



MATRIX 19 / 1 Hybrid Blend

PRODUCT DATA SHEET

MATRIX W2.9 Hybrid Blend

MATRIX Hybrid Fibres are a blend of low carbon, cut sheet steel and polypropylene synthetic fibres. The combination of the two proven fiber types provides a reinforcement system that addresses plastic shrinkage as well as restrained shrinkage in concrete slabs. Blending both fibre types into one, pre-measured “water soluble bag” offers an engineered, cost efficient way to provide a highly effective alternate to 6 gauge welded wire fabric. The W2.9 Hybrid Blends are uniformly distributed throughout the concrete to assure the owner, contractor, and engineer of excellent crack control.

MIXING – PLACING – FINISHING

- ◆ **Mixing** - Because of the water soluble packaging, MATRIX Hybrid Blends can easily be introduced into the concrete during or after the batching process. In some instances W2.9 Blends can be added before the concrete is batched. Mixing should conform to ASTM C94 standard specification for ready-mixed concrete.
- ◆ **Placing** - MATRIX Hybrid fibres can be pumped and placed using conventional equipment. Hand screeds can be used, but vibratory and laser screeds are recommended to provide added compaction and bury surface fibers
- ◆ **Finishing** - Normal finishing equipment & techniques can be used when finishing MATRIX Blended fibres. Troweling blades should be kept at a flat angle for as long as possible to insure a fibre free surface.

TECHNICAL INFORMATION

<u>PROPERTY</u>	<u>MATRIX – CS 1.0</u>	<u>SYNTHETIC FIBRES</u>
ASTM Specification	ASTM A820 Type II	ASTM C1116 Type III
Material Type	Low Carbon, cut sheet steel	Virgin Polypropylene
Tensile Strength	414 – 828 Mpa (60 – 120 ksi)	N/A
Fiber Length	25.0 mm (1.0")	1/2—3/4"
Average Thickness	.33 – .60 mm (0.13 – .025")	N/A
Average Aspect Ratio	<60	N/A
Specific Gravity	7.85	0.91
Modulus of Elasticity	29.0 x 10 ⁸ @ 70° F (20° C)	500 ksi
Melting Point	2760° F (1516° C)	324° F
Absorption	Nil	Nil
Net Package Weight	19.75 lbs	

*Always follow ACI guidelines as to joint locations and details. Do not use MATRIX W2.9 Blends to exceed the recommendations of proven ACI methods. Please consult our sales or engineering department for more details or designs with MATRIX Hybrid Fibers

- Slabs-on-Ground
- Shopping Centers
- Hotels
- Schools
- Churches
- Light Composite Metal Decks



MATRIX W2.9 Hybrid Blended Fibres
Mini-Specification: Section 03452

MATRIX W2.9 Blended Fibers will be used for as secondary reinforcement to provide for temperature and shrinkage reinforcement of the concrete.

1.01 A. MATERIALS:

Fibrous concrete shall be a blend of 100% virgin polypropylene fibers conforming to ASTM C-1116 and cut sheet steel fibers conforming to ASTM A-820 Type II. The blend must be packaged in a water soluble bag as manufactured by FRC Industries.

B. MANUFACTURER:

Blended Fibers shall be *MATRIX W2.9 Hybrid Fibers* manufactured by FRC Industries, or approved equal. FRC Industries * P.O. Box 458 * Freeport, FL 32439 * 888-783-2517

C. APPLICATION RATE:

Minimum rate of application shall be one MATRIX W2.9 water soluble bag per cubic yard of concrete.

REFERENCE DOCUMENTS

- ACI 302.1R** * Guide for Concrete Floor and Slab Construction.
- ACI 360R-92** * Design of Slabs on Grade.
- ACI 544-1R** * Fiber Reinforced Concrete
- ACI 544-3R** * Guide for Specifying, Proportioning, Mixing, Placing, and Finishing Steel Fiber Reinforced Concrete.
- ASTM A820** * Standard Specification for Steel Fibers for Fiber-Reinforced Concrete.
- ASTM C94** * Standard Specification for Ready-Mixed Concrete.
- ASTM C1116** * Standard Specification for Fiber-Reinforced Concrete and Shot-

WARRANTY AND LIMITATION OF LIABILITY

MATRIX W2.9 Hybrid Fibres shall conform to FRC standards and specifications. FRC's sole liability for claim shall be limited to replacement of defective or nonconforming fibres. In no event shall FRC be liable for any incidental, consequential, or special damages.

FRC Industries
Freeport, FL
(888) 783-2517
www.frcindustries.com

- Effective alternate to welded wire fabric
- Provides Uniform reinforcement
- Excellent reinforcing for restrained shrinkage
- Provides superb crack control