MPa concrete. It's ultra lightweight formulation results in a finished material with a weight of approximately 1,480kg/m³ and a compressive strength of >43MPa @ 28 days - a significant weight saving when compared to the typical 2,400kg/m³ weight of regular 20MPa concrete.

Together with its extremely high load bearing strength and ultra lightweight, **cemlite® HE** delivers outstandingly high performance - specifically excellent weather and chemical resistance, together with outstanding fire retardancy, high impact and abrasion resistance and, in certain applications, the potential for significant improvements in both thermal and acoustic insulation.

Uses:

Developed with a focus on providing a high-strength, most durable moulding, repair and applied finishing material for use in applications where material weight, fast setting times, high early and ultimate strengths, exceptionally high chemical resistance and substantial insulation properties are important considerations, **cemlite® HE** is ideal for use in making :

- Poured in situ and/or precast wall panels
- Materials to be submerged in fresh, chlorinated or sea water
- Load-bearing lightweight building sections, beams and mouldings
- Precast or fabricated architectural features
- Lightweight cladding panels
- Lightweight, tough, stiletto heel traffic-proof floor and pavement surfacing
- Noise abatement / sound walls
- Wall, floor, pavement and panel repairs
- Artistic and sculptural creations/elements
- As a trowel-applied high strength floor levelling finish
- As a lightweight, sound-deadening, wall rendering mortar
- As a high strength topping for existing concrete slabs and suitably prepared wooden floors
- Interior fitments such as counter / bench tops and splash back panels
- Lightweight exterior / interior furniture
- Lightweight terrazzo

Benefits:

cemlite® HE delivers a wide range of benefits, including:

- Fast setting time (approximately 90 minutes @ 23°C)
- Nearly half the weight of normal concrete (on average 43MPa **cemlite® HE** weighs approximately 1,480kg/m³ whilst standard 20MPa concrete weighs an average of 2,400kg/m³)
- Reduces transport and lifting costs for precast components
- Outstanding high early strength gain (20MPa @ 24 Hours / 34MPa @ 7 Days)
- High ultimate strength (>43MPa @ 28 Days)
- High load-bearing strength
- Excellent workability and extrudability - highly beneficial rheology
- Versatile - can be moulded, extruded, trowel-applied or hand-crafted

- Highly adhesive formulation
- Excellent UV and weathering resistance - especially in marine environments
- Outstanding fire retardancy
- Outstanding corrosion resistance and protection for metals
- High abrasion and impact resistance
- Excellent acoustic and thermal insulation properties
- Easy to use, mix, place, finish and moist cure
- Can be used with Ability's **abilox**[®] colourfast mineral oxide powder pigments to produce integrally-coloured lightweight composite materials / products
- Can be used with Ability's **duro**[®] bright high chroma vivid colours for through coloured interior fitments such as bench and counter tops and other self-coloured items.

Usage and Application:

cemlite[®] **HE** is supplied as a free-flowing white powder, ready for mixing into clean, potable (drinking quality) water in the recommended weight proportions.

cemlite[®] **HE** is packed in 20kg multi-wall paper sacks incorporating a moisture proof laminated plastic inner-wall for easy, clean handling and storage.

The product is easily prepared by thoroughly power mixing into the specified proportion of clean potable water. If adequately mixed, the resulting flowable liquid mixture is suitable for casting into moulds, and formwork, used as an extruded product, or as a trowel-applied, float finished material.

For optimum performance and final strength, it is preferable that **cemlite**[®] **HE** is moist or water-cured efficiently to retain the mixing water for a minimum of 1-2 days after initial setting, with 7 days of curing considered optimal. When used as specified, **cemlite**[®] **HE** will deliver a compressive strength of >43MPa at 28-days.

Powder to Water Proportions:

The recommended powder to water proportions for **cemlite**[®] **HE** are variable, depending on the performance levels required for the specific use, however, to achieve a final result of >43MPa @ 28-days, the recommended mix ratio is 100 weight units of **cemlite**[®] **HE** to 27 weight units of potable water.

Compatibility:

cemlite[®] **HE** is compatible with a selected range of specialist admixtures for concrete including oxide powder pigment colourants, and can be used with or without concrete or other alkali resistant fibres, chopped strands, reinforcing mesh/woven fabrics.

IMPORTANT:

cemlite[®] **HE** *must NOT* be mixed with standard **cemlite**[®], premixed concrete, or any other mixes containing Portland cement, Quicklime or Hydrated Lime.

Please contact Ability Building Chemicals Co for information about specific admixtures, products and mix designs.

Packaging:

cemlite[®] **HE** is supplied in 20kg net multi-wall paper sacks.

Storage:

For maximum shelf-life, **cemlite**[®] **HE** should be stored in its original sealed packaging, out of direct sunlight, in appropriate, dry and not extremely high ambient temperature conditions.

When kept dry and stored under these conditions in its original unopened packaging, **cemlite**[®] **HE** has a storage shelf life in excess of 12 months.

Precautions:

cemlite[®] **HE** is a non-hazardous, non-flammable, non-explosive substance and is classed as a non-dangerous good, however, it is recommended that the following Personal Protective Equipment (PPE) and precautions are followed when handling and using the product:

- Wear full overalls, gloves safety goggles and a dust resistant face mask during use
- Avoid skin and eye contact
- Always wash hands before eating, drinking, smoking or using the toilet.

For further Health and Safety information, please refer to **cemlite**[®] **HE** Material Safety Data Sheet (MSDS) downloadable from Ability's website.

Further printed information and a free no charge trial sample of **cemlite**[®] **HE** will be made available upon request.