



Excel Erosion Education Circular, Volume - 6 Western Excelsior Introduces Tackmat_s

Excel Erosion Education Circular (E³C) is produced by Western Excelsior to furnish education pertinent and specific to the erosion control industry. E³C is intended to offer erosion control professionals an educational resource to serve as a foundation for performance focused solutions. Volume 6 of E³C has been developed to provide an introduction to Western Excelsior's Tackmat_s.

What is Tackmat_s

Tackmat_s represents the next evolutionary step in erosion control, the dawn of a new era. A combination of two effective, proven technologies yielding a final product greater than the sum of its parts. Tackmat_s is a single net (top side), straw matrix erosion control blanket, specifically produced to receive an infusion of an all natural, high performance tackifier during manufacture that is deployed to the soil surface upon installation.

of straw fibers provides mulching for seeds and seedlings. The matrix is stabilized by the mechanical structure of netting and stitching; providing protection from wind, water and foot traffic.

Erosion Control Blankets are installed by deploying on a smooth, seeded ground surface and secured using staples or stakes. It is important the ECB remain in contact with the soil to facilitate the maximum performance of the material. As vegetation germinates and grows to maturity, the blanket of the material is consumed by biologic activity, aided by photo-degradation. In the final condition, the blanket has completely degraded, leaving just the natural vegetation to provide protection from wind and water.

What is Tackifier

In the broadest sense, tackifier is a basic glue. Tackifier is applied as an additive, typically utilized in conjunction with dry or hydraulically applied mulch. Available in dry or wet forms, tackifier is spread on the ground surface and serves as a binding agent to secure soil particles together, secure mulch fibers together, and secure mulch fibers to the ground surface. Tackifiers are available in synthetic and natural formulations and provide a wide range of performance thresholds. Natural tackifiers are derived from starches and other plant extracts. Unless chemically altered, tackifiers are water soluble, limiting the longevity and performance of the product. Tackifiers differ from other erosion control chemicals (i.e. PAM) in that Tackifiers bind soil and mulch fibers where other chemicals may affect only soil particles or soil chemistry. Thus, tackifiers may serve a dual purpose in the protection of soil by binding soil particles together and holding mulch fibers in place as well.



Erosion Control Blankets

Erosion Control Blankets (ECBs) have been utilized at the forefront of erosion control efforts for over twenty years. Providing high performance and flexibility in application, ECBs yield unique and useful solutions to the challenges of stabilizing erodible surfaces. Typically, single net (top side) straw matrix ECBs serve as protection for low-risk installations. Straw matrix ECBs provide adequate protection for many low gradient or minimally exposed sites. In addition to providing erosion control, the matrix

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Benefits of Combination

Hybrid combinations in technology often result in the highest performance materials. From metal alloys like titanium to advanced construction materials like carbon fiber composites, combining the unique properties of two materials can yield ground breaking new possibilities. In the case of Tackmat_s, the combination of tackifier and a straw matrix ECB provides a unique material with specific performance advantages that yield new ground securing possibilities. Tackmat_s has been shown in some full scale laboratory trials to reduce erosion by more than 99% for rainfall/hillslope conditions. Compared to untreated straw matrix ECBs, Tackmat_s demonstrates significantly greater erosion control performance.

Once the tackifier from Tackmat_s is deployed and naturally wetted, the soil surface is bound to the matrix of the ECB, ensuring intimate contact over the greatest possible portion of the installation. The stabilized, bound soil surface is protected from temperature and drought by the straw mulch, providing an ideal germination environment. Further, the ECB provides protection from wind and foot traffic, allowing the tackifier to be fully effective. Specifically, in comparison to mulch installations relying on the tackifier to provide the structural integrity of the system, Tackmat_s utilizes the mechanical stability of the ECB to provide structure. As an added benefit, the ECB provides protection from sunlight, extending the longevity of the deployed tackifier.

The combination of tackifier and an ECB allows for the use of abutted seams for adjacent blankets. Abutted seams saves more than 3% in overall coverage. Tackmat_s is produced to meet all industry standard specifications for straw matrix ECBs, thus facilitating wide-spread acceptance, with the added advantage of improved performance. Primarily, Tackmat_s is intended to be utilized as a high performance slope protection material. However, Tackmat_s is also effective in other installation modes such as a channel liner or buffer strip.

In addition to the unique new advantages, Tackmat_s is a product of Western Excelsior, thus assuring outstanding product quality and service along with ground securing and mulching performance. Tackmat_s is available with nominal twelve month longevity, rapid degradable (approximately 90 day longevity) and fully biodegradable (*All Natural*) netting. Contact Western Excelsior at 1-866-540-9810 or www.westernexcelsior.com for more information.



Rainfall testing of Tackmat_s, almost no erosion



Tackmat_s

Tackmat _s Properties	
Roll Size	7.5 ft x 120 ft
Area	100.0 yd ²
Netting	Top Side, Temporary
Roll Weight	55.0 lb
Seam Detail	No Overlap Required
Longevity	Nominal 12 Months
C Factor	< 0.01 - 0.05
Maximum Shear Stress	1.6 psf



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