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Wisconsin Building Products Evaluation

Material

Erosion Control Product
Trade Name: E-Sock

Manufacturer

Landfill Reduction and Recycling, LLC
W5958 Sweet William Dr.
Appleton, WI 54915

Evaluation # 20169005

Expiration: December 31, 2021

SCOPE OF EVALUATION

GENERAL: This report evaluates the use of 8 inch diameter E - Sock manufactured by Landfill Reduction and Recycling, LLC

The (UDC) requirements below are in accordance with The (UDC) requirements below are in accordance with the current **Wisconsin Uniform Dwelling Code, Chapters SPS 320-325:**

- **Perimeter Control:** An 8 inch diameter tubular erosion control product was evaluated for use as a **sediment control device for use as a slope interruption device and on perimeters of construction sites for one and two family dwellings** in accordance with s. SPS 321.125 (1) (d.) and the department's **Manufactured Perimeter Control and Slope Interruption Departmental Approval Process** document (Rev 03/2009).

DESCRIPTION AND USE

E-Sock is a knitted tubular fabric filled with recycled wood product. Its primary use is to retain sediment around the perimeter of construction sites. This product has a dry diameter of 8 inches, and is available in lengths of 20 feet. This approval also applies to custom lengths of the product.

The product is made of a knitted tubular fabric filled with a wood chip/compost blend having a specified range of ¼” to 2” in length. The products tested had an average dry density of 23.6 lbs/ft³. The typical 20 foot long product has a dry weight of 88.2 lbs. The wood products are derived from ground untreated waste lumber (natural wood products) as well as engineered wood (oriented strand board, plywood, glued laminated timbers, etc.). Waste lumber and compost is obtained from the Landfill Reduction and Recycling (LLR) Solid Waste Construction And Demolition Processing Facility located at 3001 East Glendale Ave. Appleton, WI. This fill material shall conform to the Wisconsin Department of Natural Resources’ (DNR) Conditional Plan of Operation Approval Modification issued July 22, 2013. The DNR approval stipulates that all wood from this plant intended for use as erosion control or mulch shall be:

- a) primarily new and clean, unpainted/untreated construction wood waste: including dimensional lumber and engineered wood products, such as oriented strand board (OSB), plywood, wood I-joists, glue laminated timbers, and particle board;
- b) chipped/ground to a size sufficient for the intended use;
- c) free of mold, sawdust, and other foreign material;
- d) untreated (free of chromated copper arsenate (CCA), green treated, creosote or alaline copper quaternary);
- e) free of paints and finishes

The product is a tubular shaped filled filter sock that impedes the flow of water and sediment across and off of a construction site when properly installed. The testing and approval for this product applies only to sheet flow conditions. This product has not been tested or approved for channelized flow conditions.

The knitted tubular fabric material used for this product is identified by its manufacturer as **Type “A” Knitted Sock™ Geotextiles manufactured by the Zodiac Fabrics Company**. This product is a polyester tubular geotextile fabric having an apparent opening size (AOS) of .600mm diameter, puncture resistance of 1000 N. The manufacturer states that the fabric is a **black textured circular knit netting** with photo-degradable characteristics. Information provided from the manufacturer states that the **product’s minimum Burst Strength – using the ASTM D3786 test method** measures the burst strength of the fabric at **830 kpa. UV Resistivity was tested based on the criteria of ASTM D4335**; testing conducted with 500 hour ultraviolet light exposure to determine the exposure’s effect on the breaking strength and elongation of the fabric in the fill and warp directions respectively. UV testing results have been submitted with this application.

TEST RESULTS

The E-Sock erosion control product was tested by a third party in accordance with the testing protocol standards established in department’s document entitled **“Manufactured Perimeter Control and Slope Interruption Departmental Approval Process”**. Testing was performed in accordance with these protocols at the Sediment Control Facility at ErosionLab located in Rice Lake, WI. ErosionLab is owned and operated by the American Excelsior Company of Rice Lake, WI. Testing methods and data analyses were performed as per the protocols described in the publication, **“Testing, Analyses, and Performance Values for Slope Interruption and Perimeter Control BMPs”** (IECA, 2006). The third-party test report and analysis was prepared by ErosionLab, Rice Lake, WI.

The product was tested on a loam texture soil (USDA Soil Texture Classification) at a slope of 12.5%, and installed in accordance with the requirements established in the department's document entitled "**Wisconsin Department of Commerce Installation Stipulations for Approved Products (Rev 03/09)**" (staked and trenched) and the Wisconsin Department of Natural Resources Conservation Practices Technical Standard "**Interim Manufactured Perimeter Control and Slope Interruption Products (1071) (WDNR 11/2010)**". The test protocol and results were deemed satisfactory by the department.

LIMITATIONS AND STIPULATIONS OF APPROVAL

- The E-Sock erosion control product shall be installed in accordance with all of the criteria established in the Wisconsin DNR's Conservation Practice Standard document (1071) "**Interim Manufactured Perimeter Control and Slope Interruption Products**".
- The E-Sock erosion control product shall be staked / anchored in a manner that maintains constant ground contact along the entire length of product at all times and to prevent lateral movement and/or floatation.
- The E-Sock erosion control product shall be trenched to a depth of 2 inches along the base of the cylindrical product.
- Fill material used in the E-Sock erosion control product shall be made up of a mix of ground untreated wood material that is of the same size and density as that which was used in the products tested for this product approval. **This approval is null and void if the fill material has been substantially changed from the composition so submitted and tested.**
- Knitted sock material is limited to that which has the same properties as used in the products tested for this product approval. **This approval is null and void if the sock material has been substantially changed from the composition so submitted and tested.**
- **REMINDER:** Use of fill material that includes waste from ground **engineered wood products** (OSB, glue laminated timbers, plywood, etc.) requires an active Conditional Plan of Operation Approval issued by the Waste and Materials Management Section of the Division of Air and Waste, Wisconsin Department of Natural Resources.
- This product is not approved for use on slopes greater than 12.5 percent.

DISCLAIMER

The department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirements not specified in this document.

EXPIRATION

This approval will be valid through **December 31, 2021**, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Building Product Evaluation number must be provided when plans that include this product are submitted for review. The product approval is applicable to projects approved under the current edition of the applicable codes. This approval may be void for product approvals made under future applicable editions.

Approval Date: February 10, 2016 By: _____



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