



FORTA-FERRO®

FACT-DATA®

MANUFACTURER

FORTA CORPORATION, 100 Forta Drive, Grove City, PA,
U.S.A., 16127-6399
TELEPHONE: 1-800-245-0306, (724) 458-5221;
FAX: (724) 458-8331; www.forta-ferro.com

GENERAL DESCRIPTION

FORTA-FERRO® is an **easy to finish**, color blended macrosynthetic fiber, made of 100% virgin copolymer/polypropylene consisting of a twisted bundle non-fibrillating monofilament and a fibrillating network fiber, yielding a high-performance concrete reinforcement system. **FORTA-FERRO®** is used to reduce plastic and hardened concrete shrinkage, improve impact strength, and increase fatigue resistance and concrete toughness. This **extra heavy-duty** macrosynthetic fiber offers maximum long-term durability, structural enhancements, and effective secondary/temperature crack control by incorporating a truly **unique synergistic fiber system** of long length design. **FORTA-FERRO® is non-corrosive, non-magnetic, and 100% alkali proof!**

APPLICATIONS

FORTA-FERRO® is mainly used with performance concrete applications such as industrial floors, bridge decks, shotcrete, loading docks, precast products – anywhere that steel reinforcement reduction or replacement is the objective. Contact FORTA Corporation for design assistance.

INSTALLATION

Recommended dosage rate of **FORTA-FERRO®** is **0.2% to 2.0% by volume of concrete** (3 to 30 lbs. per cubic yard) added directly to the concrete mixing system during, or after, the batching of the other ingredients and mixed at the time and speed recommended by the mixer manufacturer (usually four to five minutes).

PHYSICAL PROPERTIES

Materials.....	Virgin Copolymer/Polypropylene	Color.....	Gray
Form.....	Monofilament/Fibrillated Fiber System	Acid/Alkali Resistance....	Excellent
Specific Gravity.....	0.91	Absorption	Nil
Tensile Strength.....	83-96 ksi. (570-660 MPa)	Compliance.....	A.S.T.M. C-1116
Length.....	2.25" (54mm), 1.5" (38mm)	Compliance.....	A.S.T.M. D-7508

AVAILABILITY

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

PACKAGING

Convenient incremental pound or kilogram mixer-ready bag packaging.

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.

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

FORTA Corporation's technical recommendations regarding synthetic fiber characteristics are based on years of engineering research and scores of concrete projects. FORTA[®] has developed a simple "4-C's" formula to help the specifier choose the right fiber for any concrete project application. By making a decision with each of the FORTA[®] "4-C's" categories – **C**onfiguration, **C**hemistry, **C**ontents, and **C**orrect Length–specifiers are assured of obtaining the desired fiber performance level for a given project. The following 4-C's formula specification has been prepared to accommodate the stated reinforcement objective for this FORTA[®] product grade.

REINFORCEMENT OBJECTIVE: To inhibit plastic and settlement shrinkage cracking prior to the initial set, and to reduce hardened concrete shrinkage cracking, improve impact strength, and enhance concrete toughness and durability as an alternate secondary/temperature/structural reinforcement.

DIVISION – CONCRETE
SECTION – CONCRETE REINFORCEMENT
SUB-SECTION – SYNTHETIC FIBROUS REINFORCEMENT

Synthetic fibrous reinforcement shall be used in the areas denoted in plans, and shall comply with the following fiber characteristics:

1. Configuration – Fiber should be a macrosynthetic synergistic combination of a twisted-bundle non-fibrillating monofilament and a fibrillating network fiber system.
2. Chemistry – Fiber shall be made of 100% virgin materials in the form of fully-oriented copolymer/polypropylene, gray in color.
3. Contents – Fiber shall be used at a rate of ___% by volume of concrete, resulting in a dosage of ___pounds per cubic yard [i.e. 0.2%, 3.0 lbs. / cu. yd; 0.33%, 5.0 lbs. / cu. yd; 0.5%, 7.5lbs. / cu. yd; etc]
4. Correct Length – Fiber Length shall be ¾", 19mm; 1 ½", 38mm, 2 ¼". 54mm.

Compliance: Fibers shall comply with A.S.T.M. C-1116 "Standard Specification for Fiber Reinforced Concrete and Shotcrete" and A.S.T.M. D-7508 "Standard Specification for Polyolefin Chopped Strands for Use in Concrete". The approved product is FORTA-FERRO[®] macrosynthetic fiber as manufactured by FORTA Corporation, Grove City, PA, U.S.A. Phone: 1-800-245-0306 or 1-724-458-5221; Fax: 1-724-458-8331.



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Certification

SYNTHETIC FIBER REINFORCEMENT

MATERIAL CERTIFICATION

FORTA Corporation hereby certifies that each grade of our fiber reinforcement is manufactured of 100% virgin synthetic materials containing no reprocessed materials. In addition, The FORTA® product grades are fully-oriented fibers, and are designed and manufactured specifically for use in concrete.

SPECIFICATION AND CODE COMPLIANCE

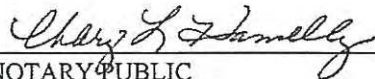
The FORTA® grades of fiber reinforcement comply with the material specifications of ASTM-C-1116 "Standard Specification of Fiber Reinforced Concrete and Shotcrete", Section 4.1.3. and ASTM D-7508 "Standard Specification for Polyolefin Shopped Strands for Use in Concrete." The FORTA® products also comply with the national building codes, including the International Building Code, and Uniform Building Code (ICC-ES Report #ESR-2720). FORTA® products are also classified by Underwriters Laboratory #R18552 (N),



JOHN B. LINDH
President

Commonwealth of Pennsylvania
County of Mercer

Subscribed and sworn to before me
This 20th day of February, 2014



NOTARY PUBLIC

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal
Charyn L. Hamelly, Notary Public
Jackson Twp., Mercer County
My Commission Expires Feb. 24, 2015
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

FORTA
Corporation

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