MATERIAL SPECIFICATION

805. EROSION CONTROL BLANKET – TURF REINFORCEMENT MAT (TRM)

1. SCOPE

This specification covers the quality of turf reinforcement mats and staples.

2. TURF REINFORCEMENT MATS (TRM)

The TRM shall be comprised of non-degradable U.V. stabilized synthetic fibers, filaments, netting, or wire mesh processed into a three dimensional reinforced mat. The TRMs may include degradable material to assist with vegetation establishment. Soil filled mats must have an erosion control blanket applied on top of the soil filled mat in order to hold the soil in place.

The TRM must meet the following minimum requirements:

Property	Value	Test Method
a. Minimum tensile strength lbs/ft	150 lbs/ft	ASTM* D6818
b. U.V. stability (minum % tensile retained)	80% 80%	ASTM D4355 (1000 hr exposure)
c. A retained minimum thickness of 0.25 inches after resiliency testing	80%	ECTC** test method #3 (ASTM D6524)
d. Allowable shear stress lbs/sq ft	8 lbs/sq ft	ECTC approved (ASTM D6460) test method and independent laboratory

3. STAPLES

"U" shaped wire staples of 0.12 inch in diameter (No. 11 wire gage) or greater, with a minimum leg length of 6 inches and minimum crown of 1 inch shall be used. In sandy soils the minimum leg length of staples shall be 8 inches. Circle-top staples are also acceptable. They should meet the material specifications previously stated.

3. Footnotes

For TRMs containing degradable components, all property values, including large scale performance testing for allowable vegetated shear stress, must be obtained on the non-degradable portion of the matting alone.

Minimum Tensile Strength

a. Minimum average roll values, machine direction only for tensile strength determination using the ASTM D6818.
b. Field conditions with high loading or high survivability requirements may warrant the use of a TRM with a tensile strength of 29kN/m (2,000 lb/ft) or greater.

Channel Applications maximum Shear Stress

a. Required minimum shear stress TRM (fully vegetated) can sustain without physical damage or excess erosion (>12.7 mm (0.5 in) soil loss) during a 30-minute flow event in large scale testing. These performance test values should be supported by periodic bench scale testing under similar test conditions and failure criteria using Erosion Control Technology Council ECTC Test Method #3.
b. Acceptable large-scale testing protocol may include ASTM D6460, ECTC Test method #3, or other independent testing deemed acceptable by the engineer.

* American Society for Testing of Materials
** Erosion Control Technology Council