



"Blanketing Nature With Nature"

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Effective: 6/27/2017

RE: Certificate of Conformance: PP5-Xtreme™

To Whom it May Concern:

This letter is to certify that Western Excelsior manufactures the Rolled Erosion Control Product (RECP) marketed as PP5-Xtreme. Each roll is subjected to Western Excelsior's Quality Assurance Program and is manufactured to the specifications listed in document number WE_EXCEL_PP5XT_SPEC. Further, Western Excelsior utilizes industry standardized test procedures to develop performance references for PP5-Xtreme. Document number WE_EXCEL_PP5XT_PERF presents the industry standardized testing and results. Installation instructions are provided in document numbers WE_EXCEL_PP5XT_SII and WE_EXCEL_PP5XT_CII for hillslope and channel installations, respectively. A copy of document number WE_EXCEL_PP5XT_SPEC is attached; all other documentation may be obtained by calling Western Excelsior Technical Services at 1-866-540-9810, at www.westernexcelsior.com or by email at wexcotech@westernexcelsior.com.

Regards,

A handwritten signature in black ink, appearing to read "Chad M. Lipscomb".

Chad M. Lipscomb, PE (CO), CPESC
Director, Technical Services
Western Excelsior Corporation



Material Properties and Dimensions



Specifications

Western Excelsior manufactures a full line of Rolled Erosion Control Products (RECPs). PP5-Xtreme™ is a fully synthetic, UV stable High Performance Turf Reinforcement Mat (HP-TRM) manufactured by weaving continuous, synthetic thread elements by way of a proprietary (patent pending) process to form a lofty, three-dimensional pattern. PP5-Xtreme is resistant to environmental and climatic conditions and provides high strength, durability and turf reinforcement performance.

Each roll of PP5-Xtreme is made in the USA and manufactured under Western Excelsior's Quality Assurance Program to ensure a consistent distribution of strands and consistent thickness. PP5-Xtreme is constructed of UV stabilized, high strength synthetic yarns to be incorporated into turf and/or the soil matrix. For typical applications, the expected design life of PP5-Xtreme is fifty years, however, may be less or indefinite. Typical manufactured properties are provided in Table 1 and product characteristics are provided in Table 2.

Table 1- Specified Expected Values

Tested Property	Test Method	Value
Tensile Strength (MD) x (TD)*	ASTM D6818	4000 lb/ft (58 kN/m) x 3000 lb/ft (44 kN/m)
Elongation (MD) x (TD)	ASTM D6818	25 % x 20 %
Tensile Strength @15% Strain	ASTM D6818	3000 lb/ft (44 kN/m) - (MD &TD)
Initial Tangent Modulus (MD)	ASTM D6818	10.5 kip/ft (12.8 kN/m)
Initial Tangent Modulus (TD)	ASTM D6818	17.5 kip/ft (21.3 kN/m)
Mass Per Unit Area	ASTM D6566	9.2 oz/yd ² (312 g/m ²)
Thickness	ASTM D6525	0.3 in (8 mm)
Light Penetration	ASTM D6567	30 % open
Water Absorption	ASTM D1117	N/A %
Porosity	Computed	96 %
UV Stability	ASTM G154 / D4355 / D7238	100% (500hr) / 90% (6000hr)

*Value specified as Minimum Average Roll Value (MARV) **Maximum

Table 2 - Netting

PP5-Xtreme is a woven product, thus no netting is utilized in the construction of the material.

PP5-Xtreme is available in multiple roll sizes ranging in width from 8.0 ft to 12.0 ft. and 112.5 ft to 180 ft in length. Standard roll sizes are 100 square yards, measuring 8.0 ft wide by 112.5 ft long. Custom roll sizes are available upon request. Large rolls may require a cardboard core. PP5-Xtreme is manufactured in the USA with 100% of component materials derived from domestic sources.

The information contained herein may represent product index data, performance ratings, bench scale testing or other material utility quantifications. Each representation may have unique utility and limitations. Every effort has been made to ensure accuracy, however, no warranty is claimed and no liability shall be assumed by Western Excelsior Corporation (WEC) or its affiliates regarding the completeness, accuracy or fitness of these values for any particular application or interpretation. While testing methods are provided for reference, values shown may be derived from interpolation or adjustment to be representative of intended use. For further information, please feel free to contact WEC.