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Flexamat[®] is a tied concrete block system (5,000 psi) that is manufactured with site specific underlay. First, for applications where vegetation growth can be established past 70%, we use a 12-18 month degradable excelsior blanket (Curlex[®] II), second, for applications where vegetation cannot be established to 70%, we use a permanent synthetic erosion control blanket (Recyclex[®] TRM-V), and third, in front of outlets, or for added stabilization we use a non-woven geotextile fabric.

Flexamat[®] is available in widths of 4', 5.5', 8', 10', 12', and 16'. For applications with wider widths, mats are installed adjacent to another. The manufacturer or authorized representative will provide technical assistance during installation as needed.

SHIPPING, TRANSPORT, STORAGE & HANDLING:

Flexamat[®] is packaged in rolls for shipment. The rolls have a minimum weight of 10 pounds per square feet. Rolls are packaged with handling straps. For safety, it is recommended that these straps only be used for lifting below 2' as a means to place heavy duty lifting straps under rolls.

When transporting rolls on jobsite. A basket hitch method is best for transporting Flexamat rolls. The lifting system must be appropriately rated for the weight of each roll. This system should include one Screw Pin Anchor Shackle Clevis, two or three Eye to Eye Sling Straps (12' and 16' width rolls require 3 straps), and a Three Leg Bridle Wire Sling with Safety Latches.



Using chains, cables and grapple buckets will damage the mat. If using forks to transport the rolls, the rolls should be elevated by wood blocks or other means to avoid damaging the mat.

Upon delivery, rolls may be left exposed for up to 30 days. If exposure will exceed 30 days, the rolls must be tarped or otherwise covered to minimize UV exposure.

SUBGRADE PREPARATION:

The prepared subgrade shall provide a firm, unyielding foundation for the mats. The subgrade shall be prepared as detailed on the plans. Subgrade surface shall be free of

any debris, protrusions, rocks, sticks, roots, foot prints, or other hindrances which would result in an individual block being raised more than $\frac{3}{4}$ " above the adjoining blocks. Undulations, rolls, knolls and rises in the subgrade to which the tied concrete mat is able to contour over and maintain intimate contact with the subgrade will be allowed. The Flexamat block has a height of 2.25". When grading next to hard surfaces like a road, sidewalk, or outlet pad, consider lowering the grade to allow for a smooth transition for water to flow from the unvegetated surface onto the top of the Flexamat blocks. Before unrolling the Flexamat, apply seed and soil amendments directly to the prepared soil prior to installation of mats. Use seed and soil amendments or topsoil per project specifications.

UNROLLING:

Stage the rolls in the direction to be unrolled, and position the leading edge of the roll, so that this edge is on the bottom of the roll aligned to the grade shown on the plans or at the end of the proceeding roll, and according to the manufacturer's installation guidelines. Flexamat can be unrolled down or across slopes.

TERMINATION AND ANCHOR TRENCHES:

It is important to considering the direction of any overland or channel flow when installing the succeeding rolls in the design. The preferred method of anchoring the top of slope is to extend the Flexamat 3' past the top of slope, for slopes of 3:1 or less, if the soils are cohesive (Clay) and stable. For steeper side slopes greater than 3:1 extend the Flexamat 5' over the top of slope beyond the slip plane. Flexamat must also extend 3' past the toe of slope and below any anticipated low water zone. All edges exposed to concentrated flows shall transition into the subgrade below the anticipated scour or to the abutment. Abutments with high hydraulic flow shall require a grouted termination to the Flexamat. All upstream and downstream perpendicular leading edges shall be properly anchored within an anchor trench to a depth below the anticipated scour. Rip rap stone can be included into upstream and downstream anchor trench as a transition zone. Rip rap stone can also be used in the toe anchor trench of a stream bed with high hydraulic flows (outside bends). Rip rap stone or grouted anchor trenches can be used to transition high hydraulic flow from outlet pipes or wall abutments. Transitions from outlets must be designed using calculations that determine pipe size and balanced flow past the outlet. Refer to our Flexamat guidance tables on outlets.

PANEL SEAMING:

Panel seams (Channel and Slopes) perpendicular to the hydraulic flow must be overlapped. The downstream panels will be terminated and properly anchored according to engineer drawings and placed under the upstream panel by overlapping 18". If no hydraulic or overland flow is expected, abutting the seams together is acceptable along with a minimum of 2' section of erosion control matting is used with 12" being placed under each neighboring panel. The seam must be tied together using stainless steel zip ties, lacing wire, or "U" shaped rebar anchors per design. Overlapping seam should be installed like a shingle on a roof. When working in channelized flow it is recommended that the center of the Flexamat channel has at least 1.0' of freeboard, so the flow stays within the channel bed and does not exceed the outside edges of the channel.

ANCHORING:

Where permanent anchoring is required, e.g., installing mats on steep slopes, channels or stream banks engineered with live staking or native vegetation, the anchors shall exhibit an engineered downward force over the polypropylene grid between the tied concrete blocks. Standard anchors used are #3 Rebar bent into a “U” shaped 18” in length or percussion anchors with designed cross plates. Important areas for considering anchoring are the leading edges, seams and overlaps. The design and spacing layout of the anchored system shall be designed by the engineer with assistance from manufacturer.

MAINTENANCE:

Flexamat is comprised of 5,000 psi concrete blocks embedded into flexible geogrid. Our selected geogrid is comprised of polypropylene yarns that are resistant to a pH range of 2 – 13. Embedding within concrete this will not adversely affect the durability of the geogrid throughout its design life. The useful design life of Flexamat is in excess of 75 years as long as the geogrid does not stay exposed to sunlight, and the vegetative support stays maintained.

Key points for inspections and maintenance:

- Do not spray with weed or grass killers. Use a selective herbicide to control invasive plants.
- Maintain stabilization of adjacent areas. Repair any rills or gullies that can effect upstream/downstream or top of slope terminations.
- Maintain adjacent vegetation. Exposed soil above and along the sides of the Flexamat should be seeded or covered.
- Routine maintenance can include mowing on stabilized areas and weed eating around wet areas.
- Inspect Flexamat panel seams for any separation, or undermining.
- Inspect outlets that enter the Flexamat for abutment failure, or loss of stabilization.