


elcometer®
inspection equipment



Pinhole & Porosity
Detection





Premature corrosion of a substrate is usually due to a coating failure. A major cause is the presence of flaws in the finished coating.

Collectively referred to as porosity, the main types of flaws are:

Runs & Sags: Coatings move under gravity leaving a thin dry film.

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

Cratering: If the substrate is wet or the coating has poor flow characteristics, voids are created in the coating.

Pinholes: Caused 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, as it cures internal stresses of the coating can cause it to crack.

Under Coating: Uncoated areas, or where the coating flows away from edges or corners of a substrate or welds. Insufficient coating over a rough surface profile may also leave the peaks of the profile exposed.

There are essentially, three flaw detection methods in our range:

Wet Sponge Technique: A low voltage is applied to a moist sponge. When the sponge moves over a coating flaw, liquid penetrates to the substrate and completes an electrical circuit, setting off the alarm. The wet sponge technique is suitable for measuring insulating coatings less than 500µm (20mils) on conductive substrates, and is ideal for powder coatings and other coatings where the user does not wish to damage the coating.

High Voltage Technique: The high voltage, or porosity technique, can be used to test coatings up to 25mm (1") thick and 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 voltage DC or pulsed DC to a probe. As the probe passes over a flaw, a spark at the contact point sets off the alarm. This technique is suitable for locating the types of flaws described above, although care is required on thin coatings.

UV Pinhole Detection: UV light can be used as a low cost, quick method of detecting pinholes in coatings. A base coat containing a UV fluorescing additive is applied. When the UV flashlight shines on the coating, areas where the base coat is not covered fluoresce, identifying the location of the pinhole.

Elcometer 270

Pinhole Detector

STANDARDS:
AS 3894.2, ASTM D 5162-A,
ASTM G6, ASTM G62-A, BS 7793-2,
ISO 8289-A, ISO 14654, JIS K 6766,
NACE RP 0188, NACE SP 0188,
NACE TM0384

The Elcometer 270 range utilises the wet sponge technique and sets the standard for wet sponge detectors - high quality, low voltage detectors with a wide range of accessories to meet your requirements.

User selectable voltages:
9V, 67.5V or 90V

Automatic internal voltage check
ensures that the selected voltage
can be achieved

Easy release, snag proof
cables - available in 4m (13'2")
& 10m (32'10") lengths

Visual and audible alarms
indicate a pinhole

A wide range of wand
accessories available



Each unit can be converted into
a separate wand with a base unit
using the separate wand adaptor



Pinhole Detector

Elcometer 270

Accessories

| | | | | | |
|--|---|----------------------------|--|---|----------------------------|
|  | Standard wand A universal flat sponge to suit almost all applications Spare flat sponge set Pack of 3 sponges; 150 x 60 x 25mm (6 x 2.3 x 1") | T27016867 T27018050 |  | Roller sponge wand Ideal for large flat surface inspection Spare roller sponge | T27016960 T27018051 |
|  | Telescopic wand adaptor with belt clip - extends to 1m(39"), ideal for floors or high areas Separate wand adaptor with belt clip - converts the gauge into a separate pinhole detector | T27016998 T27016999 |  | Extension piece 420mm (16.5") extensions to expand operators reach. Additional extension pieces can be connected to each other | T27016965 |
|  | Pinhole Inspector's Kit The complete pinhole detection kit. Each kit is supplied with: 1 x separate wand handle & lead 1 x roller wand 1 x 10m (32') signal return cable 2 x extension pieces 1 x telescopic extension 1 x belt clip 1 x bottle of wetting agent 3 x AA batteries 1 x spare flat sponge 1 x spare roller sponge The kit does not include the main instrument; just add the model number to the order | T27018191 |  | Return cable - 4m (13') supplied as standard, complete with crocodile clip and connection plug Return cable - 10m (32') supplied on a drum, complete with clip and connection plug | T99916954 T99916996 |
| | | |  | Wetting agent 50ml (1.7floz) bottle - helps aid the fast detection of pinholes. Just add to the water used to dampen the sponge | T27018024 |

Technical Specification

C

| Model | Elcometer 270/3 | Elcometer 270/4 | Certificate |
|-------------------------------|--|--|-------------|
| Part Number | D270----3 | D270----4 | |
| Part Number with Certificate | D270----3C | D270----4C | • |
| Voltage | 9V and 90V | 9V, 67.5V and 90V | |
| Coating Range (Max) | 500µm (20mils) | 500µm (20mils) | |
| Sensitivity | 9V: 90kΩ ±5% 90V: 400kΩ ±5% | 9V: 90kΩ ±5% 67.5V: 125kΩ ±5% 90V: 400kΩ ±5% | |
| Battery Life (continuous use) | 9V: up to 200 hours 90V: up to 80 hours | 9V: up to 200 hours 67.5V: up to 100 hours 90V: up to 80 hours | |
| Battery Type | 3 x AA batteries (rechargeable batteries can also be used, battery life will be reduced by up to 75%) | | |
| Accuracy of Setting | ±5% | | |
| Dimensions | Without wand 210 x 42 x 37mm (8.3 x 1.7 x 1.5") Standard wand 175mm (6.9") long (including sponge) | | |
| Weight | 610g (21oz) including wand, cable and batteries | | |
| Packing List | Pinhole Detector, standard wand and flat sponge, 4m (13' 2") return lead with crocodile clip, 3 x AA (LR1600) batteries and operating instructions | | |

• Calibration Certificate supplied as standard.

Elcometer 280

Pulsed DC Holiday Detector

STANDARDS:
AS 3894.1, ANSI/AWWA C203,
ANSI/AWWA C214, ASTM D4787,
ASTM D5162, ISO 2746, ISO 29601,
JIS G 3491, JIS G 3492,
NACE RP0274, NACE SP0188,
NACE SP0490, NACE TM0186,
NACE TM0384

The Elcometer 280 is a 'stick type' holiday detector which has been designed to make pulsed DC high voltage holiday detection safer, easier and more reliable than ever before.

Flashing display, bright LED and a user adjustable volume alarm indicates detection of a holiday

0.5 - 35kV range (user selectable) for detecting porosity in coatings up to 25mm (1") thick

Safety trigger integrated inside the handle cuts power if released

Rugged, shock proof and water resistant design to ensure long life, even in harsh environments

A wide range of interchangeable probe accessories available - compatible with all Elcometer holiday detectors

Ideal for testing clean, damp, dirty or slightly conductive coatings

Voltage calculator automatically sets the correct voltage from your coating thickness value

Internal jeep tester ensures that the selected voltage equals the test voltage



Pulsed DC Holiday Detector

Using state of the art electronics, the Elcometer 280 allows users to inspect coatings - without connecting the earth return lead to the component substrate, ideal for inspecting large surfaces and pipelines.

Powerful

The Elcometer 280 uses the high voltage pulsed DC technique to detect holidays in coatings - even if the coating is damp, dirty or slightly conductive.

Safe

From the two stage safety switch, bright LED's and screen icons which signify when the high voltage is on, to the extended ribbing to protect the user from spark creep, the Elcometer 280 sets the standard for high voltage measurement safety.

User Friendly

Balanced, ergonomic design, complete with shoulder strap allows long periods of continuous use.

Versatile

Using the wide range of probe accessories, users can detect porosity/holidays in coatings up to 25mm (1") thick.

Tough

Rugged, shockproof and water resistant, each unit is designed for use even in the harshest of environments.

Elcometer 280



Right angled wire brush probe



Internal circular wire pipe brush probe



Band brush probes



External 'C-type' wire brush



Right angled rubber probe



Rolling Springs



Elcometer 280

Key Features

Red LED indicates high voltage ON

Earth signal return lead disconnected icon

Porosity Detector overload icon
indicates that the unit cannot obtain selected voltage with current accessory / coating combination

Calculation softkey
select the relevant standard and coating thickness value

Voltage adjustment softkey



Waterproof buzzer
Blue LED flashes as holidays are detected

Holiday detected icon
Battery symbol indicating remaining charge

Voltage selected
Porosity standard in use
used in conjunction with setting the coating thickness within the Voltage Calculator

Menu softkey
Voltage level achieved at probe



Specialised extended ribbing
designed to standard EN61010, ribs provide additional protection to the user during use



Integrated safety trigger switch
switches off the high voltage if released

Quick release battery pack
fully charged in 4 hours, provides up to 30+ hours of continuous use*

Earth return lead socket
including ¼ turn lock/release to ensure connection during testing



Rubberised second hand grip
provides greater control and balance during testing

Large, waterproof buttons
ideal for use - even in gloves

Shoulder harness point
strap can be quickly clipped on as required

Clear, backlit LCD display
shows all relevant information, even in dark environments

High Voltage ON/OFF
separate button minimises risk of accidental switch on

* the battery life is dependant on selected voltage and load applied - see Technical Specification for more information

Pulsed DC Holiday Detector

Elcometer 280

Technical Specification

C

| Description | Model S | Model T | Certificate |
|---|--|------------|-------------|
| Elcometer 280 Pulsed DC Holiday Detector Inspection Kit | D280-S-KIT | D280-T-KIT | ○ |
| Elcometer 280 Pulsed DC Holiday Detector | D280-S---- | D280-T---- | ○ |
| Rugged, Shockproof & Water Resistant | ■ | ■ | |
| Integrated Safety Trigger Switch | ■ | ■ | |
| Quick Release Battery Pack | ■ | ■ | |
| Internal Jeep Tester | ■ | ■ | |
| Integrated Voltage Calculator | | ■ | |
| Pulsed DC High Voltage Range | 0.5kV - 35kV | | |
| Voltage Adjustment | User adjustable: 0.5 - 1kV: 10 Volt steps, 1 - 35kV: 100V steps | | |
| High Voltage Output Accuracy | ±5% or ±50V below 1000 Volts | | |
| Pulse Repetition Rate | ~30Hz | | |
| Operating Temperature | 0°C to 50°C (32°F to 120°F) | | |
| Power Supply | Rechargeable battery Pack; Battery fully charged within 4 hours | | |
| Typical Battery Life | Battery life is dependant upon selected voltage and load applied; 12" (DN305) Rolling Spring: 30 hours at 10kV; 12 hours at 35kV 40" (DN1016) Rolling Spring: 22 hours at 10kV; 8 hours at 35kV | | |
| Instrument Case Dimensions | PC ABS case; (l x w x h): 603 x 219 x 193mm (23.7 x 8.6 x 7.6") | | |
| Weight (no probes attached) | 3.0kg (6.6lb) - including battery pack | | |
| Packing List | Elcometer 280 Pulsed DC Holiday Detector Gauge (Model S or T), 5m (16') trailing signal return lead, battery pack, battery charger with UK, EUR, US and AUS plugs, shoulder strap and operating instructions Elcometer 280 Pulsed DC Holiday Detector Inspection Kit Gauge (Model S or T), 5m (16') trailing signal return lead, battery pack (2 supplied with Model T), battery charger with UK, EUR, US and AUS plugs, stainless steel rolling spring holder (supplied with Model T only), 250mm (9.8") probe extension shaft, shoulder strap and operating instructions - packed in a light weight, rugged, wheeled transit case - ideal for transportation | | |

Accessories

Light weight, rugged, wheeled transit case - ideal for gauge transportation, with additional space to house up to 20m (66') of phosphor bronze or 6m (30') of stainless steel rolling spring T28022769

Grounding mats are ideal for testing on ungrounded pipes. The conductive rubber mat is wrapped around the coated pipe and connected to both the grounding pin (supplied separately) and the signal return lead.

750mm (29.5") long - for pipe diameters up to 9" (NPS)/ 229mm (DN) T28022637-1

1500mm (59") long - for pipe diameters up to 18" (NPS)/ 457mm (DN) T28022637-2

2500mm (98.5") long - for pipe diameters up to 30" (NPS)/ 762mm (DN) T28022637-3

3500mm (137.5") long - for pipe diameters up to 42" (NPS)/ 1067mm (DN) T28022637-4

Grounding pin; 60cm (23.5") long x 0.2cm (0.75") diameter T28022748

Trailing signal return lead, 5m (16') T28022622

10m (32') earth lead, clips each end (for use with the grounding mat) T28022749

10m (32') earth lead, clip / Elcometer 280 connector (for use with the grounding mat) T28022750

For a full range of rolling springs, rubber or wire brush probes and other accessories see page 14



○ Optional Calibration Certificate available.

Elcometer 266

Holiday Detector

STANDARDS:
ANSI/AWWA C213, AS 3894.1,
ASTM C 536, ASTM C 537,
ASTM D 4787, ASTM D 5162-B,
ASTM G 62-B, BS1344-11,
DIN 55670, EN 14430, ISO 2746,
ISO 29601, JIS K 6766,
NACE RP0274, NACE RP0188,
NACE RP0190, NACE RP0490,
NACE SP0188, NACE SP0490

The Elcometer 266 revolutionises High Voltage DC testing of coatings porosity detection making it safer, easier and more reliable than ever before.

A wide range of probe brushes and rolling springs available

Voltage calculator automatically sets the correct voltage from your coating thickness value

Adjustable Voltage:
0.5kV - 1kV in 50V steps
1kV to 30kV in 100V steps



The Elcometer 266 is a high-voltage DC testing device. It consists of a main orange rectangular unit with a digital display and control buttons. A coiled grey cable connects the unit to a probe handle. The handle is orange and black, featuring a yellow warning label and a dual safety switch. The probe tip is equipped with a white brush or spring mechanism.

To change maximum voltage range, select a different handle; 5kV, 15kV or 30kV DC or 30kV DC continuous

Visual and audible alarms, Bright LEDs on the handle, as well as a loud buzzer, clearly indicate when a holiday is detected

Internal Voltmeter/Jeep tester ensures that the test voltage equals the selected voltage

Dual safety switch on handle to avoid accidental switch on (Grey/orange probe handles only)

2YEAR*
WARRANTY



For a full range of rolling springs, rubber or wire brush probes and other accessories see page 14

Key Features

Elcometer 266

**Interchangeable DC probe handles****

| Part Number | Description |
|-------------|--------------------|
| T26620033-1 | DC5 (0.5 - 5kV) |
| T26620033-2 | DC15 (0.5 - 15kV) |
| T26620033-3 | DC30 (0.5 - 30kV) |
| T26620033-4 | DC30S (0.5 - 30kV) |

**Integrated voltage calculator**

Enter the test standard & the coating thickness then the gauge will automatically programme the correct voltage

**Testing has never been safer**

Ribbing provides additional user protection - specifically designed to meet EN 61010

**Second hand grip is available**

Ideal for testing pipes and tank floors with 2 hands - without compromising safety

| Part Number | Description |
|-------------|------------------|
| T26620081 | Second Hand Grip |

**Removeable, quick charge batteries**

Fully charge the battery pack in 4 hours, within the gauge or separately, for up to 40 hours of continuous testing

**Universal probe adaptors**

Enables the Elcometer 266 to work with all major holiday detector's accessories. For the complete range of adaptors see page 14

Technical Specification

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| Description | Part Number [†] | Certificate |
|---|--|-------------|
| Elcometer 266* | D266----4 | ○ |
| High Voltage Output Accuracy | ±5% or ±50V below 1000 Volts | |
| Operating Temperature | 0°C to 50°C (32°F to 120°F) | |
| Power Supply | Rechargeable battery Pack; battery fully charged within 4 hours | |
| Measured Current Flow Accuracy | ±5% of full scale ; 0 - 100µA maximum Output Current | |
| Typical Battery Life - Backlight Off (On) | DC5: 40 (20) hours DC15: 20 (15) hours DC30: 10 (8) hours | |
| Instrument Case Dimensions | Waterproof, ABS case; 520 x 370 x 125mm (20.5 x 14.5 x 5") | |
| Weight | Base unit (including battery pack): 1.2kg (2.7lb) Handle: 0.6kg (1.3lb) | |
| Packing List | Elcometer 266 DC Holiday Detector, battery pack, curly connection cable for high voltage handle, 10m (32') signal return lead, battery charger with UK, EUR, US and AUS plugs, band brush, shoulder strap, tough plastic carry case and operating instructions | |

Probe Handles

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| Part Number | Description | Voltage Range | Certificate |
|--------------|--|--------------------|-------------|
| T26620033-1 | Elcometer 266 Probe Handle Voltage*** | DC5 (0.5 - 5kV) | ○ |
| T26620033-1C | Elcometer 266 Probe Handle Certified*** | DC5 (0.5 - 5kV) | |
| T26620033-2 | Elcometer 266 Probe Handle Voltage*** | DC15 (0.5 - 15kV) | ○ |
| T26620033-2C | Elcometer 266 Probe Handle Certified*** | DC15 (0.5 - 15kV) | |
| T26620033-3 | Elcometer 266 Probe Handle Voltage*** | DC30 (0.5 - 30kV) | ○ |
| T26620033-3C | Elcometer 266 Probe Handle Certified*** | DC30 (0.5 - 30kV) | |
| T26620033-4 | Elcometer 266 Probe Handle Voltage*** (Continuous Voltage) | DC30S (0.5 - 30kV) | ○ |
| T26620033-4C | Elcometer 266 Probe Handle Certified*** (Continuous Voltage) | DC30S (0.5 - 30kV) | |
| T26620081 | Second Hand Grip | | |

* The Elcometer 266 does not include the probe handle; please select the required handle from the list above.

* The Elcometer 266 main instrument is supplied with a one year warranty against manufacturing defects. The warranty can be extended to two years via www.elcometer.com

** Probe handles are supplied with a one warranty against manufacturing defects.

○ Optional Calibration Certificate available.

Elcometer 236

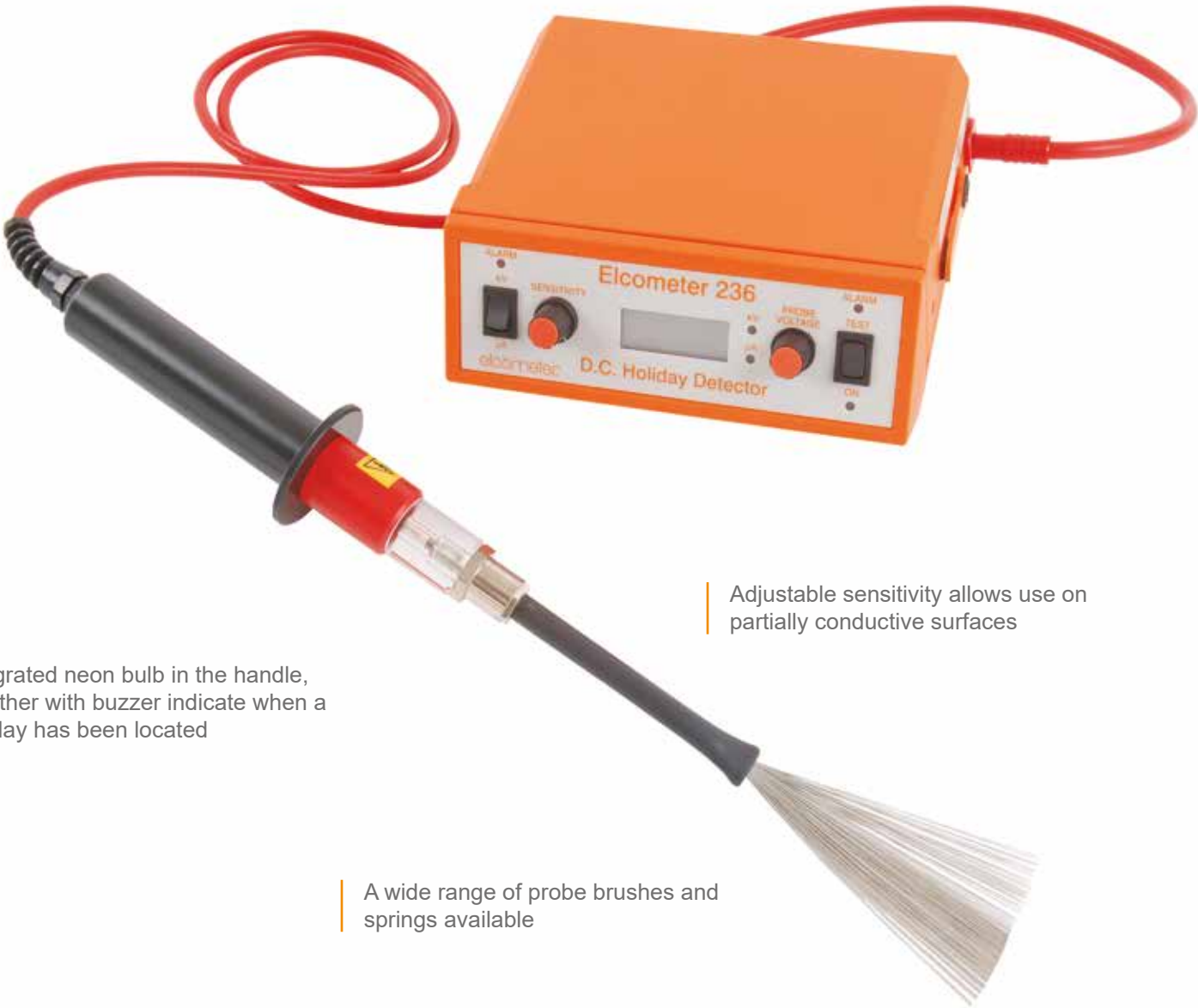
Holiday Detector

STANDARDS:
ANSI/AWWA C213, AS 3894.1,
ASTM C 536, ASTM C 537,
ASTM D 4787, ASTM D 5162-B,
ASTM G 62-B, BS1344-11,
DIN 55670, EN 14430, ISO 2746,
ISO 29601, JIS K 6766,
NACE RP0274, NACE RP0188,
NACE RP0190, NACE RP0490,
NACE SP0188, NACE SP0490

The Elcometer 236 Holiday Detector provides high voltage porosity testing to detect pits, flaws, holes, etc. in a wide variety of non-metallic coatings.

Standard and telescopic handles available for hard to reach areas

Available in 2 versions; 15 and 30kV;
fully adjustable in 100 Volt steps



Adjustable sensitivity allows use on partially conductive surfaces

Integrated neon bulb in the handle, together with buzzer indicate when a holiday has been located

A wide range of probe brushes and springs available

Holiday Detector

Elcometer 236

The Elcometer 236 provides the user with complete control of voltage and sensitivity settings and is available in 2 versions, 15kV and 30kV.

Each unit is supplied in a convenient carry case which also holds the probe handle and an additional (optional) external re-chargeable battery pack which doubles the testing time available.

Due to its unique design, the probe handle can be replaced with a telescopic probe handle - extending the measurement reach up to almost 4m (13'), ideal for testing on large/high structures.



Technical Specification

C

| | Elcometer 236 15kV | Elcometer 236 30kV | Certificate |
|------------------------------|--|--------------------------|-------------|
| Part Number | D236--15KV | D236--30KV | ○ |
| Part Number with Certificate | D236--15KVC | D236--30KVC | ● |
| Voltage Output | 0.5 - 15kV in 100V steps | 0.5 - 30kV in 100V steps | |
| Display Resolution | 0.01kV | 0.1kV | |
| Approximate Thickness Range | 0 - 3.75mm (0 - 150mils) | 0 - 7.5mm (0 - 300mils) | |
| Alarms | Audible & Visual | | |
| Power Supply | 12V internal rechargeable battery | | |
| Battery Life (approximate) | 10/12 hours continuous use, 20/24 hours with the optional external battery pack | | |
| Dimensions | 200 x 170 x 70mm (6 x 7 x 3") | | |
| Weight | 2.8kg (6lb 3oz) | | |
| Packing List | Elcometer 236, probe handle and lead, band brush probe, 2m (79") & 10m (394") signal return/earth leads, battery charger with 3 mains cables (UK, EUR and US), carry case, transit case and operating instructions | | |

Accessories

| | |
|-------------|---|
| T23622790-1 | Telescopic probe handle, 600 - 1200mm (24 - 47") |
| T23622790-2 | Telescopic probe handle, 1800 - 3600mm (71 - 142") |
| T236139031 | 2m (6.5') earth signal return lead |
| T236139032 | 10m (32') earth signal return lead |
| T23615550 | External battery pack (doubles operational use between charges) |



For a full range of rolling springs, rubber or wire brush probes and other accessories see page 14




○ Optional Calibration Certificate available.

Elcometer 236, 266 & 280 High Voltage Holiday Detector Accessories


Batteries, Chargers & Earth Signal Return Leads

| | Part Number | Description | Compatible with | | |
|---|-------------|--|-----------------|---------------|---------------|
| | | | Elcometer 236 | Elcometer 266 | Elcometer 280 |
|  | T23615550 | External rechargeable battery pack | ■ | | |
| | T23613907 | Battery charger & mains lead (UK 240V) | ■ | | |
| | T23613908 | Battery charger & mains lead (EU 220V) | ■ | | |
| | T23613909 | Battery charger & mains lead (US 110V) | ■ | | |
| | T99923482 | Rechargeable battery pack | | ■ | ■ |
| | T99919999 | Battery Charger with UK, EUR, US and AUS plugs | | ■ | ■ |
|  | T236139031 | Earth signal return lead, 2m (6.5') | ■ | | |
| | T236139032 | Earth signal return lead, 10m (32') | ■ | | |
| | T99916954 | Earth signal return lead, 4m (13') | | ■ | |
| | T99916996 | Earth signal return lead, 10m (32') | | ■ | |
| | T28022750 | 10m (32') earth lead, clip / Elcometer 280 connector | | | ■ |
| | T28022622 | Trailing signal return lead, 5m (16') | | | ■ |


Telescopic Probes, Probe Extension Rods

| | | | | | |
|--|-------------|--|---|---|---|
|  | T23622790-1 | Telescopic probe handle, 0.6 - 1.20m (24 - 47") | □ | | |
| | T23622790-2 | Telescopic probe handle, 1.8 - 3.60m (71 - 142") | □ | | |
| | T99919988-3 | Probe extension rod, 250mm (9.8") | □ | ■ | ■ |
| | T99919988-1 | Probe extension rod, 500mm (20") | □ | ■ | ■ |
| | T99919988-2 | Probe extension rod, 1000mm (39") | □ | ■ | ■ |

Accessory Adaptors Allows other manufacturer's accessories to fit Elcometer models

| | | | | | |
|--|-----------|---|---|---|---|
|  | T99920084 | Adaptor for models: AP, APS, AP/S1, AP/S2, AP/W, 10/20, 14/20, 10, 20 & 20S | □ | ■ | ■ |
| | T99920083 | Adaptor for models: P20, P40, P60, 780, 785 & 790 | □ | ■ | ■ |
| | T99920252 | Adaptor for models: PHD 1-20 & PHD 2-40 | □ | ■ | ■ |
| | T99922747 | Adaptor for models: 4S, 4.0, 8.0, 35 | □ | ■ | ■ |
| | T99920082 | Adaptor for current range to fit old accessories | ■ | ■ | ■ |
| | T99922768 | Adaptor for Elcometer 136 and older 236 models | ■ | | |

Band brush probes



| | | | | | |
|--|-----------|-----------------------------|---|---|---|
|  | T99919975 | Band brush probe | □ | ■ | ■ |
| | T99922751 | Phosphor bronze brush probe | □ | ■ | ■ |

□ Older Elcometer 236 models may require adaptor piece T99922768

High Voltage Holiday Detector Accessories

Elcometer 236, 266 & 280

Wire Brush Probes, flat brush, internal and external pipe brush probes

| Part Number | | Description | | | Compatible with | | |
|--|----------------------------|---|----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | Elcometer 236 | Elcometer 266 | Elcometer 280 |
|  | | | Width | | | | |
| | T99920022-1 | Right angled wire brush probe | 0.25m | 9.8" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920022-2 | Right angled wire brush probe | 0.50m | 19.7" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920022-3 | Right angled wire brush probe | 1.00m | 39" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99926621 | Spare wire brush electrode | 0.25m | 9.8" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99926622 | Spare wire brush electrode | 0.50m | 19.7" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| T99926623 | Spare wire brush electrode | 1.00m | 39" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
|  | | | Diameter | | | | |
| | T99920071-1 | Internal circular wire pipe brush probe | 38mm | 1.5" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-2 | Internal circular wire pipe brush probe | 51mm | 2.0" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-3 | Internal circular wire pipe brush probe | 64mm | 2.5" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-4 | Internal circular wire pipe brush probe | 76mm | 3.0" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-5 | Internal circular wire pipe brush probe | 89mm | 3.5" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-6 | Internal circular wire pipe brush probe | 102mm | 4.0" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-7 | Internal circular wire pipe brush probe | 114mm | 4.5" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-8 | Internal circular wire pipe brush probe | 127mm | 5.0" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-9 | Internal circular wire pipe brush probe | 152mm | 6.0" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-10 | Internal circular wire pipe brush probe | 203mm | 8.0" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-11 | Internal circular wire pipe brush probe | 254mm | 10" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-12 | Internal circular wire pipe brush probe | 305mm | 12" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-13 | Internal circular wire pipe brush probe | 356mm | 14" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-14 | Internal circular wire pipe brush probe | 406mm | 16" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-15 | Internal circular wire pipe brush probe | 508mm | 20" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T99920071-16 | Internal circular wire pipe brush probe | 610mm | 24" | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993766- | Spare circular wire brush electrode | 38mm | 1.5" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993767- | Spare circular wire brush electrode | 51mm | 2.0" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993768- | Spare circular wire brush electrode | 64mm | 2.5" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993769- | Spare circular wire brush electrode | 76mm | 3.0" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993770- | Spare circular wire brush electrode | 89mm | 3.5" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993771- | Spare circular wire brush electrode | 102mm | 4.0" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993772- | Spare circular wire brush electrode | 114mm | 4.5" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993773- | Spare circular wire brush electrode | 127mm | 5.0" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993774- | Spare circular wire brush electrode | 152mm | 6.0" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993775- | Spare circular wire brush electrode | 203mm | 8.0" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993776- | Spare circular wire brush electrode | 254mm | 10" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993777- | Spare circular wire brush electrode | 305mm | 12" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993778- | Spare circular wire brush electrode | 356mm | 14" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993779- | Spare circular wire brush electrode | 406mm | 16" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993780- | Spare circular wire brush electrode | 508mm | 20" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | T9993781- | Spare circular wire brush electrode | 610mm | 24" | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

□ Older Elcometer 236 models may require adaptor piece T99922768

Elcometer 236, 266 & 280 High Voltage Holiday Detector Accessories

Wire Brush Probes, band brush, flat brush, internal and external pipe brush probes



| Part Number | Description | Compatible with | | |
|-------------|---|-----------------|---------------|---------------|
| | | Elcometer 236 | Elcometer 266 | Elcometer 280 |
| T99922752 | 'C-type' wire brush holder† (order C-type brush from the list below) | □ | ■ | ■ |
| T99922907 | 'C-type' wire brush support handle* | □ | ■ | ■ |



| | | Outside Diameter (OD) | | | | |
|--------------|------------------------------|-----------------------|----------|---|---|---|
| | | DN | NPS | | | |
| T99922745-1 | External 'C-type' wire brush | 150 - 250mm | 6 - 9" | ■ | ■ | ■ |
| T99922745-2 | External 'C-type' wire brush | 250 - 350mm | 9 - 12" | ■ | ■ | ■ |
| T99922745-3 | External 'C-type' wire brush | 350 - 450mm | 12 - 16" | ■ | ■ | ■ |
| T99922745-4 | External 'C-type' wire brush | 450 - 550mm | 16 - 20" | ■ | ■ | ■ |
| T99922745-5 | External 'C-type' wire brush | 550 - 650mm | 20 - 24" | ■ | ■ | ■ |
| T99922745-6 | External 'C-type' wire brush | 650 - 750mm | 24 - 28" | ■ | ■ | ■ |
| T99922745-7 | External 'C-type' wire brush | 750 - 850mm | 28 - 32" | ■ | ■ | ■ |
| T99922745-8 | External 'C-type' wire brush | 850 - 950mm | 32 - 36" | ■ | ■ | ■ |
| T99922745-9 | External 'C-type' wire brush | 950 - 1050mm | 36 - 40" | ■ | ■ | ■ |
| T99922745-10 | External 'C-type' wire brush | 1050 - 1150mm | 40 - 44" | ■ | ■ | ■ |

† Wire brush holder supplied separately (T99922752)

* Wire brush support handle ideal for two handed use or second person for large diameters

Conductive Rubber Probes



| | | Width | | | | |
|--------------|---------------------------|--------|-------|---|---|---|
| T99920022-11 | Right angled rubber probe | 250mm | 9.8" | □ | ■ | ■ |
| T99920022-12 | Right angled rubber probe | 500mm | 19.7" | □ | ■ | ■ |
| T99920022-13 | Right angled rubber probe | 1000mm | 39" | □ | ■ | ■ |
| T99920022-14 | Right angled rubber probe | 1400mm | 55" | □ | ■ | ■ |
| T99926731 | Spare rubber electrode | 250mm | 9.8" | ■ | ■ | ■ |
| T99926732 | Spare rubber electrode | 500mm | 19.7" | ■ | ■ | ■ |
| T99926733 | Spare rubber electrode | 1000mm | 39" | ■ | ■ | ■ |
| T99926734 | Spare rubber electrode | 1400mm | 55" | ■ | ■ | ■ |

Rolling Springs Holders

| | | | | |
|-----------|--|---|---|---|
| T99920086 | Phosphor bronze rolling spring holder Order the relevant phosphor bronze spring(s) from the list on page 17 | □ | ■ | ■ |
| T99922746 | Stainless steel rolling spring holder Order the relevant stainless steel spring(s) from the list on page 17 | □ | ■ | ■ |

□ Older Elcometer 236 models may require adaptor piece T99922768

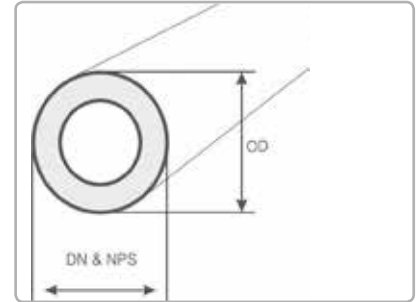
High Voltage Holiday Detector Accessories

Elcometer 236, 266 & 280

Rolling Springs Available in phosphor bronze or stainless steel

Each spring is supplied with an easy-release coupling piece, allowing users to quickly connect and disconnect the rolling spring from stanchions, pillars, etc.

Please note that rolling springs are not supplied with a spring holder. Please order the appropriate rolling spring holder separately.



Rolling springs are available in 2 versions, phosphor bronze round spring and 304 stainless steel box section spring. The 19mm (0.75") diameter phosphor bronze springs are almost 3 times lighter than the 34mm (1.33") diameter stainless steel springs.

Rolling Spring Dimensions

| | | Nominal Pipe Size | | Pipe Outside Diameter (OD) | | | |
|-----------------|-----------------|-------------------|----------|----------------------------|--------|------------|--------|
| Part Number | | DN | NPS | millimeters (mm) | | inches (") | |
| | | (mm) | (inches) | min OD | max OD | min OD | max OD |
| Phosphor Bronze | Stainless Steel | | | | | | |
| T99920438-15A | - | 40 | 1.5 | 48 | 54 | 1.9 | 2.1 |
| T99920438-15B | - | | | 54 | 60 | 2.1 | 2.4 |
| T99920438-20A | - | 50 | 2.0 | 60 | 66 | 2.4 | 2.6 |
| T99920438-20B | - | | | 66 | 73 | 2.6 | 2.9 |
| T99920438-25A | T99922744-25A | 65 | 2.5 | 73 | 80 | 2.9 | 3.1 |
| T99920438-25B | T99922744-25B | | | 80 | 88 | 3.1 | 3.5 |
| T99920438-30A | T99922744-30A | 80 | 3.0 | 88 | 95 | 3.5 | 3.7 |
| T99920438-30B | T99922744-30B | | | 95 | 100 | 3.7 | 3.9 |
| T99920438-35A | T99922744-35A | 90 | 3.5 | 100 | 108 | 3.9 | 4.3 |
| T99920438-35B | T99922744-35B | | | 108 | 114 | 4.3 | 4.5 |
| T99920438-40A | T99922744-40A | 100 | 4.0 | 114 | 125 | 4.5 | 4.9 |
| T99920438-45A | T99922744-45A | 114 | 4.5 | 125 | 136 | 4.9 | 5.4 |
| T99920438-45B | T99922744-45B | | | 136 | 141 | 5.4 | 5.6 |
| T99920438-50A | T99922744-50A | 125 | 5.0 | 141 | 155 | 5.6 | 6.1 |
| T99920438-50B | T99922744-50B | | | 155 | 168 | 6.1 | 6.6 |
| T99920438-60A | T99922744-60A | 152 | 6.0 | 168 | 180 | 6.6 | 7.1 |
| T99920438-60B | T99922744-60B | | | 180 | 193 | 7.1 | 7.6 |
| T99920438-70A | T99922744-70A | 178 | 7.0 | 193 | 213 | 7.6 | 8.4 |
| T99920438-70B | T99922744-70B | | | 213 | 219 | 8.4 | 8.6 |
| T99920438-80A | T99922744-80A | 203 | 8.0 | 219 | 240 | 8.6 | 9.4 |
| T99920438-90A | T99922744-90A | 229 | 9.0 | 240 | 264 | 9.4 | 10.4 |
| T99920438-100A | T99922744-100A | 254 | 10.0 | 264 | 290 | 10.4 | 11.4 |
| T99920438-110A | T99922744-110A | 279 | 11.0 | 290 | 320 | 11.4 | 12.6 |
| T99920438-120A | T99922744-120A | 305 | 12.0 | 320 | 350 | 12.6 | 13.8 |
| T99920438-140A | T99922744-140A | 356 | 14.0 | 350 | 375 | 13.8 | 14.8 |
| T99920438-140B | T99922744-140B | | | 375 | 400 | 14.8 | 15.7 |

□ Older Elcometer 236 models may require adaptor piece T99922768

Pinhole & Porosity

Elcometer 236, 266 & 280 High Voltage Holiday Detector Accessories

Rolling Springs Available in phosphor bronze or stainless steel



Rolling springs are available in 2 versions, phosphor bronze round spring and 304 stainless steel box section spring. The 19mm (0.75") diameter phosphor bronze springs are almost 3 times lighter than the 34mm (1.33") diameter stainless steel springs.

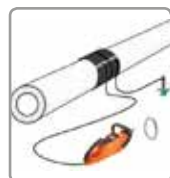
Rolling Spring Dimensions

| | | Nominal Pipe Size | | Pipe Outside Diameter (OD) | | | |
|-----------------|-----------------|-------------------|----------|----------------------------|--------|------------|--------|
| Part Number | | DN | NPS | millimeters (mm) | | inches (") | |
| Phosphor Bronze | Stainless Steel | (mm) | (inches) | min OD | max OD | min OD | max OD |
| T99920438-160A | T99922744-160A | 406 | 16.0 | 400 | 435 | 15.7 | 17.1 |
| T99920438-160B | T99922744-160B | | | 435 | 450 | 17.1 | 17.7 |
| T99920438-180A | T99922744-180A | 457 | 18.0 | 450 | 500 | 17.7 | 19.7 |
| T99920438-200A | T99922744-200A | 508 | 20.0 | 500 | 550 | 19.7 | 21.7 |
| T99920438-220A | T99922744-220A | 559 | 22.0 | 550 | 600 | 21.7 | 23.6 |
| T99920438-240A | T99922744-240A | 610 | 24.0 | 600 | 650 | 23.6 | 25.6 |
| T99920438-260A | T99922744-260A | 660 | 26.0 | 650 | 700 | 25.6 | 27.6 |
| T99920438-280A | T99922744-280A | 711 | 28.0 | 700 | 750 | 27.6 | 29.5 |
| T99920438-300A | T99922744-300A | 762 | 30.0 | 750 | 810 | 29.5 | 31.9 |
| T99920438-320A | T99922744-320A | 813 | 32.0 | 810 | 860 | 31.9 | 33.9 |
| T99920438-340A | T99922744-340A | 864 | 34.0 | 860 | 910 | 33.9 | 35.8 |
| T99920438-360A | T99922744-360A | 914 | 36.0 | 910 | 960 | 35.8 | 37.8 |
| T99920438-380A | T99922744-380A | 965 | 38.0 | 960 | 1010 | 37.8 | 39.8 |
| T99920438-400A | T99922744-400A | 1016 | 40.0 | 1010 | 1060 | 39.8 | 41.7 |
| T99920438-420A | T99922744-420A | 1067 | 42.0 | 1060 | 1110 | 41.7 | 43.7 |
| T99920438-440A | T99922744-440A | 1118 | 44.0 | 1110 | 1160 | 43.7 | 45.7 |
| T99920438-460A | T99922744-460A | 1168 | 46.0 | 1160 | 1210 | 45.7 | 47.6 |
| T99920438-480A | T99922744-480A | 1219 | 48.0 | 1210 | 1270 | 47.6 | 50.0 |
| T99920438-500A | T99922744-500A | 1270 | 50.0 | 1270 | 1320 | 50.0 | 52.0 |
| T99920438-520A | T99922744-520A | 1321 | 52.0 | 1320 | 1370 | 52.0 | 53.9 |
| T99920438-540A | T99922744-540A | 1372 | 54.0 | 1370 | 1425 | 53.9 | 56.1 |

Other sizes are available upon request. Please contact your nearest distributor for more information.

Grounding Mats

Grounding mats are ideal for testing on ungrounded pipes. The conductive rubber mat is wrapped around the coated pipe and connected to both the grounding pin (supplied separately) and the signal return lead.



| Part Number | Description | Outside Diameter (OD) | | Compatible with | | |
|-------------|--|-----------------------|-----------|-----------------|---------------|---------------|
| | | DN | NPS | Elcometer 236 | Elcometer 266 | Elcometer 280 |
| T28022637-1 | Grounding Mat | up to 229mm | up to 9" | | | ■ |
| T28022637-2 | Grounding Mat | up to 457mm | up to 18" | | | ■ |
| T28022637-3 | Grounding Mat | up to 762mm | up to 30" | | | ■ |
| T28022637-4 | Grounding Mat | up to 1067mm | up to 42" | | | ■ |
| T28022748 | Grounding pin; 60cm (23.5") long | | | | | ■ |
| T28022749 | 10m (32') earth lead, clips each end | | | | | ■ |
| T28022750 | 10m (32') earth lead, clip / Elcometer 280 connector | | | | | ■ |

□ Older Elcometer 236 models may require adaptor piece T99922768

UV Pinhole Flashlight

Elcometer 260

The Elcometer 260 UV Pinhole Flashlight is battery powered and housed in a rugged aluminium case providing a quick, low cost method of testing coatings for pinholes.

Featuring a three-Watt purple light emitting diode, the Elcometer 260 UV flashlight has a beam wavelength of 405nm (± 5 nm), which the human eye perceives as a purple light.

Designed with a specialised diffuser lens that emits a smooth beam image (with no streaks, hot spots or dark spots) and used with National Surface Treatment Centre approved safety glasses for improved contrast, the Elcometer 260 UV flashlight provides optimum integrity and reliability of the visual inspection.

The Elcometer 260 UV flashlight can detect pinholes from both the base and top coats. A UV reflective additive is applied to the base coat. When inspecting the fluorescent base coat look for black spots or grey areas that indicate pinholes. When inspecting the non-fluorescent top coat, look for glowing spots that indicate pinholes in the top coat (shining through from the base coat).

- Low cost and easy to use: Use UV reflecting base coat and shine the purple light onto the surface. Any fluorescence identifies pinholes
- Rugged: Manufactured from aluminium alloy and O'ring sealed to protect it from moisture and dust
- Portable and secure: Battery powered and features a recessed click-on/push off button to prevent accidental activation during transport or storage.



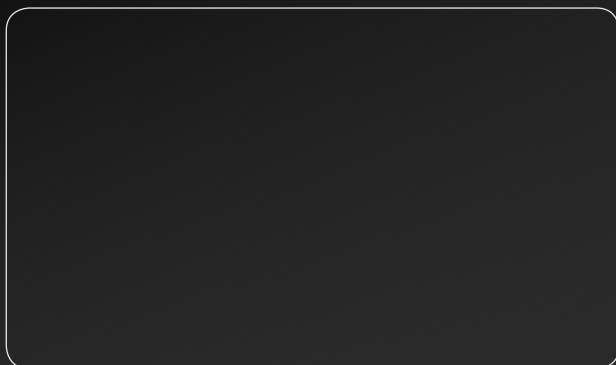
STANDARDS:
ASTM E2501

Technical Specification

| | |
|-------------------|--|
| Part Number | D260----2 |
| Lens Type | Dual element diffuser |
| Power Output | 3 Watt |
| Beam Wavelength | 405nm ± 5 nm |
| Flashlight Casing | Hard anodised aluminium |
| Battery Type | 2 x CR123A batteries |
| Battery Life | 6 hours (continuous use) |
| Dimensions | 150 x 35mm (6 x 1.4") |
| Weight | 173g (6.1oz) |
| Packing List | Elcometer 260 UV Pinhole Flashlight, UV protective glasses, nylon belt holster, 2 x CR123A batteries, operating instructions |

Accessories

| | |
|-----------|--------------------------------|
| T26020140 | UV Protective Glasses |
| T26020141 | 2 x Replacement 123A batteries |



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