



PEC-MAT[®]

MASTER SPECIFICATION

SUGGESTED MASTER SPECIFICATION

SECTION 31 34 19 GEOSYNTHETIC SOIL REINFORCEMENT

OR 31 35 19 GEOSYNTHETIC SLOPE PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. Provision of a two dimensional polyvinyl chloride (PVC) matrix turf reinforcement matting (TRM) for the purpose of erosion control and re-vegetation.
- B. Work shall consist of furnishing and installation of the TRM, including fine grading, matting, anchoring, and miscellaneous related work, in accordance with these specifications and at the locations defined on the drawings. Work shall include all necessary material, labor, supervision, and equipment for installation of a complete system.
- C. TRM shall be used where surface erosion is not desirable. Matting shall be suitable for the following applications:
 - 1. Channel and ditch linings
 - 2. Reservoir embankments and spillways
 - 3. Culvert inlets and outfalls
 - 4. Dikes, levees and riverbanks
 - 5. Slope protection

1.02 PERFORMANCE REQUIREMENTS

- A. TRM shall provide a long term, non-degradable root reinforcement material to reduce erosion and enhance re-vegetation.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. TRM shall be furnished in rolls and wrapped with suitable material to protect against extended ultraviolet exposure prior to placement. Each roll shall be labeled to provide identification sufficient for inventory and quality control purposes.
- B. TRM shall be free of defects that would interfere with the proper installation or impair the performance.
- C. TR shall be stored by contractor in a manner which protects it from damage by construction traffic.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. TRM shall be PEC-MAT as manufactured by Sika (St. Louis Sales Office), 3400 Tree Court Industrial Blvd, St. Louis, MO 63122 – 1-800-325-9504.

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- B. TRM shall be 100% synthetic, manufactured from thermally welded PVC monofilaments to form a stable mat. The mat shall be flexible, permeable, and resistant to ultraviolet radiation and chemicals normally encountered in a natural soil environment. Mat color shall be green.
- C. Performance Requirements as follows:

Property	Test Method	VALUE
Weight (oz / square yard)	ASTM D-3776	28
Thickness, inches	Measured	.1
Specific Gravity	Measured	1.37
TENSILE STRENGTH – WIDTH (LB/FT)	ASTM D-4595-86	144
TENSILE STRENGTH – LENGTH (LB/FT)	ASTM D-4595-86	84
Elongation – width (%)	ASTM D-4595-86	75
Elongation – length (%)	ASTM D-4595-86	75
POROSITY (%)	CWD 02215-86	72
UV Stability – QUV @ 2000hours (% property retained)	ASTM G-53-84	85
UV Stability – Weatherometer @1500 hours (% property retained)	ASTM G-23-81	85
PH Range	Measured	2-12

2.02 ANCHORING ACCESSORIES

- A. Depending on job site conditions, anchors shall be at least one of the following:
 1. Steel wire staples, U-Shaped, 11 gauge and shall be 1 inch wide by 6 inches long (min).
 2. Steel pins, 3/16 inch diameter by 18 inches long with a 2 inch diameter washer
 3. Wooden survey stakes, 1 inch by 4 inch, and approximately 10 to 12 inches in length.

PART 3 EXECUTION

3.01 SITE PREPARATION

- A. Prior to placing TRM, contractor shall inspect sub grade to ensure proper compaction, graded smooth with no depressed voids, free from obstructions such as tree roots, projecting stones or other foreign matter, and has been seeded.

3.02 INSTALLATION

- A. TRM shall be installed in accordance with manufacturer’s instructions.
- B. TRM shall extend above the anticipated maximum flow line, as directed.
- C. Installation shall be completed parallel to the flow of water.
- D. Overlap adjacent roles a minimum of 6 inches to allow a common row of anchors.
- E. Successive lengths of TRM shall be overlapped (or “shingled”) 24 inches for a common row of staples with the upstream end on top. Anchor the overlap across the end of each of the overlapping lengths with two rows of anchors at 1.5 feet on center (minimum).

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- F. A trench shall be located at the upstream termination. Trench shall be 6 inches wide by 12 inches deep. TRM shall be anchored to the bottom of trench at 2 feet on center (minimum). Backfill and compact the trench. TRM shall then be folded back over trench and anchored at 2 feet on center (minimum).
- G. Construct check slots every 15 to 25 feet perpendicular to the direction of flow. Check slots shall be 6 inches wide by 12 inches deep and shall have a double layer of matting snugly over the bottom and upstream wall of the slot. Anchor at 2 feet on center (minimum). Backfill and compact.
- H. Downstream termination and flanks shall be anchored by burying the mat in a trench. Trench shall be 6 inches wide by 6 inches deep. Install anchors at 2 feet on center (minimum). Backfill and compact.
- I. Filling of mat with soil is not required. Seeding and fertilizing shall be performed prior to mat installation.

END OF SECTION

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