



SKAPS INDUSTRIES

TECHNICAL NOTE: **DETERMINING DENSITY OF POLYMER**



The American Society for Testing Materials (ASTM) has two active methods for determining density of polymers used in geosynthetics: ASTM D 792 and ASTM D 1505. Both methods are developed and approved by the ASTM Plastic Committee D20.

Test Method ASTM D 792, “Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement” describe the determination of the specific gravity (relative density) and density of solid plastics in forms such as sheets, rods, tubes, or molded items. There are two different methods for determining density: Test Method A - For testing solid plastics in water, and Test Method B - For testing solid plastics in liquids other than water.

Test Method ASTM D 1505, “Standard Test Method for Density of plastics by the Density-Gradient Technique” 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. There are three different methods for determining density: Test Method A – stepwise addition using two liquids which 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 de-aerated by heating or an applied vacuum, and Test Method C – continuous filling with liquid entering gradient tube becoming progressively denser.

CONCLUSION:

Both ASTM D 792 and ASTM D 1505 measure the same property “density of polymers” through different testing procedures. SKAPS Industries uses ASTM D 1505 in its Manufacturer Quality Control testing to determine density of Geonets.

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