

Compression

Compression Stress Relaxometer - Jigs

Wallace offers a range of jigs to accompany the WAC11 Compression Stress Relaxometer. The main models we offer in line with the applicable standards are:

- **Shawbury-Wallace Stress Relaxation Jig**

This fixture is used for the discontinuous method and is based on the electrical contact being made between the load cell and the head of the jig. The contact is only broken when the force applied to the Relaxometer marginally exceeds the counterforce exerted by the test sample.

- **Wykeham Farrance Stress Relaxation Jig**

This fixture is used for the discontinuous method and works by applying a slight increase in the compression of the test specimen.

Shawbury-Wallace Stress Relaxation Jig

This jig comes both as fixed height jigs and adjustable jigs. Fixed height jigs are generally used when the same test is often repeated (e.g. same sample thickness and compression ratio), whilst the adjustable jigs are used where the applicable size or compression ratio varies.

The fixed height jig (C11/1) is supplied with one fixed spacer, its height being determined by the sample size and the required percentage compression. There are a number of standard fixed height spacers available to suit different sample heights and percentage compressions. Refer to Annexure A for the range of C11/1 fixed height jigs. Bespoke spacers can be made for specific applications.

The adjustable height jig (C11/6) is supplied with one adjustable spacer. This allows the required compression ratio to be achieved on samples of varying heights. The distance between the upper and lower platen faces can be adjusted in the range of 0.0mm to 12.0mm.

An O-ring adaptor (C11/7) is available, suitable for both the C11/1 and C11/6 jigs and can accommodate O-rings of up to 41mm diameter. It simply locates over the bottom plate of the jig and a small hole drilled through the adaptor allows air to vent to atmosphere, preventing a pressure differential across the seal.

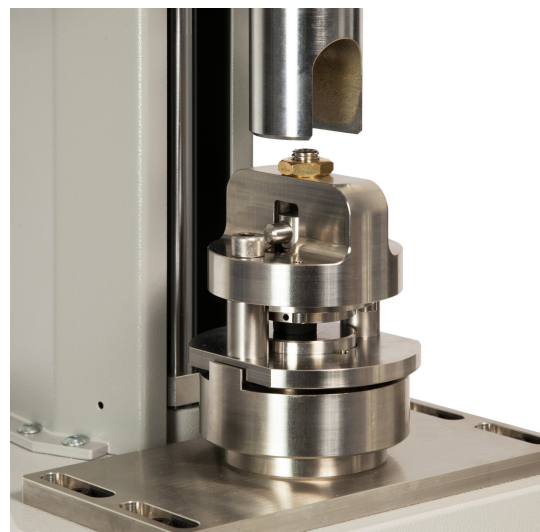
The Wallace jig assemblies are made from stainless steel as standard, but can be manufactured in other materials for specific applications.

Features

- Full range of jigs for standard and bespoke applications
- Bespoke jigs on request
- Seamlessly integrates with existing and previous models of WAC11 Compression Stress Relaxometer
- Suitable for testing O-rings

Accessories

- O-ring Adaptor
- Standard rotary cutters
- Spacer - see table on page 3



Wykeham Farrance Stress Relaxation Jig

Wallace offers a range of jigs to accompany the WAC11 Compression Stress Relaxometer. This jig is the Wykeham Farrance style jig. It is a fixed height jig and will provide a known compression percentage using precision ground spacers.

The fixed height jig (WAC11-190) is supplied with a pair of fixed spacers. The spacers are sized to give 25% compression to a standard 6.3mm thick sample. Spacers are available to give 15% compression to a standard 6.3mm thick sample. Bespoke spacers can be made for specific applications. Refer to Annexure B for specifications.

The Wykeham jig assemblies are made from stainless steel as standard, but can be manufactured in other materials for specific applications.

Features

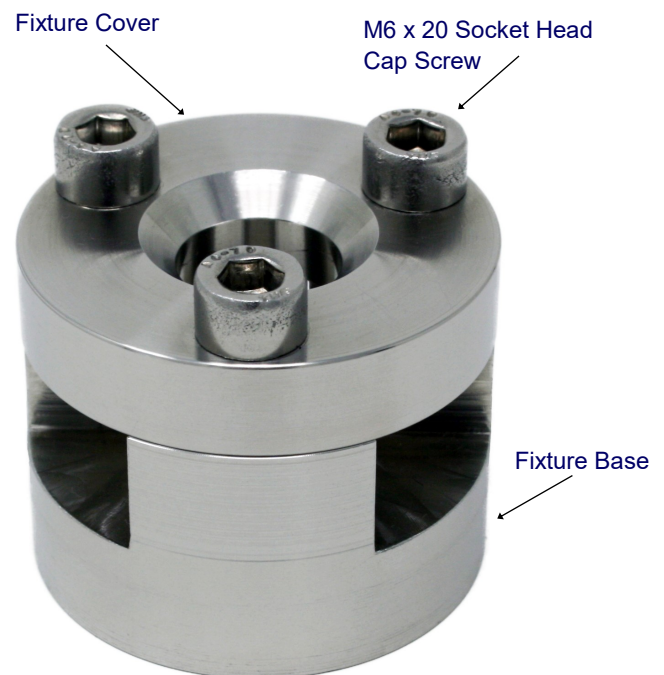
- Full range of jigs for standard and bespoke applications
- Bespoke jigs on request
- Seamlessly integrates with existing and previous models of WAC11 Compression Stress Relaxometer
- Temperature sensor hole in base for 1.6mm probe

Accessories

- Custom spacer thickness
- WAC11 location adaptor
- Sample positioning gauge
- Standard rotary cutters

Principle of Operation

The jigs compress the sample by a known percentage and maintains the compression throughout the entire test process. With the jig fitted to the WAC11, the counterforce can be measured at the prescribed time intervals easily. The jigs can then be stored in the required condition, until the next test time, without compromising the known compression percentage.



Annexure A

Shawbury-Wallace Stress Relaxation Jigs

Specifications

Shawbury-Wallace Stress Relaxation Jigs	
Part Number	WAC11/1 and WAC11/6
Dimensions (mm)	120 (h) x 100 (Ø)
Weight	1.8kg
Operating Temperature	-40°C to +250°C

Range of Spacers for Fixed Height Jigs			
Part Number	Sample Height (mm)	% Compression	Spacer Height (mm)
WAC11/1-1-1A	12.50	20%	26.00 ± 0.05
WAC11/1-1-1B	6.30	20%	30.96 ± 0.05
WAC11/1-1-1C	12.70	20%	25.84 ± 0.05
WAC11/1-1-1D	6.35	20%	30.92 ± 0.05
WAC11/1-1-1E	12.50	25%	26.63 ± 0.05
WAC11/1-1-1F	6.30	25%	31.28 ± 0.05
WAC11/1-1-1G	12.50	15%	25.38 ± 0.05
WAC11/1-1-1H	6.30	15%	30.65 ± 0.05
WAC11/1-1-1J	13.00	25%	26.25 ± 0.05
WAC11/1-1-1K	13.00	35%	27.55 ± 0.05
WAC11/1-1-1L	1.00	10%	35.10 ± 0.05
WAC11/1-1-1M	3.50	25%	33.38 ± 0.05
WAC11/1-1-1N	6.30	40%	32.22 ± 0.05
WAC11/1-1-1P	2.00	25%	34.50 ± 0.05
WAC11/1-1-1Q	7.00	10%	29.70 ± 0.05
WAC11/1-1-1R	12.70	25%	26.47 ± 0.05
WAC11/1-1-1S	6.00	25%	31.50 ± 0.05
WAC11/1-1-1AA	6.30	30%	31.59 ± 0.05
WAC11/1-1-1AB	6.30	50%	32.85 ± 0.05
WAC11/1-1-1AC	6.25	40%	32.25 ± 0.05
WAC11/1-1-1AE	10.00	15%	27.50 ± 0.01
WAC11/1-1-1AF	10.00	20%	28.00 ± 0.01
WAC11/1-1-1AG	10.00	25%	28.50 ± 0.01
WAC11/1-1-1AH	12.50	15%	25.38 ± 0.01
WAC11/1-1-1AJ	12.50	20%	26.00 ± 0.01
WAC11/1-1-1AK	12.50	25%	26.63 ± 0.01
WAC11/1-1-1AL	2.65	25%	34.01 ± 0.05
WAC11/1-1-1AN	10.00	30%	29.00 ± 0.01

Note: Bespoke spacers are available upon request.

Standards

BS ISO 3384-1 Method B, BS ISO 3384-2 Method B, ASTM D6147 Method B



Annexure B

Wykeham Farrance Stress Relaxation Jig

Specifications

Wykeham Farrance Stress Relaxation Jig	
Part Number	WAC11-190
Dimensions (mm)	35 (h) x 44.5 (Ø)
Weight	1.2 kg
Operating Temperature	-40°C to +250°C

Range of Spacers (2 off required)			
Part Number	Sample Height (mm)	% Compression	Spacer Height (mm)
WAC11-199-001	6.30	25%	3.9875 ± 0.025
WAC11-199-002	6.30	15%	3.6725 ± 0.025
WAC11-199-003	6.25	25%	4.0063 ± 0.025
WAC11-199-004	6.35	25%	3.9688 ± 0.025
WAC11-199-005	6.40	25%	3.9500 ± 0.025
WAC11-199-006	6.45	25%	3.9313 ± 0.025

Parts and Accessories of Jig	
Part Number	Description
WAC11-193	Push Rod to fit WAC11 instrument
WAC11-194	WAC11-190 fixture locator for WAC11 instrument
WAC11-195S	Sample locating tool - set of three
WAC11-199-001	Compression Spacer 25% compression for 6.3mm sample
WAC11-199-002	Compression Spacer 15% compression for 6.3mm sample

Note: Bespoke spacers are available upon request.

Standards

BS ISO 3384-1 Method B, BS ISO 3384-2 Method B, ASTM D6147 Method B

