

MECHANICAL TEST FIXTURES

Fine Finish Organics Pvt. Ltd. designs and manufactures mechanical test fixtures of the highest quality at affordable prices. Our catalogue includes a broad range of mechanical test fixtures for various ASTM, ISO and DIN standards.

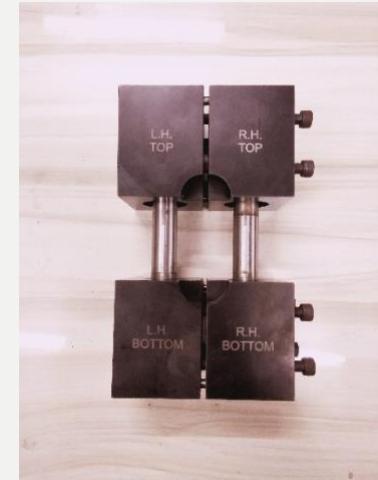
All types of test fixtures and accessories are not kept in stock and therefore, can be custom-designed and/or fabricated to the customers' specifications. This is done routinely as many new and modified fixtures are being continually developed. Price quotes for special fixtures and accessories are supplied upon request, and delivery times are minimal.

Special adapters to mate our various test fixtures to any testing machine can be provided at nominal cost.

PRODUCTS

Combined Loading Compression (ASTM D6641)

ASTM D6641 establishes a procedure for measuring the compressive strength and stiffness properties of polymer matrix composite materials using a combined loading compression (CLC) or comparable test fixture. Combined Loading Compression (CLC) uses a mixture of end and shear loading, in this method the shear stresses are reduced and it is possible to generate the clamping forces using bolted clamps.



End Loading Compression (ISO 14126)

ISO 14126 describes the methodology for determining the in-plane compressive properties of fiber-reinforced plastic composites.

V Notch Rail Shear (ASTM D7078)

This method covers the determination of the shear properties of high-modulus fiber-reinforced composite materials by clamping the ends of a V-notched specimen between two pairs of loading rails. When loaded in tension, the rails introduce shear forces into the specimen through the specimen faces. The sample is similar to the one from the Iosipescu test, however it is slightly more square. The V-notch is made at 90 degrees in the center of both the top and bottom of the sample.



Compression set (IS 3400)

This method is for the determination of tensile stress-strain properties of vulcanized and thermoplastics rubber. Compression Set Apparatus for determination of compression set under constant strain consists of four steel plates having flat and parallel ground faces. The plates are held together by a pair of bolts. Ring shaped spacers of specified thickness made of magnetic stainless steel are provided to give the desired compression to the test specimens. The apparatus may be kept inside a hot air oven for conducting the test at elevated temperatures.

Compressive properties (ASTM D695)

This method covers the determination of the compressive properties of rigid plastics. This fixture has the purpose of determining the mechanical properties of unreinforced and reinforced rigid plastics, including high-modulus composites, when loaded in compression at relatively low uniform rates of straining or loading. The test specimens employed are characterized of a standard shape. This fixture is used in order to test composite materials in uniaxial compression.



In plane shear strength (ASTM D3846)

This test method covers the determination of the in plane shear strength of reinforced thermosetting plastics in flat sheet form in thicknesses ranging from 2.54 to 6.60 mm. Shear tests of various kinds are widely used in the reinforced plastics industry to assess the strength of the reinforcement-to-resin bond in polyester-, vinyl ester-, and epoxy-resin composites. ASTM D3846 is useful for establishing the shear strength of laminates or other reinforced plastics having randomly dispersed fiber reinforcement.

Sandwich Beam Flexural and Shear Stiffness (ASTM D7250)

This method is for the determination of the flexural and transverse shear stiffness properties of flat sandwich constructions subjected to flexure in such a manner that the applied moments produce curvature of the sandwich facing planes.



Compression Properties (ASTM D 695)

This fixture has the purpose of determining the mechanical properties of unreinforced and reinforced rigid plastics, including high modulus composites, when loaded in compression at relatively low uniform rates of straining or loading.

Face Loading Compression (ASTM D3410/ IITRI)

This fixture is for determining the compressive strength of polymer matrix composite materials. It transmits force to the specimen via tapered rectangular wedge grips. The mating surfaces of the wedge grip assembly are polished, lubricated, and nick-free to ensure smooth sliding contact between the components. By using wedges of different thicknesses, specimens of varying thickness can be tested in this fixture.



Short Beam Testing (ASTM D2344)

This fixture meets the requirements of ASTM D2344 for testing the short-beam strength of fiber-reinforced polymer-matrix composite materials and laminates. The fixture has a 6 mm diameter loading nose and 3 mm diameter support rollers, as specified in the standard for testing flat beam samples. The support span is adjustable from 4 to 150 mm with the ability to test specimens up to 30 mm wide.

Tensile Properties of Composite Materials (ASTM D3039/ ISO 527)

Wedge grips are the standard for testing polymers such as carbon fiber. While the material strength is high, so is the flexibility. Therefore, composite materials will tighten within the wedge jaws to create the perfect grip.



V Notch Shear (ASTM D5379)

This test requires an Iosipescu shear fixture which is specifically designed for use with a Universal Testing Machine. This fixture has been designed for in-plane or inter-laminar shear testing of composite materials. The test utilizes a standard universal testing machine and a specially-designed fixture with wedge grip interfaces that clamp one half of the test specimen across its width and support it on its back face as described in the specification. The lower fixture should be mounted on a base plate that supports a linear bearing shaft. The upper fixture should contain a linear bearing which mounts over the shaft on the base.

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