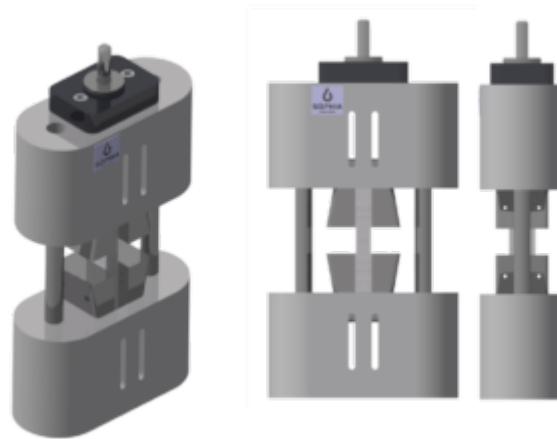


ASTM D3410 TESTING FIXTURE

COMPRESSIVE PROPERTIES OF POLYMER MATRIX COMPOSITE MATERIALS WITH UNSUPPORTED GAGE SECTION BY SHEAR LOADING



ASTM D3410 Testing Fixture

This method defines the compression properties in the plane of composite materials with polymer matrix reinforced with high modulus fibers. The composite material forms are limited to continuous or discontinuous fiber-reinforced composites. For this reason, the elastic properties are particularly orthotropic with respect to the test direction.

This test procedure inserts the compression force in the sample by cutting the wedge socket interfaces.

The way of transferring the loads is different from the procedure in Test Method D695 which compression force is transmitted in the sample before the end of loading, the test method D6641 / D6641M whose compression force is transmitted by the combined cutting and loading order, and test method D5467 / D5467M where compressive force is transmitted by subjecting a honeycomb sandwich beam, with thin skins to four-point bending.

This test method is applicable to composites made from unidirectional tape, wet-tow placement, textile (for example, fabric), short fibers, or similar product forms. Some product forms may require deviations from the test method.

The values stated in either SI units or inch-pound units are to be regarded separately as standard. Within the text the inch-pounds units are shown in brackets.

The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other.

Combining values from the two systems may result in nonconformance with the standard.

Sòphia High Tech S.r.l.

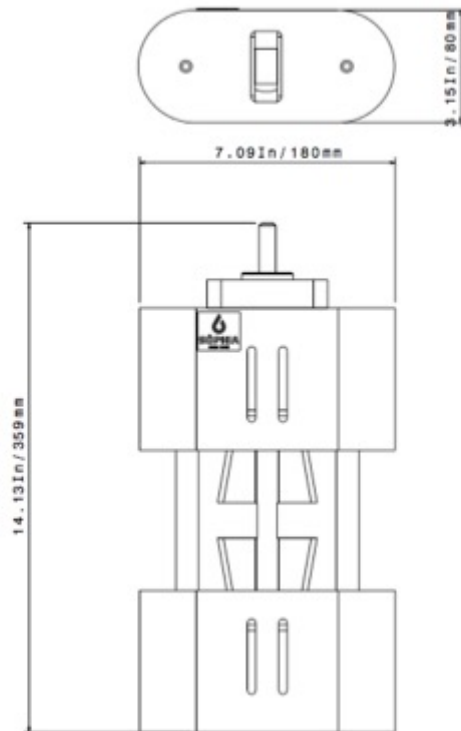
Legal Office: Viale Manzoni 113 - int.2 80040 - Poggiomarino (NA) - Italy
Headquarter: Via Romani 228, 80048 - Sant'Anastasia (NA) - Italy
Tel: +39 0823504748 **Fax:** +39 0818651210
mail: info@sophiahightech.com **P.IVA/VAT:** 07547751219
www.sophiahightech.com

Sòphia CZ S.r.o.

Headquarter / Legal Office: Jičínská 226/17, Praha 3 130 00 - Czech Republic
Tel: +420 773462127
mail: info@sophiahightech.com
IC: 05617979
www.sophiahightech.com

ASTM D3410 TESTING FIXTURE

COMPRESSIVE PROPERTIES OF POLYMER MATRIX COMPOSITE MATERIALS WITH UNSUPPORTED GAGE SECTION BY SHEAR LOADING



ASTM D 3410 Testing Fixture - Drawing

Test Standard	ASTM D 3410 / ISO 14126
Maximum Load	100 kN
Temperature Range	from -80 °C to 149 °C
Specimen Thickness	1-10 mm
Specimen Width	Max 25 mm
Specimen Length	Max 155mm
Mass	20.00 kg

ASTM D3410 TESTING FIXTURE

COMPRESSIVE PROPERTIES OF POLYMER MATRIX COMPOSITE MATERIALS WITH UNSUPPORTED GAGE SECTION BY SHEAR LOADING



ASTM D 3410 Testing Fixture - Assembly



ASTM D 3410 Testing Fixture - Application

Additional Information:

Sòphia High Tech S.r.l.

Legal Office: Viale Manzoni 113 - int.2 80040 - Poggiomarino (NA) - Italy
Headquarter: Via Romani 228, 80048 - Sant'Anastasia (NA) - Italy
Tel: +39 0823504748 **Fax:** +39 0818651210
mail: info@sophiahightech.com **P.IVA/VAT:** 07547751219
www.sophiahightech.com

Sòphia CZ S.r.o.

Headquarter / Legal Office: Jičínská 226/17, Praha 3 130 00 - Czech Republic
Tel: +420 773462127
mail: info@sophiahightech.com
IC: 05617979
www.sophiahightech.com

ASTM D3410 TESTING FIXTURE

COMPRESSIVE PROPERTIES OF POLYMER MATRIX COMPOSITE MATERIALS WITH UNSUPPORTED GAGE SECTION BY SHEAR LOADING

Additional procedures for determining compressive properties of resin-matrix composites may be found in Test Methods D695, D5467/D5467M, and D6641/D6641M.

Referenced Documents

ASTM Standards

D695 Test Method for Compressive Properties of Rigid Plastics

D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement

D883 Terminology Relating to Plastics

D2584 Test Method for Ignition Loss of Cured Reinforced Resins

D2734 Test Methods for Void Content of Reinforced Plastics

D3171 Test Methods for Constituent Content of Composite Materials

D3878 Terminology for Composite Materials

D5229/D5229M Test Method for Moisture Absorption Properties and Equilibrium Conditioning of Polymer Matrix Composite Materials

D5379/D5379M Test Method for Shear Properties of Composite Materials by the V-Notched Beam Method

D5467/D5467M Test Method for Compressive Properties of Unidirectional Polymer Matrix Composite Materials Using a Sandwich Beam

D6641/D6641M Test Method for Compressive Properties of Polymer Matrix Composite Materials Using a Combined Loading Compression (CLC) Test Fixture

E4 Practices for Force Verification of Testing Machines

E6 Terminology Relating to Methods of Mechanical Testing

E83 Practice for Verification and Classification of Extensometer Systems

E111 Test Method for Young's Modulus, Tangent Modulus, and Chord Modulus

E122 Practice for Calculating Sample Size to Estimate, With Specified Precision, the Average for a Characteristic of a Lot or Process

E132 Test Method for Poisson's Ratio at Room Temperature

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E251 Test Methods for Performance Characteristics of Metallic Bonded Resistance Strain Gauges

Sòphia High Tech S.r.l.

Legal Office: Viale Manzoni 113 - int.2 80040 - Poggiomarino (NA) - Italy
Headquarter: Via Romani 228, 80048 - Sant'Anastasia (NA) - Italy
Tel: +39 0823504748 **Fax:** +39 0818651210
mail: info@sophiahightech.com **P.IVA/VAT:** 07547751219
www.sophiahightech.com

Sòphia CZ S.r.o.

Headquarter / Legal Office: Jičínská 226/17, Praha 3 130 00 - Czech Republic
Tel: +420 773462127
mail: info@sophiahightech.com
IC: 05617979
www.sophiahightech.com

ASTM D3410 TESTING FIXTURE

COMPRESSIVE PROPERTIES OF POLYMER MATRIX COMPOSITE MATERIALS WITH UNSUPPORTED GAGE SECTION BY SHEAR LOADING

E456 Terminology Relating to Quality and Statistics

E1237 Guide for Installing Bonded Resistance Strain Gages

E1309 Guide for Identification of Fiber-Reinforced Polymer-Matrix Composite Materials in Databases

E1434 Guide for Recording Mechanical Test Data of Fiber-Reinforced Composite Materials in Databases

E1471 Guide for Identification of Fibers, Fillers, and Core Materials in Computerized Material Property Databases

Sòphia High Tech S.r.l.

Legal Office: Viale Manzoni 113 - int.2 80040 - Poggiomarino (NA) - Italy
Headquarter: Via Romani 228, 80048 - Sant'Anastasia (NA) - Italy
Tel: +39 0823504748 **Fax:** +39 0818651210
mail: info@sophiahightech.com **P.IVA/VAT:** 07547751219
www.sophiahightech.com

Sòphia CZ S.r.o.

Headquarter / Legal Office: Jičínská 226/17, Praha 3 130 00 - Czech Republic
Tel: +420 773462127
mail: info@sophiahightech.com
IC: 05617979
www.sophiahightech.com