

Flatwise Tensile Strength Fixtures

Catalog Number 2505-013/ 014/ 015

Features

- Applicable to ASTM C 297 for sandwich constructions
- Double yoke design provides self-alignment
- Available for 25 mm (1 in) square, 50 mm (2 in) square or 50 mm (2 in) diameter specimens
- Stainless steel construction
- Suitable for use from -150 °C to 315 °C (-240 °F to 600 °F)

Description

Each half of the fixture incorporates a dual yoke to ensure pure axial load is applied. Made from durable 400 series stainless steel, this fixture is ideal for use in ambient testing and testing inside a temperature chamber. The fixture is available in three sizes to fit varying specimen geometries. Each fixture is supplied with five sets of bonding faces to facilitate testing to ASTM C 297.

This fixture can be used for a variety of core materials such as open cell honeycomb structures as well as continuous core structures such as foam or balsa wood.



▲
2505-015 Flatwise tension fixture

Principle of Operation

The sandwich flatwise tension fixture is designed to measure the bond strength between the facing and core of a sandwich construction panel. If the bond is sufficiently strong the strength of the core itself can be determined. The specimen is subjected to tensile loading, in a direction normal to the bond facing, applied through thick loading blocks included with the fixture.

Application Range

- Aerospace grade materials
- Honeycomb core constructions
- Continuous core constructions
- Organic or metallic core materials

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Specifications

Catalog Number	2505-013	2505-014	2505-015
Maximum Capacity	9 kN (900 kgf, 2000 lbf)	44 kN (4500 kgf, 10000 lbf)	9 kN (900 kgf, 2000 lbf)
Mechanical Connection			
Upper	1/2 in Clevis pin (type Dm)	1/4 in Clevis pin (type Dm)	1/2 in Clevis pin (type Dm)
Lower	1/2 in Clevis pin (type Dm)	1/2 in Clevis pin (type Dm)	1/2 in Clevis pin (type Dm)
Effective Length (A)	75 mm (3 in) approx.	140 mm (5.5 in) approx.	101 mm (4 in) approx.
Width	50.8 mm (2.0 in)	101 mm (4.0 in)	50.8 mm (2.0 in)
Weight (Upper)	2.3 kg (5 lb) approx.	10 kg (22 lb) approx.	2.3 kg (5 lb) approx.
Temperature Range	-150 °C to 315 °C (-240 °F to 600 °F)	-150 °C to 315 °C (-240 °F to 600 °F)	-150 °C to 315 °C (-240 °F to 600 °F)
Grip Material	Stainless steel	Stainless steel	Stainless steel
Bond Face Material	Steel	Steel	Steel
Bond Face Size	50.8 mm (2.000 in) dia.	50.8 mm x 50.8 mm (2.000 in x 2.000 in)	25.4 mm x 25.4 mm (1.000 in x 1.000 in)

Note:

1. Each fixture is supplied with five sets of steel bonding faces



▲ Catalog number 2505-013

Steel Bonding Faces

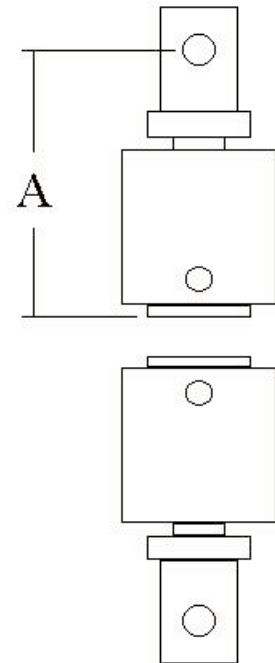
Catalog Number	Description
2505-131	Extra set of 50.8 mm (2.00 in) diameter bond faces for 2505-013
2505-141	Extra set of 50.8 mm x 50.8 mm (2.000 in x 2.000 in) bond faces for 2505-014
2505-151	Extra set of 25.4 mm x 25.4 mm (1.000 in x 1.000 in) bond faces for 2505-015



▲ Catalog number 2505-015



▲ Catalog number 2505-014



▲ Line drawing for flatwise tensile strength fixtures



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