



### Lower Carbon Emissions

CEMEX provides high-performance, innovative cementitious solutions for customers' evolving needs. As part of our core strategy, we use sustainable construction practices and products that help society meet green growth goals. When macro-synthetic fibres are incorporated within the Advanced Design they reduce the overall carbon footprint of the reinforced concrete composite by around 50% (when compared with the use of traditional steel mesh reinforcement).

### Health and Safety

Contact with wet concrete may cause irritation, dermatitis or severe alkali burns. There is a serious risk of damage to the eyes. Wear suitable waterproof protective clothing, gloves and eyes/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. Contains Chromium (VI), may cause allergic reaction. For a detailed database sheet, please visit the health and safety section of our website: [www.cemex.co.uk](http://www.cemex.co.uk)

### Sustainability Commitment

As a company, CEMEX UK embraces the challenges of sustainable development, striving to be socially, economically and environmentally responsible in everything we do to safeguard the needs of future generations. CEMEX Readymix use efficient automated batching systems reducing waste water discharge. Other similar systems are in place for stone washing and aggregate reclaim and finally during production operations, water is extracted at many of the plants.

### CEMEX

CEMEX is the world's leading supplier of readymix concrete and has an international reputation for innovative concrete solutions. CEMEX Readymix produces a full range of mixes designed for specific applications in the commercial, industrial and civil sectors. These include fibre concretes and Evolution™, a range of self-compacting concretes with free-flowing and self-levelling characteristics.

### Propex

Propex is the worldwide leader in fibre reinforcement solutions. Propex set the standard for performance, value and reliability in concrete reinforcement fibres. They offer a complete line of fibre solutions including Fibermesh micro synthetic fibres, Novomesh™, blended fibres, Enduro macro synthetic fibres and Novocon steel fibres.



## HIGH PERFORMANCE FIBRE REINFORCED CONCRETE

**Bespoke concrete design solutions for both internal and external floor slab applications.**

High performance concrete incorporating a 3-Dimensional system of either macro-synthetic or steel fibre reinforcement, which reduces the risk of cracking, increases impact/shatter resistance, improves surface durability and reduces long-term maintenance costs.

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CEMEX Advanced Design is a tailor made fibre reinforced concrete to suit specific customer needs and manufactured in accordance with BS EN ISO 9001, BES 6001 and BS EN 14889. It is independently certified under the Quality Scheme for Ready Mixed Concrete (QSRMC) in accordance with the relevant standards and is available from CEMEX plants throughout the UK.

Fibre reinforcement is added to the concrete at the CEMEX UK batching plant at the precise dosage specified within our Advanced Design solution. The concrete arrives on site with the fibres evenly distributed throughout, and the process of placing concrete and reinforcement is completed in a single operation.

Advanced Design is a high performance fibre reinforced concrete which replaces the need for conventional steel wire fabric, eliminating misplaced reinforcement.

### Applications

- » Internal and external ground supported slabs
- » Heavy duty floors with high abrasion risk
- » Re-cycling plants
- » Large plant and machinery yards
- » Docks and maritime facilities
- » Military sites

### Key features and benefits

- » The need for traditional mesh in the floor slab is removed
- » Concrete and reinforcement is delivered as one
- » No wastage on site as the concrete contains the prescribed amount of fibres
- » Reinforcement is always placed in the correct position
- » Health & safety risks associated with cutting/placing steel are removed

### Design Information

- » All designs follow good industry practice and adopt the guidance from independently published documents such as those produced by the UK Concrete Society.
- » Full calculations are available upon request. These will allow engineers full sight of the design principles adopted and to verify any proposed solution.
- » Designs will be tailored to meet specific project requirements. This will then allow the floor thickness and joint spacing to be optimised where appropriate.
- » Assistance with jointing layout and details can be provided to meet both the design and construction requirements.
- » A minimum CBR of 5% is required for all ground conditions. Where high values are achieved, then the design will be optimised to reflect this.
- » Further advice can be given on potential jointing solutions and detail dependent on the specific design solution and preferred method of construction.
- » Designs are by qualified engineers with a wealth of experience in fibre reinforced concrete.

### Installation

CEMEX Advanced Design has no special handling requirements and can be placed using conventional techniques such as direct discharge, skip or pump.



Placement and finishing guidelines are available upon request. Good construction practices should be adhered to at all times. These include: well prepared and compacted sub-base; correct positioning of contraction joints; sawn induced contraction joints being formed as soon as possible after concrete placement; attention to slab detailing where shrinkage restraint is unavoidable e.g. re-entrant corners, columns and slab thickenings and application of suitable curing membrane to avoid excessive early moisture loss.

### Economical Benefits

Using CEMEX Advanced Design can lead to significant cost reductions by way of: optimised slab thickness; reduced labour; elimination of crane/lifting for reinforcement; faster construction and lower maintenance.

CEMEX Advanced Design is easier and quicker to place than steel mesh reinforced concrete. The Health and Safety hazards associated with handling and placing steel mesh are also significantly reduced.



1. Heavy plant and machinery standings
2. Freight handling areas
3. Heavy duty industrial floors