

Did You Know – Slit Tape (a.k.a. Slit Film) Woven Geotextiles

Slit-tape woven geotextiles have the worst hydraulic properties of any geotextile available. Flow rates can be 35 times less than those of nonwoven geotextiles.

The Permittivity of a geotextile is the volumetric flow of water per unit area through a geotextile normal to the plane. Slit-tape wovens have very low permittivity ($\sim 0.05 \text{ sec}^{-1}$). Nonwovens have permittivity values up to 2.1 sec^{-1} (> 40 times greater).

For projects that have specified Mirafi[®] 500X as a separation geotextile, Mirafi[®] 140N can be considered as a functional equivalent as both meet the minimum requirements for Class 3 Separation per AASHTO M288-17 *Standard Specification for Geosynthetic Specification for Highway Applications*.

For projects that have specified Mirafi[®] 600X as a separation geotextile, Mirafi[®] 160N can be considered as a functional equivalent as both meet the minimum requirements for Class 2 Separation per AASHTO M288-17 *Standard Specification for Geosynthetic Specification for Highway Applications*.

For projects that have specified Mirafi[®] 600X as a separation geotextile, Mirafi[®] 180N can be considered as a functional equivalent as both meet the minimum requirements for Class 1 Separation per AASHTO M288-17 *Standard Specification for Geosynthetic Specification for Highway Applications*.

In addition to meeting the minimum requirements for Separation per AASHTO M-288-17, Mirafi[®] 140N, 160N and 180N also meet the minimum requirements for Class 1, 2 and 3 Subsurface Drainage, Mirafi[®] 500X and 600X do not meet the requirements for drainage.

High modulus woven geotextiles such as Mirafi[®] RSi-Series provide far better reinforcement, stabilization, separation, and filtration performance than Mirafi[®] X-Series.

Slit-tape woven geotextiles originated from the carpet backing industry and have not evolved in over 40 years. Globally, North America is the only major market that still utilizes slit tape wovens for separation applications. Most markets specify modern nonwovens for separation.

For slit-tape woven geotextiles to offer stabilization or reinforcement, it is necessary to place aggregate on top of them, pre-rut the area to be stabilized to engage the fabric into tension, and then fill in the ruts. Pre-rutting is not required with high modulus woven geotextiles such as Mirafi[®] RSi-Series and H₂Ri as they provide these functions at very low strain levels, typically under 1%.