



HIGH-PERFORMANCE CONCRETE.

FORTIFIED WITH FIBRES.



**FLOORING.
PAVING.
DESIGN.
DECKING.
BEAM & BLOCK.**



STRENGTH FROM WITHIN.

High-performance concrete – fortified with fibres. CEMEX Advanced Concretes are pioneering products that combine micro and macro-synthetic fibres to give a new level of performance in reinforcement.

CEMEX Advanced fibres removes the need for steel mesh by using fibre reinforcement. Meaning a faster, safer, and more cost-effective job with the potential to reduce CO₂ – free from bars, and no loss of performance.

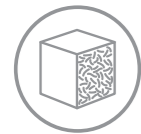
CEMEX Advanced fibre reinforcement concrete carefully blends a precise combination of fibre reinforcement with an expert design mix to provide a mesh-free application. It is designed to enhance post-crack performance and increase impact and abrasion resistance, and flexural toughness.

CEMEX Advanced is mixed in carefully controlled, quality-assured Readymix plants, distributing the fibres evenly throughout the mix in advance of delivery. Delivered in traditional Readymix vehicles and removing the need for special handling when arriving on site.

Manufactured to BS EN ISO 9001 and BES 6001 and is independently certified under the quality scheme for Ready Mixed Concrete (QSRMC).



WHY USE ADVANCED FIBRES?



ADVANCED REINFORCEMENT IS DISTRIBUTION EVENLY THROUGHOUT THE MIX



MESH REINFORCEMENT REQUIRES EXACT POSITIONING TO BE EFFECTIVE

FEATURES AND BENEFITS



SAVES MONEY



SUPERIOR FINISH



LESS WASTE



MINIMAL HANDLING



REDUCED STORAGE



FASTER TO PLACE



A fibre-reinforced concrete for internal ground supported slabs – which needs no steel mesh. This delivers a significant reduction in reinforcement costs as well as faster and easier placement.

APPLICATIONS

- General industrial flooring
- Workshop flooring
- Farm buildings
- Domestic flooring

TECHNICAL DATA

CEMEX Advanced Flooring can be specified and installed based upon the following load and construction recommendations:

Solution	Slab Thickness (mm)	Maximum Point Load (t)	Maximum Fork Lift Capacity (t)	Maximum Wall Load (t/m)	Maximum Joint Spacing (m)
CEMEX Advanced Flooring 150	150	3	2	1	6
CEMEX Advanced Flooring 175	175	4	3	2	6
CEMEX Advanced Flooring 200	200	5	4	3	7

DESIGN ASSUMPTIONS

- Point load applied on a base plate with minimum dimensions of 125mm x 125mm
- Recommend joint layout and detailing as detailed on the back page
- Minimum sub base CBR 5%
- For loadings outside parameters shown above please contact us for further guidance

INSTALLATION

CEMEX Advanced Flooring can be placed using conventional placing techniques such as direct discharge, skip or pump and there are no special handling requirements.

In order to achieve the best performance from CEMEX Advanced Flooring it is essential to ensure that the concrete is fully compacted and properly cured immediately after the concrete is placed and finished. It is strongly recommended that a curing membrane is applied to the concrete to prevent any moisture loss from the concrete to ensure that the concrete reaches its full potential.

WARRANTY

A comprehensive warranty is available on request which warrants the performance of CEMEX Advanced Flooring when placed in accordance with the recommendations and joint details in this brochure and is not subjected to loads in excess of the design assumptions.



A fibre-reinforced concrete for external ground supported slabs – which needs no steel mesh. This delivers a significant reduction in reinforcement costs as well as faster and easier placement.

APPLICATIONS

- External ground supported slabs
- Roadways and pavements
- Farmyards and roadways
- Domestic driveways

TECHNICAL DATA

CEMEX Advanced Paving can be specified and installed based upon the following load and construction recommendations:

Solution	Slab Thickness (mm)	Maximum Loading	Maximum Joint Spacing (m)
CEMEX Advanced Paving 150	150	HGV/Light Usage	6
CEMEX Advanced Paving 175	175	Medium Usage/ Heavy Usage	6
CEMEX Advanced Paving 200	200	HGV/Standing Trailers	6

Design assumptions

- Recommend joint layout and detailing as detailed on the back page
- Minimum sub base CBR 5%
- For loadings outside parameters shown above please contact us for further guidance

INSTALLATION

CEMEX Advanced Paving can be placed using conventional placing techniques such as direct discharge, skip or pump and there are no special handling requirements.

In order to achieve the best performance from CEMEX Advanced Paving it is essential to ensure that the concrete is fully compacted and properly cured immediately after the concrete is placed and finished. It is strongly recommended that a curing membrane is applied to the concrete to prevent any moisture loss from the concrete to ensure that the concrete reaches its full potential.

WARRANTY

A comprehensive warranty is available on request which warrants the performance of CEMEX Advanced Paving when placed in accordance with the recommendations and joint details in this brochure and is not subjected to loads in excess of the design assumptions.



A high-performance, fibre-reinforced concrete, offering bespoke concrete design solutions for both internal and external floor slabs applications.

APPLICATIONS

- Internal and external ground supported slabs
- Heavy duty floors with high abrasion risks
- Recycling plants
- Large plant machinery and yards
- Docks and maritime facilities
- Military sites



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

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



A fibre-reinforced concrete for use on composite metal decking systems. The Advanced Decking system uses a unique combination of high-performance steel fibres and polypropylene micro synthetic fibres to achieve a fully three dimensionally reinforced concrete slab.

Two bespoke solutions for use as concrete toppings above suspended beam and block floors. High-performance concrete incorporating a 3-dimensional system of macro-synthetic (MF) or steel (SF) fibre reinforcement.

WHY USE ADVANCED DECKING?

- Independently verified and approved by the Steel Construction Institute
- Fire ratings up to and including 120 mins
- Bespoke software available from Tata and CMF to enable engineers to design Advanced Decking Solutions

FIRE RATING DETAILS

Fire Rating	Product
60 minutes	Advanced Decking 25
90 minutes	Advanced Decking 30
120 minutes	Advanced Decking 35

FEATURES

- Independent testing proves that the system provides equivalent or superior performance to traditional welded wire mesh solutions
- The inclusion of steel fibres in advanced decking provides load bearing capabilities, increased toughness and long term crack control
- Proven to reduce plastic shrinkage and settlement cracking
- Superior 3 dimensional reinforcement increases impact, shatter and abrasion resistance



DECK TYPE

Deck Manufacturer	Deck Range	Fibre Supplier	Installation Companies
Tata	Comflor	Sika	Steel Decking Ltd
	CF51, CF60, CF80		Composite Profiles Ltd
CMF	Metfloor	Sika	Studwelders
	MF55, MF60, MF80		Northern Steel Decking

APPLICATIONS

- Traditional Beam and Block floors
- Insulated Beam and Block floors

INSTALLATION

CEMEX Advanced Beam & Block MF or SF have no special handling requirements and can be placed using conventional techniques such as direct discharge, skip or pump.

In order to achieve the best performance from CEMEX Advanced Beam & Block & Block MF or SF it is essential to ensure that the concrete is fully compacted and properly cured immediately after the concrete is placed and finished. It is strongly recommend that a curing membrane is applied to prevent any moisture loss to assure that the concrete reaches its full potential.



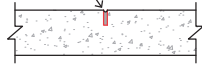
TECHNICAL DATA

- **Strength class:**
Available in a range of compressive strength classes
- **Consistence class:**
Available in a range of consistence classes to suit every application from slump class S3 to a slump flow of SF2 (self-compacting concrete)
- Fibres meet BS EN 14889 Standards

RECOMMENDED JOINT DETAILS FOR FLOORING AND PAVING

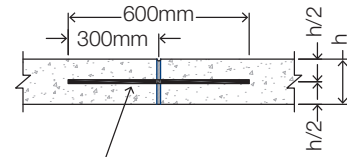
Sawn induced joint (SIJ)

Sawn induced joint to be cut within 24 hours of concrete placement



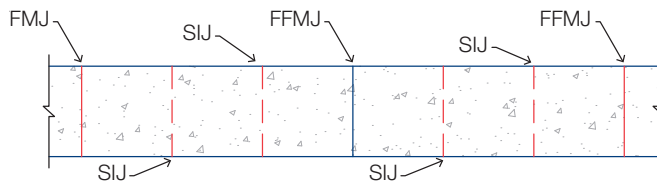
Saw cut to minimum of $\frac{1}{3}$ slab depth or 50mm. Appropriate sealant should be used to fill and protect the joint.

Formed free movement joint (FFMJ)



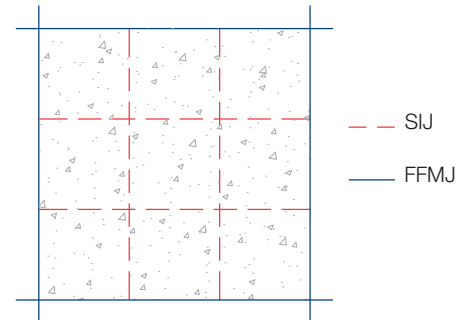
R16 @ 400mm c/c debonded dowel joint. Compressible material to one side of dowel bar.

Long strip construction joint layout



Re-entrant corners and columns should be isolated from the slab.

Flood pour joint layout



HEALTH AND SAFETY

Contact with 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 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. Contains Chromium (VI), may cause allergic reaction. For a detailed datasheet please visit the health and safety section of our website: www.cemex.co.uk

Technical services & product support

To help you find the right design for your projects, call **0800 667 827** or visit our Advanced Product Selector at www.cemex.co.uk/advanced

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