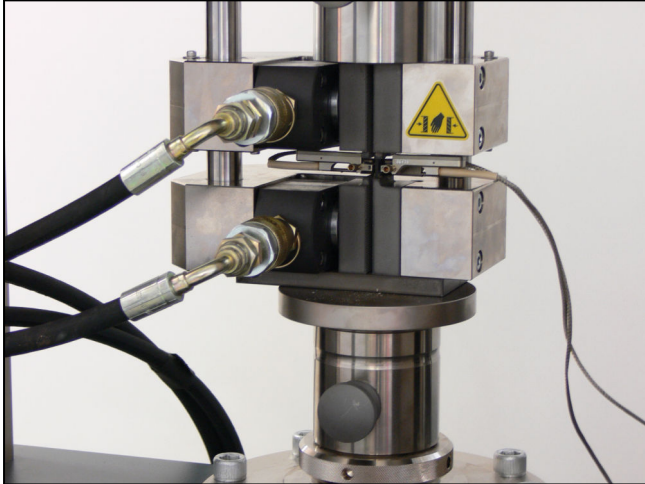


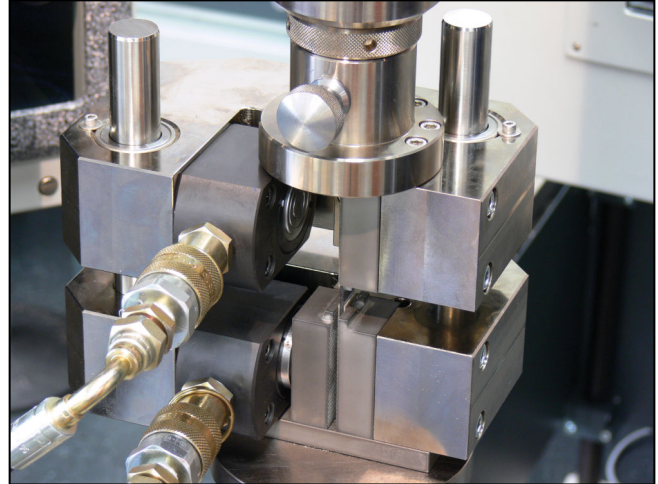
Product Information

Hydraulic compression test kit for composites (HCCF)

CTA: 44728 44740



Hydraulic composites compression fixture (HCCF)



Detail view

Applications

Tests to

- ISO 14126, prEN2850, Airbus AITM 1-0008, ASTM D3410, ASTM D6641, JIS K 7076, RAE TR 88012 CRAG methods 400 and 401, QVA-Z10-46-38, ASTM C1358, Airbus document X88SP1105735: Plain compression test according to AITM 1.0008 A1 and A2 with ZwickRoell HCCF

Plain, open hole and filled hole compression tests

- with force application via clamping (shear loading)
- with combined force application with end support and simultaneous clamping (combined loading)
- **Specimen material:** long-fiber-reinforced composites, e.g. carbon-fiber-reinforced plastics (CFRP) or glass-fiber-reinforced plastics (GFRP) with unidirectional, multi-directional or woven fiber reinforcement
- **Specimen shape:** full, notched, bolted

Function description

The hydraulic compression fixture for composites (HCCF = Hydraulic Composites Compression Fixture) is used for determining the compression properties of long-fiber-reinforced composites.

Strain is measured using strain gages on both sides as standard (grid length > 3 mm).

The compression fixture has a connection hole at the top and is mounted on a compression platen at the bottom.

In the case of specimens for which the distance between the tabs and the grip-to-grip separation are at least 2 mm greater than the initial gauge-length, a clip-on extensometer measuring on both sides can be used (with a clamping fixture) on a customer-specific basis.

Advantages and features

- Can be used for tests in an extended temperature range from -60°C to +150°C.
- Open design (C-shaped) allows convenient specimen changing and simplifies use of extension measurement systems.
- Design ensures extremely accurate specimen alignment.
- Parallel-closing hydraulic clamping principle ensures slip-stick-free, flexure-free force application with largely constant deformation rate.
- Precision guide-columns for extremely precise alignment of specimen grips with each other.
- Low-friction ball-guides prevent distortion of test results.
- Magnetic mount for the moving jaw simplifies specimen changes and cleaning the clamping surfaces.

Product Information

Hydraulic compression test kit for composites (HCCF)

Technical data

Type	Hydraulic Composites Compression Fixture (HCCF)	Hydraulic Composites Compression Fixture (HCCF)	Hydraulic Composites Compression Fixture (HCCF)	
Item No.	060309 ¹⁾	060312 ¹⁾	060347 ¹⁾	
Test load F_{max}	50	150	250	kN
Hydraulic pressure, max.	250	250	250	bar
Closing force	36.3	36.3	36.3	kN
Specimen dimensions				
Width	6.35 ... 35	6.35 ... 35	6.35 ... 35	mm
Thickness	Depending upon the jaws used	Depending upon the jaws used	Depending upon the jaws used	
Dimensions				
Width	200	200	200	mm
Height	220	220	220	mm
Depth, with hydraulic connections	150	150	150	mm
Grip-to-grip separation, max.	50	50	50	mm
Required clamping length ²⁾	65	65	65	mm
Height of the jaws	65	65	65	mm
Connection, upper				
At the connector	Ø 36	Ø 60	Ø 60	mm
At the wedge connector	-	-	250	kN
At connection flange	-	250	250	kN
Ambient temperature	-60 ... +150	-60 ... +150	-60 ... +150	°C
Weight, approx.	28	28	28	kg
Scope of delivery	2	2	2	Specimen grips

1) Includes two connecting hoses

2) The load is mainly applied via the ends of the specimens. The clamping length of 65 mm must therefore be adhered to. Different clamping lengths upon request.



NOTE

Total specimen length for end loading is specified as follows:
total length = clamping length + (2 x height of jaws).

Accessories (1 x required for each)

Description	ArticleNumber
Set of jaws	
Set of jaws for specimens, e.g. to AITM 1-0008, prEN 2850 type A, ISO 14126 (incl. type B2), ASTM D3410, ASTM D6641. Specimen thickness (laminated thickness): 0...5 mm, clamping thickness, max. incl. tabs: 8 mm, specimen width: up to 36 mm ¹⁾	047320

Product Information

Hydraulic compression test kit for composites (HCCF)

Description	ArticleNumber
Set of jaws for specimens, e.g. to AITM 1-0008, prEN 2850 type A, ISO 14126 (incl. type B2), ASTM D3410, ASTM D6641. Specimen thickness (laminate thickness): 5...10 mm, clamping thickness, max. incl. tabs: 13 mm, specimen width: up to 36 mm. ¹⁾	047321
Set of jaws for specimens, e.g. to prEN 2850 type A, ISO 14126 (not incl. type B2), ASTM D3410, ASTM D6641. Specimen thickness (laminate thickness): 0...5 mm, clamping thickness, max. incl. tabs: 8 mm, specimen width: up to 20 mm. Suitable for use with clip-on extensometers. ¹⁾	047322
Set of jaws for specimens, e.g. to prEN 2850 type A, ISO 14126 (not incl. type B2), ASTM D3410, ASTM D6641. Specimen thickness (laminate thickness): 5...10 mm, clamping thickness, max. incl. tabs: 13 mm, specimen width: up to 20 mm. Suitable for use with clip-on extensometers. ¹⁾	047323
Hydraulic pumps	
Set of hydraulic hand pumps Operating pressure, max. 250 bar, scope of delivery 1 set = 2 pieces	048480
Compression platen	
Compression platen, Fmax 250 kN, Ø 136 mm Connection below via connector (e.g. Item No. 314658)	316581

¹⁾ Clamping thickness, max. = laminate thickness + thickness of the tabs