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FIBRE CONCRETE



Building the future™

FIBRE CONCRETE

بوابة المؤتمرات
CONVENTION GATE

Project Spotlight – World Trade Centre Exhibition Hall expansion, Dubai

Floors for the Exhibition Hall of the World Trade Centre were cast using steel fibre concrete to cut down on reinforcement steel costs, reduce construction time and produce a more durable, crack resistant concrete.



ISO 9001
ISO 14001
OHSAS 18001

BUREAU VERITAS
Certification



The addition of polypropylene and steel fibres to a mix produces a concrete that is more resistant to cracking and has reduced bleeding and settlement. Concrete containing fibres is more resistant to abrasion and impact.

Features and Benefits

Improves plastic properties of Concrete

- Minimises bleeding
- Minimises plastic settlement
- Reduces or eliminates plastic shrinkage cracking

Improves hardened properties of Concrete

- Increased impact resistance
- Increased abrasion resistance

Economical

- can be used to eliminate crack control mesh in top of slabs

Safer

- Eliminates explosive spalling in fires

Why Fibre Concrete

Fibre in concrete control the size and incidence of cracking in concrete, resulting in a concrete that is tougher, longer lasting and more resistant to wear.

What is the difference between polypropylene and steel fibre?

Polypropylene fibres help concrete to resist cracking at early ages making for tougher, more durable concrete. This reduce that pathways for harmful materials such as chlorides to enter the concrete and attack the reinforcing steel.

Steel fibres, in addition make the concrete more resistant to cracking from tensile and other stress that can arise in the concrete as the material matures. Steel fibres can be used to reduce to replace reinforcement mesh and to reduce the number of joints in a concrete slab, reducing costs, minimizing maintenance and prolonging the lifespan of the concrete.

How are Fibres used in Concrete?

Polypropylene fibres are added to concrete mix at the production depot, where they disperse into the concrete. In the fresh concrete, they help to prevent segregation, and reduce bleed, resulting in a more cohesive concrete mix. In the hardened concrete they can limit sapling and in a fire, explosive spalling.

PERFORMANCE FOOTPRINT



TECHNICAL DATA

Concrete Grade (N/mm ²)	30 to 80
Durability ¹ (RCP, WP, WA)	800 to 4000, 10 to 20mm, 1.0 to 3.0
Workability Slump (mm)	75 to 200
Workability Retention (Hours)	1 to 3
Maximum Aggregate Size (mm)	10 or 20
Typical Hardened Density (Kg/m ³)	2450
Cement Types ²	OPC, SRC, MSRPC
Supplementary Cementitious Materials ³	DURACEM®/ Microsilica
Colours	Grey or Colored