

Geotextile Testing Methods: Mullen Burst ASTM D 3786 and Puncture Strength ASTM D 4833

This technical note addresses several changes for testing geotextile products: ASTM D 3786 Standard Test Method for Bursting Strength of Geotextile Fabrics-Diaphragm Bursting Strength Tester Method and ASTM D 4833 Standard Test Method for Index Puncture Resistance of Geomembrane and Related Products. Since 2010 these testing methods are no longer recognized by ASTM D35 committee or AASHTO M288. Over the years the geosynthetic industry realized these two index tests did not provide actual prediction of in-field performance. It was also noted that minor changes to the geotextile components such as thickness resulted in dramatic variation in index testing values; which was found to be irrelevant in actual field testing.

Therefore to eliminate the high degree of variability ASTM D 3786 and the geotextile puncture test portion of ASTM D 4833 has been removed; this testing method is currently for only testing geomembranes. It was found that ASTM D 6241 Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products using a 50-mm Probe is a more repeatable test method for determining "puncture" of geotextiles.

Conclusion

ASTM D 3786 and ASTM D 4833 are testing standards that are no longer relevant for geotextile. ASTM 6241 is the standard Manufacture Quality Control (MQC) test method for determining CBR Puncture Strength of geotextiles used by GSE.



[GSE Mine Drain Geocomposite]

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