



ASTM D4501 Testing Fixture - Application

This test method describes a procedure and fixture used to determine shear strengths of adhesives used to bond materials with moduli higher than the modulus of the adhesive. The size and shape of the specimens are variable within the physical restraints of the fixture.

Two blocks of specific sizes are bonded together. A typical test specimen consists of a 1" x 1" block, typically up to ½" thick, bonded in the center of a 3" x 3" block, also typically up to ½" thick. The block thicknesses are not critical. To maintain the largest block in position in the main body, against the front plate, is used the toggle clamp. The smaller block is positioned in the opening in the guillotine bar, which is temporarily held in the proper position for specimen insertion by the thumb screw shown in the front face plate.

Before the test is started, this thumb screw is loosened. The fixture is gripped at bottom and top in standard tensile grips in the testing machine.

Additional Information

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| Test Standard | ASTM D4501 |
| Maximum Load | 45 kN |
| Temperature Range | -80 °C to 130 °C |
| Specimen Thickness | depending on material |
| Mass | 10 Kg |

References:

- ASTM Standard D 4501-01 (2001), "Standard Test Method for Shear Strength of Adhesive Bonds Between Rigid Substrates by the Block-Shear Method, American Society for Testing and Materials, West Conshohocken, Pennsylvania (first published in 1985).