

Compressive Strength

This material does not fail under compression, so there is no way to obtain results like that. ASTM D695 “Compressive Strength Properties of Plastics”, which uses ½” diameter by 1” tall samples, clearly states that certain materials will simply continue to compress, never yielding, and therefore testing isn’t valid. In Method D143, because the material continues to compress, I can obtain a compressive strength by measuring the load when I stop the test. I could stop after 1 minute to get one value, 10 minutes to get a higher value, etc. I can report compressive strength modulus, also called modulus of elasticity. This can also be used to show a displacement, or deflection under a given load. Stopping the test early does not alter the modulus, only strength values.

1.75” x 1.75” x 8” Samples, Parallel to grain

Sample	Load stopped at (lbs)	Displacement (in.)	Modulus (psi)
1	15,540	0.335	38,730
2	16,420	0.350	36,120
3	16,700	0.356	36,825