



ASTM D-6272

Test Method for Flexural Properties of Unreinforced and Reinforced Plastic and Electrical Insulating Materials by Four-Point Bending

These test methods cover the determination of flexural properties of unreinforced and reinforced plastics, including high-modulus composites and electrical insulating materials in the form of rectangular bars molded directly or cut from sheets, plates or molded shapes. These test methods are generally applicable to both rigid and semi-rigid materials. However, flexural strength cannot be determined for those materials that do not break or that do not fail in the outer fibers. The major difference between four-point and three-point bending modes is the location of the maximum bending moment and maximum axial fiber stress. In four-point bending, the maximum axial fiber stress is uniformly distributed between the loading noses. While in three-point bending, the maximum axial fiber stress is located immediately under the loading nose. This test method may be used with two procedures:

Procedure A (designed for materials that break at comparatively small deflections): used for measurement of flexural properties, particularly flexural modulus, unless the material specification states otherwise.

Procedure B (designed for materials that undergo large deflections during testing): used for measurement of flexural strength.

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ASTM Standard D6272, 2007, "Test Method for Purity by DSC," ASTM International, West Conshohocken, PA, 2007, DOI: 10.1520/D6272-02, www.astm.org.

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