

Elcometer 3092

Sclerometer Hardness Tester

Operating Instructions

elcometer® is a registered trademark of Elcometer Limited.

All other trademarks acknowledged.

© Copyright Elcometer Limited. 2014.

All rights reserved. No part of this Document may be reproduced, transmitted, transcribed, stored (in a retrieval system or otherwise) or translated into any language, in any form or by any means (electronic, mechanical, magnetic, optical, manual or otherwise) without the prior written permission of Elcometer Limited.

A copy of this Instruction Manual is available for download on our Website via www.elcometer.com

CONTENTS

Section	Page
1 About this gauge	3
2 Setting the tip force	5
3 Testing a surface	9
4 Maintenance	10
5 Technical specification	10
6 Spares	11
7 Related equipment.....	12

en

Thank you for your purchase of this Elcometer 3092 Sclerometer Hardness 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.

This Elcometer 3092 Sclerometer Hardness 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

1 ABOUT THIS GAUGE

The Elcometer 3092 Sclerometer Hardness Tester is a simple but effective gauge for determining the hardness of a large variety of coatings and surfaces.

The body of the gauge contains a spring loaded tool fitted with a tungsten carbide tip. The tip is pressed against the surface being tested and the gauge is moved a short distance in an attempt to scratch the coating. The coating is inspected and the spring loading is increased gradually until the tip leaves a mark or destroys the coating.

The maximum load on the tip is determined by the stiffness of the spring fitted to the gauge. Three springs of varying stiffness are supplied as standard with the gauge.

The spring loading is adjusted within the range of each spring by sliding a lockable collar along the body of the gauge.

1.1 STANDARDS

Your Elcometer 3092 Sclerometer Hardness Tester can be used in accordance with the following National and International Standard : Round tips AS 3894.4, Diamond tips EN 438-2 & ISO 4586-2.

1.2 FEATURES

- Very easy to use
- Portable, pocket-sized design
- Ideal for testing coatings on the production line

1.3 WHAT THE BOX CONTAINS

- Elcometer 3092 Sclerometer Hardness Tester
- Tool with 0.75 mm (0.03") diameter tungsten carbide tip
- 3 springs (grey, red and blue)
- Carry case
- Operating instructions



Your Elcometer 3092 Sclerometer Hardness 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.

To maximise the benefits of your new Elcometer 3092 Sclerometer Hardness 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 SETTING THE TIP FORCE

The force applied by the tip on the surface is determined by the colour of the spring and the position of the sliding collar.

2.1 SELECTING A SPRING

Four types of spring are available. The stiffness of each type is determined by its colour:

Spring colour	Force applied by tip
Grey:	0 N to 3 N
Red:	0 N to 10 N
Blue:	0 N to 20 N
Green ^a :	0 N to 30 N

a. The green spring is not supplied as standard with the gauge. To order a green spring see “Spares” on page 11.

2.2 FITTING AND ADJUSTING A SPRING

1. Loosen locking screw to release spring tension.
2. Unscrew and remove the black knurled end cap.



3. Slide the collar off the Sclerometer.



2.2 FITTING AND ADJUSTING SPRING (continued)

- en
4. Remove the spring.
 5. Select the appropriate spring and insert into the Sclerometer.



6. Refit the collar.



2.2 FITTING AND ADJUSTING SPRING (continued)

7. Refit the end cap



8. Find the scale on the Sclerometer which matches the colour of the spring and adjust the tip force by sliding the collar to the required setting on the scale.

9. Tighten the locking screw.

The gauge is now set and ready for testing.

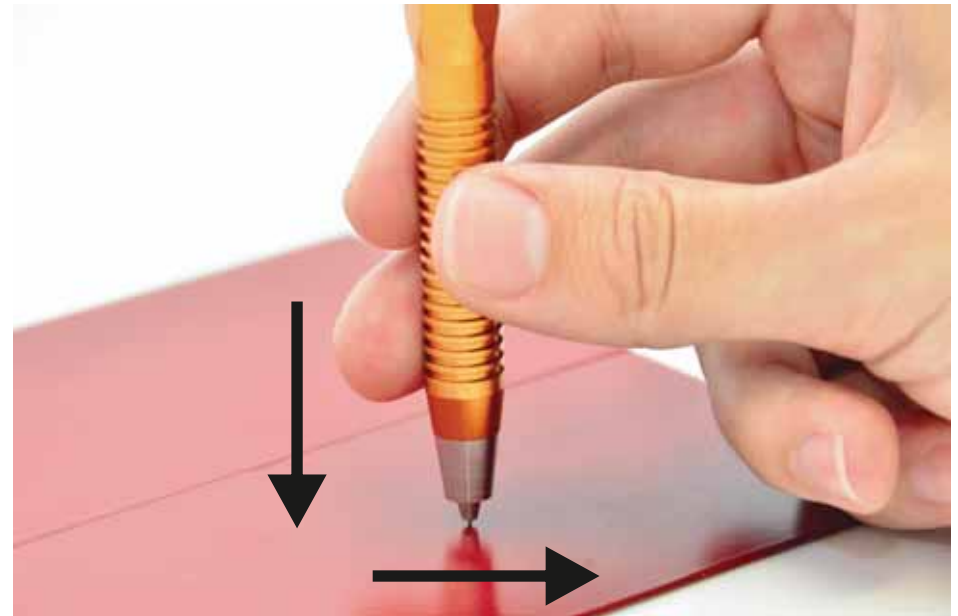


3 TESTING A SURFACE

en

1. Place the gauge perpendicular to the surface being tested and apply sufficient downwards force to compress the spring by approximately 2 mm.
Do not allow the bottom of the gauge to touch the surface being tested.
2. Move the gauge to produce a linear scratch approximately 10 mm long.
3. Examine the surface for marks left by the tip of the tool.
Illuminating the surface from behind will help to reveal surface marking.

If the surface is unmarked, increase the spring loading and repeat steps 1 to 3 until surface marking is detected.



4 MAINTENANCE

The Elcometer 3092 Sclerometer Hardness Tester is designed to give many years reliable service under normal operating and storage conditions. Special maintenance will not normally be required under these conditions.

Always check the tip before use for damage or contamination. Clean or replace the tip if necessary. Replacement tips and springs are available from Elcometer or your local supplier - see “ Spares ” on page 11.

Details of Elcometer offices around the world are detailed on the Elcometer website, www.elcometer.com

5 TECHNICAL SPECIFICATION

Material Body:	Anodised aluminium
Springs:	Stainless steel
Tips:	Tungsten carbide or diamond
Dimensions:	186 mm x 29 mm x 17 mm (7.3" x 1.1" x 0.7")
Weight:	370 g (13 oz)

6 SPARES

Your Elcometer 3092 Sclerometer Hardness Tester is complete with all the items required to start taking measurements. Over the life of the gauge, the following spare parts and optional accessories may be required:

6.1 SPRINGS**Spring colour**

Grey

Red

Blue

Green

Force

0 N to 3 N (0 lbf to 0.67 lbf)

0 N to 10 N (0 lbf to 2.2 lbf)

0 N to 20 N (0 lbf to 4.5 lbf)

0 N to 30 N (0 lbf to 6.7 lbf)

Part number

KT003092P004

KT003092P005

KT003092P006

KT003092P007

6.2 TOOLS**Tip**

0.5 mm (0.02") Diameter

0.75 mm (0.03") Diameter

1.0 mm (0.04") Diameter

90° angle^b**Tip material**

Tungsten Carbide

Tungsten Carbide

Tungsten Carbide

Diamond (As specified in EN 438-2, ISO 4586-2)

Part number

KT003092P001

KT003092P002

KT003092P003

KT003092P008

b. 0.09mm (0.0035") radius

7 RELATED EQUIPMENT

In addition to the Elcometer 3092 Sclerometer Hardness Tester, Elcometer produces a wide range of other coating testing equipment. Users of the Elcometer 3092 Sclerometer Hardness Tester may also benefit from the following Elcometer product ranges:

- Elasticity and Resistance Deformation Testers
- Paint Inspection Gauges
- Appearance Testers
- Washability, Brushability and Abrasion Testers

For further information contact Elcometer, your local supplier or visit www.elcometer.com