



MACRO SYNTHETIC

## Description

FORTA® FERRO-GREEN® is a unique blend of macro synthetic fibers designed specifically for pervious concrete applications. The FERRO-GREEN blend consists of 100% recycled polypropylene fibrillated fibers and high-performance twisted-bundle monofilament fibers that are designed to mix, distribute, and finish well. This fiber combination offers a variety of desirable benefits to pervious concrete pavement applications including increased strength, toughness, freeze-thaw and raveling resistance, and durability - all while preserving both the plastic and hardened concrete void structure.

## Reinforcement Objective

To inhibit plastic and hardened shrinkage cracking of pervious concrete, and to increase its toughness, freeze-thaw resistance, and durability.

## Physical Properties

<b>Specific Gravity</b>	0.91
<b>Density</b>	1,534 lb/cu yd (910 kg/cu m)
<b>Tensile Strength</b>	83-96 ksi (570-660 MPa)
<b>Length</b>	2.25 in (54 mm), 1.5 in (38 mm), 0.75 in (19 mm)
<b>Melting Point</b>	319°F (160°C)
<b>Material</b>	Virgin Copolymer / Recycled Polypropylene
<b>Form</b>	Monofilament / Fibrillated
<b>Color</b>	Gray/Dark Gray
<b>Acid / Alkali Resistance</b>	Excellent
<b>Absorption</b>	Nil

## Compliance & Certification

- ASTM C1116 / C1116M-10a, Standard Specification for Fiber-Reinforced Concrete
- ASTM D7508 / D7508M-10(2015), Standard Specification for Polyolefin Chopped Strands for Use in Concrete
- DUNS: 094214129
- CAGE Code: OFAN8
- NAICS: 325220

## Applications

FERRO-GREEN is used to toughen any pervious concrete application such as driveways, curbs, sidewalks, and commercial parking lots and pavements. The use of this three-dimensionally distributed non-corrosive macro synthetic fiber blend is one of the few methods available to add true toughness reinforcement to pervious cross-sections, without reducing porosity. Contact FORTA Corporation for design assistance and dosage recommendations.

## Performance Benefits

- Enhance durability
- Improve flexural toughness and fatigue resistance
- Increase impact and shear resistance
- Increase freeze-thaw and raveling resistance

## Reinforcement Ratio

This product is typically used at a ratio of 0.17% to 0.5% by volume of pervious concrete depending on application and desired performance. Contact FORTA Corporation for design assistance and dosage recommendations.

Dosage by Volume (%)	Dosage by Weight	
	Imperial (lb/cu yd)	Metric (kg/cu m)
0.17	2.5	1.5
0.33	5.0	3.0
0.50	7.5	4.5

## Packaging

FERRO-GREEN is available in convenient degradable mixer-ready bags in 1.0 to 5.0 lb increments (1.0 and 2.0 kg).

## Recommendations

**Addition:** FERRO-GREEN is packaged in mixer-ready bags that can be added directly into the concrete mixing system. The fiber should be added during or after batching of the other ingredients – never as the first mix ingredient.

**Mixing:** When possible, add fibers to a rotating drum. Once all fibers have been added to the batch, mix four to five minutes at standard mixing speed. Road-revolution speed should not be counted as part of the required fiber mixing time.

## Additional Information

Additional information such as the Safety Data Sheet, Certifications, videos and other literature can be found on the [forta-ferro.com](http://forta-ferro.com) website. The website also features Project Profiles that show the many applications and benefits of FERRO-GREEN first-hand.



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## Warranty

FORTA® products are warranted to be free of defects in material and meet all quality control standards set by the manufacturer. FORTA Corporation specifically disclaims all other warranties, express or implied. The exclusive remedy for defective product shall be to replace the product or refund the purchase price. No agent or employee of this company is authorized to vary the terms of this warranty notice. FORTA Corporation has no control over the design, production, placement, or testing of the concrete products in which FORTA® products are incorporated, and therefore FORTA Corporation disclaims liability for the end product.

FORTA reserves the right to change the features and specifications of its products without prior notice.

*FERRO-GREEN® can be purchased from FORTA Corporation or an authorized FORTA® products distributor, dealer or representative.*

U.S. Patent Nos. 6,753,081 and 7,168,232. Additional patents pending.

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