Flexing

De Mattia Flex Testing Machine

The Wallace range of Flexing Machines is used to test specially moulded samples for resistance to cracking or cut growth by repeated flexing. Flex testing is recommended when the flexing encountered in service is liable to simulate the action of the test (i.e. tyre sidewalls or soles of shoes).

The De Mattia Flex Testing Machine F16 includes a range of 3 machines capable of handling 12, 24 or 36 samples in an oven with digital temperature control having a range of ambient to 150°C.



Features

- **Easy access cabinet or oven versions**
- **Cycle counter fitted with 9 - 999,999 cycles allowed/test**
- **Internal illumination fitted**
- **Balanced main shaft ensures smooth operation**
- **Ambient to 150°C temperature range on oven versions**
- **Motor cut outs fitted to both doors**

Principle of Operation

Cracking and cut growth increase with increasing cycles. Samples are loaded so that they are flat when the grips are tightened and flexed but not elongated during tester operation.

The tester is stopped at intervals specified and the cracks evaluated. Two sets of grips on either side of the frame are reciprocated at constant frequency for a pre-set number of cycles controlled by a cycle counter.

Easy access to the interior of all machines is provided through hinged front and rear doors. Four recessed lamps provide interior illumination and a knurled flywheel is used to rotate the mechanism, and a brake to hold the position for easy sample loading. The main shaft is fitted with a balance weight to ensure smooth running.

Test Procedure

The samples are mounted in the tester in four banks. Two banks are accessible from the front of the instrument and two from the rear. Samples must be loaded so that they are flexed and not stretched. The central carriage moves up and down to flex the samples during operation.

Accessories

In accordance with the testing standards, Wallace offer the following special moulds and piercing tool for producing a groove in the edge of the test specimen. This groove helps to induce the onset of cracking during flexing.

- Three cavity specimen mould F1/1
- Six cavity specimen mould F1/1/1
- Piercing Tool with needle F1/3 (BS, ASTM, & SATRA versions available)

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Specifications

De Mattia Flex Testing Machine (F16)			
Version	**F16/12**	**F16/24**	**F16/36**
Part Number	WAF16/12	WAF16/24	WAF16/36
Number of Samples	12	24	36
Dimensions (mm)	1210 (h) x 710 (w) x 570 (d)		
Weight	275kg		
Supply Voltage	230Vac ±10%		
Maximum Power	3000 VA		
Oven Temperature	Ambient to 150°C		
Temperature Stability	±1°C		
Operating Noise Level	Less than 70dB		
Operating Temperature	10 to 40°C; Altitude 2000m maximum		
Humidity Range	20 to 80% RH non-condensing		

Standards

ISO 132, ASTM D430-06, ASTM D813