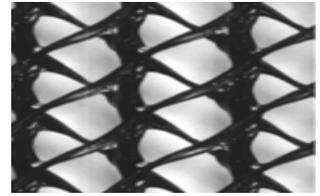


Determining the Density of Polymers Used in Geonets

This technical note addresses two testing methods for one property: density of polymers used in geosynthetics. The American Society for Testing Materials (ASTM) has two methods for determining density of polymers that are currently active: ASTM D792 and ASTM D1505. Both methods are developed and approved by the ASTM Plastics Committee D20.



[GSE Geonet]

Test Method ASTM D792 is the “Standard Test Method for Density and Specific Gravity (Relative Density) for Plastics by Displacement.” This test method describes the determination of the specific gravity and density of solid plastics in forms such as sheets, rods, tube, or molded items. Two test methods are described as follows: Test Method A- for testing solids plastics in water, and Test Method B- for testing solid plastic in liquids other than water (i.e. alcohol).

Test Method ASTM D1505 is the “Standard Test Method for Density of Plastics by the Density-Gradient Technique.” This test method covers the determination of density of solid plastics by observing the level to which a test specimen sinks in a liquid column exhibiting a density gradient, in comparison with standards of known density. Three test methods are described as follows: Test Method A- stepwise addition: using two liquids that will give a desired density range, Test Method B- continuous filling with liquid entering gradient tube becoming progressively less dense: using two suitable liquids which have been deaerated by heating or an applied vacuum, and Test Method C- continuous filling with liquid entering gradient tube becoming progressively more dens.

Conclusion

Both ASTM D792 and D1505 measure the same property “density of polymers” through different testing procedures. ASTM D792 is the more efficient test method to setup and run compared to ASTM D1505.

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Our commitment to innovation, our focus on quality and our industry expertise allow us the flexibility to collaborate with our clients to develop a custom, purpose-fit solution.



[DURABILITY RUNS DEEP] For more information on this product and others, please visit us at GSEworld.com, call 800.435.2008 or contact your local sales office.