

FORTA-FERRO[®]

“STRONG AS STEEL”

ADVANCED CONCRETE
REINFORCING FIBER



FORTA[®]



FORTA-FERRO® is a macro/structural synthetic fiber which permits the use of much higher dosages, longer lengths, and heavier fibrils. FORTA-FERRO® replaces a much higher level of conventional reinforcing steel in a wide variety of applications.

The FORTA-FERRO® fiber blend consists of heavy-duty copolymer monofilaments for improved post-crack benefits and standard fibrillated (net-shaped) polypropylene fibers for crack control. The patented twisted-bundle technology allows the fiber to distribute quickly and uniformly without clumping or balling. The heavy-duty fibrils offer a non-fuzzy surface finish.

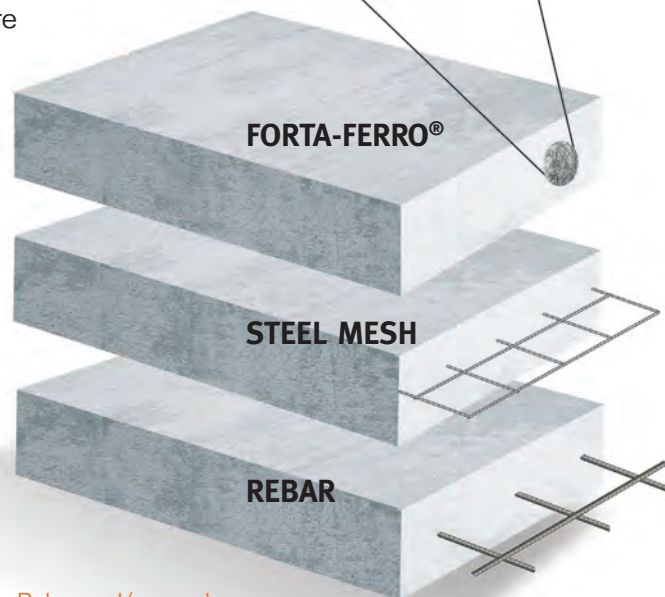
Reinforcement in every cubic inch of your concrete



FORTA-FERRO® is an advanced fiber which replaces steel reinforcement. A unique blend of 2 fibers, FORTA-FERRO®:

- Reduces and controls shrinkage and temperature cracking
- Reduces slab curling and increases post-crack performance

FORTA-FERRO® fiber is typically used in long lengths (2-1/4") and in high dosages (3 to 30 lbs./cubic yard) to affect a higher replacement level of reinforcing steel than standard synthetic fibers. FORTA-FERRO®, which means "Strong As Steel" is also extremely user-friendly, having gained a reputation as the best mixing and finishing fiber of its kind in the industry.



Rebar and/or mesh steel reinforcement can't match the coverage of FORTA-FERRO® because this 3-dimensional fiber is blended into every cubic inch of the concrete. Unlike steel, FORTA-FERRO® is everywhere cracks and stress emerge.

PRECAST

Composite-product vacuum testing in precast tanks and boxes, as well as testing under crushing loads in vaults and manholes has propelled FORTA-FERRO® into widespread use in precast applications.



Septic tanks, burial vaults, manholes, architectural panels, step units and dolos.

FLATWORK

Use FORTA-FERRO® in flatwork projects to reduce and/or eliminate the need for reinforcing steel. Common flatwork applications include:

- Manufacturing, commercial and industrial floors
- Residential slabs and driveways
- Slabs-on-deck
- Parking lots and pavements



SHOTCRETE

- Tunnel linings
- Slope stabilization
- Rock and water-scapes
- Swimming pools and lake linings



The reduction of steel and placement labor results in a sizable savings

APPLICATIONS

FORTA-FERRO® has been tested by scores of agencies, laboratories, and testing facilities in a wide variety of performance areas, such as toughness, impact resistance, flexural strength, and residual strength. FORTA-FERRO® has also been compared in residual strength (ASTM C-1399) to the major brands of steel fibers, resulting in an average replacement value of 1:10 (FORTA-FERRO®: steel fibers).

BENEFITS

- Reduction of plastic and hardened concrete shrinkage cracking.
- Improvement to concrete toughness and long-term durability.
- Improves impact and shatter resistance, and enhances fatigue and residual strength.
- Considerable cost-savings vs. conventional labor-intensive steel reinforcement.
- Non-corrosive, non-magnetic.
- Provides 3-dimensional reinforcement coverage vs. one-plane reinforcement.
- Can be placed, cast, pumped or shot.
- Saves time vs. alternate reinforcing systems.



FORTA-FERRO®

Physical Properties

Material

Virgin polypropylene and copolymer

Form

Twisted-bundle monofilament and fibrillated fiber blend

Chemical Resistance

Excellent

Specific Gravity

0.91

Tensile Strength

83 - 96 ksi (570 - 660 MPa)

Compliance

ASTM C-1116

Length

2.25" (54mm); 1.5" (38mm)

Modulus of Elasticity

690 ksi (4700 MPa)

Melting Point

320°F (160°C)

Dosage

3-30 lbs./cubic yard
(1.5 – 14 kgs/cubic meter)

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FORTA-FERRO® is protected by U.S. patent numbers 6,753,081 and 7,168,232 and additional foreign patents.

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