

# The engineering of the future, today.

## Performance Advantages



Combination of fibers and concrete design that increases tensile strength and ductility



Resilient materials that will endure high mechanical, chemical, and environmental stress



Self compacting and consolidating materials with high fiber loading (> 60 kg/m<sup>3</sup>)



Thinner and joint-less industrial floors



Bullet-proof materials

## CEMEX Solution

Concrete Technology based on a novel Hyper-Performance Fiber Reinforced Concrete

- Novel particle packing principles to accommodate aggregate and fiber particles
- Innovative approach in fiber reinforcement – adoption of fiber combinations

## Added Value Propositions

A concrete-based fiber-reinforced composite that offers:

- Cost savings:
  - Significant reduction or elimination of steel reinforcement in structures
  - Low long-term maintenance
- High strength coupled high ductility
- Material-Efficient structural design – more slender elements
- Sustainable construction practices

## Technical Characteristics

### FRESH PROPERTIES

- Self consolidating Concrete: Slump flow > 65cm
- Workability retention of at least 1h30min
- Viscosity: V funnel between 10s and 20s

### PLACING/HANDLING

- Pumpable concrete
- Easy to place and form filling

### HARDEN PROPERTIES

- Compressive strengths from: 30MPa to 150MPa @ 28 days
- Flexural Strengths from: 3MPa to 30 MPa @ 28 days
- Modulus of Elasticity from 25 to 50 GPa
- High ductility – strain hardening behavior

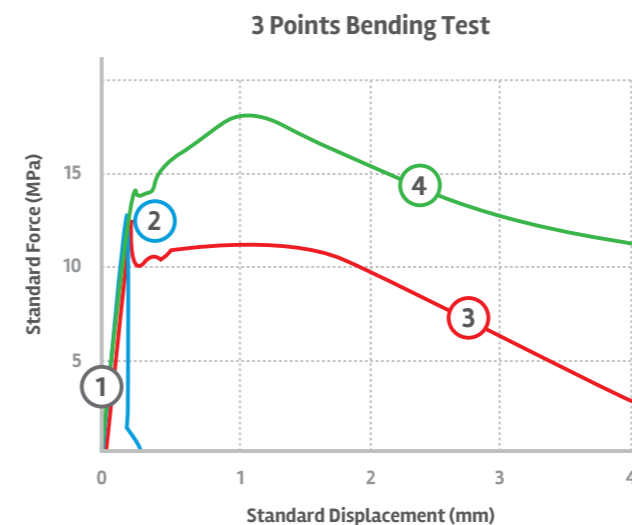
### DURABILITY

- Low permeability / high density
- High resistance to abrasion and corrosion
- High resistant to freeze-thaw damage

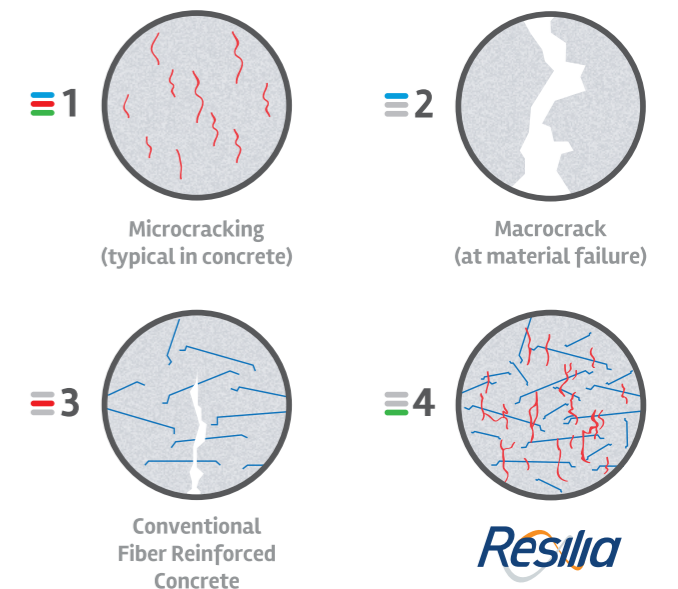
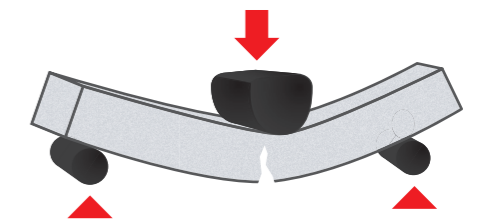
## Applications

- High rise buildings / sky scrapers
- Architectural
- Bridges
- Narrow supports
- Thin concrete elements
- Buttresses for high pressures
- Industrial flooring and pavements
- Pre-cast

Toughening mechanisms induced by mix design coupled with special mixture of fibers.



## Fiber Distribution



**A Concrete Technology engineered to  
achieve unprecedented mechanical  
performance and durability**

A special ready-mix concrete solution  
addressing challenges where high strength  
and high ductility are required.

CEMEX IS A GLOBAL BUILDING MATERIALS COMPANY  
THAT PROVIDES HIGH-QUALITY PRODUCTS AND RELIABLE  
SERVICE TO CUSTOMERS AND COMMUNITIES IN MORE THAN  
50 COUNTRIES THROUGHOUT THE WORLD. CEMEX HAS A  
RICH HISTORY OF IMPROVING THE WELL-BEING OF THOSE  
IT SERVES THROUGH ITS EFFORTS TO PURSUE INNOVATIVE  
INDUSTRY SOLUTIONS AND EFFICIENCY ADVANCEMENTS  
AND TO PROMOTE A SUSTAINABLE FUTURE.

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*Reinforced by design*

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