

NOVOMESH® 850

PRODUCT DATA SHEET



NOVOMESH® 850 STEEL AND SYNTHETIC FIBER BLEND

Novomesh 850, formerly known as Novomesh e3®, secondary reinforcement system for concrete—a patented blend of cold drawn steel wire fiber and 100 percent virgin homopolymer polypropylene graded multifilament fiber containing no reprocessed olefin materials. Engineered and manufactured in an ISO 9001:2000 certified facility for use as concrete reinforcement at a minimum addition rate of one 24 lb/yd³ (14.29 kg/m³) degradable bag. UL Classified. Complies with National Building Codes, ASTM C III6 Type III 4.1.3, Type I 4.1.1 and ASTM A 820.

ADVANTAGES

Requires no minimum amount of concrete cover • Is always positioned in compliance with codes • Safe and easier to use than traditional reinforcement • Greater cross-sectional area of steel than w2.9 x w2.9 (6x6) wire mesh • Saves time and hassle

FEATURES & BENEFITS

- Steel/synthetic system of secondary reinforcement used as an alternate to w2.9 x w2.9 (6x6) wire mesh and some #3 and #4 rebar configurations
- Inhibits formation of plastic shrinkage and plastic settlement cracks
- Provides impact, abrasion and shatter resistance
- Lowered water migration
- Provides higher levels of residual strength
- Provides improved durability
- Control of drying shrinkage and temperature cracking
- Good finishing characteristics
- Pumpable reinforcement

PRIMARY APPLICATIONS

Applicable to all types of concrete in the commercial market segment that demands the early age benefits of synthetic fibers and long-term performance of steel fibers. The commercial market segment can include stores, hotels, institutional, educational, health care, amusement, offices, churches and storage facilities.

- Slabs-on-ground
- Parking areas
- Sidewalks
- Overlays & toppings
- Driveways
- Composite metal decks

CHEMICAL AND PHYSICAL PROPERTIES:

Polypropylene Component:

Absorption	Nil
Specific Gravity	0.91
Fiber Length	Multi-Design Gradation
Electrical Conductivity	Low
Melt Point	324°F (162°C)

Steel Component:

Tensile Strength	140-180 Kpsi (966-1242 MPa)
Fiber Length	1.5 in (38 mm)
Aspect Ratio	34
Deformation	Continuously deformed circular segment

DO SPECIFY NOVOMESH 850 FIBERS:

- Reduced plastic shrinkage cracking
- Alternative to traditional reinforcement
- Improved impact, shatter and abrasion resistance
- Improved residual strength
- Reduced water migration and damage from freeze/thaw
- Improved durability

DO NOT SPECIFY NOVOMESH 850 FIBERS:

- Increasing joint spacing beyond ACI and PCA guidelines
- Decreasing thickness of slabs
- Replacing any moment or structural steel
- Decorative, exposed aggregate or architecturally sensitive concrete



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CONCRETE SYSTEMS

NOVOMESH® 850

PRODUCT USE

MIXING DESIGNS AND PROCEDURES: Novomesh® 850 reinforcing is a mechanical, not a chemical process. The addition of Novomesh 850 does not require additional water or other mix design changes at normal rates. Novomesh 850 degradable bags are added to the mixer after batching the other concrete materials. Mixing time of at least 5 minutes at mixing speed is required as specified in ASTM C 94. It is recommended that gloves and eye protection be used when handling or adding the package to concrete.

FINISHING: Novomesh 850 reinforced concrete can be finished with normal finishing techniques. Novomesh 850 is ideally suited for hand or vibratory screeds, laser guided screeds and all conventional finishing equipment.

APPLICATION RATE: The standard application rate for Novomesh 850 is one 24 lb degradable bag per cubic yard (14.29 kg/m³) of concrete.

GUIDELINES

Novomesh 850 should not be used to replace structural, load-bearing reinforcement. Novomesh 850 fibers should not be used as a means of using thinner concrete sections than original design. Novomesh 850 should not be used to increase joint spacing past those dimensions suggested by PCA and ACI industry standard guidelines.

COMPATIBILITY

Novomesh 850 is compatible with all commonly used concrete admixtures and performance enhancing chemicals.

PACKAGING

Novomesh 850 fibers are available in 24 lb (10.88 kg) degradable bags. Novomesh 850 fibers are packaged, shrink-wrapped and palletized for protection during shipping.

TECHNICAL SERVICES

Trained Propex Concrete Systems specialists are available worldwide to assist and advise in specifications and field service. Propex Concrete Systems representatives do not engage in the practice of engineering or supervision of projects and are available solely for service and support of our customers.

REFERENCES

- ASTM A 820 Standard Specification for Steel Fibers for Fiber-Reinforced Concrete.
- ASTM C 94 Standard Specification for Ready-Mixed Concrete Uniformity Requirements.
- ASTM C 1399 Average Residual Strength of Fiber Reinforced Concrete.
- ASTM C 1609/C 1609M Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading). Replaces ASTM C 1018.
- ASTM C 1116 Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
- ASTM C 1550 Standard Test Method for Flexural Toughness of Fiber Reinforced Concrete (Using Centrally Loaded Round Panel).
- JCI-SF4 Method of Test for Flexural Strength and Flexural Toughness of Fiber Reinforced Concrete.
- ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete.
- ACI 544-3R Guide for Specifying, Proportioning, Mixing, Placing and Finishing Steel Fiber Reinforced Concrete.
- UL® Approvals for use as an alternate or in addition to welded wire fabric used in floor-ceiling D700, D800 and D900 series designs.

SPECIFICATION CLAUSE

Novomesh 850 will be used for shrinkage and temperature protection of the concrete. Novomesh 850 is a blend of ASTM A 820 cold drawn steel wire fibers and graded multifilament polypropylene fibers of various lengths and thicknesses. Application rate shall be a minimum of one degradable 24 lb bag per cubic yard (14.29 kg/m³) of concrete. At the request of the engineer, one and one-half bags or two bags (36 lbs and 48 lbs) per cubic yard may be utilized in heavier duty applications. Fiber manufacturer must document evidence of satisfactory performance history, compliance with applicable building codes, ASTM C 1116 Type III, 4.1.3, Type I 4.1.1 and ASTM A 820. Fibrous concrete reinforcement shall be manufactured by Propex Concrete Systems, 6025 Lee Highway, Suite 425, PO Box 22788, Chattanooga, TN, 37422, USA, tel: 423 892 8080, fax: 423 892 0157, web site: fibermesh.com.

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CONCRETE SYSTEMS

NORTH AMERICA
Propex Concrete Systems Corp.
6025 Lee Highway, Suite 425
PO Box 22788
Chattanooga, TN 37422
Tel: 800 621 1273
Tel: 423 892 8080
Fax: 423 892 0157

INTERNATIONAL
Propex Concrete Systems Ltd.
Propex House, 9 Royal Court, Basil Close
Chesterfield, Derbyshire, S41 7SL.UK
Tel: +44 (0) 1246 564200
Fax: +44 (0) 1246 465201
www.fibermesh.com

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