

Composites Test Fixtures Open-Hole Compression | ASTM D6484/D6484M

The ASTM D6484 / D6484M fixture is used to perform open-hole compressive tests on multi-directional polymer matrix composite laminates reinforced with high modulus fibers.

Principle of Operation

The open-hole compression fixture was originally developed by Boeing and is outlined in Boeing specification BSS 7260. The test specimen is rectangular with a central hole. The fixture consists of a pair of interlocking plates that guide and prevent the specimen from buckling under the applied compressive load.

The load is introduced into the specimen by either end or shear loading. In the end loading configuration the fixture is placed between compression platens and support plates are recommended to restrain the fixture. In the shear loading configuration, the ends of the fixture are clamped between hydraulic grip jaw faces (Instron 2742-501 series 250 kN hydraulic grips).

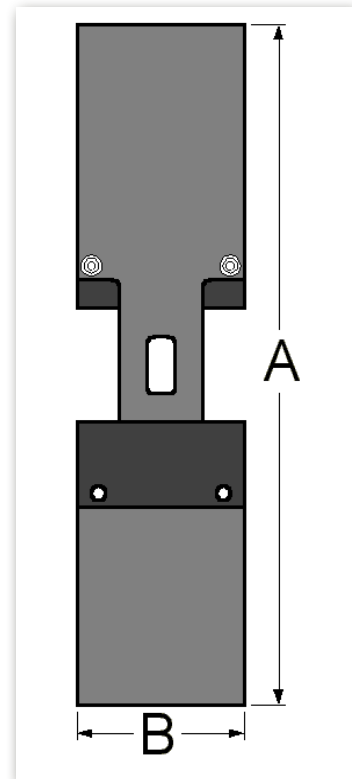
Features

- Conforms to: ASTM D6484 and Boeing BSS7260 or ASTM D6484M
- Can be used in either end or shear loading configurations
- Simple to use
- Suitable for non-ambient temperatures



Specifications

Catalog Number		CP113777	CP113779
Testing Standard		ASTM D6484, Boeing BSS7260	ASTM D6484M
Capacity	kN	200	200
	kgf	20,000	20,000
	lbf	45,000	45,000
Temperature	°C	-70 to 250	-70 to 250
	°F	-94 to 482	-94 to 482
Specimen Thickness	mm	3 to 5	3 to 5
	in	0.125 to 0.2	0.125 to 0.2
Specimen Size (W × H)	mm	38 × 305	36 × 300
	in	1.5 × 12	1.4 × 11.8
Effective Length (A)	mm	305	300
	in	12	11.8
Overall Width (B)	mm	75	80
	in	3	3.1
Approximate Weight	kg	7	7
	lb	15	15



Line Drawing for Open-Hole
Compression Fixture

Mechanical Connections for End Loading*

Platen Diameter (Minimum)	mm	75	75
	in	3	3
Platen Diameter (Recommended)	mm	150	150
	in	6	6

*See accessories for support plates

Mechanical Connections for Shear Loading*

Jaw Face Width (Minimum)	mm	75	80
	in	3	3.1
Jaw Face Height (Recommended)	mm	90	90
	in	3.5	3.5
Jaw Face Opening (Minimum)	mm	36	36
	in	1.4	1.4

*Instron 2742-501 hydraulic grips with 2703-544/575 faces recommended

Accessories

Catalog Number		CP113778	CP113780
Plates to provide lateral location and support when using end loading.		Support plates for use with CP113777 and 150 mm diameter compression platens (2 off)	Support plates for use with CP113779 and 150 mm diameter compression platens (2 off)



End Loading Configuration with
Support Plates

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