

# **Elcometer 1506**

## **Cylindrical Mandrel Bend Tester**

### **Operating Instructions**

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A copy of this Instruction Manual is available for download on our Website via [www.elcometer.com](http://www.elcometer.com)

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**T**hank you for your purchase of this Elcometer 1506 Cylindrical Mandrel Bend Tester. Welcome to Elcometer.

Elcometer are world leaders in the design, manufacture and supply of inspection equipment for coatings and concrete.

Our products cover all aspects of coating inspection, from development through application to post application inspection.

The Elcometer 1506 Cylindrical Mandrel Bend Tester, is a world beating product. With the purchase of this product you now have access to the worldwide service and support network of Elcometer. For more information visit our website at [www.elcometer.com](http://www.elcometer.com)

## **1 ABOUT YOUR TESTER**

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The Elcometer 1506 Cylindrical Mandrel Bend Tester is a robust and simple-to-use instrument for determining the elasticity, adhesion and elongation of dried paint on sheet metal.

The metal sheet is clamped firmly into an adjustable vice and is bent perfectly over a mandrel by a set of adjustable rollers. A range of mandrel sizes is available to allow the point at which coating failure occurs to be determined. See “Accessories” on page 8.

## 1.1 Standards

The Elcometer 1506 can be used in accordance with the following National and International Standards:

- ASTM D 522-B supersedes ASTM D 1737
- AS/NZS 1580.402.1
- ISO 1519-2

## 1.2 WHAT THE BOX CONTAINS

- Elcometer 1506 Cylindrical Mandrel Bend Tester
- Operating instructions

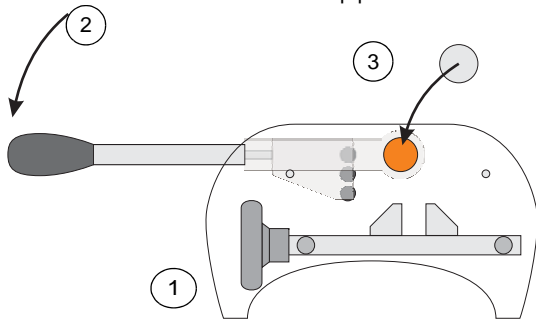
**Note:** *Mandrels are not supplied as standard and must be ordered separately. See “Accessories” on page 8.*

**To maximise the benefits of your new Elcometer 1506 Cylindrical Mandrel Bend Tester please take some time to read these Operating Instructions. Do not hesitate to contact Elcometer or your Elcometer supplier if you have any questions.**

## 2 TESTING A SPECIMEN

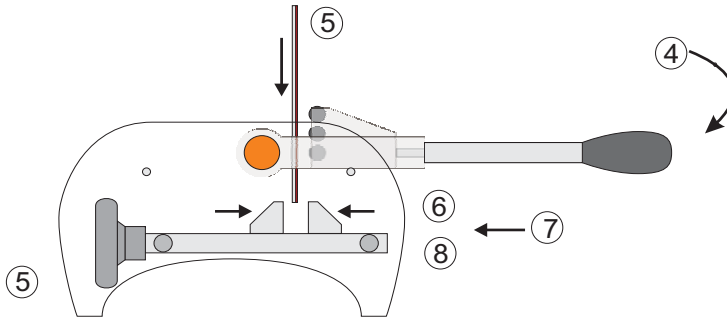
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1. Place the tester on a table with the black vice-tightening knob to your left.
2. Swing the bending lever anticlockwise until it reaches its stop position.
3. Select a mandrel and insert the mandrel into the recesses in the bending lever mechanism.
4. Swing the bending lever clockwise until it reaches its stop position.



5. Open the vice jaws and insert the specimen into the jaws of the vice. The painted surface of the specimen should be facing away from the mandrel.

6. Tighten the vice jaws until they hold the specimen lightly.

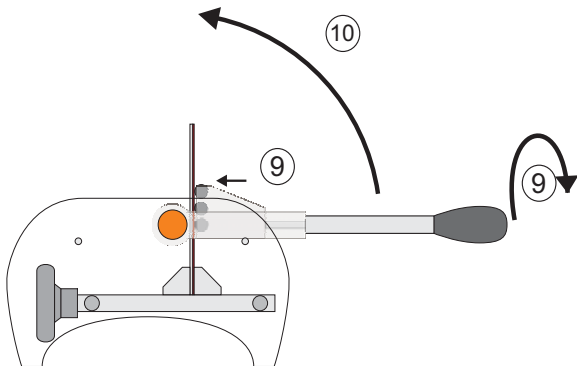


7. Slide the vice towards the mandrel until the specimen comes into contact with the mandrel.
8. Tighten the vice jaws until the specimen is held firmly.  
*If the jaws are not tightened sufficiently, the specimen may slip during bending.*
9. Rotate the handle of the bending lever until the three rollers just touch the specimen.  
*Avoid over tightening - there should be no pressure between the rollers and the specimen at this stage.*

10. Hold the bending lever firmly. With a smooth action, swing the lever anticlockwise until it reaches its stop position.

The specimen will now be bent into a 'U' shape.

11. Swing the bending lever clockwise until it reaches its stop position.
12. Release the specimen from the vice jaws and remove.
13. Inspect the coating for damage.
14. If the coating is not damaged, select the next smallest mandrel in the set<sup>1</sup> and repeat steps 2 to 13 until the smallest mandrel which produces no damage to the coating is determined.



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1. Please note that this bending test can be also a 'Pass/Fail' test for a specific mandrel diameter.



### 3 TECHNICAL SPECIFICATION

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#### 3.1 Physical

Maximum width of specimen:	64 mm (2.5")
Maximum length of specimen:	80 to 100mm (3.15 to 3.93") depending on the size of the mandrel used
Dimensions:	320 mm x 135 mm x 130 mm (12.6" x 5.3" x 5.1")
Weight, excluding mandrels:	4 kg (9 lb)

#### 3.2 Packaging

The Elcometer 1506 Cylindrical Mandrel Bend Tester is packed in a cardboard and foam package. Please ensure that this packaging is disposed of in an environmentally sensitive manner. Consult your local Environmental Authority for further guidance.

### 4 MAINTENANCE

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The Elcometer 1506 Cylindrical Mandrel Bend Tester is designed to give many years reliable service under normal operating and storage conditions.

Every 6 months, or sooner if used regularly, grease the threads and guides of the specimen vice and the bending lever roller carriage.

The tester does not contain any user-serviceable components. In the unlikely event of a fault, the Elcometer 1506 should be returned to your local Elcometer supplier or directly to Elcometer. The warranty will be invalidated if the instrument has been opened.

Details of Elcometer offices around the world are given on the outside cover of these operating instructions. Alternatively visit the Elcometer website, [www.elcometer.com](http://www.elcometer.com)

## 5 ACCESSORIES

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A range of mandrel sizes is available to purchase either as a complete set or as individual mandrels.

<b>Description</b>	<b>Part Number</b>
Complete Set of 14 Metric Mandrels; Sizes 2 to 32mm	KT001506P201
Metric Mandrel: 2mm	KT001506F002
Metric Mandrel: 3mm	KT001506F003
Metric Mandrel: 4mm	KT001506F004
Metric Mandrel: 5mm	KT001506F005
Metric Mandrel: 6mm	KT001506F006
Metric Mandrel: 8mm	KT001506F007
Metric Mandrel: 10mm	KT001506F014
Metric Mandrel: 12mm	KT001506F015
Metric Mandrel: 13mm	KT001506F016

**Description**

Metric Mandrel: 16mm

Metric Mandrel: 19mm

Metric Mandrel: 20mm

Metric Mandrel: 25mm

Metric Mandrel: 32mm

**Part Number**

KT001506F017

KT001506F018

KT001506F019

KT001506F020

KT001506F021

**Description**

Complete Set of 7 Imperial Mandrels; Sizes 1/8 to 1"

Imperial Mandrel: 1/8"

Imperial Mandrel: 1/4"

Imperial Mandrel: 3/8"

Imperial Mandrel: 1/2"

Imperial Mandrel: 5/8"

Imperial Mandrel: 3/4"

Imperial Mandrel: 1"

**Part Number**

KTUS1506P201

KTUS1506F022

KTUS1506F023

KTUS1506F024

KTUS1506F025

KTUS1506F026

KTUS1506F027

KTUS1506F028

## **6 RELATED EQUIPMENT**

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In addition to the Elcometer 1506 Cylindrical Mandrel Bend Tester, Elcometer produces a wide range of other equipment for determining the physical characteristics of surface coatings.

Users of the Elcometer 1506 may also benefit from the following Elcometer products:

- Elcometer 1510 Conical Mandrel Bend Tester
- Elcometer 1615 Variable Impact Tester
- Elcometer 1620 Cupping Tester
- Elcometer 1542 Cross Cut Adhesion Tester

For further information contact Elcometer, your local supplier or visit [www.elcometer.com](http://www.elcometer.com)