

Composite Test Fixtures

Flexural and Interlaminar Shear

Interlaminar shear testing is a simple test on, easy to prepare, polymer composite specimens that gives a measure of the strength of the bond between fibers and matrix. Another common test for polymer composites is flexure testing. The Instron® Modular Flexural and Interlaminar Shear Strength (ILSS) bend fixture system, with a range of interchangeable anvils, is suitable for testing to a number of international standards, including ASTM D2344, D790, EN 2562, EN 2563, ISO 14125, and ISO 14130.

Principle of Operation

The base fixture incorporates very low-friction precision guidance to ensure accurate location of the upper anvil(s). It also incorporates specimen stops to ensure repeatable specimen positioning. Changing the anvils is a simple procedure. A graduated scale is provided on the front of the base beam to facilitate positioning of the anvils. For ILSS testing, a central locating pin is provided – this is precisely aligned with the upper anvil. This feature allows user-supplied spacers to be used to easily set accurate lower anvil spans. Alternatively, the optional CP108199 micrometers can be mounted on ILSS lower anvils to allow precise spans setting within 0.1 mm tolerance against the upper anvil.

Features

- Modular fixture
- Interchangeable anvil sets to meet a range of ILSS and Flexural standards
- Specimen stops to ensure repeatable specimen location
- Guided upper anvil to ensure accurate alignment
- Suitable for non-ambient temperatures
- Anvils for EN2563 complies with the 0.02 mm tolerances specified for centering and parallelism*
- Accurate lower span setting using spacers or with CP108199

Note : *Option is available with independent test certificates



4 pt Flexural Testing with CP106702 Anvils on Base Fixture



ILSS Testing to ASTM D2344 with CP107574 Anvils on Base Fixture

Catalog Number		CP107574 Note 1, 2	CP106695 Note 1, 2	CP111636 Note 1, 2	CP112749 Note 1, 2	CP107666 Note: 1	CP106948 Note: 1	CP108956 Note 1, 3	CP106702 Note: 1
Type	-	ILSS	ILSS	ILSS	3 pt and ILSS	3 pt	3 pt	4 pt	3 & 4 pt
Standards	-	ASTM D2344	ASTM D2344M	EN 2563	ISO 14125 & EN2746 (Flexural) and ISO 14130 & EN2377 (ILSS)	EN 2562	ASTM D790 & ISO 14125 (Thickness > 3 mm)	ASTM D7264, used with CP106278	Various Max. Upper 4 pt Span: 60 mm (2.4 in)
Upper Anvil Diameter	mm in	6.35 0.25	6.0 -	6.0 -	10.0 0.4	25 1.0	10 0.4	6.0 -	6.5 0.25
Lower Anvil Diameter	mm in	3.2 0.125	3.0 -	6.0 -	4.0 0.16	10 0.4	10 0.4	6.0 -	6.5 0.25
Anvil Width	mm in	26 1.0	26 1.0	26 1.0	26 1.0	26 1.0	26 1.0	26 1.0	26 1.0
Anvil Hardness	HRC	60 - 62	60 - 62	60 - 62	60 - 62	> 48	> 48	60 - 62	> 48

Notes:

1. Temperature range -70 to +250 °C (-94 to +482 °F)
2. Compatible with CP108199 Micrometer option for span setting
2. CP111636 required

Base

Catalog Number	-	CP110860
Maximum Load	kN kgf lbf	10 1,000 2,200
Maximum Span	mm in	210 8.3
Maximum Specimen Width (Anvil Dependant)	mm in	Up to 75 3.0
Temperature Range	°C °F	-70 to +250 -94 to +482

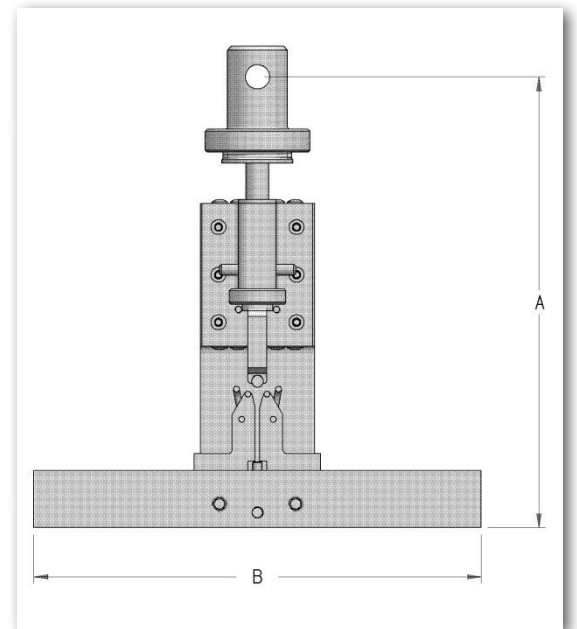
Mechanical Connection

Upper Interface (Type DM)	-	1.25 in Connection with ½ in Clevis Pin
Lower Interface (See Note 1)	-	Compression Platen 100 mm (4 in) Diameter or Larger

Dimensions

Effective Length (A)	mm in	237 ± 20 9.33 ± 0.79
Width (B)	-	235 9.3

Materials	-	Stainless Steel
Weight (Approximately)	kg lb	4 10



Micrometer Option

- Catalog Number: CP108199
- Precision span setting for CP110860 bend fixture and ILSS anvils. Provides 2 micrometers to allow the span of the lower anvil to be set with respect to the upper anvil. Micrometers have a range of 0 - 25 mm each with a resolution of 0.01 mm, which allows for accurate spans to be set from the minimum (subject to lower anvils) to 50 mm
- Compatibility: CP107574/CP106695/CP111636/CP112749
- Temperature Range: 0 to 100 °C (32 to 212 °F) Note: For operation over the full temperature range, -70 to 250 °C (-94 to 482 °F), the micrometers may be removed after the span has been set and locked

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