

## Elcometer 1500 Cylindrical Mandrel on a Stand



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The Elcometer 1500 is a simple instrument for determining the elasticity, adhesion and cracking of dry paint on flat specimens, consisting of a mandrel support which also serves as a test stand.

Coated metal sheets, maximum 150mm (5.9") in length x 100mm (3.93") wide, are manually and successively bent around mandrels of decreasing diameter until cracks appear.

Can be used in accordance with:

AS/NZS 1580.402.1

ASTM D 522-B

ASTM D 1737

BS EN3900-E1

DIN 53152

ISO 1519-2

NF T30-040

### Elasticity & Resistance to Deformation

The performance of coatings when influenced by external stresses caused by stretching, bending or impacts, determines their suitability for their designed application.

A coating designed for use in the coil coating industry, for example, should have the ability to stretch as the substrate is formed into its desired shape without damage. Deformation or damage would reduce the protective quality and appearance including colour change, adhesion etc.

Further, a coating designed for industrial use should be able to withstand impacts during the life of the product.

In order to characterise a coating's performance to elongation and deformation, a number of repeatable and reproducible tests have been developed.

### Mandrel Bend Test

A coated metal sheet is bent over a conical or cylindrical mandrel and cracks, colour change, adhesion etc. of the coating are evaluated. Corresponding results, produced by decreasing mandrel sizes, indicate the degree of elasticity of the coating. A conical mandrel allows the user to undertake fewer tests to achieve a similar result to cylindrical mandrels.

### Cupping Test

A coated metal sheet is subjected to a gradual deformation by a polished die being pushed from beneath the coating - i.e. from the reverse side of the sheet.

### Variable Impact Tests

There are two methods: either a weight with a punch attached falls on a coated metal sheet or a weight falls on to a punch which is resting on the coated metal sheet. In either test, the damage caused is observed and evaluated. These methods are used to identify how the coating performs under a rapid deformation process.

TECHNICAL SPECIFICATION		
Part Number	K0001500M002	Elcometer 1500/2 Metric Set of 13 Cylindrical Mandrels on a stand from 2 to 32mm
	KOUS1500M001	Elcometer 1500/1 Imperial Set of 7 Mandrels from 1/8" to 1"
Mandrel Size	Metric Version:	2, 3, 4, 5, 6, 8, 10, 12, 13, 16, 20, 25, and 32mm
	Imperial Version:	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1"
Dimensions	178 x 138 x 145mm (7 x 5.3 x 5.7")	
Weight	3.3kg (7.26lb)	
Packing List	Set of 7 mandrels (Elcometer 1500/1), Set of 13 mandrels (Elcometer 1500/2) and operating instructions	

## Related Products



Elcometer 1506

### Elcometer 1506 Cylindrical Mandrel Bend Tester

Similar in use to the Elcometer 1510, the Elcometer 1506 is also a very robust mechanical unit for determining the elasticity, adhesion and elongation properties of cured coatings on sheet metal.



Elcometer 1510

### Elcometer 1510 Conical Mandrel Bend Tester

The 1510 Bend Tester is a mechanical tester used to determine the effects of bending on the elasticity, adhesion and elongation properties of cured coatings on sheet metal.



Elcometer 1620

### Elcometer 1620 Cupping Tester

These robust and user-friendly instruments are used for assessing the cupping ability of coatings applied to metal sheets up to 1.2mm (0.05") thick.



Elcometer 1542

### Elcometer 1542 Cross Hatch Adhesion Tester

This is a simple but effective method for determining the adhesion of coatings. The instrument is ideal for coatings on flat surfaces and is available with one of three different spacings.

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