



ASTM D1002

Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)

This test method covers the determination of the apparent shear strengths of adhesives for bonding metals when tested on a standard single-lap-joint specimen and under specified conditions of preparation and test. It is primarily a comparative test, however, it does have application as a discriminator in determining variations in adherend surface preparation parameters and adhesive environmental durability. The test has found applications in controlling surface preparations, primer and adhesive systems for determining strength properties of tested systems.

The misuse of strength values obtained from this test method as design-allowable stress values for structural joints could lead to product failure, property damage, and injury. The apparent shear strength of an adhesive obtained from a given small single-lap specimen may differ from that obtained from a joint made with different adherends or by a different bonding process. The normal variation of temperature and moisture in the service environment causes the adherends and the adhesive to swell or shrink. The adherends and the adhesive are likely to have different thermal and moisture coefficients of expansion.

The apparent shear strength measured with a single-lap specimen is not suitable for determining design-allowable stresses designing structural joints that differ in any manner from the joints tested without thorough analysis and understanding of the joint and adhesive behaviors. Single-lap test may be used for comparing and selecting adhesives or bonding processes for susceptibility to fatigue and environmental changes, but such comparisons must be made with great caution since different adhesives may respond differently in different joints.

If you have any questions concerning this particular ASTM method, please feel free to give our office a call at (800) 334-5432 or email us your inquiry at info@nhml.com.

(D1002, D-1002, D 1002)

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