



concrete
inspection
equipment

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Any contractor engaged on maintenance work will be familiar with the problem of accurately locating the exact position of rebars, wall ties, studs and other metal fasteners in structures.

Our range of rebar, wall tie and stud locators have been specifically designed to locate these below surface metal objects quickly and accurately. These low cost gauges all have a built in speaker, giving a loud audible signal when the exact location has been found. They are unaffected by moisture, temperature changes and electrical interference.

Manufactured from high impact ABS plastic to ensure durability and reliability in the harshest of on-site environments.

Elcometer P100 Rebar Locator



Entry level rebar locator used to accurately identify location & orientation of rebars & pipes.

Fast & accurate - gives a loud audible signal when the exact location of the rebar is found.

Elcometer P120 Rebar Locator

Directional detection search head field to distinguish between horizontal and vertical rebars.

Will identify the exact rebar location & will also give an indication of the depth cover.



Elcometer P130 Wall Tie & Stud Locator



Simple, highly accurate gauge for rapidly determining the precise location of mild or stainless steel wall ties & metal studs.

Robust, simple to operate with a built-in loud speaker for clear audio output when item located.

Elcometer P150 Rebar & Wall Tie Locator

Single handed operation for safety and convenience when working on scaffold or ladders.

Dual purpose kits are available for locating phosphor-bronze & some types of stainless steel wall ties & rebar



Using the rebar locators

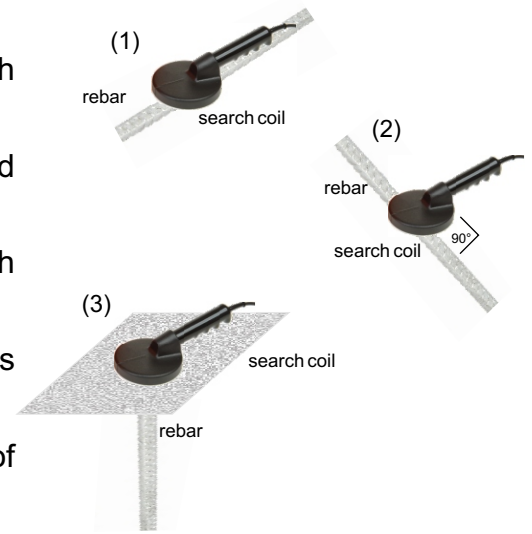
After locating the steel reinforcement bar, it is easy to distinguish which way the rebar is pointing and whether it is vertical or horizontal.

Rotating the rebar's search coil (probe) until the minimum and maximum signals are found will indicate direction.

A maximum signal indicates the bar is running parallel to the search coil's handle (1).

A minimum signal indicates the bar is running at 90° to the search coil's handle (2).

If you can only obtain the minimum signal regardless of the rotation of the search coil, the rebar is vertical to the search head (3).



Detection ranges

Elcometer P100 / P150				Elcometer P120					
Rebar diameter		Detection depth		Rebar diameter		Detection depth		Depth of parallel bars	
mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
8	0.32	90	3.5	8	0.32	120	4.72	60mm pitch: >35mm	2.36" pitch: >1.37"
16	0.63	100	3.9	16	0.63	140	5.50	75mm pitch: >50mm	2.95" pitch: >1.97"
32	1.25	110	4.3	32	1.25	160	6.30	150mm pitch: >85mm	5.90" pitch: >3.35"

Model	Description	Part Number
Elcometer P100	Elcometer P100 Rebar locator	W100157A9D
Accessories	100mm / 4" Directional search coil for rebar	TW999198F
	200mm / 8" Hi-depth locator search coil - short handle (250mm/9.84")	TW999198G
	200mm / 8" Hi-depth locator search coil - long handle (650mm / 25.6")	TW999198H
Elcometer P120/1	Elcometer P120 Rebar locator - metric	W120155I
Elcometer P120/2	Elcometer P120 Rebar locator - imperial	W120155J
Accessories	Probe lead for Elcometer P120	TW999165G
	100mm / 4" Directional search coil for Elcometer P120	TW999198F
	150mm / 6" Extra-depth search coil for Elcometer P120	TW999198E
Elcometer P130/D	Elcometer P130 Wall tie locator - mild steel complete with 100mm / 4" locator search coil, leather carry case and plastic carry case.	W130157B9D
Elcometer P130/E	Elcometer P130 Wall tie locator - mild & stainless steel, complete with 100mm / 4" locator search coil, 150mm / 6" stainless steel search coil, leather case and plastic carry case.	W130157C9E
Elcometer P150	Elcometer P150 Rebar locator, mild & stainless steel wall-tie locator, complete with 100mm / 4" search coil, 100mm / 4" directional search coil, leather case & plastic carry case.	W150157E9E
Accessories	100mm / 4" locator search coil	TW999198D
	100mm / 4" directional search coil (model E versions only)	TW999198F
	150mm / 6" stainless steel search coil (model E versions only)	TW999198E

What is a **covermeter**?



A Covermeter, or rebar locator, is a gauge that measures the thickness of concrete cover over steel reinforcement bars and metal pipes.

The covermeter can tell you the depth of the concrete, the location and orientation of reinforcement bar (rebar) or metal pipe and can even determine the diameter of the rebar.

The Elcometer 331 covermeters are able to accurately determine where the metal is, even when there are complicated crossings of mesh support structures and can locate tendon ducts deep within the structure.

This takes the guesswork out of rebar and pipe location as a drill making contact with a rebar or tendon duct can not only destroy the drill bit, but can also cause serious structural damage.

What is a **half cell** gauge?



A Half Cell gauge measures the condition and potential corrosion of rebars and steel structures in concrete.

When corrosion occurs the ferric oxide protective layer surrounding the rebar breaks down allowing an electrochemical reaction between the steel and the concrete.

In the half cell test, the reference electrode is passed over the surface of the concrete and the potential voltage difference is recorded. The readings show where corrosion is likely to be or is currently present.

Periodic monitoring of the condition of the rebars and metal supporting structures in buildings, bridges etc. identifies signs and severity of corrosion - long before there are any physical indications of damage. Thus enabling more accurate forecast of projected lifetime.

When the covermeter readings are combined with half cell readings, the user has a powerful surveying tool. This can be easily achieved using the Elcometer Covermaster® software.

The Elcometer 331 range has been specifically designed to meet all of your inspection needs. The Elcometer 331 accurately measures concrete cover thickness over steel and stainless steel reinforcement - precisely, rapidly and easily locating rebars and their direction.

With the ability to measure and record half cell data to establish potential corrosion of rebars, this 'all-in-one' gauge is perfect for your surveying needs.

Accurately locate and measure both high tensile steel and stainless steel rebar.

Rugged, waterproof IP65 case is protected against the elements and is tough enough to work in harsh environments.

Rebar locator, covermeter & Half Cell measurement all available in one easy to use gauge.

Probe storage for easy portability.



Noisy environment? The headphone socket is there so you can always hear your gauge.

Graphic plotting allows an immediate, easy to read indication of results.

Ergonomically shaped case has a gentle curve to fit snugly against your hip.

Range of fully interchangeable search heads including standard, narrow pitch, deep cover, borehole probe and half cell.

covermeters & half cell

elcometer®



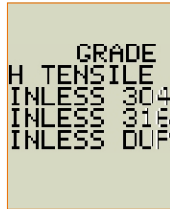
The range of search heads are fully interchangeable by the user and do not require a return to the factory for recalibration. These include standard, narrow pitch, deep cover, borehole probe, half cell and for the model THD, stainless steel heads.

Memory and data logging with data output to PC or direct to printer .



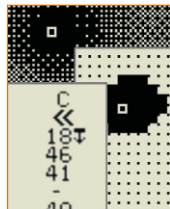
Rebar locator, concrete covermeter and half cell measurement all available in a single gauge - saving money and making site visits quicker and more convenient.

Intuitive menus in multiple languages allow you to start using the gauge as soon as you receive it.



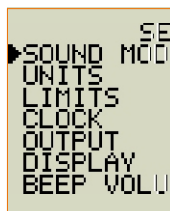
Locate and measure high tensile and stainless steel rebar. Stainless steel rebars are becoming more widely used due to their higher resistance to corrosion. The Elcometer 331 THD is the only gauge on the market today which can do this.

Backlit screen for easy viewing in dark environments - designed to be as tough as the gauge.



Graphic plot on the gauge allows you to visually identify where low cover or potential corrosion areas are. When used in threshold view a pass/fail analysis is clear to see. Up to 240,000 readings on selected models can be stored on the gauge for detailed reporting.

Battery packs can be recharged inside or outside the gauge, enabling use for as long as is required.

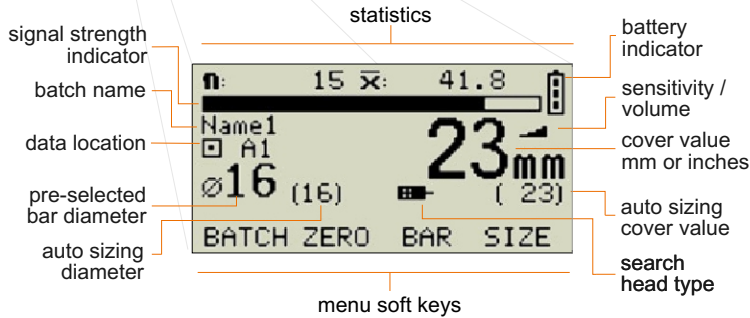


Intuitive menus enable each gauge to be used straight from the box. The automatic search head recognition, clear backlit screens and simple menu structures make this one of the most advanced, yet easiest to use gauges available today.

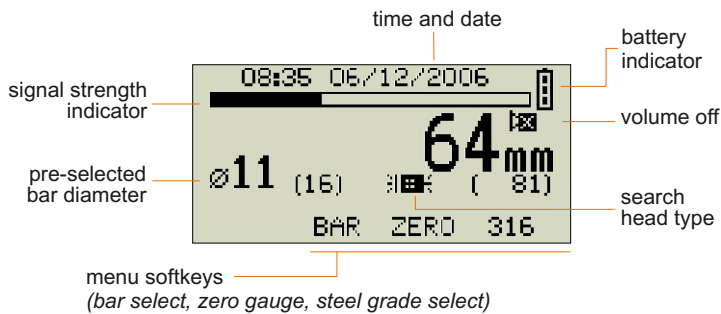
Most functions can be accessed and controlled through 4 simple keys on the search head - ideal for single handed operation.



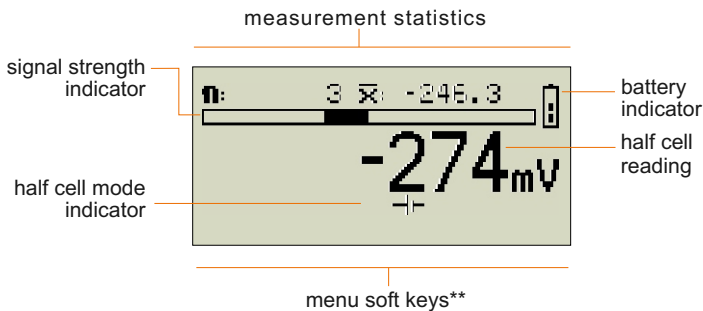
Designed for use on site, the gauge has been specifically designed to be rugged, robust, waterproof and tough enough to handle even the harshest of environments.



This typical view of the cover display screen shows you everything you need to know. Screens can be backlit for dark conditions. The easy to use menus, in multiple languages, enable you to access all the data you need while on site, without constant reference to the instruction book!



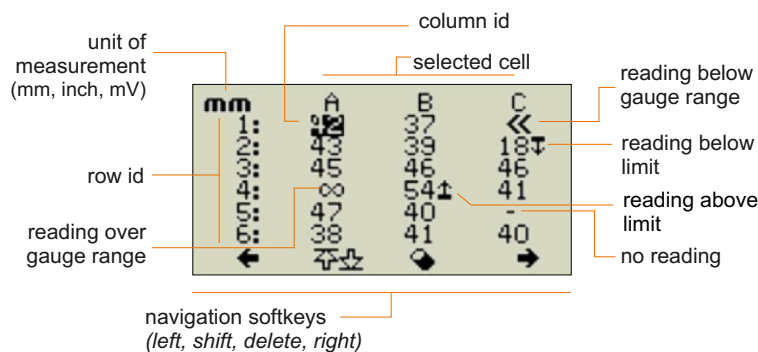
This alternate view shows the typical display when in use with the deep cover with stainless steel detection head. The bar size and depth of cover is manually inputted to suit specific requirements. The text in the bottom right of the reading screen indicates which grade of bar is selected, in this case 316 grade stainless steel.



The gauge can read both cover and half cell values.*
A typical screen when using half cell mode. For data logging, the information you need to see is displayed on screen.

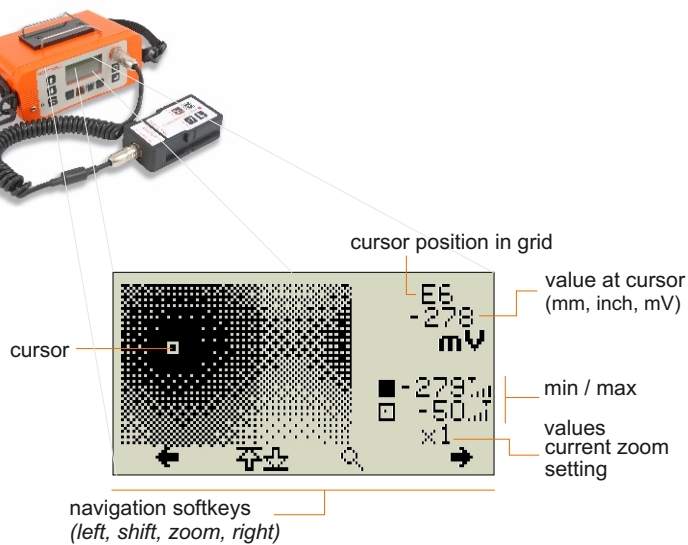
* Except Elcometer 331 Model B which can read cover only.

**Menu soft keys visible in SH and TH Models.

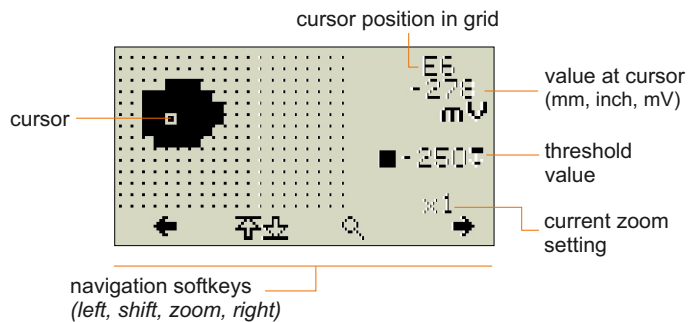


A typical data review screen clearly displays where readings are below or above a user specified tolerance, where a reading has not been taken.

Units of measurement can be displayed in mm or inches for cover, or mV for half cell.



In graphics plot mode the gauge indicates the areas with the most potential for corrosion in half cell mode or depth of cover in covermeter mode. Black indicates most potential for corrosion, while white indicates least potential for corrosion with varying greyscale shades in between. The zoom feature allows you to take a closer look at different areas that are of interest to you.



Using the threshold view is an ideal method for a simple pass or fail analysis. Once the threshold value has been set, anything before the value is shown in black, while anything over the value is shown in white.

Detecting stainless steel

Due to their high resistance to corrosion from chlorides, stainless steel rebar is regularly chosen over traditional carbon steel rebar in those areas which are exposed to high salt levels. Bridge decks, multi-storey car parks and marine structures such as piers, jetties and sea barriers are regularly constructed using stainless steel reinforcement.

Stainless steel grades of rebar have a number of different compositions and all are essentially non-magnetic. It is due to this that traditional covermeters and rebar locators cannot accurately detect them.

The Elcometer 331 THD when used with the Dual Head is the only gauge that can be used to locate, orientate, determine the rebar diameter, and accurately determine the depth of traditional high tensile steel rebar and the most common grades of stainless steel; Type 304 (also known as 18-8), Type 316 and Duplex Stainless Steel.

For the Elcometer 331 BH, SH, TH and THD models, all search heads, the borehole probe and half cell probes are fully interchangeable without the need to return your gauge to Elcometer. The Elcometer 331 Model B does not have half cell capability and cannot be used with the half cell probes. Elcometer 331 SH, TH and THD models are also supplied with Covermaster® & EDTS+ Excel® link transfer software and PC cable.

Model B covermeters are supplied with a standard search head. When ordering all other models, please order your choice of search head or half cell kit separately.



TW33119124-1A

Standard Search Head

Designed to meet most of your measurement requirements.

Range:	40mm / 1.6" bar	15mm to 95mm / 0.6" to 3.75"
	8mm / 0.3" bar	8mm to 70mm / 0.3" to 2.75"
Dimensions:	155 x 88 x 42mm / 6.1 x 3.5 x 1.65"	
Sensing area:	120 x 60mm / 4.72 x 2.36"	



TW33119124-2A

Narrow Pitch Search Head

Accurately measures the cover thickness when the gaps between each of the rebars (pitch) are close together.

Range:	40mm / 1.6" bar	8mm to 80mm / 0.3" to 3.1"
	8mm / 0.3" bar	5mm to 60mm / 0.2" to 2.4"
Dimensions:	155 x 88 x 42mm / 6.1 x 3.5 x 1.65"	
Sensing area:	120 x 60mm / 4.72 x 2.36"	



TW33119171A

Deep Cover Search Head

The ideal search head for accurately measuring rebars that are deep within the structure.

Range:	40mm / 1.6" bar	35mm to 180mm / 1.4" to 7"
	8mm / 0.3" bar	25mm to 160mm / 1" to 6.3"
Dimensions:	170 x 94 x 54mm / 6.7 x 3.7 x 2.1"	
Sensing area:	160 x 80mm / 6.3 x 3.15"	



TW33120014D

Dual Search Head for high tensile and stainless steels

The ability to detect high tensile steel and three grades of stainless steel (304, 316 and Duplex). For use with Model THD only.

Range:	40mm / 1.6" bar	35mm to 180mm / 1.4" to 7"
	8mm / 0.3" bar	25mm to 160mm / 1" to 6.3"
Dimensions:	170 x 94 x 54mm / 6.7 x 3.7 x 2.1"	
Sensing area:	160 x 80mm / 6.3 x 3.15"	



Short: TW3319223-1A
Long: TW3319223-2A

Borehole Probe

The solution for locating tendon ducts and multiple layers of rebar lying deep within the concrete. For more information contact Elcometer or visit the website

Measurement depth: Short probe: 0 - 40cm / 0 - 16" Long probe: 0 - 100cm / 0 - 40"
Approximate detection ranges: Tendon duct (70mm/2.75" diameter): up to 90mm / 3.54"



TW331CUKIT
TW331AGKIT

Half Cell Kit

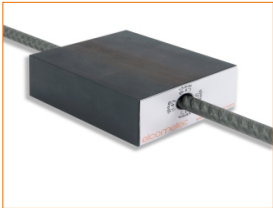
Consisting of either a copper electrode in a copper sulphate solution or a silver electrode in a silver chloride solution, each half cell is a sealed unit - no need to mix chemicals on site. Supplied with a 25m / 80' cable, every half cell probe is guaranteed for 5 years.



TW33119683

Extension Cable 100m / 325ft

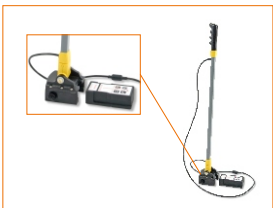
The extension cable for use with the Half Cell kits gives the flexibility to take readings in normally inaccessible areas.



TW33119218

Calibration Test Block

The calibration test block allows the user to check calibration of their gauge in order to ensure maximum measurement accuracy.



TW33119222

Extension Arm Kit

This kit allows the user to scan bridge decks and floor areas from a standing position and can be connected to either the standard or narrow pitch search head.

Additional Accessories

Part Number	Description
TW33119678	25m / 80ft Cable
TW33119038	Additional Battery Pack
TW33119201	Straight Search Head Cable 1.8m / 5.9ft
T99916716	USB Interface Cable

Data Logging

The statistics are a powerful tool within the Elcometer 331 and the data logging features on the SH, TH and THD models are also there to make your job easier.

The Elcometer 331 SH allows up to 10 batches of 1,000 cover or half cell readings, with measurement statistics, to be stored in the gauge's memory for evaluation and report generation.



The Elcometer 331 TH and THD models boast user definable memory batches and provide both linear and grid batch data logging modes.

Linear memory is where data is stored in a batch one reading after another. Grid batches allow data to be stored in a spreadsheet format with each cell relating to a survey area which is marked out on the concrete in user defined grids when surveying large structures.

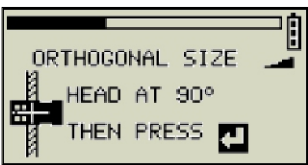
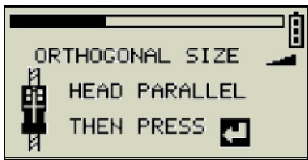
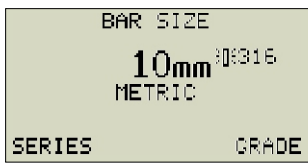
This grid batch feature facilitates fast surveying for both cover and half cell readings. Problem areas that do not fall within specification can be immediately identified and marked directly on the concrete, you can even take cover and half cell readings in each grid space.

Powerful Statistics

Elcometer 331 Covermeters have a statistics feature that calculates and displays the statistical analysis of readings as they are taken. So, while the covermeter is in use, you are always in control and know exactly how your site survey is progressing. Statistics values are also calculated for the readings within each batch and these values are stored.

The following statistics and values can be viewed and stored within the gauge:

Icon	Icon meaning	Description
η	Number of readings	The running value for the number of readings taken in a group
\bar{x}	Mean	The average of a group of readings; the sum of the individual readings divided by the number of readings
σ	Standard deviation	A statistical measure of the spread of values in a group of readings
CV%	Coefficient of variation	The standard deviation divided by the mean for a group of readings, expressed as a percentage
\downarrow	Lowest reading	The value of the lowest reading taken in a group of readings
\uparrow	Highest reading	The value of the highest reading taken in a group of readings
\ll	Under range	The number and percentage of readings under range
\downarrow or $<$	Low limit	The number and percentage of readings below the limit
$\dagger\dagger$	Within limits	The number and percentage of readings within limits
\uparrow or $>$	High limit	The number and percentage of readings above the high limit
∞	Over range	The number and percentage of readings over range (or infinite)
\square	Blank readings	Number and percentage of blank readings (skipped / not recorded / deleted)



Selecting a bar size

The dimensions of reinforcement bars are stored in the covermeter and include the following four standard bar series: Metric, US Bar, ASTM/Canadian and Japanese. Due to this wide selection of bar sizing, the Elcometer 331 Covermeters can be utilised worldwide with accurate results. When taking measurements for high tensile steel or Grades 304, 316 and Duplex Stainless Steel details for the Bar Grade and Bar size can be manually input into the Covermeter, or the gauge can be used in autosizing mode.

Autosizing and orthogonal size function

Autosizing automatically calculates an estimate for the size of rebar and the depth of cover. If this figure differs greatly from your expected rebar size, or you do not know the expected rebar size, the orthogonal size function provides an accurate measurement of bar size. The step by step directions on the covermeter make the accurate sizing of bars quick and easy.

Bar Size Dimensions

Metric		US Bar		ASTM/Canadian		Japanese	
Bar Size	Diam. (mm)	Bar Size	Diam. (Inch)	Bar Size	Diam. (mm ²)	Bar Size	Diam. (mm)
5	5	#2	0.250	10M	100	6	6
5.5	5.5	#3	0.375	15M	200	10	10
6	6	#4	0.500	20M	300	13	13
7	7	#5	0.625	25M	500	16	16
8	8	#6	0.750	30M	700	19	19
9	9	#7	0.875	35M	1000	22	22
10	10	#8	1.000	45M	1500	25	25
11	11	#9	1.125	55M	2500	29	29
12	12	#10	1.250			32	32
14	14	#11	1.375			35	35
16	16	#12	1.500			38	38
18	18	#13	1.625			41	41
20	20	#14	1.750			44	44
22	22	#15	1.875			48	48
25	25	#16	2.000			51	51
28	28	#18	2.250			57	57
32	32						
36	36						
40	40						
44	44						
50	50						

Stainless Steel Bar Sizes

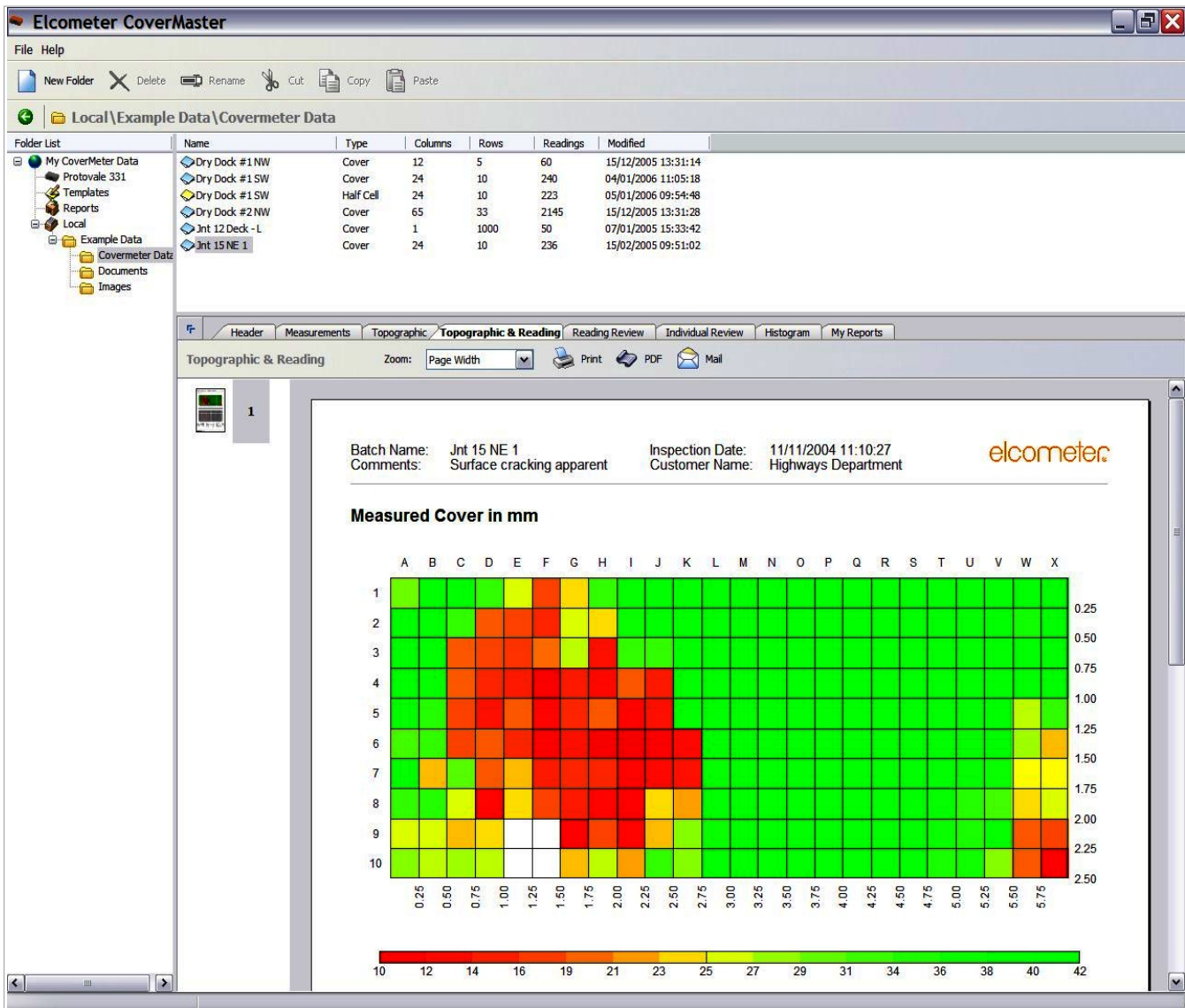
Bar sizes of stainless steel grades 304, 316 and Duplex can also be selected when using the THD model.

Covermaster® Software

Elcometer's Covermaster® software is designed to help manage your data effectively.

Connecting to a PC via RS232 is easy and data is transferred quickly into the Covermaster® software data management system. Covermeter and half cell readings can be stored along with associated photographs, Word® documents, Excel® spreadsheets and other files.

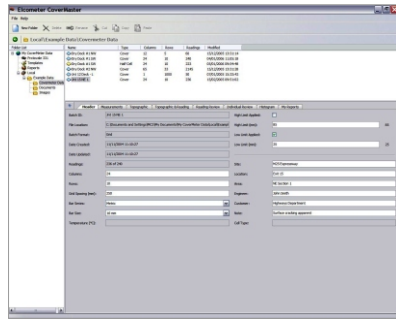
Covermaster® software is supplied free of charge with all Elcometer 331 models with memory.



The Header page contains all the details of the particular site.

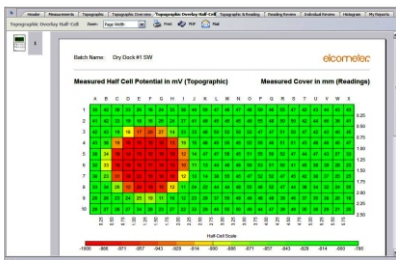
This includes information such as batch ID, creation date, site name, location, engineer name, customer name, notes etc.

The batch data is displayed in grid or linear form. These figures are downloaded from the Elcometer 331 straight into this format, so there is no need for time consuming manual inputting of readings.



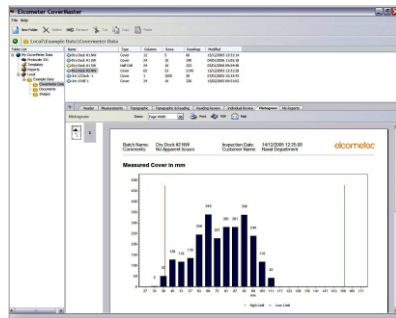
The data is easily translated into a topographic view giving you all the information you need at a glance.

Data for each reading can be presented in colour or can be shown in greyscale, complete with reading values in each grid. Site data that uses both cover and half cell measurements, can be shown on the same topographic (or gradient) chart. This makes data comparison and manipulation as easy, fast and user friendly as the gauge.

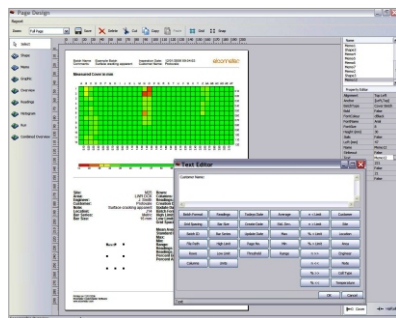


Reports can be fully customised giving you the ability to add your own corporate identity, photos, memos and include as much of the information as is necessary for your or your customers' records.

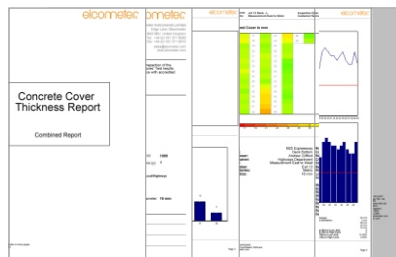
Once a report is generated, it can be saved to your PC, printed out and can even be saved as a Portable Document File (.pdf) ready to e-mail wherever it needs to go - all from within the Covermaster® software.



As all your information is in one place, and Covermaster® links up directly with photographs, Excel®, Word® and PowerPoint® files, it is simple to analyse and assess your findings. This avoids loss of valuable time switching between different types of programme to view the different information. Covermaster® software - it's all you need to manage your data. Everything is simply archived, ready for use whenever you need it. It is easy to switch between views and results and decide which report style you want to use to display your findings.



Store data, survey notes, inspection reports, photographs, PDF files and any other inspection information all in one easy to access, easy to use programme - Covermaster®. The end result is a software programme you can really use and tailor to your requirements, producing professional, detailed reports quickly, easily and effectively.



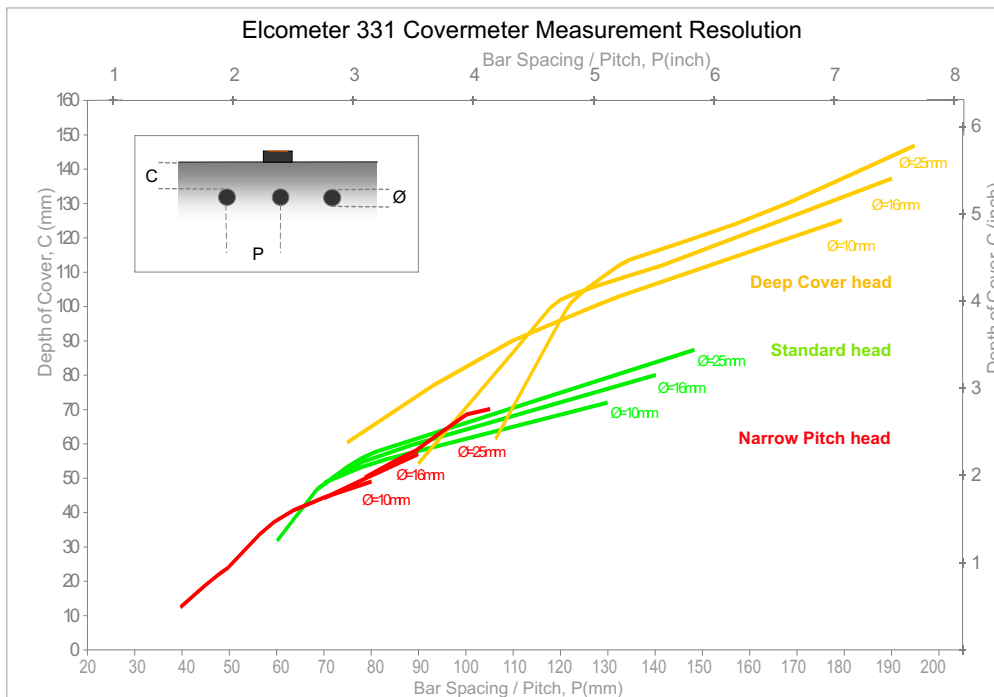
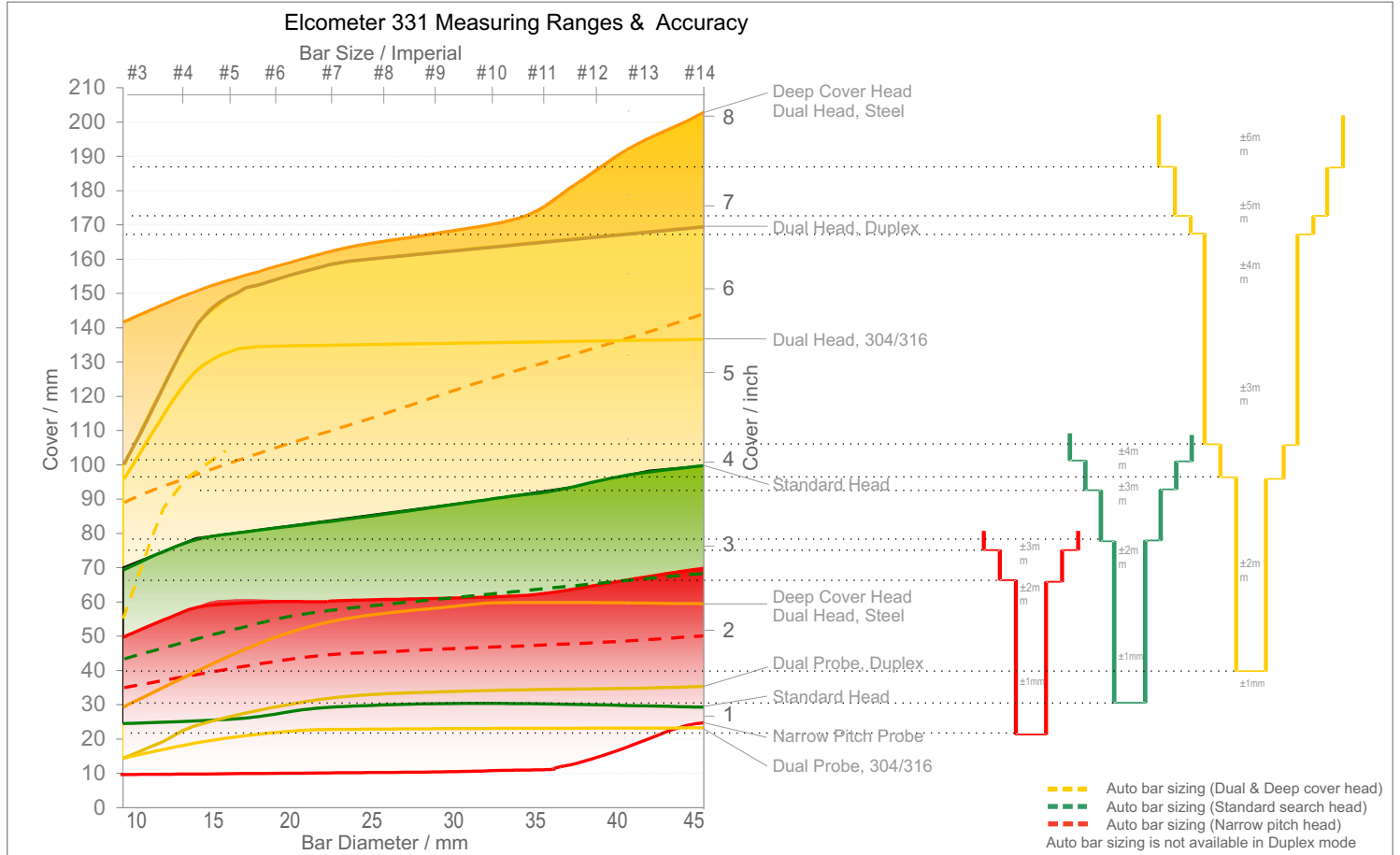
Elcometer 331 Models

Description	B	BH	SH	TH	THD
Covermeter / Rebar location	✓	✓	✓	✓	✓
Half Cell measurement		✓	✓	✓	✓
Rebar orientation	✓	✓	✓	✓	✓
Depth of cover	✓	✓	✓	✓	✓
Large cover (thickness) reading mm or inches	✓	✓	✓	✓	✓
Large graphics display with backlight	✓	✓	✓	✓	✓
Multiple language menu structure	✓	✓	✓	✓	✓
Signal strength bar	✓	✓	✓	✓	✓
Interchangeable heads with LED & keypad	✓	✓	✓	✓	✓
User selectable bar range sizes & numbers	✓	✓	✓	✓	✓
Rugged waterproof case (IP65)	✓	✓	✓	✓	✓
Adjustable beep volume & earphone socket	✓	✓	✓	✓	✓
Measurement sound modes	✓	✓	✓	✓	✓
Locate (<i>tone increases as head approaches rebar</i>)	✓	✓	✓	✓	✓
Under Cover (<i>tone only sound for low cover</i>)	✓	✓	✓	✓	✓
Maxpip™ (<i>tone only as head passes rebar centre</i>)	✓	✓	✓	✓	✓
Half Cell capability		✓	✓	✓	✓
Large half cell reading mV		✓	✓	✓	✓
Autosize mode bar diameter determination			✓	✓	✓
Orthogonal mode bar diameter determination			✓	✓	✓
RS232 Output - direct to printer or PC			✓	✓	✓
EDTS+ Excel link software			✓	✓	✓
Covermaster® software			✓	✓	✓
Statistics			✓	✓	✓
Minimum & maximum cover limits			✓	✓	✓
Date & time			✓	✓	✓
Memory			✓	✓	✓
Linear batch memory			10 linear batches of 1,000 readings each	Up to 200 batches of 1000 readings (a)	Up to 200 batches of 1000 readings (a)
Grid batch memory				Up to 240,000 readings (a)	Up to 240,000 readings (a)
User certified batch size				✓	✓
Graphics plot				✓	✓
Threshold plot				✓	✓
Stainless Steel measurement mode					✓
Bar dimension ranges	See page 11				
Rechargeable power supply	7.4 V lithium ion battery pack provides up to 32 hours of continuous use (20 hrs if backlight is on). Rechargeable in 4 hours either inside or outside the gauge using an external charger.				
Maximum operating temperature	50°C / 122°F				
Unit dimensions	230 x 130 x 125mm / 9 x 5.1 x 4.9"				
Unit weight	1.54kg / 3.4lbs				
Part numbers	W331B---*	W331BH--*	W331SH--*	W331TH--*	W331THD-*

Replace * with 1, 2 or 3 to complete part number. 1 = 240V UK, 2 = 220V Euro, 3 = 110V US

(a) Linear batch mode: up to 200 batches of 1,000 readings each Grid batch mode: up to 1,000 batches, maximum number of readings: 240,000

As with all covermeters, the accuracy of the readings alter at differing depths and bar sizes. The range from Elcometer boasts one of the best measurement accuracy features available on the market today. With the Elcometer 331 Covermeters, you can be safe in the knowledge that the readings you take are accurate and precise. The focussed search heads enable accurate measurement in congested situations, giving you the detailed information you need for your site survey.



The class leading resolution of the Elcometer 331 range allows accurate readings when there is a minimal distance between rebars.

With a choice of interchangeable search heads, automatically recognised by the unit, the Elcometer 331 can deliver the results you need quickly, easily and accurately.

Using the Elcometer Borehole Probe you can extend the Elcometer 331's measurement range to locate and orientate additional layers of rebar and tendons up to 100cm / 40" below the surface. For more information, contact Elcometer or visit www.elcometer.com

Standards information

All our covermeters can be used in accordance with the following standards and guidelines:

ACI 318	DGZfP:B3
ASTM C876	DIN 1045
BS 1881:201	EC 2
BS 1881:204	SIA 162
BS 8110	SIA 2006
CP 110	TR60
DGZfP:B2	UNI10174

Typical applications

Construction

At construction sites to locate rebars and metal pipes.

Maintenance

During routine maintenance of structures such as bridges, to check on corrosion of supporting metal structures in concrete.

Building renovation

To locate existing supporting metal work and assess levels of corrosion.

Before drilling and coring

Using a covermeter enables clear identification of “safe spots” for drilling and coring. This saves the cost of expensive drill bit replacement when metal supports are inadvertently hit.

High salt exposure environments

Areas exposed to high salt levels such as bridge decks, multi-storey car parks and marine structures widely use stainless steel reinforcements. The THD model is the only gauge to accurately locate, measure and orientate stainless steel rebars.



The concrete test hammer provides the quickest, simplest and least expensive method for the non-destructive evaluation of concrete and other masonry materials. This makes determining the strength and quality of concrete quick and easy.

Concrete test hammers are one of the most widely used instruments in the field of non-destructive testing and Elcometer can offer you two variants - mechanical or digital.

Elcometer 181 Mechanical Concrete Test Hammer



Aluminium body for durability and to reduce weight

Low cost mechanical hammer with impact energy of 2.207Nm

Simple to use with immediate results

Supplied with tough plastic storage case

Scales for MPa or p.s.i. with metric and imperial charts to allow for the orientation of the test

Technical specifications

		Elcometer 181
Impact energy		2.207Nm
Accuracy		< ± 2 rebound numbers
Resolution		2 rebound number(s)
Range		10 to 100 rebound number
Memory		None
Unit selection		MPa, p.s.i.
Battery life		N/a
Dimensions	Hammer	280 x 55mm / 11.02 x 2.17"
(Length x diameter)	In case	350 x 80mm / 13.78 x 3.15"
Weight		1.5kg / 3.3lb with case
Packing list		Test hammer, plastic storage case, grinding stone & operating instructions
Part number		W181----1
Calibration Certificate		TWCAL-181

The charts on the body of the Elcometer 181 correspond to the test hammer angle, average error, conversion scales, MPa & p.s.i.

The Elcometer 182 digital test hammer works in exactly the same way but the results are recorded digitally with the ability to set test parameters & factors including age, shape & correction factors.

Elcometer 182 Digital Concrete Test Hammer

Statistical evaluation of readings, mean value, standard deviation, concrete strength estimation

Light & easy to use digital hammer with impact energy of 2.207Nm

Up to 5,000 test values, recorded for download into a spreadsheet via software supplied with the digital hammer

Unit selection from MPa, p.s.i., N/mm² & kg/cm² on the same gauge

Supplied with a calibration certificate



Immediate results shown on the digital display

Pre - set test parameters and calibration factors

Technical specifications

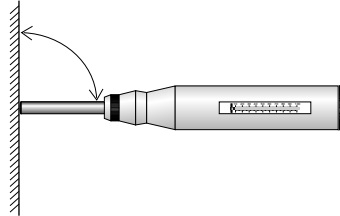
		Elcometer 182		
Impact energy		2.207Nm		
Accuracy		< ± 2 rebound numbers		
Resolution		0.1 rebound number		
Range		10 to 70 MPa		
Memory		5000 tests		
Unit selection		N/mm ² , MPa, kg/cm ² , p.s.i.		
Battery life		> 5 hours		
Dimensions	Hammer	280 x 55mm / 11.02 x 2.17"		
(Length x diameter)	In case	350 x 100 mm / 13.78 x 3.9"		
Weight		2kg / 4.4lb with case		
Packing list		Test hammer, battery charger, PC serial cable, abrasive stone, operating instructions, calibration certificate & carry case		
Part number		UK 240V: W182---1A	EUR 220V: W182---1B	US 110V: W182---1C
Mini Printer		UK 240V: X1829964B	EUR 220V: X1829964C	US 110V: X1829964D
Replacement Mains Adaptor		UK 240V: TW18219475-1	EUR 220V: TW18219475-2	U110V: TW18219475-3

Elcometer 182 Digital Concrete Test Hammer

Taking readings

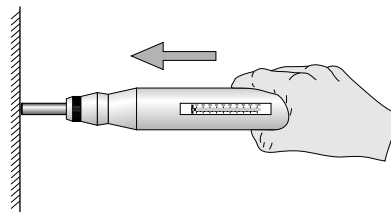
Step 1:

Hold the test hammer perpendicular to the test surface



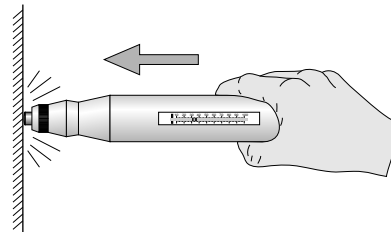
Step 2:

In a continuous & even manner, press against the surface until the mass is released



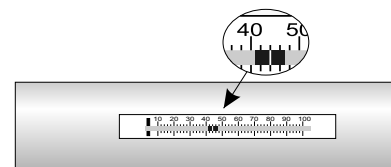
Step 3:

After impact, the internal mass rebounds & moves the reference pointer along the scale



Step 4:

This determines the compressive strength number



Where to take readings

In order to get the most accurate and consistent readings from your Elcometer 181 or Elcometer 182 concrete test hammer, here are a few tips:

- If possible test vertical surfaces
- Take readings in at least 5 separate locations within test area
- Ensure that test surfaces should be exposed and smooth

Elcometer test hammer accessories	Product Number
Calibration Anvil Supplied with calibration certificate for the hardness of impact point	TW9919226
Calibration certificate for calibration anvil, traceable to EN12504-2	TWCAL-19226

What is Adhesion?

Adhesion gauges are essentially used to determine the bond strength between two layers. In this way, these easy to use gauges are ideal for measuring a wide range of applications, which include concrete structural repairs as well as other types of coating adhesion on concrete - such as paint, cement, wall plaster, etc.

The basic principle of all the Elcometer Adhesion Gauges is as follows: a test dolly is glued to the surface and, once cured, pulled off. The tensile force required to remove the test dolly together with the coating is measured by the gauge.

Elcometer 106 Concrete Adhesion Gauge



The Elcometer 106 adhesion testers have been specifically designed to measure paint on concrete, but can also be used to measure the bond strength of structural repairs.

Once the dolly has been adhered to the surface, the Elcometer 106 gauge is simply positioned over the dolly and a load applied using the handle. As the handle is rotated, the force applied increases and the scale on the side of the gauge indicates the force applied.

Each gauge is supplied in a carrying case together with either 20mm (0.78") or 50mm (2") dollies dependant on model version.

Technical specifications

Model	Description	Range		Product Number
		N/mm ² (Mpa)	PSI	
Elcometer 106/5	Elcometer 106/5 Adhesion Tester for 20mm (0.78") dollies	(0)-0.2	(0)-30	F106----5
Elcometer 106/1	Elcometer 106/1 Adhesion Tester for 20mm (0.78") dollies	(0)-3.5	(0)-500	F106----1
Elcometer 106/2	Elcometer 106/2 Adhesion Tester for 20mm (0.78") dollies	(0)-7	(0)-1000	F106----2
Elcometer 106/3	Elcometer 106/3 Adhesion Tester for 20mm (0.78") dollies	(0)-15	(0)-2000	F106----3
Elcometer 106/4	Elcometer 106/4 Adhesion Tester for 20mm (0.78") dollies	(0)-22	(0)-3200	F106----4
Elcometer 106/6	Elcometer 106/6 Adhesion Tester for 50mm (2") dollies	(0)-3.5	(0)-500	F106----6
Accessories	100 Spare Dollies 20mm (0.78")			T1062895-
	Spare 50mm (2") Dollies (Pack of 5)			T10618570
	Araldite Epoxy Adhesive			T99912906
	Large Base Ring			T1062915-

Elcometer 1940 & 1941 PAT™ Adhesion Testers



The most popular model in the Elcometer PAT™ Adhesion tester range.

A manual hydraulic tensile adhesion tester for measuring the bond strength of all types of concrete, cements, paint, thermal sprayed coatings, thin films, ceramics, etc.

The Elcometer 1941 is designed particularly for testing with 50mm (2") diameter test elements and with the square 50 x 50mm (2 x 2") test element for adhesion testing of tile adhesives and other cementitious materials.

The standard self-levelling head unit, supplied with each PAT™ adhesion gauge ensures that the dolly is always pulled off perpendicular to the surface, thereby ensuring greater repeatability.

- Portable, precision gauge with both MPa and PSI readings
- Accurate and comparable test results both in the laboratory and on site.
- Testing of coatings on any shaped substrates, e.g. inside and outside pipe surfaces.

The Elcometer 1941 is designed particularly for testing with 50mm (2") diameter test elements and with the square 50 x 50mm (2 x 2") test element for adhesion testing of tile adhesives and other cementitious materials.

Technical specifications

Model	Description	Scale Range	Product Number
Elcometer 1940	Elcometer 1940 PAT™ GM01/6.3kN Adhesion Tester	6.3kN, 1416lbf	K0001940M001
Elcometer 1941/1	Elcometer 1941/1 PAT™ GM04/20kN Adhesion Tester	20kN, 4496lbf	K0001941M001
Elcometer 1941/2	Elcometer 1941/2 PAT™ GM04/40kN Adhesion Tester	40kN, 8992lbf	K0001941M002
Accessories	Additional/Replacement 20kN Testing Head	20kN, 4496lbf	KT001910P502
	Additional/Replacement 40kN Testing Head	40kN, 8992lbf	KT001910P503
	Additional 6.3kN Testing Head	6.3kN, 1416lbf	KT001910P501

The Elcometer surface cleanliness kits are designed to quickly measure surface contamination in the field or in the lab.

Surface contamination from salts such as chlorides, sulphates and nitrates have been shown to lead to blistering, delamination and failure of coatings. In multi-layer coating processes, such as amine cured epoxy coatings, it is also necessary to monitor and record the cleanliness of each layer prior to applying the next coating.

Our range of kits can measure the presence of chlorides, sulphates, nitrates and amine to meet the stringent surface preparation standards.

Elcometer 134 CSN Chloride, Sulphate & Nitrate Test Kit



Test for chloride, sulphate & nitrate salts using a single kit

ABS plastic carry case for easy portability around the site, with full instructions printed inside the lid

All consumable can be replenished

All results recorded in parts per million (ppm) so no complicated calculations are required

Colorimeter included for accurate sulphate testing

Pre-measured and pre-dosed, this kit gives accurate results on-site without the need for additional laboratory work

Parts per million readings (ppm) are a 1:1 ratio to micrograms per square centimetre ($\mu\text{g}/\text{cm}^2$)

Technical Specification

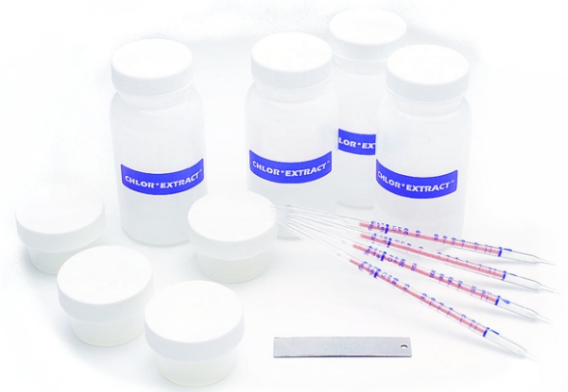
Measuring range	0 - 100ppm ($\mu\text{g}/\text{cm}^2$)	Scale resolution	1ppm
Sample time	1 - 5 minutes	Test per box	5 x chloride, 5 x nitrate, 5 x sulphate, 1 colorimeter
Storage conditions	not exceeding 25°C / 77°F	Kit weight	1.76kg / 3.88lbs
Kit dimensions	360 x 320 x 140mm 14.2 x 12.6 x 5.5"	Part number	E134-CSN Refill Kit: T134-KIT

Elcometer 134 A Chloride Ion Test Kit for Abrasives

Chloride ion test kit to test for presence of chlorides in blast media before and after use - ideal for recycled media.

Allows the generation of a depth / concentration profile of the structure to be coated.

Accurate field test to identify contamination and prevent costly surface-related failures.



Elcometer 134 W Chloride Ion Test Kit for Water / Liquids

Chloride detection kit for checking wash water before use on blast cleaned surfaces.

Ideal when mixing concrete. If the chloride levels in the water are too high, this will promote premature rebar corrosion, shortening the life of the structure.

Also use to monitor recycled water (after it has been applied) to establish effectiveness of salt removal.



Technical Specification

	Elcometer 134A	Elcometer 134W
Measuring range	0 - 50ppm ($\mu\text{g}/\text{cm}^2$)	10 - 2000ppm ($\mu\text{g}/\text{cm}^2$)
Scale resolution	1ppm	10ppm
Sample time	1.5 minutes	1.5 - 4 minutes
Test per box	4	5
Storage conditions	not exceeding 25°C / 77°F	not exceeding 25°C / 77°F
Kit weight	367g / 13oz	208 / 7oz
Kit dimensions	182 x 125 x 110mm 7 x 5 x 4.5"	182 x 125 x 110mm 7 x 5 x 4.5"
Part number	E134----2	E134----3

Elcometer 134 S Salt Detection Kit for Blast Cleaned Surfaces

Chloride ion test kit to detect contamination on blast cleaned surfaces.

Checks for residual chlorides to help prevent coating failures and surface corrosion.

Provides consistent, reliable results and can be used on vertical, horizontal and overhead surfaces.



Technical Specification

Measuring range	0 - 500ppm ($\mu\text{g}/\text{cm}^2$)	Scale resolution	1ppm
Sample time	1.5 minutes	Test per box	4
Storage conditions	not exceeding 25°C / 77°F	Kit weight	250g / 9oz
Kit dimensions	185 x 125 x 110mm 7 x 5 x 4.5"	Part number	E134----1

Techniques & Test Methods



Elcometer 134 CSN Chlorides, Sulphates & Nitrates Test Kit

- For trouble free testing, all components are pre-measured and pre-dosed. All results are recorded in parts per million (ppm) so there is no need for complicated calculations.
- A colorimeter is also included for sulphate testing.
- Refill kits are available for all consumables.



Elcometer 134 A Chloride Ion Test Kit for Abrasives

- Simply drill a hole into the surface and collect the required amount of waste material or use blasting media sample.
- Pour into the test solution and shake to dissolve the salts.
- Insert the titration tube and record the chloride content.



Elcometer 134 W Chloride Ion Test Kit for Water / Liquids

- Use the clean dropper tube and bottle to remove sufficient water / liquid for the test (usually 2 - 3 dropper tubes full).
- Deposit the water / liquid into the clean sample bottle.
- Insert titration tube and record the results.



Elcometer 134 S Salt Detection Kit for Blast Cleaned Surfaces

- Pour the solution into the latex sleeve, peel the protective backing off the seal and stick to the test surface.
- Work the solution against the surface to extract the salts.
- Peel off the sleeve retaining the solution, insert the titration tube and record the results.

Elcometer 138 Bresle Kit & Patches

Easy to use test kit to ensure level of contaminants on a surface are within specification prior to coating application.

Simply attach the Bresle Patch to the surface, inject the distilled water and pump the water back and forth between syringe and patch to dissolve any salts. Then measure using the conductivity meter.

Each kit is supplied with all necessary components. Components can also available to order separately.



Conductivity Meter

- The lightweight, portable conductivity meter accurately measures the salinity of the test samples.
- The cartridge type sensor can be easily replaced when necessary.
- Displays conductivity (mS/cm) and salinity (%) on the digital display.
- Features include indication of stability of reading, temperature warning & simple calibration.

Technical Specification

Elcometer 138Bresle Kit & Patches	
Overall kit dimensions	300x220x75mm / 11.8x8.7x3"
Weight	2.1kg
Material	Polypropelene foam lined case.
Kit contains	Elcometer 135 Bresle Patches box of 25 Pure Water, 250ml in clear plastic bottle Syringes, 3 x 5ml Needles (blunt), 3 off Beaker, plastic, 30ml Conductivity Meter model B173 & sensor Batteries, CR2032 lithium, 2 off Standard solution 1.41 mS/cm, 2 off Moistening solution Purified water (deionised water) Pipette Conductivity meter storage pouch Operating instructions Carrying Case
Part number	E138----1

Elcometer 138 Consumable Items & Spares	
Consumables	
E135---B	Bresle patches, box of 25
T13818517	3 x 5ml Syringes
T13818518	3 x Needles
T13818519	30ml Plastic beaker
T13818516	4 x Calibration standards solution
T13011344	250ml Pure Water
T99912504	CR2032 Battery (2 required)
Spares	
T13818515	Conductivity Meter model B-173
T13818525	Sensor for conductivity meter

Elcometer 130 SCM400 Salt Contamination Meter

Soluble salts on a surface are absorbed into a special filter paper soaked in distilled water.

Confirms adequate cleaning of surfaces before coating, aiding the prevention of premature coating failure.

Measures the conductivity of the wet paper, calculating the salt level in $\mu\text{g}/\text{cm}^2$.

Quick and simple to use with accurate, repeatable and reproducible results.

Battery operated and portable.



Suitable for a wide range of shapes, orientations, surfaces and finishes.

Shows salt build-up on vulnerable surfaces, which can then be cleaned to increase the lifetime of a coating.

Test papers can be re-moistened and a similar test result can be achieved - ideal for proof and ISO requirements.

Technical Specification

Range	0.1 - 20 $\mu\text{g}/\text{cm}^2$	Packing List	Each instrument is supplied in a convenient light weight carry case and includes: Elcometer 130 Salt Contamination Meter 100 High purity sample Papers 250ml Pure Water 8 Replacement Plate Support Pads 20 PVC Storage Bags Disposable Gloves Tissues 3 x 2ml Syringes Plastic Tweezers
Resolution	0.1 $\mu\text{g}/\text{cm}^2$		
Accuracy	$\pm 1\%$		
Operating range	5°C to 40°C / 41°F to 104°F <80% RH		
Power supply	9V Battery LR61 (Mn1604)		
Sampling time	2 minutes		
Sampling size	11cm (4.3") circle or part of this		
Weight	1.5kg (3.3lbs)		
Dimensions instrument only	200 x 190 x 60mm 7.9 x 7.5 x 2.4"	Accessories	
Number of tests before battery change	approximately 500 measurements	T13011344	250ml Pure Water
Part Number	E130----1	T1304469-	100 High Purity Sample Papers
		T1304472-	Medical Wipes (1 Pack)

Elcometer 139 ABC Amine Blush Check



Amine blush occurs when amine-cured epoxy coatings in a multi-layer system cure in a low temperature or high humidity environment.

Amine produces a surface oiliness or other exudate that cannot always be detected by sight and feel. Presence of Amine leads to inter-coat adhesion failure.

Easy to use, simply spray the ABC solution on a test filter pad and apply to the surface. If amine is present, the pad will change colour.

Immediate test results - if amine is present, the surface can be cleaned before next epoxy layer is applied.

Technical Specification

Kit contains	Carry case, ABC solution, Test Filter Pads, Protective Gloves, Sealable Sample Bags
No. of Tests	75+ tests per kit
Part Number	E139----1

Elcometer 128 Pictorial Surface Standards

Elcometer's range of Surface Standards, covers most of those required for surface cleanliness.

Surface Standards include:

- The Swedish Standard - ISO 8501, SIS 055900
- The British Standard - BS 7079: Part A1
- The SSPC Standard - VIS 1-01
- The SSPC Standard - VIS-3



E128----1	Swedish Standard (ISO 8501, SIS 055900) - The original visual standard. It shows the degree of cleanliness of our different levels of rusted steel cleaned by blasting, hand and power tools & flame. Specified by ASTM 2200 Method A
E128----2	British Standards BS 7079: Part A1 - Consists of ISO 8501 and a supplement for cleaning using six Alternatives to silica quartz, which is prohibited in Britain.
E128----3	SSPC (Steel Structures Painting Council) VIS 1-01 - Similar to the Swedish & British Standards, but the pictures of the required final appearances match the written descriptions in the USA standards. VIS 1-89 includes photographs of surfaces cleaned using metallic and non-metallic abrasives. Specified by ASTM 2200 Method B
E128----4	British Standards BS 7079: Part A1 Supplement - Supplied with E128----2
E128----5	SSPC VIS-3 - Contains 44 photographs to supplement the written SSPC specifications for hand & Power-tool cleaning.
E128----6	SSPC VIS2 Standard method of evaluating degree of reusting on painted steel surfaces.
E128----7	SSPC VIS4 Guide & reference photographs for steel surfaces prepared by waterjetting.
E128----8	SSPC VIS5 Guide & reference photographs for steel surfaces prepared by wet abrasive blast

Measuring the surface roughness of concrete is essential in many areas, in particular in areas where a non-slip coating is required.

If the concrete profile is too low, there is a higher risk of skidding, if the profile is too high, the customer may view it as a poor surface finish.

Elcometer 123 Surface Profile Gauge



This is an easy to use gauge that measures the point-to-valley height of a concrete surface.

The average of a series of measurements provides an indication of the surface roughness and allows the surfaces to be compared as polishing and inspection proceeds.

A simple and low cost gauge in accordance with ASTM D 4417-B and SABS 772 standards in Metric and Imperial versions.

Technical Specification

	Elcometer 123 Metric	Elcometer 123 Imperial
Range	0 -1000mm	0 - 4 mils
Scale resolution	2mm	0.1 mils
Dimensions	105x55x25mm	4.1x2.2x1
Weight	235g	8oz
Part number	E123A-M	E123A-E

Elcometer 223 Digital Surface Profile Gauge



The Elcometer 223 is a battery operated Digital Surface Profile Gauge which measures the peak - to - valley height of a surface.

Metric & Imperial switchable.

RS232 output - for transfer of readings to a PC, data logger, mini printer, etc - providing a permanent record of your test results (no memory in gauge).

Technical Specification

	Elcometer 223 Metric	Elcometer 223 Imperial
Measuring range	0 -1000mm	0 - 40mils
Scale resolution	1mm	0.1mils
Sample time	105 x 55 x 25mm	4.1 x 2.2 x1"
Test per box	365g	9oz
Part number	E134----2	E134----3
Accessories	Mini Printer Including Printer Lead	X2239964B

During the application of concrete or asphalt, or in the laboratory, the monitoring of temperature and humidity is important.

Elcometer provide a selection of hand held gauges for both on-site or laboratory use.

Elcometer 212 Digital Pocket Thermometer



Designed to cope with routine day to day use, the Elcometer 212 is the gauge to take fast, accurate measurements. Incorporating an auto-power on/off facility, by simply unfolding and folding the probe, the instrument switches on and off.

Features:

- Large easy to read display
- Surface or Needle probe options available
- Auto power on/off facility
- °C or °F gauge versions available

Technical Specification

	Elcometer 212 Metric	Elcometer 212 Imperial
Temperature range	0 -1000mm	0 - 40mils
Scale resolution	1mm	0.1mils
Accuracy	105 x 55 x 25mm	4.1 x 2.2 x1"
Ambient Temperature Gauge	365g	9oz
Display	E134----2	E134----3
Battery Life	12V Mn21 Battery	
Battery Type	Approx. 200 hours	
Auto Switch Off Time	Approx. 5 minutes	
Case Dimensions	47 x 156 x 19mm	1.9 x 6.2 x 0.7"
Probe Dimensions	110mm	4.3"
Instrument Weight	100g	0.22lb

Elcometer 213 Digital Pocket Thermometer



The Elcometer 213 Digital Thermometer allows quick and easy measurements for a wide range of applications using the K-type thermocouple:

Elcometer 213/1: Measurement of surface and air temperatures

Elcometer 213/2: Measurement of liquid temperatures

Elcometer 213/3: Needle probe for soft material temperatures.

Measures temperature in the range of -50°C to 850°C, (the maximum temperature is dependant on probe type), with high accuracy and resolution. Quick temperature response.

Technical specifications

Accuracy	± % of the reading ± digit
Ambient Temp	0 to 50°C
Weight	200g (0.44lb)
Time constant	~1 Second
Instrument display	-50 to 580°C
Power Supply	1 x 6F22 (9v) Battery

	Elcometer 213/1	Elcometer 213/2	Elcometer 213/3
Operating Range	Surface Probe: -50 to 600°C Magnetic Probe: -50 to 150°C	-50 to 1100°C (850°C maximum for unit)	-50 to 400°C
Part Number	G213--M1B with Surface & Magnetic Probe	G213--M2B with Liquid Probe	G213--M3B with Needle Probe

Elcometer 214 Infrared Digital Thermometer



Using non-contact infrared technology, the Elcometer 214 Digital quickly and accurately measures the surface temperature of non reflective materials.

With a spot ratio of 3:1. The closer you get to the object under inspection, the smaller the spot size and hence the more accurate the reading see below.

Technical specifications

Accuracy	±2 % of the reading ± 2°C (±3°F)
Ambient Temperature	10 to 52°C (50 to 125°F)
Temp Range	-18 to 315°C (0 to 600°F)
Resolution	1°C (1°F)
Field of View	3:1 Optics Ratio with a 25mm Minimum Target
Emissivity	Fixed at 0.95
Display	3 digit - 10mm Liquid Crystal Display
Battery Type	9V Mn1604 Alkaline battery
Battery Life	Approximately 100 hours
Repeatability	±0.5% of reading ±1 digit
Response Time	1 second
Dimensions	184 x 43 x 19mm (7.3 x 1.7 x 0.75")
Instrument Weight	77G (0.171B) without battery

Elcometer 214L Infrared Digital Thermometer (Laser)



The Elcometer 214L Infrared Thermometer is compact, lightweight and easy to use. Simply aim, pull the trigger and display the surface temperature of the object being measured. Release the trigger to hold the reading.

The Thermometer incorporates a clear, easy to read display with laser pointer, backlight and low battery indicator. Battery life is preserved by the auto switch off facility and the User's ability to switch the backlight on or off as required.

Technical specifications

Accuracy	±2% of reading or ±2°C (±4°F) whichever is the greater
Temp Range	-20 to 270°C (-4 to 518°F)
Resolution	1°C (1°F)
Field of View	8:1 Optics Ratio with a 25mm Minimum Target
Response Time	Approximately one second
Display	Custom LCD
Emissivity	Fixed at 0.95
Battery Type	9V MN1604/PP3
Battery Life	Approximately 100 hours
Case Dimensions	58 x 79 x 159mm (2.2 x 3.2 x 6.2")
Instrument Weight	180g (0.4lb)
Part Number	G214L---2

Elcometer 319 Dewpoint Meter



The Elcometer 319 has been designed to incorporate all the needs required for climate condition monitoring, in a single gauge.

Air Temperature, Relative Humidity, Surface Temperature, Dewpoint Temperature, ΔT - The difference between Dewpoint and surface temperature.

Accessories available for the Elcometer 319 include:

Infrared Printer for direct print-out of each dataset, Liquid Temperature Probe for measuring liquids up to 300°C/572°F, Interface Cable and EDTS+ Excel Link Software to download your stored measurements for further PC analysis.

Technical specifications

Alarm	$\pm 2\%$ of reading or $\pm 2^\circ\text{C}$ ($\pm 4^\circ\text{F}$) whichever is the greater
Memory	-20 to 270°C (-4 to 518°F)
IR Output	1°C (1°F)
Backlight	8:1 Optics Ratio with a 25mm Minimum Target
Air Temperature Range and Accuracy	-20°C to 60°C $\pm 0.3^\circ\text{C}$ (-4°F to 140°F $\pm 0.6^\circ\text{F}$)
Surface Temperature Ranges and Accuracy	From -30°C to 300°C $\pm 1.5^\circ\text{C}$ (-22°F to 572°F $\pm 3.0^\circ\text{F}$)
Relative Humidity Range and Accuracy	3 to 98% RH $\pm 3\%$ RH
Weight	260g (0.57lb)
Battery Type	3 X AA Mn1500 LR 6 Batteries lasting for 500+ hours (without backlight)
Part Number	G319----1

Accessories	Part Number
Liquid Temperature Probe	T31916465
Surface Temperature Probe	T31916466
EDTS+ Excel Link® Software and Interface Cable	T31916466
IR Printer	X99913877

Moisture is one of the most regular causes of coating failure on materials such as concrete, wood, plaster, etc. It is not sufficient to ensure that the surface is dry, as, due to evaporation, the surface is the driest part. Many substrates are porous and can absorb moisture, so it is necessary to measure the moisture content within the substrate to reduce the possibility of subsequent coating failures. On concrete, this is seen as condensation, blistering, delamination, movement and general deterioration.

Elcometer offer a range of moisture meters suitable for use on a wide variety of substrates, utilising the high frequency dielectric or contact conductivity measurement principles.

Elcometer 7400



Traditional pin type moisture meter with easy to read digital display

Measures moisture content in % dry weight

For use on sawn timber, chipboard, fibreboard, gypsum & plaster

Elcometer 7400B



Non-destructive gauge can measure moisture at any angle

For use on all types of building materials

Ideal pre-tester for use with all moisture analysers using the carbide method

Elcometer 7400A



Non-destructive measurement with easy to read digital display

For use on wood

Adjustment settings 0 - 10 for different types of wood

Elcometer 7420



Non-destructive measurement with easy to read digital display

Measures to a depth of 30mm / 1.2"

For use on concrete, fibreglass and wood

Elcometer 7410



Non-destructive measurement with easy to read analogue scale

Measures to a depth of 125mm / 5"

Factory calibrated ready for use on concrete & gypsum floor screeds

Using Elcometer moisture meters

The range of Elcometer moisture meters are simple and straightforward to use.

For non-destructive moisture meters, press the gauge against the substrate and take the reading.

For destructive moisture meters, drive the pins into the substrate and take the reading.

Our moisture meters do not require the attachment of extra electrodes or probes, as all our gauges are made with portability in mind. All of our units are designed to be hand-held, compact, lightweight, robust and battery operated for reproducible and accurate results.

Technical specifications

	Elcometer 7410	Elcometer 7420	
Measuring range	Concrete 0 - 6% Floor screed 0-10 Concrete qualitative scale 0-100	Wood 0 - 30+% 0-15 digit reference scale	
Substrate type	Concrete, gypsum floor screed	Concrete, fibreglass, wood	
Measurement depth	125mm / 5"	30mm / 1.2"	
Dimensions	150 x 85 x 38mm 6 x 3.3 x 1.5"	150 x 75 x 30mm 6 x 2.9 x 1.1"	
Weight	298g / 10.5oz	170g / 6oz	
Power supply	9V PP3 battery	9V PP3 battery	
Part number	K0007410M001	K0007420M001	
	Elcometer 7400	Elcometer 7400A	Elcometer 7400B
Measuring range	Wood 5 - 20% Plaster 0.3 - 3.5%	Wood 5 - 45%	0 - 100 digit reference scale
Substrate type	Sawn timber, chipboard, fibreboard, gypsum, plaster	0 - 10 settings for different species of wood	All building material types
Dimensions	200 x 35 x 35mm 7.87 x 1.38 x 1.38"	170 x 35 x 35mm 6.7 x 1.38 x 1.38"	200 x 35 x 35mm 7.87 x 1.38 x 1.38"
Weight	130g / 4.6oz	180g / 6.35oz	190g / 6.7oz
Power supply	9V dry cell or rechargeable battery	9V dry cell or rechargeable battery	9V dry cell or rechargeable battery
Part number	K0007400M018	K0007400M021	K0007400M023

Elcometer 143 Crack Width Ruler



This simple gauge has been designed specifically to provide inspectors with a low cost alternative to a graduated microscope when determining the width of a crack in concrete or other building

Similar in size to a standard credit card, this transparent gauge is marked with a range of graded line. Each line is a specified width.

To use, position the gauge over the crack and identify which line is a similar width to the crack. Read off the width value.

Model	Description	Range		Product Number
		Mm	inches	
Elcometer 143	Elcometer 143 Crack Width Ruler	0.10 - 2.50	0.004 - 0.100	E143----1

Elcometer 900 Concrete Crack Microscope



This very simple graduated x50 microscope is an ideal gauge for measuring the size of cracks in concrete.

With its internal illumination the User can quickly determine the crack width by counting the number of graduations and calculating the value.

Model	Description	Part Number
Elcometer 900/1	Elcometer 900 Concrete Crack Microscope Metric	W90018568-M
Elcometer 900/2	Elcometer 900 Concrete Crack Microscope Imperial	W90018568-E

Elcometer 7210 Pocket Microscope



The Elcometer 7210 is pocket size making it an extremely practical microscope for site inspections

Giving x30 magnification and a built-in light source, the Elcometer 7210 Pocket Microscope is the ideal choice for close up investigation of defects and surface cleanliness.

Model	Description	Part Number
Elcometer 900/1	Elcometer 900 Concrete Crack Microscope Metric	W90018568-M

Elcometer 7220 Microscope with Reticles



A small robust and handy microscope with battery operated removable lighting unit.

A wide range of magnifications are available with scales graduated in mm.

Model	Description	Magnification	Part Number
Elcometer 7220/1	Microscope with Graduated Reticule	x20	K0007220M001
Elcometer 7220/2	Microscope with Graduated Reticule	x40	K0007220M002
Elcometer 7220/3	Microscope with Graduated Reticule	x60	K0007220M003
Elcometer 7220/4	Microscope with Graduated Reticule	x100	K0007220M004
Elcometer 7220/5	Microscope with Graduated Reticule	x200	K0007220M005
Elcometer 7220/6	Microscope with Graduated Reticule	x300	K0007220M006

During inspection sometimes the substrate or coating requires closer investigation. In dark or shaded areas, further investigation may require additional light.

Elcometer 137 Illuminated Magnifier



From time to time a closer inspection of a surface is required to ascertain the exact conditions of the material profile, cleanliness etc.

Supplied with x10 magnification for close surface inspection and a scaled lens for easy measurement of surface features.

Light, battery powered, portable magnifier ideal for comparison with surface comparators.

Model	Description	Part Number
Elcometer 137	Elcometer 137 Illuminated Magnifier	H137----1

Elcometer 132 Safety Torch / Flash Light



The Elcometer 132 Safety Torch / Flash Light is explosion proof and meets the ATEX directive as category 2 equipment.

It is approved to the latest EN Standards for electrical apparatus for potential explosive atmospheres.

This allows for use in Group II applications zones 1 & 2, IIA & IIB gases, where T4 temperature class permits.

Model	Description	Part Number
Elcometer 132	Elcometer 132 Safety Torch/Flash Light	H132---1A

Elcometer 131 Inspection Mirrors



Ideal for inspecting difficult to access areas - inside pipes, behind corners, underneath inspection tanks, and other inaccessible or awkward areas.

For use on all types of building materials

High quality, robust mirrors help to provide a detailed examination of the component or project under inspection.

Model	Description	Part Number
Elcometer 131/1	Elcometer 131 Telescopic Inspection Mirror	H131---1A
Elcometer 131/2	Elcometer 131 Illuminated Inspection Mirror	H131---2A

International Standards Reference

This non-exhaustive list of standards is provided for information purposes only. To check if our products complies to, or can be used in accordance with, a standard that is not listed below, please contact Elcometer.

Standard	Reference	Page
ACI ACI 318 ACI 503R	Concrete Covermeter Adhesion	5 22
ANSI ANSI N5.12	Adhesion	22
ASTM ASTM C 876 ASTM C 805 ASTM C 633 ASTM D 4417-B ASTM D 4541	Concrete Covermeters Concrete Test Hammers Adhesion Surface Profile Adhesion	5 19 22 30 22
BS BS 1881:201 BS 1881:202 BS 1881:204 BS 1881:207 BS 7079-B4 BS 7079-F16 BS 7079-F17 BS 8110:201	Concrete Covermeters Concrete Test Hammers Concrete Covermeters Adhesion Climatic Testing Surface Cleanliness Surface Cleanliness Concrete Covermeter	5 19 5 22 31 28 28 5
BS EN BS EN 24624 BS EN 1542	Adhesion Adhesion	22 22
BS EN ISO BS EN ISO 11127-6 BS EN ISO 11127-7	Surface Cleanliness Surface Cleanliness	28 28
CP CP 110	Concrete Covermeters	5
DIN DIN 1045	Concrete Covermeters	5

Standard	Reference	Page
EC EC 2	Concrete Covermeters	6
EN EN 1542 EN 12504-2	Adhesion Concrete Test Hammers	22 19
ISO ISO 4624 ISO 8045 ISO 5802-6 ISO 8502-9	Adhesive Concrete Test Hammers Surface Cleanliness Surface Cleanliness	22 19 28 28
NACE NACE 6G186	Surface Profile	30
NF NF P 18-417	Concrete Test Hammers	19
SABS SABS 772	Surface Cleanliness	32
SIA SIA 162	Concrete Covermeters	5
SSPC SSPC VIS-3	Surface Cleanliness	31
UNI UNI 9189	Concrete Test Hammers	19

Product Model Number Index

Below you will find a list of all the products listed in catalogue, in model number order.

Elcometer also has a wide range of inspection equipment for coatings inspection, metal detection & live cable location, and products for gauge multiplexing and statistical process control. If you would like further information on this range of products, please contact Elcometer.

Model	Description	Page
106	Elcometer Adhesion Gauge	22
123	Elcometer Surface Profile Gauge	30
128	Elcometer Pictorial Surface Standards	29
130	Elcometer Salt Contamination Meter	28
131	Elcometer Inspection Mirrors	40
132	Elcometer Safety Torch	40
134 A	Elcometer Chloride Ion Test Kit	25
134 CSN	Elcometer Chlorides, Sulphates & Nitrates Test Kit	24
134 W	Elcometer Salt Detection Kit for Water	25
134 S	Elcometer Salt Detection Kit for blast cleaned surfaces	25
137	Elcometer Illuminated Magnifier	40
138	Elcometer Bresle Kit & Patches	27
139	Elcometer Amine Blush Test Kit	29
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182	Elcometer Digital Concrete Test Hammer	20 - 21
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214L	Elcometer Infrared Digital Thermometer with Laser Pointer	34
223	Elcometer Digital Surface Profile Gauge	30
319	Elcometer Dewmeter	35
331	Elcometer Concrete Covermeter and Half Cell	5
900	Elcometer Concrete Crack Microscope	38
1940	Elcometer PAT™ Adhesion Tester 6.3kN	23
1941	Elcometer PAT™ Adhesion Testers 20 & 40kN	23
7210	Elcometer Pocket Microscope	39
7220	Elcometer Microscope with Reticules	39
7400	Elcometer Compact Moisture Meter	36
7420	Elcometer Digital Moisture Meter	36
7410	Elcometer Concrete Moisture Meter	36
P100	Elcometer Portable Rebar Locator	3
P123	Elcometer Rebar Locator	3
P130	Elcometer Wall Tie & Stud Locator	3
P150	Elcometer Rebar & Wall Tie Locator	3

Established in 1947, Elcometer are a family run company manufacturing high quality inspection equipment for concrete inspection, coatings inspection and industrial metal detection sectors.

We listen to you, our customers, and have built the features and functionality into our products that you want and need to make your life easier.

Elcometer are a worldwide operation with dedicated offices in the UK, USA, Germany, France, Belgium and Singapore and distributors in more than 150 locations world-wide. So whatever you or your customer's industry, application or area there is an Elcometer specialist local to you.

Our technical capabilities, commitment to and investment in research and development, innovation and our culture of quality and service make Elcometer the perfect choice for your inspection equipment.

Elcometer product ranges include:

- | | |
|-------------------------------|--------------------------------|
| Adhesion | Inspection Kits |
| Appearance | Metal Detectors |
| Balances | Moisture Measurement |
| Climatic Condition Testing | Oven Data Recorders |
| Coating Thickness | Pinhole & Porosity |
| Corrosion | Powder Thickness |
| Concrete Inspection Equipment | Publications |
| Covermeter & Rebar Locators | Stackability & Internal Stress |
| Density | Surface Cleanliness |
| Dispersion | Surface Profile |
| Drying Time | Test Charts |
| Elasticity & Deformation | Ultrasonic Gauges |
| Film Applicators | Viscosity |
| Fineness of Grind | Washability & Brushability |
| Hardness | Wet Film Thickness |

ENGLAND

Elcometer Instruments Ltd
Edge Lane, Manchester, M43 6BU
Tel: +44 (0)161 371 6000
Fax: +44 (0)161 371 6010
sales@elcometer.com
www.elcometer.com

DEUTSCHLAND

Elcometer Instruments GmbH
Himmlingstraße18,
D-73434 Aalen
Tel: +49 (0)7366 91 92 83
Fax: +49 (0)7366 91 92 86
de_info@elcometer.de
www.elcometer.de

BELGIQUE / BELGIË

Elcometer SA
Rue Vallée 13,
B-4681 Hermalle /s Argenteau
Tel: +32 (0)4 379 96 10
Fax: +32 (0)4 374 06 03
be_info@elcometer.be
www.elcometer.be

FRANCE

Elcometer SARL
97 Route de Chécy. 45430 Bou
Tel: +33 (0)2 38 86 33 44
Fax: +33 (0)2 38 91 987 66
fr_info@elcometer.com
www.elcometer.fr

USA

Elcometer Inc.
1893 Rochester Industrial Drive,
Rochester Hills, Michigan, 48309
Tel: +1 248 650 0500
Toll Free: 800 521 0635
Fax: +1 248 650 0501
inc@elcometer.com
www.elcometer.com

CANADA

Elcometer 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
ca_info@elcometer.com
www.elcometer.com

SINGAPORE

Elcometer (Asia) Pte. Ltd.
896 Dunearn Rd,
Sime Darby Centre #03-09,
Singapore 589472,
Tel: +65 6462 2822
Fax: +65 6462 2860
asia@elcometer.com
www.elcometer.com

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