

# **Elcometer 125**

## **Surface Profile Comparator**

### **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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Thank you for your purchase of the Elcometer 125 Surface Profile Comparator. 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 125 Surface Profile Comparator 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 INTRODUCTION**

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The Elcometer 125 Surface Profile Comparator allows the estimation of the roughness of abrasive blast-cleaned surfaces by both touch and sight. It conforms to ISO 8503-1.

### **1.1 STANDARDS**

Your Elcometer 125 Surface Profile Comparator can be used in accordance with the following National and International Standards: AS 3894.5, ASTM D 4417 Method A, IMO MSC.215(82), IMO MSC.244(83), ISO 8503-1, ISO 8503-2.

### **1.2 WHAT THE BOX CONTAINS**

- Elcometer 125 Surface Profile Comparator
- Operating Instructions

## 2 USING THE ELCOMETER 125 SURFACE COMPARATOR

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ISO 8503 Part 2 specifies the following procedure:

1. Remove all loose dust and debris from the test surface.
2. Select the appropriate surface profile reference comparator. There are two types - Type **G** for profiles after blast cleaning with **grit** abrasive, and Type **S** for profiles after blast cleaning with **shot** abrasives.
3. Place it against an area of the test surface. Compare, in turn, the test surface with the four sectors of the comparator directly. Alternatively use a hand lens with magnification not exceeding x7, placed so that the test surface is viewed simultaneously with a segment of the comparator.
4. Assess the profiles on the comparator that are nearest to the profile of the test surface and determine its grade from these.

Grade	Profiles
Fine	Equal to Segment 1 and up to, but excluding, Segment 2
Medium	Equal to Segment 2 and up to, but excluding, Segment 3
Coarse	Equal to Segment 3 and up to, but excluding, Segment 4

5. Record the grades for all areas of the test surface. If any profile is assessed as being below the lower limit for the 'Fine' grading, report the grading as 'finer than fine'. If any profile is assessed as being greater than the upper limit for the 'Coarse' grading, report the grading as being 'coarser than coarse'.

### **Additional Guidance Notes**

1. This comparator is only applicable for blast cleaned surfaces to Sa 2½ and Sa 3 cleanliness standard. (Ref. Elcometer 128 Pictorial Surface Standards).
2. If visual assessment proves difficult, tactile assessment may prove useful. It is possible to assess the closest grade by passing either the back of a finger nail, or a wooden stylus held between thumb and forefinger, over the test surface and the segments of the comparator.

### **3 MAINTENANCE AND CALIBRATION OF COMPARATORS - SEE ISO 8503-1**

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Comparators require careful handling and if any surface wear is observed replacement is advised. Recalibration of a worn comparator costs much more.

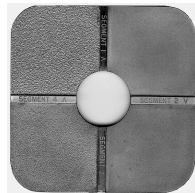
### **4 TECHNICAL INFORMATION**

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This comparator conforms to the requirements of International Standard 8503-1 and is designed to define the grading specified in terms 'FINE', 'MEDIUM' or 'COARSE'.

This comparator has been electroformed in high purity nickel from a mild steel Master Coupon whose segments meet the requirements of ISO 8503-1 when measured by the methods prescribed in ISO 8503-3 (Microscope Method) and ISO 8503-4 (Stylus Method).

All measurements were as defined in ISO 8503 Parts 3 and 4 with no deviations. The measurements were performed and certified by R.W. Green Consultants, Beaconsfield, England on 29.3.1984 and were authenticated by the Paint Research Association, Teddington, England. It has been manufactured from a specifically prepared and certified mild steel Master Coupon submitted from Hodge Clemco Limited, Sheffield, England.



## 5 TECHNICAL SPECIFICATION

Seg No	ISO 8503/1 Spec'n	Data from Microscope Method ISO 8503/3			Data from Stylus Method ISO 8503/4		
	µm Hy or Ry5	µm Hy	Actual Mean Deviation of 20 rdgs	Max Mean Deviation	µm Ry5	Actual Mean Deviation of 10 rdgs	Max Mean Deviation
<b>MASTER COUPON - Shot S101</b>							
1	23-28	26.15	21.8%	33%	24.9	9.07%	20%
2	35-45	35.65	16.1%	33%	39.06	8.16%	20%
3	60-80	63.2	14.92%	33%	75.19	8.0%	20%
4	85-115	96.45	17.03%	33%	98.28	11.62%	20%
<b>MASTER COUPON - Grit G201</b>							
1	23-28	24.95	20.76%	33%	26.46	11.45%	20%
2	50-70	64.3	13.14%	33%	62.7	7.91%	20%
3	85-115	103.95	17.8%	33%	90.8	7.09%	20%
4	130-170	153.1	16.63%	33%	147.71	11.42%	20%

Your Elcometer 125 Surface Profile Comparator may be 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.

## **6 RELATED EQUIPMENT**

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In addition to the Surface Profile Gauge, Elcometer produces a wide range of other Surface Profile Equipment. Users of the Surface Profile Gauge may also benefit from the following Elcometer product ranges:

- Elcometer 123 Surface Profile Gauge
- Elcometer 128 Pictorial Surface Standards
- Elcometer 129 Roughness Comparators
- Elcometer 223 Digital Surface Profile Gauge

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