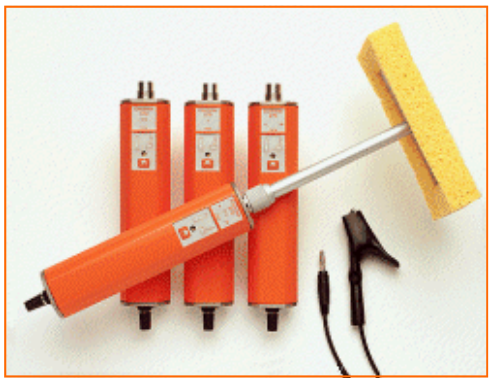
Elcometer 270 Pinhole Detectors



Elcometer 270 Pinhole Detectors

At a glance

- *Simple, accurate & very versatile pinhole tester.*
- *Wide range of accessories available to meet all your pinhole detection requirements.*
- *Automatic gauge calibration check & low battery indicator.*

Elcometer 270 Pinhole Detectors
The Elcometer 270 Range utilises the wet sponge technique and has been designed to set a new standard for wet sponge detectors - namely, a high quality, low voltage detector with similar accessories to a high voltage spark tester.

- Supplied ready to use
- Automatic voltage calibration & voltage checks
- Low Battery indicator
- Visual and audio alarms
- Integral and separate wand functionality
- A wide range of fully interchangeable wand accessories – see the following pages
- 4 model variants in Single, dual or triple voltages
- Easy release snag proof cables
- Large standard sponge
- Available in an inspection kit for all your inspection requirements

Can be used in accordance with:	
BS 1344-11	BS 7295-1
BS EN ISO 829 A	BS 7793-2
NACE RP0188	

Pinhole & Porosity Detection
Premature corrosion of a substrate is usually due to the failure of the coating. A major cause of failure is the presence of flaws in the finished coating. Collectively referred to as a coating's porosity the main types of flaw are described below:

Runs & Sags
The wet coating moves under gravity leaving a thin dry film

Cissing
Occurs when a coating does not re-flow to cover the voids generated by air bubbles being released from the surface of a coating.

Cratering
Occurs when the substrate is wet or if the coating has poor flow characteristics, thus creating voids in the coating.

Pinholes
Caused either by air entrapment which is then released from the surface, or by the entrapment of particulates (dust, sand, etc.) which do not stay in place.

Over Coating
If too much coating is applied to a substrate, as the coating cures it can crack from internal stresses of the coating.

Under Coating
Areas are not coated, or the coating flows away from particular edges, corners of a substrate and welds. Furthermore over a rough surface profile, insufficient coating may leave the profile's peaks exposed.

SPECIFICATIONS AND PART NUMBERS		
Measurement Range	9V Setting:	300 microns (12 mils)
	67.5V Setting:	500 microns (20 mils)
	90V Setting:	500 microns (20 mils)
Sensitivity	9V Setting:	90 kohm ±5%
	67.5V Setting:	125 kohm ±5%
	90V Setting:	400 kohm ±5%
Accuracy of Voltage Settings	±5%	
Dimensions	Unit Without Wand	210 x 42 x 37mm (8.3 x 1.7 x 1.5")
	Standard Wand Assembly	175mm (6.9") long with sponge
	Approx. Flat Sponge Size	150 x 60 x 25mm (6 x 2.4 x 1")
Weight – including wand assembly, cable and batteries	610g (21oz)	
Battery Type	3 x AA (LR1600) 1.5V Alkaline NiMH rechargeable batteries can also be used, battery life will reduce by up to 75%.	
Battery Life (approximate)	9V Setting:	200 hours of continuous use
	67.5V Setting:	100 hours of continuous use
	90V Setting:	80 hours of continuous use
Shipping List	Elcometer 270 of Specified Voltage, Standard Wand Assembly (Flat Sponge), 4m (13') Signal Return Cable, 3 x AA Batteries and Instruction Book.	

Model	Description	Part Number
Elcometer 270/1	Elcometer 270 Pinhole Detector 9V	D270----1
Elcometer 270/2	Elcometer 270 Pinhole Detector 67.5V	D270----2
Elcometer 270/3	Elcometer 270 Pinhole Detector 9V & 90V	D270----3
Elcometer 270/4	Elcometer 270 Pinhole Detector 9, 67.5 & 90V	D270----4
Accessories	See the following page for a complete range of Elcometer 270 Accessories	

The consequent cost of repairs and subsequent loss of production can be considerable. Early inspection for coating flaws will prevent the expense and inconvenience of a coating failure. Instruments used to detect coating flaws are referred to by many different names, these include spark or jeep testers, porosity or holiday detectors, and pinhole testers.

There are two methods of testing:

Wet Sponge Technique

Suitable for measuring insulating coatings less than 500µm (20mils) on conductive substrates. The wet sponge technique is ideal for powder coatings and any thin coating where the User does not wish any damage to occur to the coating.

A low voltage is applied to a sponge, moistened with a wetting agent. When the sponge moves over a coating flaw, liquid penetrates to the substrate and completes an electrical circuit, setting off the alarm.

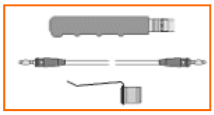
This technique will identify coating flaws where the substrate is uncovered, i.e. cissing, cratering, pinholes and some forms of over and under coating flaws.

High Voltage Technique

Locates all flaws in insulating coatings on conductive substrates, the high voltage technique can be used to test coatings up to more than 7mm (275mils) thick. This method is ideal for inspecting pipelines and other protective coatings. Coatings on concrete can also be tested using this method.

A power supply generates a high DC Voltage which is supplied to a suitable probe with an earth return connected to the substrate. As the probe is passed over the coated substrate, a flaw is indicated by a spark at the contact point which sets off the alarm.

This technique is suitable for identifying all of the flaws described above, however care is required on thin coatings.

ELCOMETER 270 ACCESSORIES		
We have developed a range of accessories for the Elcometer 270 increasing the versatility of the instrument and the range of applications for which it can be used.		
	Description	**Part Number**
	Roller Wand and Roller Sponge	T27016960
	Spare Roller Sponge Set with Washer and Clip	T27018051
	Standard Wand with Flat Sponge	T27016867
	Spare Rectangular Sponges 150 x 60 x 25mm (6 x 2.3 x 1") - Pack of 3	T27018050
	Wetting Agent 50ml (1.7fl oz)	T27018024
	Handle, Lead and Belt Clip to make a Separate Wand	T27016999
	Telescopic Handle with Lead and Belt Clip - Extends to 1m (39")	T27016998
	420mm (16.5") Extension Piece	T27016965
	10m (32.5') Signal Return Cable and Storage Drum	T27016996
	Consultants Carry Case complete with: 1 x Separate Wand Handle & Lead • 1 x Roller Wand • 1 x 10m Signal Return Cable • 2 x Extension Pieces • 1 x Telescopic Extension • 1 x Belt Clip • 1 x Bottle of Wetting Agent • 3 x AA Spare Batteries • 1 x Spare Flat Sponge • 1 x Spare Roller Sponge	T27018191
	THIS INSPECTOR'S KIT DOES NOT INCLUDE MAIN INSTRUMENT, SIMPLY ORDER YOUR MODEL NUMBER TO COMPLETE THE KIT.	
	This kit case is also available as an empty case	T27018025

Related products

Elcometer 236

The Elcometer 236 holiday detector is perhaps one of the most advanced holiday detectors on the market today. Supplied in a convenient transit case for moving around the jobsite, the Elcometer 236's soft carry case allows the probe handle and wide range of accessories to be attached making the Elcometer 236 ideal for field, site or laboratory inspection.

Elcometer Inspection Kits

Site inspection requires a range of portable testing equipment. In order to make these products easily available and transportable, Elcometer have developed a range of Inspection Kits. All the gauges are conveniently stored in one hard plastic protective carrying case and are supplied with full operating instructions.

Elcometer Publications

In today's ever changing coatings industry, the Coatings Inspector has to keep up with many changes to inspection practices and the different causes of coatings failure. Elcometer offers a range of inspection and visual comparison manuals specifically to help you achieve the most from your inspection.

ENGLAND
Elcometer Instruments Ltd
Edge Lane
Manchester M43 6BU

Tel: +44 (0) 161 371 6000
Fax: +44 (0) 161 371 6010
e-mail: sales@elcometer.com
www.elcometer.com

USA
Elcometer Instruments Inc
1893 Rochester Industrial Drive
Rochester Hills Michigan 48309

Tel: +1 248 650 0500
Toll free: 800 521 0635
Fax: +1 248 650 0501
e-mail: inc@elcometer.com
www.elcometer.com

CANADA
Elcometer Canada Ltd
PO Box 622, 401 Ouelette Avenue
Windsor, Ontario N9A 6N4

Tel: +1 248 650 0500
Toll Free: 800 521 0635
Fax: +1 248 650 0501
e-mail: ca_info@elcometer.com
www.elcometer.com

ASIA & THE FAR EAST
Elcometer (Asia) Pte Ltd
896 Dunearn Rd
Sime Darby Centre #3-09
Singapore 589472,
Republic of Singapore

Tel: +65 6462 2822
Fax: +65 6462 2860
e-mail: asia@elcometer.com
www.elcometer.com

BELGIUM
Elcometer SPRL
Rue Vallée 13
B-4681 Hermalle /s Ardenteau

Tel: +32 (0)4 379 96 10
Fax: +32 (0)4 374 06 03
e-mail: be_info@elcometer.be
www.elcometer.be

FRANCE
Elcometer SARL
BP 8-Bou
60 Rue de la Petite Levée
45430 Chécy

Tel: +33 (0)2 38 86 33 44
Fax: +33 (0)2 38 91 37 66
e-mail: fr_info@elcometer.fr
www.elcometer.fr

GERMANY
Elcometer Instruments GmbH
Himmlingstraβe 18
D-73434 Aalen

Tel: +49 (0) 7366 91 92 83
Fax: +49 (0) 7366 91 92 86
e-mail: de_info@elcometer.de
www.elcometer.de