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"Blanketing Nature With Nature"

Effective: 6/27/2017

RE: Certificate of Conformance: Excel S-2 All Natural™

To Whom it May Concern:

This letter is to certify that Western Excelsior manufactures the Rolled Erosion Control Product (RECP) marketed as EXCEL S-2 All Natural. Each blanket is subjected to Western Excelsior's Quality Assurance Program and is manufactured to the specifications listed in document number WE_EXCEL_S2AN_SPEC. Further, Western Excelsior utilizes industry standardized test procedures to develop performance references for Excel S-2 All Natural. Document number WE_EXCEL_S2AN_ PERF presents the industry standardized testing and results. Installation instructions are provided in document numbers WE_EXCEL_S2AN_SII and WE_EXCEL_S2AN_CII for hillslope and channel installations, respectively. A copy of document number WE_EXCEL_S2AN_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,

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

Specifications

Western Excelsior manufactures a full line of Rolled Erosion Control Products (RECPs). Excel S-2 All Natural Temporary Erosion Control Blanket is composed of a 100% High Altitude Rocky Mountain Aspen Excelsior matrix mechanically (stitch) bonded on two inch centers between two biodegradable, jute/scrim nets.

The excelsior matrix consists of curled, machine produced fibers with greater than eighty percent longer than six inches. The nominal weight of the product is 0.98 pounds per square yard. Excel S-2 All Natural blanket is available in natural color or dyed green and is recommended for use in channels or slopes requiring erosion protection for a period of up to twenty-four months. Actual field longevity is dependent on soil and climatic conditions.

Each roll of Excel S-2 All Natural is made in the USA and manufactured under Western Excelsior's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness. Typical manufactured properites are provided in Table 1 and netting characteristics are provided in Table 2.

Table 1- Specified Expected Values

Tested Property	Test Method	Value
Tensile Strength (MD) x (TD)	ASTM D6818	16.0 lb/in (2.8 kN/m) x 11.0 lb/in (1.9 kN/m)
Elongation (MD) x (TD)	ASTM D6818	20 % x 20 %
Mass Per Unit Area	ASTM D6475	11.5 oz/yd^2 (390 g/m^2)
Thickness	ASTM D6525	0.47 in (12 mm)
Light Penetration	ASTM D6567	28 % open
Water Absorption	ASTM D1117	275 %

Table 2 - Netting

Top Net Type	Biodegradable, Jute Scrim Leno Weave
Bottom Net Type	Biodegradable, Jute Scrim Leno Weave
Top Net Opening Dimensions	0.5 in (13 mm) x 1.0 in (25 mm)
Bottom Net Opening Dimensions	0.5 in (13 mm) x 1.0 in (25 mm)

Excel S-2 All Natural is available in multiple roll sizes ranging in width from 8.0 ft to 16.0 ft. and 90 ft to 600 ft in length. Standard roll sizes are 80 square yards, measuring 4.0 ft wide by 180.0 ft long or 8.0 ft wide by 90 ft long. Custom roll sizes are available upon request.