PAINT AND COATINGS

Quality Control Instruments

NEURTEK instruments

NEURTEK
instruments

NEURTEK has been manufacturing and distributing Quality Control instruments since 1979.

The best Quality in Products and Service

Manufacturers

We have over 35 years of experience in the design and manufacturing of our coatings quality control equipment. We use the latest technologies, such as additive manufacturing, in order to provide personalised solutions which are adapted to the needs of our users.

We can supply equipment immediately.

More than a Distributor

We carefully select the best solution for each application, we have always work with leading brands in quality control that provide the best after-sales service.

Our technicians are trained in the USA, Germany, England, Denmark... in order to gain in-depth with said knowledge and to make the very most of the equipment.

We take part in the most important fairs and congresses all over the world in order to bring the latest innovations into your laboratory.

Proximity, Our Unique Feature

Since 1979

1979 ¬ Founded by Felipe Elexpuru. Specialisation in quality control instruments for paint and coatings.

1982 ¬ Colour Distribution agreement, with Dr. Lange and RAL.

1993 ¬ Quality Certificate ISO -9001. Agreement with GretagMacbeth for colour and national manufacturers in Corrosion Chambers.

1996 ¬ Laboratory ISO 17025 accredited by ENAC in colour and gloss. First private laboratory in Europe to be accredited in Colour.

2005 ¬ Second generation at NEURTEK: Haritz Elexpuru. Agreements with Rhopoint, X-Rite and Defelsko.

2011 ¬ Laboratory ISO 17025 accredited by ENAC in Temperature and Humidity. Reinforcement of the Technical Service in the Mediterranean.

2014 ¬ Launch of a New Range of equipment, designed and manufactured by Neurtek.

2015 ¬ Reinforcement of the Technical Service in Madrid. Export Office in Brussels.

2017 ¬ Participation in the European Coatings Show as exhibitor. Reinforcement of Service in Repairs.

Personalised Service

We believe in customized treatment, that meets the needs of each client. For this reason, we have a network of offices located across the entired peninsula with Local Technical Support which enables us to provide a fast and personalised service.

Accredited Calibration Laboratory

NEURTEK is a Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025 for Optics: Colour and Gloss, Temperature and Humidity.

Certified Company ISO 9001:2000 since 1996.

Knowledge and Experience

NEURTEK is a member of the technical committee and reference laboratory ASEFAPI, affiliate of AIAS, SSPC... We also share our knowledge and experience at technical meetings and webinars.

NEURTEK has an international network of representatives in several regions: Morocco, Turkey, Russia, Poland, Latin America.

NEURTEK currently supplies over 20 countries with equipment, with export offices in Porto and Brussels.

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instruments

Quality Control Instruments
Manufacturer and Distributor since 1979

Knowledge and Experience

NEURTEK's objective is to be your travel companion, your reference supplier in Quality Control.

From an analysis of your needs and expert advice to a full, specialised after-sales service.
Maintenance, Calibration, Repair and Training.

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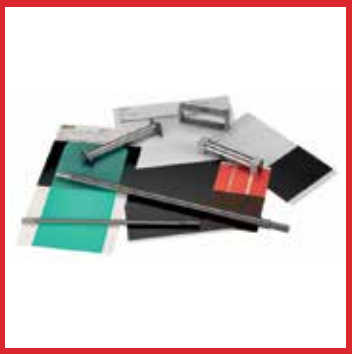

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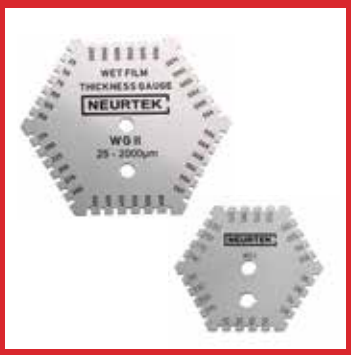

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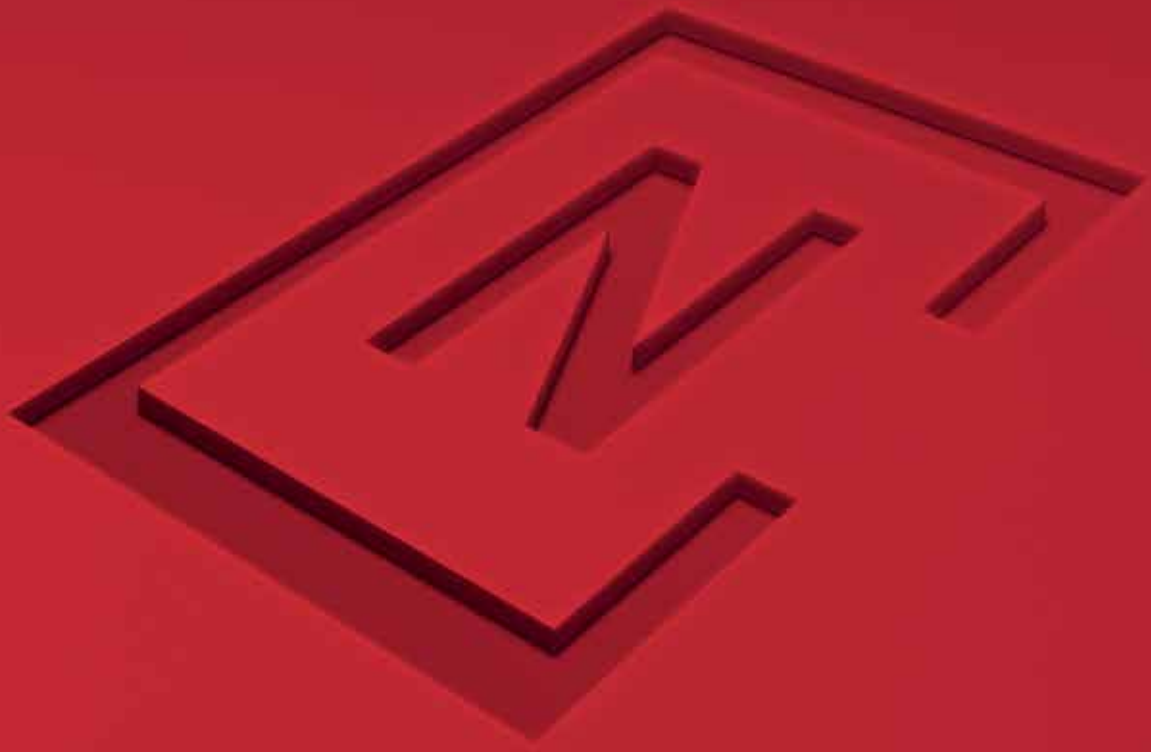


PAINT CONTROL

For a particular application, physical properties must be checked, such as the bendability, resistance to impacts, washability and resistance to abrasion.

Checking the pigments using grinding fineness meters (grindometers), determining the specific gravity of the coating using density cups (pycnometers), measuring the viscosity using viscosity cups or rotatory viscometers, evaluating of the drying time or the resistivity of the paints are all essential measuring techniques in order to achieve reliable and repeatable formulas in the development of coatings, inks and cosmetics.

¬ **Grindometers,** are used to determine the milling degree (size of grain or particle) of paints, lacquers, varnishes, inks, etc. This is essential in the production of paints and applications by airless, in order to choose the suitable nozzle. They are also used in the Food Industry (chocolate) and Pharmaceutical Industry (creams).

¬ **Pycnometers**, also called specific gravity cups, are a stainless steel or anodised aluminium precision instrument used to determine the specific weight of paints, inks, pastes, adhesives and similar products. Composed of a recipient and overflow in order to fix the exact volume, to determine the precise weight.

¬ **MFFT** or Equipment for determining the minimum temperature for the formation of films in emulsions, polymers and adhesives.

¬ **Drying time**, to discover the time that it takes for a coating to cure or to dry and then calculate application times of subsequent coats or treatments.

¬ **Resistivitimeter** to measure the resistivity of paints and varnishes quickly and accurately, essential in order to ensure the correct function of installations of electrostatic painting, facilitating significant savings in paint and minimising waste.

¬ **Viscosity**, fundamental parameter of the behaviour of paints, both in the manufacturing process and during application. There are several methods, from measuring the emptying time of a viscosity cup, which can be carried out directly on a production line, or the rheological measuring of a liquid using a viscometer or rheometer, used frequently in the Laboratory.

NEURTEK has viscosity cups which are approved by the standards ISO, FORD, ZAHN, electric rotatory viscometers (BROOKFIELD method) and rheometers with coaxial or cone-plate discs.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Hegman Grindometer

Standards: UNE EN ISO 1524, ASTM D1316

Grindometers are used to determine the milling degree (size of grain or particle) of paints, lacquers, varnishes, inks, etc. This is essential in the production of paints and applications by airless, in order to choose the suitable nozzle. Manufactured in tempered stainless steel AISI-420.

Length of 160 mm., with scale in microns and Hegman scale (except the 15 um. one)
With 2 application channels.

Reference	Range	Length
0236300	0 to 15 microns	160 mm.
0236000	0 to 25 microns	160 mm.
0236100	0 to 50 microns	160 mm.
0236200	0 to 100 microns	160 mm.

Precision Grindometer

Special grindometer, substantially longer (200 mm.) than the standard grindometers (160 mm.), making more accurate readings possible given that the resolution in microns is lower.

With 2 application guides, both 13 mm.
Length 200 mm.

Reference	Range	Resolution
0236500	0 to 25 microns	1 micron
0236520	0 to 50 microns	2 microns
0236530	0 to 100 microns	5 microns

Pycnometers (Density)

Standards: UNE EN ISO 2811, ASTM 1475

To determine the specific weight of paints, inks, pastes, adhesives, etc. It consists of a vessel and a overflow in order to fix the exact volumen.

To complement the test, some Scales are needed, which can be found in the Laboratory Equipment section.

Manufactured in stainless steel. Supplied in the following capacities and order codes:

Reference	Capacity
0237001	100 c.c.
0237002	100 c.c. with Calibration Certificate
0236950	50 c.c.
0236951	50 c.c. with Calibration Certificate

Resistivity Meter – RE45

Ref. 0200600

Standards: ASTM D 5682

Resistivity Meter for electrostatic paints. Measures the resistivity of paints, varnishes and liquids, quickly and accurately. Essential in order to ensure the correct function of installations of electrostatic painting and the corresponding savings in paint and waste minimisation.

Micro processed system, with automatic scaling.

Ransburg Scale, from 100 Kohm to 20 Mohm.

Minimum Film Forming Temperature

Standards ISO 2115, ASTM D2354

The minimum temperature at which films form (MFFT) is an important parameter in the development and manufacturing of water-based Emulsions, Adhesives and Polymers.

They are supplied in two versions, up to 60ºC and up to 90ºC:

Reference	Capacity
RHO-MFFT60	Minimum Film Forming Temperature, with gradient of 6 temperatures. (-10 to 60ºC).
RHO-MFFT90	Minimum Film Forming Temperature, with gradient of 9 temperatures. (-10 to 90ºC).

Drying Time

Standards: ISO 9117-4

Equipment to find out the time that it takes for a coating to cure or to dry.

A needle holder which has six hemispherical needles travels along the length of the six test strips measuring 305 x 25 mm., in 6, 12 or 24 hours. Other speeds are available upon request. There is a graduated time scale on the side covering which is used to adapt the equipment to the three established times.

Reference	Meter
0242200	Drying time recorder BK3, with 6 tracks
0242210	Drying time recorder BK6, with 6 tracks configurable in pairs
0242220	Drying time recorder BK10, with 10 tracks configurable in pairs

Flash Point Meter

Ref. 0243500

Standards: ISO 3679, ISO 3680, ASTM D 3278, ASTM D 4206

The RT-O1 Rapid Tester is a semi-automatic instrument for determining the temperature of the flash point by closed cup, for flammable liquids between -30 and 300ºC.

The duration of the test is one minute and the sample required is only 2 ml.

Viscosity Cups

Ford Cup

Standards: ASTM D1200-94

For the simple and practical measuring of the viscosity of paints, inks, lacquers and other liquids.

Manufactured in anodised aluminium with a flow case made of stainless steel.

¬ Also supplied with 6, 7 and 8 mm. diameter orifices, not as Standard.

Ref.	Ref. with Handle	Model	Ø Flow orifice
0201210		Ford 1	1.90 mm.
0201220		Ford 2	2.53 mm.
0201230	**0201020**	Ford 3	3.40 mm.
0201240	**0201000**	Ford 4	4.12 mm.
0201250	**0201010**	Ford 5	5.20 mm.
0201260		Ford 4 with Certificate	4.12 mm.
0201270	**0201030**	Ford 6	6 mm.
0201070		Ford 7	7 mm.
0201280	**0201040**	Ford 8	8 mm.

UNE ISO Cup

Standards: UNE EN ISO 2431

For the simple and practical measuring of the viscosity of paints, inks, lacquers and other liquids.

100 ml. volume, manufactured in anodised aluminium with a flow case made of stainless steel.

Reference	Model	Ø Flow orifice
0201901	ISO 3	3 mm.
0201902	ISO 4	4 mm.
0201903	ISO 5	5 mm.
0201904	ISO 6	6 mm.
0201930	ISO 3 with Certificate	3 mm.
0201900	ISO 4 with Certificate	4 mm.
0201910	ISO 6 with Certificate	6 mm.

DIN Cup

Standards: DIN 53211-85

For the simple and practical measuring of the viscosity of paints, inks, lacquers and other liquids.

100 ml. volume, manufactured in anodised aluminium with a flow case made of stainless steel.

¬ Not as Standard, also supplied with 6 and 8 mm. diameter orifices.

Ref.	Ref. with Handle	Model	Ø Flow orifice
0201106	**0201100**	DIN 4	4 mm.
0201101		DIN 4 with Certificate	4 mm.
0201107	**0201105**	DIN 6	6 mm.
0201108	**0201109**	DIN 8	8 mm.

Zhan Cup

Standards: ASTM 4212-93

Immersion cup for the simple and practical measuring of the viscosity of paints, inks, lacquers and other liquids. Manufactured in chromed steel in 5 models.

Reference	Model
0201806	Zhan 1
0201805	Zhan 2
0201803	Zhan 3
0201801	Zhan 4
0201802	Zhan 5

Tripod Stand for Cups

Ref. SE-7001021

Tripod Stand for viscosity cups. Auxiliary element for setting the measuring conditions required by the standards. Includes adjustable feet and spirit level.

Suitable for all previously mentioned cups, except for cups with handles.

Stop-watch

Ref. SP-810013R

Accessory for measuring fall time in the viscosity cups.

- Counter / Time / Alarm
- Range: **24 hrs.**
- Resolution: **1 / 100 sec.**

Calibration Pattern Oils

To maintain the equipment correctly, it is required to regularly check the accuracy of the measurement using Viscosity Patterns.

Viscosity Patterns (Silicone Oil) from 5 to 100,000 Cps, and patterns for viscosity cups from 17 to 850 cSt.

Reference	Pattern	(cSt)
0202507	C10	17
0202511	C20	34
0202510	C60	120
0202513	C100	230
0202514	C200	460
0202515	C350	850

Viscometers and Rheometers

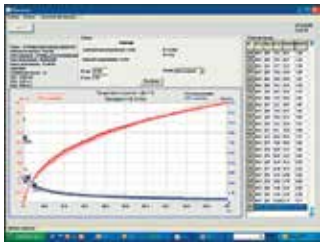
Digital Cone-Plate Rheometer

Ref. LA-T200000

The digital rheometer RM200 Touch with 7" touchscreen enables rheology studies to be carried out at a wide range of shearing speeds using a Cone-Plate system (from 0.3 rpm to 1,500 rpm with cones with diameters of 20 or 40 mm.).

It allows the behaviour of the paints to be studied and the quantitative assessment of the most important parameters: the calculation of the Yield Tension, Thixotropic assessment, variation of the Yield and Viscosity with the speed of the shear….

In combination with the base which features temperature control using the Peltier system, it allows you to carry out tests at different temperatures (+5ºC to +80ºC in CP4000 and from an ambient at +300ºC in version CP4000H).



The Rheomatic-P software makes it possible to programme, control, log, analyse and interpret the results using the different mathematical models incorporated.

Advanced Rotatory Viscometer

Ref. LA-T100100
Standards: ISO 2555, ISO 3219 (with coaxial cylinder spindles, e.g. Ref. LA-112801)

Rotatory viscometer with 7" touchscreen. Simple and intuitive. Its electronic technology, without mechanical measuring of the torque, makes for a robust design:

- There is no spring for measuring the torque, but direct coupling.
- Joining of the axis/spindle by bayonet (fast and robust).
- Low maintenance (there is no need to regularly change the spring of the traditional Brookfield system).

It has a USB connection for pen drives and computers.

Optionally, the data processing software "Visco-RM Soft" (Ref. LA-311003) can be installed. This allows you to carry out initial rheological characterisation simply.

Rotatory Viscometer

Ref. VIS-MY-002-R

This Brookfield-type viscometer is built according to the specifications of the ISO 2555 standard. Available in 3 versions of torque (L, R and H) and designed for carrying out measurements in accordance with the UNE EN ISO 2555 Standard, it is fully comparable with any Brookfield equipment.

The equipment includes, as standard, a Pt100 probe in order to control the test temperature precisely (0ºC to 120ºC). It is supplied with stand, column and spindle cover.

The following accessories can be attached optionally:

- Adaptor for small sample volume
- Adaptor for very low viscosities
- Helical adaptor for samples of pastes, putty…

Automatic Viscometer Krebs-Stormer

Ref. VIS-KREBS-2000
Standards: ASTM D562, ASTM D1131, ASTM D856

Used to measure the viscosity of paints and coatings, adhesives, inks and paste-like samples both in the manufacturing process and in quality control laboratories. Based on the traditional KREBS method: one single speed (200 rpm) and one single spindle. The microprocessor automatically converts the measurement into the selected unit: KU, g or cP and shows it on the display.

It has two working modes:

- **Manual:** you may carry out measurements of any type of recipient and condition, where the lowering of the measuring head should be done manually by pressing the movement button.
- **Automatic:** using the screen, you can choose and modify the parameters for the immersion time of the spindle in the sample before beginning the rotation and the time of the spindle immersed in the sample. The head lowers automatically once the measuring process has begun.

Calibration Pattern Oils

Viscosity Patterns both for Krebs Stormer viscometers and for Brookfield-type rotatory viscometers.

Reference	Pattern	(cPs)	Ku
0202508	S600	1060	88
0230111	N1000	2000	106
0202518	RT100	96	
0202520	RT1000	960	
0202519	RT5000	4800	

FILM APPLICATORS AND CONTRAST CARDS

In order to be able to perform laboratory tests is key to prepare and reproduce the samples with a controlled and homogeneous thickness.

The ideal application is with an automatic applicator, as this is a motorised system with variable speed to which manual applicators can be attached. This is essential in order to maintain a colorimetric system.

With manual applicators, the most accurate and homogeneous film is achieved with the bar coater. The rest of the applicators are more flexible as they can be regulated or the thickness can be chosen and they sometimes end up being more economic and practical.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Film Applicators

ATX Automatic Film Applicator

Ref. 0231000

Essential in the preparation of samples for testing rheological properties, resistance to abrasion, covering power and gloss.

It is used to prepare a wide variety of product samples such as colour formulations in paints, varnishes and adhesives.

The motorised NEURTEK automatic applicator ensures linear motion and application of the film with repetitive and high quality results. It enables a uniform application which can be reproduced on cards, panels or films, avoiding variable factors such as speed, weight or direction which occur in manual application.

It stands out due to its compact, robust and precision design along with its flexibility allowing digital adjustment of speed, start, stop and stroke position.

NEURTEK has designed and manufactured this equipment based on the needs and demands of our customers.

- ¬ Compact size (202 x 405 x 169 mm.): recommended for all types of laboratories.
- ¬ Resistance to possible paint splatter: anti-graffiti and paint spillage.
- ¬ Keys and large non-touch screen. Easy to use with unclean hands. Recommended for painting environments.
- ¬ Option of adding weights and different types of applicators including spiral bar coaters without the need for tools.
- ¬ Glass base to ensure the flatness of the sample.
- ¬ Economical to justify the investment compared with a manual applicator.

Ref. Short bars	Ref. Long bars	Thickness
0235101	**0235201**	15 µm.
0235102	**0235202**	25 µm.
0235104	**0235204**	50 µm.
0235105	**0235205**	60 µm.
0235106	**0235206**	75 µm.
0235107	**0235207**	100 µm.

Technical data

- Speed: **40-200 mm/s. 16 adjustable speeds.**
- Sample size: **200 x 170 mm. Thickness 3 mm.**
- Maximum length: **200 mm configurable.**
- Width of bar coater **250 mm (180 mm with spiral)**
- Screen: **TFT 4.3" colour LED**
- Dimensions:
  202 (width) x 405 (depth) x 169 mm (height)
- Weight: **7 Kg**
- Consumption: **12 W, 220 /110V.**

ATH Automatic Film Applicator

Ref. 0231400

The motorized film applicator ATH is ideal for accurate and recurrent application of coating materials, adhesives and similar products.

Glass plate and printing blanket included in delivery.

The ATH can be used with all current bar applicators and profile rods (410 mm only) unproblematic.

Technical data

- Dimensions (LxWxH): **55 x 36 x 18 cm**
- Power supply: **24 V – external AC adapter 100 – 240 V / 50 Hz**
- Application width: **max. 300 mm**
- Application length: **max. 418 mm**
- Application Speed: **3 - 330 mm/s**
- Weight: **20 kg**
- **Film applicator ATH / basic unit incl. glass plate & printing blanket**
- Optional equipment:
  Vacuum plate (with sintered metal inlets)
  Low vacuum generator (Ejector – pressure air access is required)
- **Spiral bars for use with ATH – 410mm**

Manual Film Applicators

Spiral Bar Coaters

Manufactured in stainless steel, they enable accurate layers of paints, varnishes, inks, adhesives, etc. to be obtained on any surface, as long as it is perfectly flat. Ideal for carrying out multi-layers or parallel tests.

We have bar coaters for wet film thicknesses of 10 to 200 microns.

Stand for Bars

These are used to hold the contrast cards and make it easier to achieve a suitable resting surface in order to carry out quality applications.

Ref. 0235110 15 cm. stand for short bars and manual applicators.

Ref. 0235210 25 cm. stand for long bars.

Ref. Short bars	Ref. Long bars	Thickness
0235100	**0235200**	10 µm.
0235101	**0235201**	15 µm.
0235102	**0235202**	25 µm.
0235103	**0235203**	35 µm.
0235104	**0235204**	50 µm.
0235105	**0235205**	60 µm.
0235106	**0235206**	75 µm.
0235107	**0235207**	100 µm.
0235111	**0235211**	125 µm.
0235108	**0235208**	150 µm.
	0235209	200 µm.

Index for Levelling and Sagging

Ref. 0235000

Standards: UNE 48043-84, UNE 48068-94, ASTM D-4400-89

Allows tests to be carried out using both sides of the applicator.

Levelling: 5 pairs of grooves, 0.25, 0.5, 1.01, 2.03 and 4.06 high, 1.5 mm. wide, distance between grooves: 2 mm.

Sagging: 10 different heights of grooves, 6 mm. wide, distance between grooves: 1.5 mm.

Width: 100 mm.

Daniel Flow Gauge (Flow)

Ref. 202290M001

Simple instrument used to measure and analyse the flow of putties, pastes and thick paints. Two viscous liquids can have the same flow, but different extension speed curves due to the rheological differences between them.

The milling degree and the quality of a paste or putty are directly related to the flow and binding. Both characteristics are reflected in the flow gauge readings.

Baker Applicator

Standards: ASTM D823

Cylindrical applicator with four defined application heights. Supplied in the following widths and order codes:

Reference	Width	Height
0234100	80 mm.	30/60/90/120
0234000	50 mm.	30/60/90/120
0234001	50 mm.	50/100/150/200
0234101	80 mm.	50/100/150/200

Quadrangular Applicator

Standards: ASTM D823

Paint spreader with 4 defined heights.

The standard usage height is 60 mm., although it can be manufactured with special widths and micronages upon request.

Reference	No.	Micronage
0232000	1	30-60-90-120 µm.
0232100	2	50-100-150-200 µm.
0232200	3	200-250-300-350 µm.
0232300	4	300-400-450-500 µm.
0232400	5	250-500-750-1.000 µm.
0232500	6	1.000-2.000-3.000-4.000 µm.

Baker Universal Applicator

Standards: ASTM D823

Film applicator with adjustable and variable height via an eccentric and graduated drum.

Adjustable application thickness of 0 to 250 microns.

Reference	Width	Microns
0233100	50 mm.	0-250 µm.
0233000	80 mm.	0-250 µm.

Bird Applicator

Standards: ASTM D3022, ASTM D3823

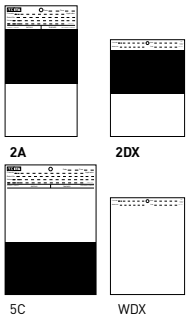
Prism-shaped applicator with flat edges and 4 application sides (50, 100, 150 and 200 µm.)

Reference	Width	Microns
0234500	50 mm.	50-100-150 and 100 µm.
0234510	75 mm.	50-100-150 and 100 µm.
0234520	100 mm.	50-100-150 y 100 µm.
0234530	150 mm.	50-100-150 y 100 µm.

Leneta Contrast Cards

Packets of 250 units.

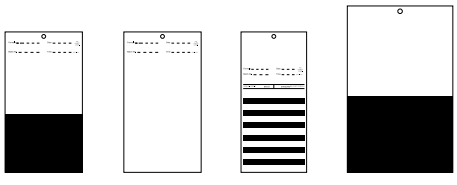
Reference	Model	Dimensions
0224951	2A	140x254 mm.
0224952	5C	194x260 mm.
0224954	2DX	98x152 mm.
0224955	WDX	98x152 mm.



Economic Contrast Cards

Simple contrast cards for carrying out visual controls or with complete opacity, with normal UV component and with enamel.

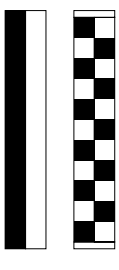
Reference	Model	Dimensions	Unit
0224904	B/W	100x190 mm.	300
0224906	White	100x190 mm.	300
0224903	Zebra	100x190 mm.	300
0224901	B/W (large)	190x289 mm.	250



Spray Strips

Covering power of OEM surfaces. 250 units.

Reference	Model	Dimensions
0224939	S71	51x279 mm.
0224942	S72	51x279 mm.



ADHERENCE

Adherence is the tendency of the different particles and/or surfaces to adhere to each other. The adhesive resistance of paint and coatings is of crucial importance so that the material complies with basic protective and decorative functions.

Adherence tests in the paints and coatings industry are necessary in order to ensure that the paint or coating adheres correctly to the substrate. These tests quantify the resistance of the bond between the substrate and the coating, or between the different layers of coating or the cohesive strength of the materials. The adhesive resistance depends, to a large extent, on the process carried out prior to surface treatment, as well as the compatibility between materials.

Adhesion tests are used as part of inspection and maintenance procedures to help to detect potential coating failures, to control the quality of a coating or to define whether an existing coating system has to be mixed before applying new paint.

¬ Cross cut or cross hatch adherence: this consists of forming grids of the same size on the substrate of the painted surface. Then, we make a cross-shaped cut, the standardised adhesive tape is applied, the tape is removed and examined with a magnifier to see the level of flaking on the vertexes.

NEURTEK has developed a new 3D printed handle. This new design facilitates the cutting position of the blade, making it easier to reach the substrate.

¬ Pull/Push adherence: This is measured by evaluating the minimum tensile stress required to separate or break the coating perpendicular to the substrate. The test is carried out by adhering a dolly in a perpendicular position to the surface of a coating. Then, the test instrument is attached to the loading device and is aligned in order to apply force to the test surface perpendicularly. The force applied increases gradually and is controlled until the dolly becomes detached or a previously specified value is reached.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

KN-10 Pull-off Adhesion Tester

Standards: UNE EN ISO 4624, ASTM D4541, UNE EN 1015-12

NEURTEK's KN-10 Pull-off Adhesion Tester is done to obtain objective and accurate values for the adherence of the coating directly on the force scale, avoiding the subjectivity of visual methods.

Electronic unit, manufactured with 3D printing technology, improving the design, weight, stability and adjustment of the equipment

It includes interesting applications such as: adherence of paints and coatings on façades, the plaster work of interiors, tiles and stone treatments, it can also be used to accurately find out the suitability of pre-treatments, surface cleaning methods and products used.

Automatic calibration and scaling by microprocessor.

- Scales or units: **Kgf and Kg/cm²**
- Range de measurement: **from 5 to 1,000 Kgf. (10 KN. 300 Kg/cm2, 30 MPa)**
- Resolution: **1 Kgf**

Reference	Description
0302600	Adherence meter with 20 mm. dollies, for paint.
0302700	Adherence meter with 50 mm. dollies, for construction.

Dollies

Dollies for adherence tests on coatings of paint, galvanic layers and construction materials.

Reference	Dimensions	Quantity
0302901-100	Ø 20 mm.	Packet of 100 units
0302902-30	Ø 50 mm.	Packet of 30 units

PosiTest AT-A Pull-off Adhesion Tester

DeFelsko®

Ref. DEF-POSITESTAT-A

PosiTest AT-A Pull-off Adhesion Tester. Measures the adherence of coatings on metal, wood, concrete, etc. System fitted with an electronically controlled hydraulic pump, in compliance with standards ISO 4624 and ASTM D4541. With adjustable speed, it reduces the effort exerted by the user and the risk of influencing the traction process. It has a touchscreen, memory for saving data and includes the possibility of transferring data via Wi-fi and Bluetooth.

Cutter or Cross Cut - Adhesion Tester

Standards: UNE EN ISO 2409, ASTM D3359, DIN 53151

New handle with ergonomic design, manufactured with 3D printing. The rotating head make it possible to adap to all types of surfaces. Improved usability.

Test in order to study the adherence of the coating to the substrate, consisting in forming grids of the same size on the substrate of the painted surface.

Once the standardised tape has been brushed and adhered, by subsequently removing it, a magnifier is used to examine the level of flaking of the vertexes. The basic accessories are supplied. The blade that is most suitable for the thickness of the layer under examination should be separately ordered, acording to standard indications.

The blade, for 6 cuts, has a special design, with 8 positions, which practically makes it a perpetual cutter.

The adhesive tape the most common accessory is supplied.

Adhesive tape available for tests according to standard: VW, Renault, Ford and GM (Opel).

Reference	Kits and Handles
0302000	Kit for Cross Cut NK2000 Adherence Test, with 3D printed handle
0302009	Kit for Cross Cut Adherence Test, with polyamide handle
0302008	3D printed handle for Cross Cut adherence test
0302007	Polyamide handle for Cross Cut adherence test

Reference	Blades	Characteristics
0302001	Blade step 1 mm. for 6 cuts	Thickness 0 - 60 microns
0302002	Blade step 2 mm. for 6 cuts	Thickness 60 - 120 microns
0302003	Blade step 3 mm. for 6 cuts	Thickness 120 to 250 microns
0302004	Blade step 4 mm. for 5 cuts	Thickness > 250 microns
0302005	Blade step 1 mm. for 11 cuts	Special applications

Reference	Adherence Tapes	Characteristics
0302011	Adherence tape ISO 2409	7.5N/25 mm. (66 metres x 50 mm.)
0302010	Adherence tape - Old Standard	10N/25 mm.
0302013	Adhesive tape for cross cut - FORD	77N/100 mm.
0302014	Adhesive tape for cross cut 2525 - Renault	75N/100 mm.
0302015	Adhesive tape for cross cut 4651 - Opel	3.3N/cm.
0302016	Adhesive tape for cross cut 4657 - Volkswagen	4.6N/cm.

Multifunctional Test Plate

Ref. 0219000

Standards: UNE EN ISO 2409 (point 3.2.2.3.)

Cross cut testing can also be carried out using a template and a cutter. A guide plate, with grades of thickness 1, 1.5, 2 and 3 mm., is used to perform the cuts.

This multifunctional plate, which measures 80 x 70 mm., can also be used for other additional tests:

- ¬ Cutting in X or St Andrew's cross
- ¬ Thickness of wet layers between 50 and 500 µm.
- ¬ Progressive applicator of 0 to 2 mm.
- ¬ Levelling

IMPACT AND FLEXIBILITY

Elasticity and resistance to deformation are some of the main physical properties that the coatings industry currently demands. This flexibility is the characteristic of a dry films ability to adapt to the deformations of a substrate, without fissures, cracks or flaking.

A coating should have a series of adequate properties, so that it is subjected to a test, it should be able to withstand an acceptable level of impact.

There are three different test methods in order to determine the behaviour of a coating with regard to different deformation conditions:

¬ **Bending test:** A coated sheet is bent in a cylindrical or conical mandrel and the coating is examined for cracks or discolouration.

¬ **Impact test:** A sheet is placed underneath a descending weight and is examined for resulting damage caused by deformation.

¬ **Punch test:** A coated sheet is subjected to gradual deformation caused by a polished die. The deformation is caused by the die pushing from underneath the coating, that is, from the reverse side of the sheet. The test ends when the coating begins to break.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Impact tester for paint

Impact test for coatings of paint applied to a metallic base. It allows you to view the appearance of cracks and chips, resistance to shock, flexibility, adherence and curing of the coating.

If you have a predetermined specification, simply place the mass at the indicated height and release it, visually examining the possible cracks. To find out the limit of the coating, you can perform more tests, increasing the height until the coating cracks.

With the support base, a hollow bar graduated to 1 metre is supplied along with the accessories to comply with the standards (see table).

Ref. 0304025

Reference	Description	Standards	Impact weight	Additional weights (with screw)	Static weight with ball	Ø ball	Ø ring	Max. height
0304020	Impact Tester for Paint ISO / DIN	UNE EN ISO 6272-1 DIN 55669	1,000 gr.	1,000 gr.		20 mm.	27 mm.	1,000 mm.
0304030	Impact Tester for Paint QUALICOAT	UNE EN ISO 6272-2 QUALICOAT	1,000 gr.	1,000 gr.	150 gr.	15.9 mm. (or 12.7 mm.)	16.3 mm.	1,000 mm.
0304040	Impact Tester for Paint according to ASTM	ASTM D 2794	900 gr.	120 gr.		15.9 mm.	16.3 mm.	1,000 mm.
0305300	Impact Tester for Enamel	UNE EN 10209 (Appendix C)	1,500 gr.		360 gr.	22 mm.	20.6 mm.	1,000 mm.
0304100	Impact Tester for Reflective Coatings	UNE EN 60598-1	510 gr.					350 mm.
0304110	Impact Tester for Vertical Signs	UNE 135331	450 gr.					350 mm.

0304025 New Fixing System for weight to facilitate height adjustment

Portable Impact Tester for Enamels and Laminates

Ref. 0305200
Standards: UNE EN 438-2, DIN 51155

Portable instrument for shock testing on vitrified enamel and decorative laminates.

The instrument consists of a Ø 5 mm. spherical striker, with an adjustable tension spring of between 0 and 90 Newtons, with trigger and tripod.

With the optional base stand (Cod. 0305202) it complies with the Standard DIN 53799.

Flexibility

Cupping Tester

Ref. 0304800
Standards: UNE EN ISO 1520, BS 3900 E4

Cupping test for coatings carried out on their substrate. It allows you to find out the properties of the coating when cupped along with its adherence. We have managed to minimise the manual force required for deforming the test panel, making constant deformation possible, in compliance with standards.

Using a polished sphere with a diameter of 20 mm., the test piece is cupped until cracks appear, observing the depth of the cupping with the micrometer. Contact us if you require a motorised system.

The level of deformation is registered digitally to a resolution of 0.01 mm.

An optional illuminated magnifier helps to achieve a better visual evaluation.

This test is obligatory in laboratories accredited by Qualicoat.

Cylindrical Mandrel - Bending

Ref. 0305100
Standards: UNE EN ISO 1519, ASTM D522-B, DIN 53152

Flexibility and adherence test for coatings on their substrate.

Test plates of up to 57 mm. in width are bent on the mandrels at a decreasing diameter until cracks appear.

Supplied with stainless steel mandrels of 2, 3, 4, 5, 6, 8, 10, 12, 16, 20, 25 and 32 mm.

Conical Mandrel - Bending

Ref. 0305000
Standards: UNE EN ISO 6860, ASTM D522-4

Flexibility and adherence test for coatings on their substrate.

Consists of a conical mandrel, 200 mm. in length with a decreasing diameter from 37 to 3 mm., upon which test pieces of the same size are bent.

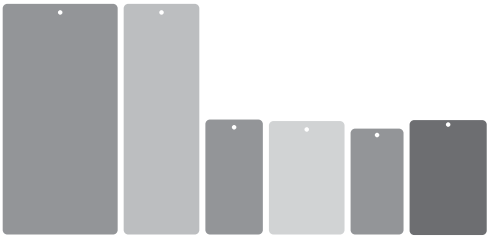
Provides the maximum reading of the diameter where the cracks begin to show.

Test Panels for Laboratory

Panels

We have a **wide range of panels** in a large variety of dimensions and materials, intended for tests for paints, varnishes, enamels, inks, glues, adhesives and resins. Used in laboratories for colour comparison, accelerated ageing, tests on physical properties - mechanical and quality control.

We supply different materials and alloys. The panels comply with the “QUALICOAT” standards.



Panel materials
Aluminium, Carbon Steel and Tin.

Dimensions
Standard and customised to the client’s requirements.

Formats
Standard, rectangular with rounded corners for safety.

With needle
To be hung and to facilitate handling.

Aluminium Panels

Steel Panels

F6702 (UNE-36086-1)

Tin Panels

Special Metal Panels

We can manufacture different types and measurements in addition to our standard panels.

We also produce special panels for the automotive industry.

- METOPAC
- TABER
- FARADAY PANELS
- CURVED PANELS
- DISLODGMENT OF POWDER PAINT

APPLICATION FORM:

TIPE OF METAL:

- ☐ Aluminium
- ☐ Steel
- ☐ Tin

Dimensions:

Standard:

Needle:

- ☐ Yes
- ☐ No

Finishing:

- ☐ Normal
- ☐ Degreased

Request your test panels indicating all the details.

Multi-panels

Aluminium panels for the implementation and preparation of sample book catalogues, personalised colour panel cards or test panels.

We can design personalised panels, when requested by our clients, altering the interior and/or exterior measurements of the multi-plate in order to adapt it to your painting or control needs (paint chains, laboratory drying ovens, production of sample displays, etc.).

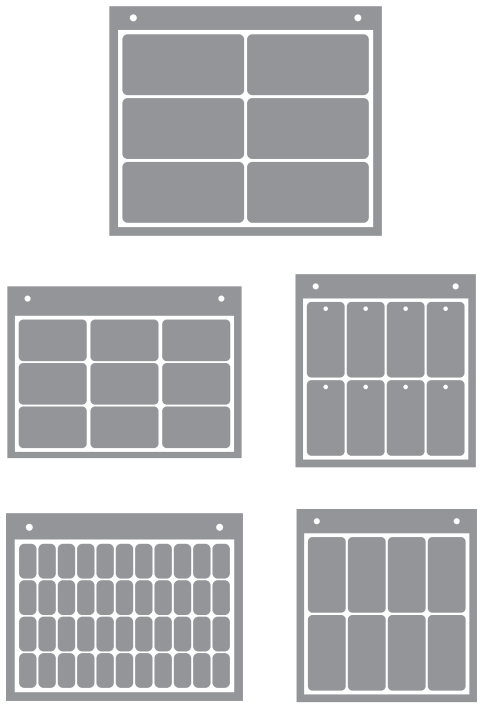
All pieces can be painted onto the multi-panels in a single step and then be easily separated by hand for their subsequent usage.

Application advantages:

- Uniform painting of all of the panels (micronage).
- The curing of the paint is equal for all panels, obtaining identical gloss and colour in all samples.
- Less drying time to obtain a greater quantity of samples and energy savings.

The Multi-plate panels are made of aluminium, but can also be produced in other metals such as carbon, galvanised or stainless steel, etc.

Always with a minimum thickness of 0.8 mm.



Sample displays - Personalised Catalogues

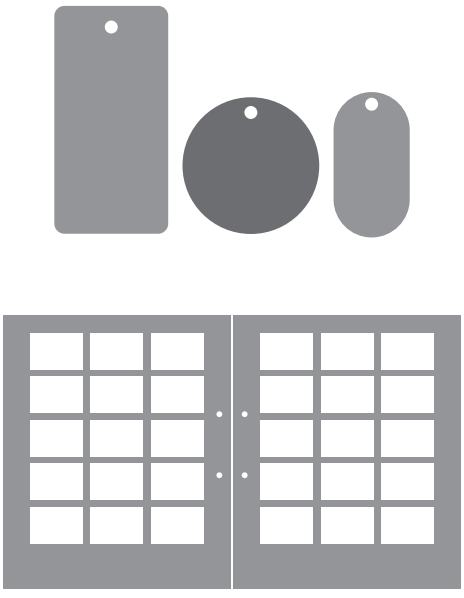
Personalised colour sample displays: Two-sided leaflet, Three-sided leaflet, Four-sided leaflets, Fans.

Show your colours to clients, suppliers or workers in an original way.

Choose the graphics, the format, the number of colours, the shape of panels and stand out with your sample displays.

Oval, round, square, etc. panels, made in 1050 H14 aluminium in 0.3 and 0.6 mm. thickness and with a 6 mm. diameter hole.

We can design customised panels upon request from our clients.




210
190
170
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370
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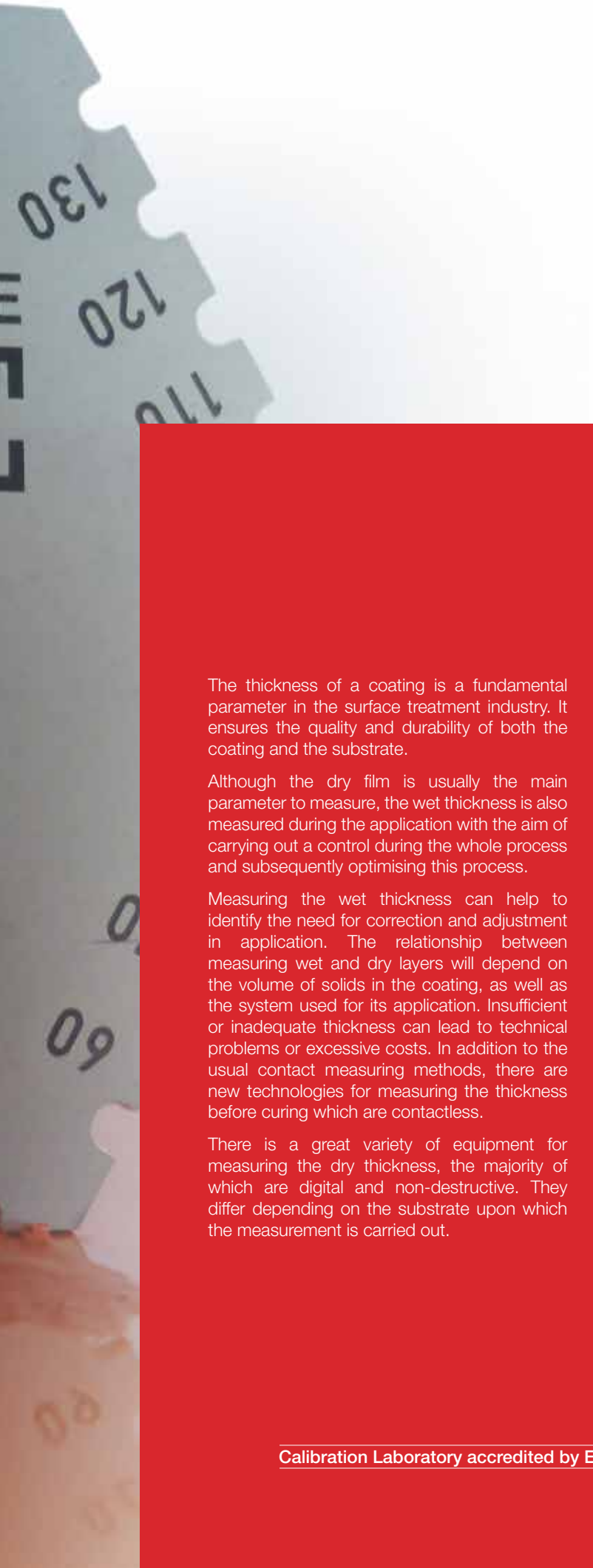
50
WET FILM
THICKNESS GAUG
NEURTEK
WG I
20 - 370 µm



THICKNESS

The thickness of a coating is a fundamental parameter in the surface treatment industry. It ensures the quality and durability of both the coating and the substrate.

Although the dry film is usually the main parameter to measure, the wet thickness is also measured during the application with the aim of carrying out a control during the whole process and subsequently optimising this process.

Measuring the wet thickness can help to identify the need for correction and adjustment in application. The relationship between measuring wet and dry layers will depend on the volume of solids in the coating, as well as the system used for its application. Insufficient or inadequate thickness can lead to technical problems or excessive costs. In addition to the usual contact measuring methods, there are new technologies for measuring the thickness before curing which are contactless.

There is a great variety of equipment for measuring the dry thickness, the majority of which are digital and non-destructive. They differ depending on the substrate upon which the measurement is carried out.

There are meters for metal bases, among which one can distinguish between equipment for measuring upon Ferrous Metal (FE), Non-Ferrous Metal (NFE) or all Metals (FN).

We also have equipment for measuring coatings on Non Metal bases, such as plastic, wood, glass, concrete... These pieces of equipment use ultrasound technology for measuring.

It is also possible to measure the thickness of the wall, including the thickness of the coating to detect cavities and defects in material without damaging it. For this type of measurement, the instruments use ultrasonic technology. They are used to measure the thickness of the material or to detect defects when it is only accessible from one side. In this case, one can distinguish between single and multiple echo gauges, depending on whether the material has a coating or not.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Thickness Gauges for Dry Film Coatings on Metallic Bases

DeFelsko®

PosiTector 6000 - Thickness Gauge for Metal Bases

Standards: ISO 2178/2360/2808, ISO 19840, ASTM B499/D1186/D1400/ D7091/E376/G12, S3900-C5, SSPC-PA

Once the electronic unit (1 Standard or 3 Advanced) has been selected, the probe which is best suited to our application is chosen, in accordance with the following nomenclature:

F Ferrous Metal | N Non-Ferrous Metal | FN Ferrous / Non-Ferrous Metal | S Cable probe | 1 Standard | 3 Advanced

PositTector 6000 probes can remain attached to the equipment in such a way that the instrument need only be placed on the surface that you want to measure, or the cable can be used, whichever way provides better access in confined spaces. Great variety of measuring ranges and types of probe, including cable probes, micro-probes, the new Xtreme series for measuring hot or rough surfaces and the FNDS probe for measuring two layers: galvanised + paint.

The PosiTector 6000 coating thickness gauge from Defelsko uses principles of induced and magnetic currents to measure the thickness of coatings in ferrous and non-ferrous metals accurately and quickly.

Fast and accurate measurements due to temperature compensation, its versatility stands out thanks to the interchangeable probe system. Ruby-tipped probes which are resistant to wear, for long-lasting calibration.

Universal electronic unit: connects to any probe.

Available electronic units:

Standard Electronic Unit

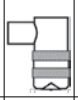
Standard equipment has improved, with faster measuring speeds: over 60 readings per minute, prepared to measure directly as no calibration adjustment is required in the majority of applications. In the statistics mode it measures and continually updates the average, the standard deviation, the minimum-maximum thickness and the number of readings during measurement. Includes the possibility of configuring HiLo alarms which provide sound and visual alerts when the measurements exceed the limits specified by the user. Includes cable and USB port, sealed for fast and simple connection to a PC.

Advanced Electronic Unit

With the advanced model, it is possible to store over 100,000 readings in up to 1,000 batches and sub-batches and see the graphs in real time. It has 3 scanning modes which increases the measuring speed to over 180 readings per minute, taking continuous readings without lifting the probe. It records the average, the standard deviation, the minimum-maximum thickness and the number of readings while it scans. Using Bluetooth and Wi-Fi technology, it synchronises with PosiSoft.net wirelessly and downloads software updates, as well as transferring the data to the cloud or to a device.

SmartLink

The SmartLink model connects the PosiTector probes to your intelligent Apple iOS or Android devices wirelessly. PosiTector SmartLink and the free mobile application turn your mobile phone or tablet into a virtual PosiTector meter. Each reading is transmitted instantly to your intelligent device, the automatic pairing Bluetooth low energy connection (BLE) works at a distance of up to 10 metres. Images can be added to individual readings or batches using the camera or image gallery. The AutoSync mode creates an instant backup copy of all readings in the cloud.

PosiTector 6000		Standard probes		Rough surfaces probe.	90° regular probe for tight spots	Ideal for anodised alumin-ium	Ideal for anodised alumini-um.	Micro-probes, for small surfaces or areas which are difficult to access.				Individual and interchangeable probes for thick protection coatings; epoxy, plastic, flame retardant insulation, etc. FHX Model for high temperatures and rough surfaces.						
																		
F	1	F1	FS1	FXS1	FRS1			F0S1	F45S1	F90S1	F90ES1	FT1	FTS1	FTRS1	FKS1	FHXS1	FLS1	
	3	F3	FS3	FXS3	FRS3			F0S3	F45S3	F90S3	F90ES3	FT3	FTS3	FTRS3	FKS3	FHXS3	FLS3	
N	1	N1	NS1		NRS1		NAS1	N0S1	N45S1	N90S1					NKS1			
	3	N3	NS3		NRS1		NAS3	N0S3	N45S3	N90S3					NKS3			
FN	1	FN1	FNS1		FNRS1	FNDS1							FNTS1					FNGS1*
	3	FN3	FNS3		FNRS3	FNDS3							FNTS3					FNGS3*
Range		0 - 1,990 µm.					Ferrous: 0 - 1,150 µm. Ferrous: 0 - 1,150 µm.					0 - 6 mm.			0-13 mm.	0-10,000 µm.	0-38 mm.	0-63.5.
Resolution		0.1 µm.					0.1 µm.					0.01 mm.				0.1 µm.	0.01 mm.	
Accuracy*		± 0.1 µm. + 1%					± 0.5 µm. + 1%					± 0.01 mm. + 1%			± 0.02mm. + 3%	± 2 µm. + 3%	± 0.5 mm. + 3%	

* Accuracy is established by means of a fixed value plus the % of the measurement taken in the reading.

Free PosiSoft Software available for viewing, analysing and evaluating data.

New probe for measuring dual FNDS. The individual thicknesses of the layer of paint and the layer of zinc can be measured using the same probe.

In Duplex mode, the PosiTector 6000 FNDS uses both magnetic principles (ferrous) and Eddy (non-ferrous) currents simultaneously to calculate and show the thicknesses of the paint and the layer of zinc individually. If the dual mode is deactivated, the equipment works as a one-layer thickness gauge on both ferrous and non-ferrous metal.

PosiTest DFT Economic Thickness Gauge

Standards: ISO 2178/2360/2808, ISO 19840, ASTM B244/B499/D7091/ E376/ G12, BS3900-C5, SSPC-PA2

Economic and compact thickness gauge, with integrated probe. Resolution and accuracy of 1 micron, envisaged for work requiring fast inspection and measurement.

With faster statistics and measurements, all instruments include a traceable calibration certificate and a set of 5 thickness shims.

Reference	Model	Substrate	Range	Resolution	Statistics
DEF-DFTFE	Ferrous	Iron-Steel	0 - 1,000 µm.	1 µm.	Yes
DEF-DFTCOMBO	Combo: Ferrous and non-ferrous	Iron-Aluminium-etc.	0 - 1,000 µm.	1 µm.	Yes

Calibration Shims – Patterns

Calibration foils or "shims" are the ideal method for adjusting and verifying coating thickness gauges, in order to ensure the best position possible and the correct operation of the equipment. They are also used to protect the probe when carrying out measurements on hot, rough or sticky surfaces.

Ref. 0210020 Set of plastic shims 25, 50, 125, 250 and 500 microns.
Ref. 0210019 Set of 8 plastic shims with NIST traceable certificate.

Dry Film Coating Thickness Gauge on Non-Metallic Bases

PosiTector 200 Non-Destructive Thickness Gauge

DeFelsko®

Standards: ASTM D6132, ISO 2808

Revolutionary equipment for measuring non-metallic bases such as wood, plastic, glass, concrete, etc. in a non-destructive manner using ultrasound technology. Only one of its kind on the market with automatic temperature compensation, which makes the measurements more stable. Capable of measuring up to three layers with the advanced electronic unit.

All probes are supplied with a traceable calibration certificate, set of shims and cable to connect to a PC.

Reference	DEF-200B1	DEF-200B3	DEF-200C1	DEF-200C3	DEF-200D1	DEF-200D3
Electronic Unit	Standard	Advanced	Standard	Advanced	Standard	Advanced
Individual Layers		x		x		x
Several layers		3		3		3
Minimum measurement of	13 microns		50 microns		50 microns	
each layer		x		x		x
Graphics on display						
Applications	Coatings on wood, plastic, etc.		Coatings on concrete and fiberglass		Coatings such as Polyurea, neoprene or coarse polymers	
Range	13 - 1000 µm.		50 - 3800 µm.		50 - 7600 µm.	
Accuracy	± 2 µm. + 3% of reading				± 20 µm. + 3% of reading	

PIG Universal – Destructive Thickness Gauge

Ref. TQC-SP1100
Standards: ISO 2808

A piece of precision equipment for inspecting and measuring the thickness of one or multiple coatings on practically any substrate, including wood, plastics, metals, etc. It is also used to observe and measure the defects of the substrate and the film.

A cut is performed with a steel knife and, subsequently, the width of the imprint is examined with a 50X reticulated magnifier with integrated LED light for improved vision. Range of 2 to 1800 microns. Includes 3 blades.

Reference	Description	D Factor	Range
TQC-SP1100	PIG Universal Equipment with 3 blades		2-1800 µm.
Consumables			
TQC-SP1111	Blade with cutting angle of 45°	20	20-1800 µm.
TQC-SP1112	Blade with cutting angle of 26.6°	10	10-900 µm.
TQC-SP1113	Blade with cutting angle of 14°	5	5-450 µm.
TQC-SP1114	Blade with cutting angle of 5.7°	2	2-250 µm.

Material Thickness Gauges via Ultrasound

PosiTector UTG – Wall Thickness

DeFelsko®

Standards: ASTM E797

Measures the wall thickness of materials such as steel, plastic and others using ultrasound technology. Ideal for measuring the effect of corrosion or erosion on tanks, pipes or any structure where access is limited to one side.

Available in two models: Single Echo (UTG C), for measuring directly on the surface of the material and Multiple Echo (UTG M) for measuring the thickness of material on a surface with a coating. Both models incorporate temperature compensation which guarantees measurement accuracy.

Model	UTG-C Corrosion		UTG-CX Corrosion		UTG-M Multiple Echo	
Reference	**DEF-UTGC1**	**DEF-UTGC3**	**DEF-UTGCX1**	**DEF-UTGCX3**	**DEF-UTGM1**	**DEF-UTGM3**
Electronic unit	Standard	Advanced	Standard	Advanced	Standard	Advanced
Probe	UTG C		UTG CX		UTG M	
Type of probe	5 MHz Dual Element		5 MHz Dual Element		5 MHz Contact	
Measurement with coating (Multiple Echo)	No		No		Yes	
Measuring range*-Single Eco	1 to 125 mm.		1 to 125 mm.		2.5 a 125 mm.	
Measuring range*-Multiple Eco	N/A		N/A		2.5 a 60 mm.	
Resolution	0.01 mm.		0.01 mm.		0.01 mm.	
Precision	± 0.03 mm.		± 0.03 mm.		± 0.03 mm.	

* Measuring interval is for carbon steel and depends on the surface condition, the temperature and the material.

Universal Inspection Kit

DeFelsko®

The PosiTector range from DeFelsko is a robust and ergonomic piece of equipment.

Fast and accurate measurements due to automatic temperature compensation.

Its versatility stands out thanks to its interchangeable probes for measuring thicknesses.

Thicknesses of coatings on metal bases (PosiTector 6000) both ferrous, using magnetic induction technology, non-ferrous, using Eddy currents, and non-metal bases (PosiTector 200) using ultrasonic technology.

The contactless PosiTector Powder Checker thickness gauge also uses ultrasound technology.

Select the required electronic unit between Standard (1) or Advanced (3).

Both have memory, statistics, maximums and minimums and a USB port for downloading data to PC with PosiSoft Software (included). The Advanced model has a colour screen, it allows you to store information in batches, real-time graphics and WiFi and Bluetooth connection.

All PosiTector machines are supplied with a traceable calibration certificate, set of shims, cable to connect to a PC and Software.

They also have a screen-less electronic unit which connects to a mobile device, Android or Apple iOS, which is called **SmartLink**.

Universal PosiTector Inspection Kit

DefelsKo has developed unique multi-parametric measuring technology in one single piece of equipment.

Standard electronic unit compatible with wide range of interchangeable probes:

- Thickness of coating on metal bases **(6000)**
- Thickness of coating on non-metal bases **(200)**
- Thickness of coating before polymerising **(PC)**
- Thickness of materials **(UTG)**
- Ambient Conditions
  Temperature, Humidity and Dew Point **(DPM)**
- Surface Profile **(SPG)**
- Surface Profile using Testex replica tape **(RTR)**
- Contamination by soluble salts – Bresle Method **(SST)**
- Hardness Shore A and D **(SHD)**
- Hardness Barcol Manual **(BHI)**

Thickness Gauge for Wet Film

NEURTEK instruments

Hexagonal Comb for Wet Film

Standards: UNE 4803-80, ISO 2808-7B, BS3900-C5 method 7B, ASTM D4414-A

Stainless steel hexagonal combs for measuring the thickness of wet film, manufactured with precision, extremely durable and reusable. With graded teeth, they have two support feet on each one of their six edges. The last tooth which comes into contact with the fresh paint indicates the thickness of the wet layer.

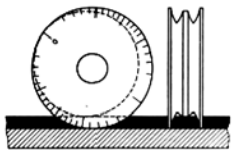
Reference	Range
0220500	25 to 2,000 microns
0220600	20 to 370 microns
0220700	50 to 10,000 microns
0220900	25 to 900 microns Economic plastic combs

Thickness Wheel

Standards: UNE 49031-80, ASTM D1212-9, ISO 2808

Thickness gauge for wet film, high-precision, accurate and easy to use. Manufactured in stainless steel, it consists of three discs. The middle one is the smallest in size and eccentric compared with the outer ones.

Rectified double wheel, with eccentric inner disc, rolls over the wet paint until the outer wheel comes into contact with the film. This point indicates the thickness. 50 mm. diameter disc, 10 mm. wide.



Reference	Range
0220300	0 to 25 microns
0220000	0 to 50 microns
0219900	0 to 125 microns
0220100	0 to 250 microns
0220200	0 to 500 microns
0220400	0 to 1,000 microns

Comb for Powder Paints

The Powder Checker allows you to measure fresh layers of powder paint before polymerising, making it possible to correct faulty layers by either adding more layers or removing surpluses by blowing.

Checking the thickness of the powder layer before curing allows you to ensure the correct application of the thickness, avoiding having to apply a second layer and possible problems regarding the integrity of the coating.

Reference	Description
0220800	Comb for powder paints, model 4 (75 to 300 µm)
0220801	Comb for powder paints, model 5 (250 to 625 µm)
0220802	Comb for powder paints, model 6 (500 to 1,250 µm)

TEMPERATURE AND HUMIDITY

Temperature, relative humidity, dew point and humidity are all vital aspects in order to successfully apply a coating. These parameters determine the application conditions of the coating and the subsequent quality and performance of the coated product. Among other aspects, the aesthetics, colour, texture, adherence, level of protection against corrosion or the useful life of the coating can be affected.

Temperature affects the life, viscosity and application characteristics of coatings. Measuring the temperature of surfaces and liquids in a fast and accurate way guarantees the correct application of coatings.

The air temperature and that of the substrate affects the drying properties of paint. If drying occurs incorrectly, the paint wrinkles and loses adherence. High temperatures reduce the drying time, but they may make application more difficult as they could endanger the flow and the levelling of the product - especially when finishes or varnishes are applied

The dew point defines the temperature at which moisture condenses on the material. Both the temperature of the ambient and the material itself should be greater than the dew point by a minimum of 3ºC*.

It is also important to control the moisture in the materials. Moisture in the material may provoke faulty adherence, subsequently causing premature failure of the coating, resulting in an unsatisfactory final appearance.

*Consult the data sheet of the coating manufacturer in each case.

ENAC
CALIBRACIÓN
Nº 117/LC10.084

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Thermometers

Thermometers with Thermocouple Probe

Standards: UNE EN ISO 2431

K-type thermocouple thermometers cover very wide ranges, between -200ºC and 1350ºC, with a great variety of probes.

Ref. HI-935005N, Range of -50 to 1350ºC waterproof, Hold, Max. and Min. functions.

Ref. HI-935002, With 2 channels for two simultaneous probes, with range from -200 to 1350ºC.

Probes: The range of the thermometers will depend on the K-type probes that are connected and which are not included with the equipment. The most common ones are those HI-766E2, for general uses, and the HI-766B2 for contact-surfaces.

We have a wide range of thermometers and probes. Request specific catalogue.

Infrared Thermometer

Ref. Ray-Minisight

Contactless temperature measurement via infrared and with a laser pointer.

Ergonomic and easy to use design with accuracy of 1% and a resolution of 0.1ºC. Range of -32ºC to 420ºC, focal ratio 20:1 and minimum target size of 13 mm. with a fixed emissivity of 0.95. Ideal for the direct control of products in production lines, terminals and electric material, etc.

We have models for high temperatures, with different focal ratios and adjustable emissivity.

Ref. DEF-IRT

Contactless temperature measurement with a range of -70 to 380ºC. Includes traceable calibration certificate. Compatible with PosiTector electronic units. See page 32.

Contact Thermometer

Ref. 0102000

To measure surfaces that are ferrous alloys due to their base featuring magnets which attach it to magnetic surfaces.

Reference	Model	Description	Range
0102000	315C	Magnetic contact thermometer	-15 to 65ºC
0102100	312C	Magnetic contact thermometer	-20 to 120ºC
0102200	313C	Magnetic contact thermometer	-20 to 250ºC
0102300	314C	Magnetic contact thermometer	-10 to +400ºC

Thermohygrometers

DeFelsko®

PosiTector DPM - Environmental Condition Meter with Interchangeable Probe

Standards: ASTM D 3276, ISO 8502-4, BS 7079-B4, IMO PSPC, SSPC-PA7, US Navy NSI 009-32

Brings a new level of confidence to contrasting and examining paints. Measures and logs climatic conditions, including: Relative humidity, air temperature, surface temperature, the temperature of the dew point, wind speed and the difference between surface and dew point temperatures. Ideal for surface preparation.

Compatible with thickness gauge probes (see page 9).

Reference	DEF-DPM	DEF-DPMS	DEF-DPMA	DEF-DPMD
Surface Temperature	•	•	•	
Ambient Temperature	•	•	•	•
Wet Bulb Temperature*	•	•	•	•
Relative Humidity	•	•	•	•
Dew Point	•	•	•	•
Surface Temperature minus Dew Point Temperature	•	•	•	
Air Speed			•	

Hygromaster 2

Ref. PRO-HYGROMAST-H /PRO-HYGROMAST-Q

The new Protimeter Hygromaster 2 is the latest in portable hygrometry, with an interface that is very easy to use. Using contactless infrared to measure the surface temperature, it provides psychometric calculations and data logging. With its fast response time for Ambient Temperature and Relative Humidity, it is extremely precise.

Laboratory Thermohygrometer with Data Logger

Ref. SAT-8175-00

Programmable Ambient Temperature and Relative Humidity Logger-Meter. Memory for 8100 pieces of data (330 days at intervals of 1 hour). USB output includes data analysis software. Option of integrated probe SAT-8176-00 or cable probe SAT-8177-00.

SAT-8161-00 Same model but just with Temperature Logger. Option of integrated probe SAT-8162-00 or cable probe SAT-8163-00.

Thermohygrometer with Data Logger

Ref. 0106000

Equipment for logging the ambient humidity and temperature on paper. Controlled by a microprocessor, it logs RH from 10 to 90% and temperature from -20 to 50ºC for 6 months. Model available with simultaneous logging on paper and SD memory card.

Material Humidity Meters

CM1700 Digital - Concrete Humidity Meter

Ref. 0809200

Non-destructive equipment for the instant measurement of the moisture in concrete, pavements and slabs using 8 sensors located on the lower section, simply by pressing the instrument against the surface. Ideal for quickly checking large surfaces which need to be painted or in which floors are being installed (wooden).

Equipment with 4 scales

- Concrete 0-6% H2O.
- CM - Carbide method 0-6% H2O
- Relative scale 0-100%
- Scale 0.3-15.3 m.

CMM IS In-Situ Concrete Humidity Meter

Ref. DEF-CMMIS-B

Measures the Relative Humidity and Temperature in concrete. The PosiTector CMM IS probes connect directly to a free mobile application and guide the user using documentation criteria from the ASTM F2170 standard. The design combines sleeve and probe, simplifying the installation process and meaning that consumables are not required. Intelligent, reusable probes that provide an accurate and repeatable reading.

- Temperature range from 0 to +80ºC.
- Humidity range from 10% to 90% RH

Humidity Meter, Carbide Method - Speedy

Ref. 0810050 Analogue/ Ref. 0810060 Digital

Carbide humidity meters are accurate moisture meters which use the carbide method. The carbide meter directly measures the existing water in a sample. The water changes chemically and the sample dries. All carbide meters are very robust and accurate and, thanks to the chemical reaction, they measure the water content reliably. They are available in both an analogue and digital version and are used to verify the preparation of slabs and concrete in an easy, fast and reliable way in order to guarantee safe instalment of parquet, ceramic and other floor coverings.

Moisture Analysers

Protimeter Mini - Universal Humidity Analyser

Ref. PRO-MINI

Analogue humidity meter which works by means of needle incision for all types of materials on a scale of 6 to 90%. A colour scale allows you to evaluate the level of moisture at a glance and determine whether the structure is dry, humid or somewhere in between.

Ref. PRO-MINIDIGITAL Mini Humidity Meter in digital version.
Ref. PRO-TIMBERMASTE Timbermaster Humidity Meter, specifically for wood.

Protimeter Surveymaster - Measures and Detects Humidity

Ref. PRO-SURVEYMASTE

Digital humidity meter with a double function: search and measurement. The search function is used to evaluate the level of moisture beneath the surface. Measurement by needle incision enables the moisture level both on surfaces and underneath surfaces to be measured using the depth probes which have a scope of from 127 mm. to 220 mm.

Protimeter MMS2 - Measures and Detects Humidity and Environmental Conditions

Complete humidity meter system. Measures the moisture in wood, plasterboard, concrete, stucco, plaster, masonry and other construction materials.

Equipment with the following functions:

- ¬ Measurement: using needle incision, with a range of from 8 to 99%,
- ¬ Search: non-invasive measurement, via contact and with a scope of up to 19 mm. in depth, for searching beneath the surface
- ¬ Hygrometer: measures the ambient temperature and relative humidity, dew point.
- ¬ Surface temperature, contactless, using laser pointer, with a range of -20 to 80ºC

Ref. PRO-MMS2 Equipment with Quickstick ST, moisture and ambient temperature probe, IR

Ref. PRO-MMS2-S Equipment with Quickstick ST, moisture and ambient temperature probe, IR, probes for wall depths of 127 mm., software and cable for PC connection.

Moisture Analyser via Halogen or Infrared Lamps

Economic system for the analysis of humidity via weight loss.

Reference	Lamp Type	Capacity	Accuracy
COB-XM-120-60HR	Halogen	124 gr.	0.1 mg.
COB-FD-660	Infrared	80 gr.	0.005 mg.

DRYING TIME / CURING

TEMPERATURE

In order to guarantee the consistent quality products treated using a curing oven, it's important to record the temperature profile which evidences that the product has been subjected to the correct temperature for the right amount of time. An incorrect temperature profile could result a product being very hot or very cold. The consequences may be lack of curing in the case of low temperature, or burning in the case of an excessively high temperature. Also, there may be other consequences, such as lack of adherence, de-colouration or loss of gloss, among others.

To ensure correct curing, there's a piece of equipment called a thermograph which is inserted into the oven, protected by a thermal barrier, and subjected to the same temperature and time conditions as the product being cured. The thermograph registers the temperature reached by the product in several of its areas, as well as the air temperature in the oven using various probes. When removed from the oven, this instrument allows us to download the temperature profile of the oven to a computer. This way, we can ensure that the curing has been carried out correctly and adjust the parameters of the curing oven if necessary.

UV

UV curing is a photochemical process in which ultraviolet light is used to instantly cure or "dry" inks, coatings or adhesives. Liquid monomers and oligomers mix with photo initiators which, when exposed to UV energy, harden instantly.

It has been proven that UV curing increases production speed, reduces rejection rates and increases resistance to scratching and solvents. The wavelengths that are required depend on the formulation of the coating itself. It is crucial for the formulation of the coating to coincide with the UV spectrum of the curing lamps so that the photo initiators are activated correctly.

The causes of problems experienced with UV curing can be multiple, the most common being obsolete lamps, inadequate formulation, dirty reflectors and inadequate machine parameters. This is why UV measurement is an essential and integral part of a UV curing application process. Also, in many cases, time and money can be saved by avoiding changing lamps that have exceeded the recommended number of hours and which are in perfect condition.

A UV measurement device called a radiometer provides data such as Irradiance or Intensity (W/cm2) or Radiation – Energy Density (J/cm2). In order for UV curing to be correct, both parameters must be met. Equally, there are both portable and stationary (online) radiometers which allow us to obtain a curing profile (similar to the thermograph) or even the wave spectrum of the lamps.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Thermograph - Temperature Recorder

OQ610 – Temperature Recorder

Poor curing can result in inadequate performance of the coating, as well as problems regarding adherence, colour and gloss variation, among others.

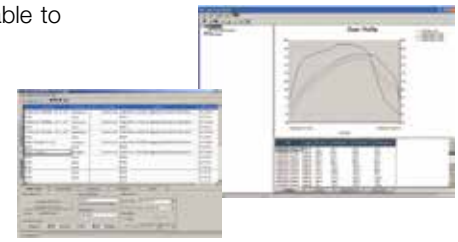
By recording and analysing the configuration of the drying or curing oven, you can achieve the optimum curing level.

The temperature meter-recorder OQ610 by Grant for controlling the analysis of drying and polymerising ovens, certified by the automotive industry, is a piece of equipment which is easy to use.

The OQ610 is a portable and independent instrument of reduced size, with 6 inputs for K-type thermocouple probes. It allows you to view the curing index directly on the screen and the information can also be passed to a PC or a printer. The instrument includes the connection cable and data analysis Software, PaintView.

The measurement range of the instrument is from -200ºC to 1300ºC, always depending on the probes and the thermal barrier used.

The thermal barrier acts as a thermal protector for the instrument while it is inside the oven. Manufactured in stainless steel, new technology has doubled the heat resistance of the thermal barrier. You can consult the times and temperatures that both the single thermal barrier and the double thermal barrier are able to withstand in the following table.



Paintview Software

Register OQ610 includes Paintview Software.
Request Temperature and Humidity Calibration

	Instrument Without Barrier Thermal	Instrument With Barrier Single Thermal				Instrument With Barrier Double Thermal			
Reference	**0100401**	**OMK610-NP**				**OMK610-HS**			
Temperature	65º	100º	150º	200º	250º	100º	150º	200º	250º
Time		140min.	80min.	60min.	50min.	340min.	195min.	130min.	100min.
Size	153x101x23 mm.	245x245x115 mm.				245x245x115 mm.			
Weight	500 gr	4 kg				6 kg			

* We manufacture personalised thermal barriers for other temperatures - times which differ to those in the table upon request. Contact us.

K-Type Thermocouple Probes

A wide range of K-type temperature probes is available. The OQ610 can be used with a combination of up to 6 probes simultaneously. We have to take into account the time and temperature that is to be withstood when choosing the correct material for said probes. They can be made in teflon, fiberglass or steel.

Standard probes are made from teflon, are 3 metres long and can be air or contact and attach to the part via a clip or a magnet.

Reference	Description
TER-D03TPA	Air probe with clip
TER-D03TPC	Contact probe with clip
TER-D03TIA	Air probe with magnet
TER-D03TIC	Contact probe with magnet
0100639	Magnet-clip combined probe for air-contact

* We can also manufacture personalised probes.

Radiometers and UV Curing Ovens

Powerpuck II – Radiometer 4 Channels

UV PowerPuck II and Uvicure Plus II radiometers from EIT measure the total energy (mJ / cm2) and the maximum intensity (mW / cm2). They are small, portable and autonomous instruments which measure the maximum UV radiation (Watts / cm^2) and the energy density (J / cm^2) in UV curing applications.

The Power Puck II model simultaneously measures 4 channels: UVA, UVB, UVC and UVV. There is also the specific version for LED lights.

The Profiler mode of the PowerPuck II and UviCurePlus II is an advanced version which, as well as measuring and storing the UV energy density, the UV irradiation and the temperature information provided by their optical and thermocouple probes on UV curing processes, they are able to transfer the irradiance profile and the data to a computer for subsequent analysis and evaluation.

Reference	Model	Channels
0501289	PowerPuck II	UVA, UVB, UVC and UVV
0501276	PowerPuck II Profiler	UVA, UVB, UVC and UVV

UviCure Plus II – Radiometer 1 Channel

With the same features as the PowerPuck II, the Uvicure Plus II measures independent channels UVA, UVB, UVC, UVV or UVA2 (LED). Profiler version also available.

Reference	Channel	High Power Range	Low Power Range	Wavelength
0501283	UVA	-100 mW/cm2 to 10W/cm2	-1 mW/cm2 to 100W/cm2	320-390 nm.
0501284	UVB	-100 mW/cm2 to 10W/cm2	-1 mW/cm2 to 100W/cm2	280-320 nm.
0501285	UVC	-10 mW/cm2 to 1W/cm2	-1 mW/cm2 to 100W/cm2	250-260 nm.
0501286	UVV	-100 mW/cm2 to 10W/cm2	-1 mW/cm2 to 100W/cm2	395-445 nm.

PowerMap II – Radiometer 4 Channels with Temperature Probe

Ref. 0501267

The EIT PowerMAP II is a Profiling Radiometer that provides the irradiance (W/cm2), energy density (J/cm2), irradiance profile (Watts/cm2 as a function of time) and temperature profile (°C as a function of time) in a new instrument from EIT. This compact, one-piece instrument is 60% smaller than the original EIT PowerMAP and measures UV in four (UVA, UVB, UVC, UVV) EIT spectral regions. The product features larger internal memory for more data gathering, and rapid transfer of data to our new UV PowerView Software III graphic data analysis program via USB interface.

SURFACE TREATMENT

Surface preparation and treatment is fundamental to a satisfactory application of the coating.

Cleaning and adequate treatment of the surface is crucial for achievering optimum performance from the coating. The correct preparation can result in savings in material usage and the optimisation of the coating. To ensure that our surface is in an optimum condition for application, we have several instruments.

Surface Cleanliness

Analysing the cleanliness of surfaces provides data regarding the level of contaminants present on the surface.

Cleanliness provides information regarding the level of contaminants remain on the surface. That contamination can include dust, soluble salts such as chlorides, remnants of old paint, oil and grease, rust, corrosion, condensation and moisture, amines, etc.

Surface contamination may be caused by many different factors, such as insufficient cleaning, remnants left after (acid) rain, sea salt on the surface in maritime environments, soluble salts introduced via contaminated jet cleaning processes and many others.

Therefore, it is important to verify the cleanliness of the surface at the optimun moment during the process. It is necessary to check the cleanliness levels after the surface has been prepared, but remember that during the “open time” (which varies from hours to days) of the steel new contaminations may enter when the work is not protected sufficiently.

Surface Profile

To optimise the performance of the coating and the use of material, it is necessary to evaluate and measure the height of the surface’s profile. This will determine the adherence, coverage and total volume of the coating applied.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Soluble Salts Tester

DeFelsko®

PosiTector SST - Soluble Salts Tester – Bresle Method

Standards: ISO 8502-6, ISO 8502-9

Extremely easy to use, it evaluates the presence and the level of soluble salts on blasted surfaces (jet washed) before painting.

This method complies with standards ISO8502-6 (measurement of soluble salts using conductivity) and ISO8502-9 (extraction of contaminates for analysis using the Bresle method) and the results are given in mg/m2.

The PosiTector SST meter is customised to analyse the concentration of soluble salts using the Bresle method.

The duration of the test, the temperature of the sample, the conductivity (µS/cm) and the surface density (mg/m2 or µg/cm2) are shown on the screen. All of this makes this instrument the simplest and fastest on the market.

Bresle Patches

When carrying out this test, it is very important to use the most suitable patch as there are new methods which make the test faster and less costly.

PosiPatch, reusable magnetic patches

Ref. DEF-PPATCHES New revolutionary reusable magnetic patch system which leaves no residue on the surface after the test. Ideal for flat or curved surfaces with diameters from 10 cm.

Polyurethane Adhesive Patches

Ref. DEF-DPATCHES hardly leave any residue one removed after the test.
Test volume 2-3 ml.

Latex Adhesive Patches

Ref. DEF-LPATCHES Complies with ISO 8502-6. With TearGuard technology, low adhesion level to make them easier to remove. Test volume 2-15 ml.

Economic Bresle Chloride Analysis Kit

Ref. 0809010 The kit comprises of a digital conductivity meter, 20 latex patches, standard solution, syringe and beakers, the accessories required for carrying out the Bresle test and to determine the contamination of soluble salts on blasted surfaces before applying the coating.

Dust test Kit

Ref. 0809020 In compliance with standard ISO 8502-3, allows you to find out the quantity and size of the particles on a surface before it is painted. If dust is present on a surface this reduces the adhesion of the paint which implies premature failure of the coating.

Surface Profile Gauge

DeFelsko®

PosiTector SPG - Surface Profile Gauge

Standards: ASTM D4417-B, SSPC-PA17

Portable electronic instrument for measuring and logging the height of the peak and valley surface profile on surfaces which have been treated with blast cleaning.

The fact that it takes fast measurements, over 50 readings per minute, makes it ideal for measuring large areas.

Electronic unit compatible with all DEFELSKO probes.

	DEF-SPG	DEF-SPGS	DEF-SPGCS	DEF-SPGTS
Application	Blasted steel		Textured coatings	Cement
Range	0 - 500 µm.		0 - 1500 µm.	0 - 6 mm.
Accuracy Reference	± (5 µm. + 5%)			± (25 µm. + 1%)

PosiTector RTR - Surface Profile Gauge Testex replica tape

PosiTector® RTR H

Surface profile gauge for blasted steel and textured coatings

Digital spring micrometers measure and log the parameters of the surface profile using Testex Press-O-Film™ replica tape.

With a more precise measurement of the height between peaks and valleys (HL), it complies with standards ASTM D4417, ISO 8503-5, NACE RP287, SSPC-PA 17, SSPC-SP5, SP6, SP10, SP11-87T and others.

PosiTector® RTR 3D

Reader and Replica Tape for Measuring and Logging Profile Parameters of a 2D/3D Surface.

A replica is created by attaching the tape to a surface and subsequently introducing it into the RTR 3D digital reader.

It records common parameters: Ra, Rq, Rz, Rp, Rv, Rt, Rpc (2D) and Sa, Sq, Sz, Sp, Sv and Spd (3D)

Ideal for flat, curved or uneven surfaces.

It complies with standards ASME B46, ASTM D4417, ISO 8503-5, NACE SP287, SSPC-PA 17, SSPC-SP5, SP6, SP10, SP11-87T and others.

Reference	DEF-RTR H	DEF-RTR 3D
Peak Height Meter (HL)	All models	
Peak Density Meter (Pd)		•
Measurement Range Peak Height (HL)	20 to 115 µm.	
Precision Peak Height (HL)	+ 5 µm.	

Testex Replica Tape

For measuring profiles of blast cleaned surfaces, the Testex Replica Tape consists in a layer of flexible foam adhered to a polyester substrate.

When pressed against a rough steel surface, an impression is captured on the foam, or an inverse replica, of the surface.

The replica tape, with the information, is placed between the PosiTector RTR meter's anvils to read the values on the surface.

Reference	Model	Range
DEF-RPRESS	TESTEX Replica Tape Press-O-Film Coarse	from 20 to 64 microns
DEF-RPRESSX	TESTEX Replica Tape Press-O-Film X-Coarse	from 10 to 115 microns

Porosity Detectors

Standards: ISO14654/ISO8289, A/ASTM G62

Instruments for the detection of pores or “holiday detector” used to check faults in coatings. Premature corrosion of a substrate is generally due to a problem with the coating.

Instruments for measuring the porosity of paint coatings on any type of metal, can be either high voltage or low voltage, depending on the thickness of the coating.

Reference	Model	Characteristics
0240800	DC15	Compact Porosity Detector 15 kV. with accessory for piping
0240900	DC30	Compact Porosity Detector 30 kV. with accessory for piping
0240300	DC30	Compact Porosity Detector 30 kV. with accessories for industry
DEF-LPDB		Low voltage porosity detector LPD Basic
DEF-LPDC		Low voltage porosity detector LPD Complete

Inspection Registers

Register of Oxidation Scales

Ref. 0427000

Register for the preparation of steel substrates prior to the application of paints or similar products. Visual evaluation for the cleanliness of surfaces. Rust levels and preparation of unpainted steel substrates after all previous coatings have been completely removed. (ISO 8501-1:2007).

Register of Paint Conservation

Ref. 0427101

Register for evaluating the degradation of coatings. Specification of the intensity, quantity and size of the most common types of defects. Evaluation of the level of oxidation. (ISO 4628-3:2016).

SSPC Visual inspection registers

Ref. 04271005 Mod. SSPC-VIS 1 Dry cleaning on steel surfaces.

Ref. 04271006 Mod. SSPC-VIS 2 Oxidation level of painted steel surfaces.

Ref. 04271007 Mod. SSPC-VIS 3 Manual cleaning with power tools.

Ref. 04271008 Mod. SSPC-VIS 4|NACE VIS 7 Cleaning with pressurised water.

Ref. 04271009 Mod. SSPC-VIS 5|NACE VIS 9 Abrasive wet cleaning.

Blast Cleaned Surface Comparator

Standards: ISO 8503, ASTM D4417-A

Indications for a visual-tactile comparison, making it possible to estimate the roughness of grit-blasted surfaces on steel surfaces following blast cleaning in fine, medium and coarse degrees.

Reference	Description
0408005	Comparator of sand blasted surfaces GRIT (25, 60, 100, 150µm)
0408006	Comparator of shot blasted surfaces SHOT (25, 40, 70, 100µm)
0408000	Keane Tator Surface Comparator Kit. Includes references from 1 to 4
0408001	Sand/Grit Disc S compliant with ASTM D4417
0408002	Angular Shot Disc GS compliant with ASTM D4417
0408003	Spherical Shot Disc SH compliant with ASTM D4417
0408004	Optical instrument for comparator discs
0408007	RugoTest No.3

TR-110 Rugosimeter

Ref. 0408300
Standards: ISO 4287, ISO 13565

Pocket-sized portable instrument with integrated probe. High precision, wide range of applications, easy to handle and stable behaviour.

To measure the roughness of the surface in Ra and Rz values. Fitted with a diamond-tipped electrical sensor.

- ¬ Ra Range **0.05 to 10 µm**
- ¬ Rz Range **0.1 to 50 µm**

TR-200 Rugosimeter

Ref. 0408200
Standards: ISO 4287, ISO 13565

Measures: Ra, Rz, Ry, Rq, Rt, Rp, Rmax, Rv, R3z, RS, RSm, RSk, up to 13 roughness parameters and digital filters. Easy to use with menus on the large display. Shows roughness graphs and statistics. Complies with ISO/DIN/JIS/ANSI

- ¬ Ra, Rq Range **0.005 to 16 µm**
- ¬ Rz, Ry, Rp, Rt, R3z Range **0.02 to 160 µm**
- ¬ RSm, RS Range **2 to 4,000 µm**
- ¬ Tp Range **1 to 100% (% Ry)**

ABRASION - SCRATCHING - HARDNESS

Tribology is the science that studies the friction, wear and lubrication that occur during contact between moving solid surfaces. The ideal is to avoid friction, wear and lubrication througt.

Abrasion, wear and scratching can occur when we place a material which is protected whith a coating against another physical object. With coatings, it is particularly important to find out whether the scratch (for example) will only affect aesthetic or could also have a functional impact (corrosion of the substrate).

One of the key aspects of this science could be its tremendous complexity due to the many factors which can affect the reaction of different materials, such as their interaction, the applied force, of the surfaces, the speed, number of cycles… That's why it is important to work with test instruments which enables us to repeat tests, not only in our own laboratory, but in those of any of our suppliers or clients all over the world.

NEURTEK supplies suitable instruments and accessories which will allow you to perform tests which meet specific standards which are recognised internationally. Also, at NEURTEK, we can provide advice as to which piece of equipment and method is most suitable if you need to carry out a quality control test for resistance to abrasion, scratching or wear and there is no specified standard for this.

Request assessment regarding equipment and accessories to ensure compliance with specific regulations.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

TABER Rotary 5135 – 5155 - Abrasion and Wear

Complies with many International Standards, making it the world reference for research into wear and abrasion, quality and processes control, the evaluation of materials and development of products.

Consult the regulations with which you must comply and we will tell you how to configure your equipment.

Durable, universal, high-precision abrasion tester designed to carry out tests for accelerated wear on a large variety of solid, painted, lacquered materials, galvanised surfaces, materials with coatings made from plastic, textiles, metals, leather, rubber and linoleum, glass, textiles, stone and ceramic, etc.

Reference	Description
TA-985125	Rotatory Abrasion Tester single station
TA-985155	Rotatory Abrasion Tester double station

- Default programmes
- 60 & 72 rpm
- Improved Display / Interface
- Auxiliary port
- Dual voltage 115 / 230 v, 60/50 hz
- Save 70% in attachment times with the new fast attachment system
- Vacuum

Standards

- EN 438-2
- EN 660-2
- EN 13329:E
- EN 13672
- EN 13696
- EN 14431
- EN 14864
- EN-ISO 5470-1
- ASTM D1044
- ASTM D3389
- ASTM D3730
- ASTM D3884
- ASTM D4060
- ASTM D4685
- ASTM D4712
- ASTM D5146
- ASTM D5324
- ASTM D6037
- ASTM D7255
- ASTM F362
- ASTM F510
- ASTM F1478
- BS 3900
- DIN 52347
- DIN 53109
- DIN 53754
- DIN 53799
- DIN 68861 T2
- ISO 7784-2
- ISO 9352
- TAPPI T476
- NEN 1857

Consumable Discs / Wheels

The instruments come equipped with the CS-10 and H18 abrasive wheels. Choosing TABER abrasive wheels is a decision that should be based on the wear to which the sample is to be subjected during everyday use. There is a wide range of abrasive wheels or discs available depending on the level of abrasion required. Calibrase® (CS), of elastic composition, are used with rigid samples. Calibrade® (H) of vitrified composition, are used for flexible samples:

Calibrase (CS)

Ref.	Description
TA-135177	CS-8 Very Gentle Abrasion
TA-125321	CS-10F Gentle Abrasion
TA-125320	CS-10 Medium Abrasion
TA-125322	CS-17 Hard Abrasion
TA-132684	CS-10P Medium Abrasion for Paper
TA-130950	CS-10W Medium Abrasion
TA-132661	CS-T3 Gentle Abrasion

Calibrase (H)

Ref.	Description
TA-125323	H-10 Gentle Abrasion
TA-125324	H-18 Medium Abrasion
TA-125325	H-22 Hard Abrasion
TA-125326	H-38 Very Gentle Abrasion

Special

Ref.	Description
TA-125344	CS-0/S-32 Non-Abrasive - Rubber
TA-125319	CS-5 Felt Abrasion
TA-125529	S-39 Very Gentle Abrasion - Leather
TA-121124	S-33 Adhesive Strips Fine Abrasion
TA-125564	S-42 Adhesive Strips Medium Abrasion

TABER Rotatory Accessories

Fastening strips

Allows you to attach the samples directly to the table, suitable for attaching flexible samples.

Reference	Description	
TA-125560	S-36	Square Fixing Strips with one adhesive side (50 units)
TA-129270	S-36-1	Round Fixing Strips with one adhesive side (50 units)
TA-125558	S-37	Square Fixing Strips with two adhesive sides (100 units)
TA-129271	S-37-1	Round Fixing Strips with two adhesive sides (100 units)

Sample cutter

Manual instrument, model 5000, which uses an industrial cutting blade to prepare samples of 107 mm. in diameter, with a central orifice of 6.35 which adjusts perfectly to the shape of the TABER Rotatory sample holder.

Enables the preparation of flexible materials such as paper, cardboard, rubber, leather, vinyl, linoleum, carpet, wood, pallets, textile, thin metals, flexible plastic and many others.

Reference	Description
TA-985000	Sample cutter, model 5000
TA-128530	Replacement Blade

Refacing Discs and Stones

With use, abrasive wheels become “contaminated” and the abrasive characteristics of the wheel change, affecting the results of tests. To reduce this variation, the work surface of the abrasive wheels must be cleaned. This process is known as refacing.

Reference	Description	
TA-121102	S-11	Refacing Discs (100 units) for Calibrase (CS) wheels
TA-134640	ST-11	Refacing stone for Calibrase (CS) wheels

Refacer

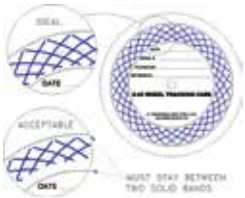
Given that the Calibrade wheels have vitrified components, they can’t be cleaned with refacing discs or stones. For these wheels, the wheel Refacer, model 250, should be used.

Reference	Description	
TA-980250	Wheel refacer, model 250	
TA-128990	Single diamond-tip	
TA-125608	Multiple diamond-tip for H-38 wheels	

Approved TABER Calibration Service

Ref. SER-CT048

Only official approved service in Spain and Portugal for TABER calibration.



TABER 5900 Multifunction: Scratching, Abrasion, Wear

Ref. TA-985900
Standards: ISO 1518

Multifunction instrument for carrying out scratching, abrasion and wear tests, ideal for flat surfaces. It operates in a similar way to the Linear Taber and the accessories are common for both pieces of equipment. This instrument consists of a counterbalanced arm which pivots on an adjustable height system. The counterweight allows the user to balance the test arm ensuring accurate test load, regardless of the weight of the attachment. The tool which carries out the scratching, abrasion or wear test is located the end of the arm.

Accessories

Crockmeter - Resistance to Rubbing

Ref. TA-130570

Standards: UNE 40029,
EM-ISO 105-X12,
Renault D451010

Allows the user to carry out rubbing tests. The commonly used standard abradants include tools for rubbing fabric or felt. With no extra weight, the base load of the crock test system is: 417.7 + -1 grams, with acrylic finger Ø16 mm.

Scotch Brite - Abrasion

Ref. TA-133432

This accessory allows you to simulate the abrasion that occurs when a cleaning or rubbing process is applied to a coating.

Spherical Tip - Scratching

Ref. TA-134622

To measure the relative or susceptible resistance of materials to scratching and other similar physical damage. Spherical, semi-spherical, conical and diamond tips available.

TABER 710 Scratch - Mar Tester

Instrument for measuring the resistance of surface materials to scratching, gouging, rubbing and other uncommon physical damage. The design of the equipment is based on the specifications of Ford BN 108-13, General Motors GMN3943 and Daimler-Chrysler LP-463DD-18-01, commonly known as the 5-finger (5-arm) test for scratching and marking.

TABER 418 Crockmeter – Abrasion to Rubbing

Ref. TA-980418

The manual crockmeter is a high-quality piece of equipment designed to evaluate and control the resistance of colour to rubbing with all kinds of fibres, threads or fabrics featuring all types of dying, stamping or colours and by any process, in wet or dry conditions. Colour transfer test, automatic model also available.

TABER Linear 5750 Abrasion and Scratching

Ref. TA-985750
Standards: ASTM D6279, ASTM F-1319, ISO 105-X12

Measures resistance to abrasion, scratching and other material properties of finished products of any shape or size, flat, concave or convex. The linear abrasion tester uses a head which moves freely following the outline of the sample, allowing finished products to be tested.

The almost complete independence of the shape or size of the samples makes the linear abrasion tester the ideal test for plastic materials, automotive components, painted parts, optical products, rubber, leather, textiles and for use in test laboratories.

The linear abrasion tester, with adjustable stroke length, speed and load and a wide variety of Wearaser abradants, enables you to adapt the test parameters to your specific requirements.

An optional sample holder provides additional flexibility for small samples and unusual shapes. Optional accessories allow you to perform tests such as:

- ¬ Resistance to Scratching: Using steel, aluminium and diamond tips.
- ¬ Crockmeter: Resistance to colour abrasion. EN 2267.
- ¬ Coin scratch: Simulates the scratch caused by a coin.
- ¬ Scotch Brite Kit: Simulates abrasion caused by cleaning cloths.
- ¬ Universal tip: Allows you to simulate the abrasion caused by the material of your choice.

Universal-Rubbing

Ref. TA-130572

Allows you to perform a “real” test, attaching any material and testing it against the sample. For example, to evaluate damage caused during transport – you could attach a section of the container. This accessory is recommended for smooth samples.

Extra Weights

Ref. TA-132716

The Linear Abrasion Tester is supplied with three discs which each weigh 250 grams. The extra weight discs range from between 10 and 250 grams, allowing you to increase the load of the test system to a maximum of 2100 grams.

Abradants

Ref. TA-130684 CS-10F

Consisting of the same materials as the Rotatory TABER wheels, they can be:

Rubber and abrasive grain abradants, vitrified clay and felt abradants. With abrasive actions ranging from very gentle to strong or severe. Measurements available:

Wearaser (1/4” Ø)
Jumbo Wearaser (1/2” Ø)
Weardisc (3/4” Ø)

TABER 551 Scratch Tester – Resistance to Scratching

Ref. TA-980551
Standards: UNE EN ISO 4586-2, UNE EN ISO 438-2

Scratching and shearing resistance test.

Involving circular scratching with a motorised system working at a constant speed of 5 rpm, using a diamond-tipped needle attached to an arm to which a known weight is applied and which can be adjusted from 0 to 1000 gr. depending on the material being tested.

The hardness level is determined by the relation between the weight applied and the scratching or flaking observed on the sample.

Washability and Friction

Scrub · Abrasion and Washability Tester

Ref. TQC-AB6000
Standards: UNE EN ISO 11998, DIN 53778, ASTM D2486, ASTM D4213, ASTM D3450, ASTM F1319, ISO 105X12, Renault D431010, GME 60269, ECCA T11, EN 13523-11, EN 60730-1, EN 13300

Automatic instrument for testing Abrasion and Washability in order to define the resistance of paints, varnishes or any coating to rubbing, scratching, wear or colour and gloss loss caused by dry or wet abrasion.

This test works as a "pass/fail" control, testing a sample in a specific number of cycles, or defining a minimum number of cycles in order for wear to appear.

It has a controller and a high-precision motor, and includes two dosing pumps which mean that two independent tests can be carried out at the same time.

Reference	Description
TQC-AB5000	Washability and friction instrument with 4 beds
Accessories	
AB5013	Abrasive tool ISO 11998
AB5012	Spong tool ASTM D4213, D4828
AB5011	Nylon Brush tool ASTM D2486
AB5010	Will Boar Brush tool DIN 53778

Technical data

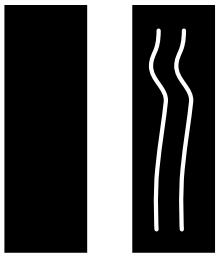
- 4 Test beds
- 2 Integrated liquid pumps
- Adjustable speed 1 to 60 c/min.
- Adjustable length 20 to 300 mm.
- Screen and digital control

Leneta Plastic Test Panels

Ref. 0301002

Specific panels for testing Washability and Friction, indicated in the standard for use as substrate, black in colour.

- Dimensions: **165 x 432 mm.**
- Quantity: **10 units**



Buchholz Hardness

Ref. 0300400
Standards: UNE EN ISO 2815, DIN 53153

Hardness test for resistance to penetration of coatings. Consists of a sharp blade which is placed on the layer of paint to be tested, with a weight of 500 gr. for 30 sec. The width of the mark, measured with an illuminated reticulated microscope, determines the hardness of the coating.

Persoz - König Pendulum

Ref. 0300110 Persoz
Standards: UNE EN ISO 1522, DIN 53157, ASTM D4366

Surface hardness test for paints and inks which is determined by the number of oscillations completed by the pendulum on the painted surfaces between two angles, defined by standards.

The pendulum is supplied together with the hanging part, with the digital oscillations counter and has automatic stopping. The result is shown on a display.

The Persoz pendulum is a quadrangular piece which weighs 500 gr., shoots at 12° and should oscillate 435 ± 15 oscillations on glass (430 ± 10 seconds).

Ref. 0300111 Kit with König hanging part

The optional König pendulum is a triangular piece which weighs 200 gr., shoots at 6° and should oscillate 178 ± 8 oscillations on glass (250 ± 10 seconds).

Pencil Hardness Tester

Ref. 0300200
Standards: UNE 48269, ASTM D3363

Very popular test for paints, specifically for testing hardness resistance to scratching. It is simple in use and economical.

Pencils of different levels of hardness are pushed down, with a pre-defined weight, onto the coating being tested. The penetration of the tip of a certain pencil defines the hardness of the film.

Supplied with a set of 14 pencils, from 6B to 6H. Under request, a set of 17 pencils can be supplied, adding 7H, 8H and 9H.

Hardness Pen Tester

Ref. 0300700
Standards: UNE EN ISO 1518, EN 438-2

Practical pocket-sized hardness tester, pen-type, for measuring the surface hardness of coatings. Widely used in the automotive industry. The test consists in moving the instrument which, at its end, has an indenter or semi-spherical tip upon which adjustable pressure is applied using different springs, covering a range of from 0 to 2.000 gr/F.

The equipment is supplied with 3 springs of different forces and with a tip of Ø 1 mm. Other tips are available.

Reference	Description
03007001	Tip 0.5 mm. (OPEL).
03007002	Tip 0.75 mm. (BOSCH).
03007003	Tip 1 mm. (VW), spare part.

pH CONDUCTIVITY WATER ANALYSIS

Analysing the parameters of water and the products used in paint is fundamental in order to achieve uniform coatings which are flawless, have high adherence and are resistant to chemical attacks.

We have analysis instruments for measuring, controlling and logging these parameters in the necessary pre-treatments to achieve high-quality water, in the chemical treatment processes of surfaces: pH, conductivity, hardness, turbidity, dissolved oxygen, temperature, …

It is also obligatory to carry out a physico-chemical treatment and control on waters before they are reused or discharged. For this type of installation, we have all types of equipment and chemical reagents used in the treatment, analysis, control and verification of results.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

pH and Conductivity Meters

HALO – pH electrode

Ref. HI-11312

New family of electrodes with integrated temperature sensor and Bluetooth, compatible with Tablet/Smartphone via the HANNA App and Edge Blu HI2202.

Accurate, flexible and easy to use. Wireless electrode connection.

Turn your mobile phone into a full pH Meter.

Edge - pH Benchtop or Laboratory

Versatility, innovation, design. The Edge measures pH, Conductivity and Dissolved Oxygen using digital electrodes. Automatic electrode recognition informing you of the type of sensor, calibration and serial number. Data downloadable to both pen drive and computer via a mini USB port.

Ref. HI2202 Edge Blu
Bluetooth Revolution

Wireless pH meter, with Bluetooth signal receiver emitted by the new HALO electrodes. Frees up space and provides complete mobility in the laboratory.

Ref. HI2202 Edge Dedicated
Specific instruments for one singe parameter: pH/ORP, CE or OD.

Ref. HI2020 Edge Multi-parameter
Versatility.

The most versatile. 1 single instrument, 3 parameters, according to the sensor connected: pH, CE or OD.

The Edge is thin and light, with a thickness of 1.25 cm. and a weight of less than 250 gr., it has a wide 5.5" LCD touchscreen, in a tablet format. It makes measurements, configuration, calibration, diagnostics, the logging and transfer of data to the computer or even to a USB pen drive much easier.

With an exclusive CAL-CHECK system which tells you if the electrode in use is dirty or if the solutions have been contaminated during calibration.

The pH instruments are supplied with a glass electrode.

	Range	Resolution	Calibration
pH	-2 to 16 pH; ±1000 mV	0.01 - 0.001 pH; 0.1 mV	up to 5 tips
CE	0.01 µS to 500 mS absolute	0.01 µS/cm - 0.1 mS/cm	1 tip with pattern and zero
OD	0 to 45 ppm; 0 to 300%	0.01 ppm; 0.1% saturation	1 or 2 tips, 0% and 100%

- GLP: **Complies with GLP standards.**
- Data registration: **Up to 1000 entries.**
- Communication: **USB Port for exportation to pen drive.**
- Sensors: **Digital, 3.5 mm. connector, integrated temperature.**

5000 Series – pH - Benchtop or Laboratory Conductivity – High Range

Maximum performance for the most demanding laboratories. 6 models to choose and to cover any requirement measuring: pH, Conductivity, Ion Selective and Dissolved Oxygen.

Its large screen makes it extremely operable and user-friendly.

1 or 2 channels for simultaneous measurement.

Touch Keypad. Colour graphic display. Maximum ease of use.

Messages in different languages and on-screen help tutorial.

	Range	Resolution	Calibration
pH	-2 to 20 pH; ±2000 mV	0.01 - 0.001 pH; 0.1 mV	up to 5 tips, 8 standard buffers and 5 users
CE	1 x 10-6 to 9.99 x 1010	0.001	up to 5 tips, 5 standard buffers and 5 users
ISE	0.001 µS to 1000 mS/cm CE absolute	0.001 µS/cm; 0.1 mS/cm	from 1 to 4 tips
OD	0 to 90 ppm; 0 to 600%	0.01 ppm; 0.1% saturation	1 or 2 tips, 0% and 100%

98 Series - pH - Portable Conductivity

Robust instruments with IP67 sealing, supplied in carrying case with solutions, calibration beakers, USB cable and software for transferring the registered data to a PC. Backlit LCD display,

Complies with GLP standards.

Field instruments with laboratory performances. Range made up of 4 models for measuring oH/ORP, ISE, CE and OD.

Ref. HI-98191P
Portable pH meter with specific electrode for paints and inks **(Ref. HI-1053B)**

Ref. HI-98192
Portable conductivity meter.

	Range	Resolution	Calibration
pH	-2 to 16 pH; ±2000 mV	0.1 - 0.001 pH; 0.1 mV	up to 5 tips, 7 standard stamps and 5 users
CE	1 x 10-7 to 9.99 x 1010	0.01	up to 5 tips, 7 standard stamps
ISE	0.001 µS to 1000 mS/cm CE absolute	0.001 µS/cm; 0.1 mS/cm	up to 5 tips, 7 standard stamps
OD	0 to 50 ppm; 0 to 600%	0.01 ppm; 0.1% saturation	1 or 2 tips, 0% and 100%

- Data registration: **from 200 to 400 entries depending on model.**
- Communication: **USB port, cable and PC software included as standard.**
- Sensors: **Specific, with integrated temperature and Quick DIN connector (except 98191, BNC connector).**

LABORATORY EQUIPMENT

All laboratories are unique, each with their own characteristics and peculiarities. Laboratories can have basic common equipment and other specific equipment for projects and specialised activities.

In this catalogue we have gathered together a wide range of equipment used for testing very difficult parameters. There are many parameters that are not included and for which we have an optimal instrument.

Check the parameter that you want to analyse and we will provide you with the best solution.

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Scales, Furnaces and Ovens

Precision Scales

We have specific scales for each application, as well as certified calibration weights. Request a quote according to your requirements.

These are some of the available models.

Reference	Capacity	Accuracy	Plate
COB-JT-220AI	220 g.	0.1 mg.	Ø 80
COB-JT-120M	120 g.	0.001 g.	Ø 120
COB-JT-300C	300 g.	0.01 g.	Ø 120
COB-JT-600C	600 g.	0.01 g.	Ø 120
COB-JT-1200C	1,200 g.	0.01 g.	Ø 120
COB-JT-3000D	3.000 g.	0.1 g.	180x45
COB-D6200CBS	6,200 g.	0.1 g.	180x160
COB-JCP-30	30 Kg.	1 g.	230x300

Request information for your specific needs.

Furnaces

Ref. SE-2001252 Drying and Digitheat sterilisation furnace.

Natural convection. Regulation using microprocessor and digital reading of temperature and time.

For adjustable temperatures from ambient +5ºC to 250ºC.

Ref. SE-2005163 Universal Digitronic Precision Furnace.

With forced air circulation. Regulated using a microprocessor and controlled with a touchscreen, up to 6 programmable temperature ramps.

Muffle Furnaces

Ref. 0640100

For thermal tests or those on solid waste, fusion, thermal treatments, etc. Manufactured in different sizes, from 1 to 40 litres and in versions from 1,100, 1,200 and 1,300ºC. With automatic and manual adjustment.

Thermostatic Baths and Immersion Thermostats

Ref. SE-6000140

Precisterm baths for water and oil.

For adjustable temperatures from ambient +5ºC to 110 or 200ºC.

Ref. SE-3000547

Immersion thermostats with digital and touch control for adjustable temperatures from 30 to 100ºC.

Anemometers and Environmental Condition Meters

Anemometers

Ref. SP-850023

Reads air velocity, temperatura and functions as type k thermometer. Records data onto standard SD memory cards.

Range: fron 0.4 to 30 m/s, depending on the model.

Environmental Condition Meter

Ref. SP-850027 / SP-850069

Multi-parameter equipment which can monitor up to 12 environmental parameters, such as: air speed, Temperature, Humidity, Dew Point, Barometric Pressure, Visible Light and Sound, among others.

Sound Level Meter

Ref. SP-850014

Type 2 Sound Level Meter Automatic range from 30 to 130 dB (A) with a resolution of 0.1 dB and accuracy of ±1.5 dB.

With frequency weighting scales of A or C decibels.

Can be calibrated, in conformation with OSHA, using the SP-850016 acoustic calibrator.

Light Meter

Light can be quantified in many ways: Lux, lumens, foot-candle (fc)... The two most popular scales are Lux, which is the European measurement, and foot-candles, which is the American scale.

We have instruments which are composed of an electronic unit with measuring photo-cell. The light energy is captured by the photo-cell which is able to convert it into the appropriate value, be it Lux or foot-candles.

Reference	Description	Range
SP-840020	Light Meter Lux / FC	40-400,000 Lux / 4 - 40,000 fc
SP-840022	Advanced Light Meter Lux / FC	40-400,000 Lux / 4 - 40,000 fc
SP-850007	Visible light meter	2,000-100,000 Lux / 200-10,000 fc

Hardness testers for Plastic and Rubber

HP Analogue Hardness Tester

Standards: DIN ISO 7619, UNE EN ISO 868, ASTM D 2240, SRIS 0101

The simplest analogue instrument for determining the Shore hardness in Plastics and Rubbers. There is a specific model for each type of Shore.

Can have maximum indicator needle.

- ¬ Test method: **Shore A / A0 / B / 0 / C / D / D0 / 00 / 000 / 000S**
- ¬ Resolution: **1 Shore**

Digital HPE III Hardness Tester

Standards: DIN ISO 7619, UNE EN ISO 868, ASTM D2240, NF EN ISO 868, SRIS 0101

New generation of hardness testers with temperature and ambient humidity indicator. Also measures the temperature of the sample.

- ¬ Test method: **Shore A/D**
- ¬ Resolution: **0.1 Shore**

Barcol Hardness Tester

The Barcol scale is used to measure the hardness of extremely hard materials within the range of plastics and the lower range of metals. It's the scale that links the metal scales (Rockwell, Brinell and Vickers) with the plastic ones (Shore and IRHD). For this reason, it's suitable for measuring the hardness of aluminium, very hard plastics and fiberglass-reinforced plastics. We have a high-precision digital model and another analogue model.

Ref. FM02302
Barcol Digital Hardness Tester - Resolution: 0.1 Barcol

Ref. DEF-BHI
Analogue Hardness Tester - With electronic screen

IRHD COMPACT III

Standards: DIN ISO 48, NF T 46-003, ASTM D 1415, BS 903, Part. A26

Compact, simple and economic hardness tester for determining IRHD M (Micro) and/or IRHD N (Normal) levels of hardness. Especially in O-rings and rubber or rubber-metal rollers.

- ¬ Minimum thickness of material - IRHD M: **0.6 - 5.0 mm.**
- ¬ Minimum thickness of material - IRHD N: **6.0 - 10.0 mm.**
- ¬ Test method: **IRHD M (micro) / IRHD N (normal)**
- ¬ Resolution: **0.1 IRHD**

Hardness Patterns

MFI Melt Flow Indexer

Ref. HAN-A4050MFI

The MFI is one of the most advanced instruments available for the measurement of the melting characteristics of thermoplastic polymers.

Understanding melt flow is a key indicator for producers, processors and converters of plastic materials as it dictates the temperatures and pressures required to manufacture consistent quality products

Actual barrel temperature can be measured to ensure that every test is performed with complete compliance to ASTM D1238 (2011) Part A, B or C and ISO 1133 (2011) with full test documentation.

Friction Coefficient

Ref. HAN-AFT-FILM

The Advanced Friction Tester is the most comprehensive tool available for measuring the coefficient of friction of plastic film, printed cartons, packaging substrates or paper. Coefficient of friction is also known as COF testing.

This flexible instrument can also be used to measure and display the frictional values of any flat surface including plastics textile, coated metals and leather.

In addition to providing static and dynamic slip values for a surface, the instrument allows the full friction force output to be displayed, stored and compared. This unique ability helps a manufacturer to relate the feeding and running speeds of a product to its surface characteristics.

The friction tester is available with optional extras to measure peel strength of adhesives, tear strength of substrates and the blocking of plastic films and coated cartons.

Film Thickness Gauge

Ref. HAN-FT3

The FT3 Precision Thickness Gauge is specifically designed to quickly and accurately measure the thickness of a variety of substrates including film, paper, board, foil, tissue and textiles.

Operated via an intuitive touch screen interface the instrument will allow the user to define batch size, dwell time & measuring speed.

Full test statistics can be easily viewed or printed to label for easy documentation control.

Contact pressure and contact area are factory set options dependent on the testing standard used.

CORROSION AND ACCELERATED AGEING

The quality requirements of the different sectors make it necessary to carry out accelerated ageing tests (corrosion due to time and humidity, salt fog, thermal stress, solar radiation) which enable us to simulate and validate the coatings under different environmental conditions.

A streamlined, expert service with a stock of original spare parts and **Calibration Laboratory** accredited in accordance with **ISO 17025** by **ENAC** in Temperature and Humidity.

ENAC
CALIBRACIÓN
Nº 117/LC10.084

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Salt Fog Corrosion

Corrosion Chambers – Salt Fog

Designed for the modern laboratory which needs equipment that is easy to install, simple to use and reliable in terms of the service provided. Their construction is robust for a long service life.

Available in two versions:

HC Series Condensation Humidity Chamber

Standards: ISO 6270-2, DIN 50017 (KK, KFW and KTW)_ VDA 621-421, ASTM D2247, BS 3900 Part F2

SC Series Salt Fog Chamber

Standards: ISO 9227, ASTM B117, DIN 50021, JIS Z 2371

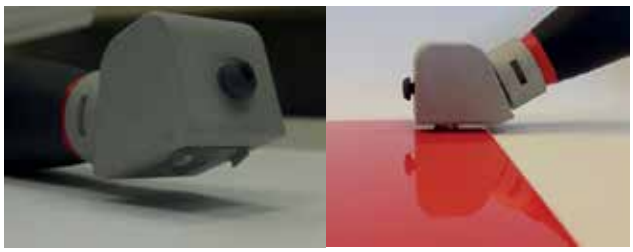
** Plates for Evaluating Corrosiveness are available.*

NK3000 Scratch Tool

Cutting tool especially designed for cutting panels or specimens with coatings or test panels for salt fog corrosion tests, as described in the standards ISO 12944-6:2018, ISO 17872, ISO 9227.

The test can be carried out with three cutting blades, depending on the standard with which you need to comply:

- 0.5 mm. Blade, Daimler Chrysler
- 1 mm. Blade, Sikkens® original version
- 2 mm. Blade, complies with standard ISO 12944-6, updated in 2018



Reference	Characteristics
0302111	Cutting tool for Scratch test Sikkens NK3000 with 1 mm. blade.
0302112	Cutting tool for Scratch test Sikkens NK3000 with 2 mm. blade.
0302113	Cutting tool for Scratch test Sikkens NK3000 with 0.5 mm. blade.
0302114	1 mm. Blade, Sikkens® original version.
0302115	2 mm. Blade, complies with standard ISO 12944-6, updated in 2018.
0302116	0.5 mm. Blade, Daimler Chrysler.

Solar Degradation - Accelerated ageing chambers

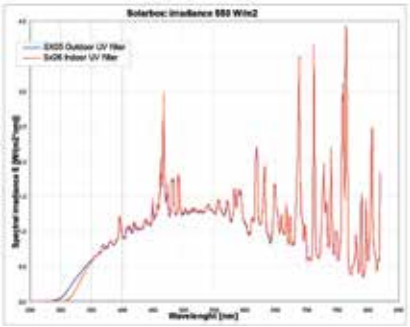
SOLARBOX Xenon

Standards: ASTM G151, ASTM G155, UNE EN ISO 4892, DIN 53387, ASTM D2565, ASTM D4459, UNE EN ISO 11341, DIN 53231

Instrument for testing accelerated ageing or colour loss due to exposure to sunlight using an air-cooled xenon lamp.

Irradiance is measured and controlled during the whole test and the evenness of the irradiance is guaranteed using a parabolic reflector. Irradiance bandwidth control sensor in the range of 300 to 400 nm. Irradiance controlled and monitored up to 1,000 W/m2 (in the 300-800 nm. band).

The radiant heat received from the Xenon lamp is constantly monitored and controlled via a BST (Black Standard Thermometer), enabling it to be programmed and controlled between 35ºC and 100ºC.



Optionally, an immersion bath can be incorporated for the humidification of the specimens under examination, with programmable immersions and controlled durations. With filters to simulate interior and exterior exposure.

Models	Reference	Exposure Area
1500e	05011S200	280 x 200 mm.
3000e	05011S400	420 x 200 mm.

SOLARBOX RH - Xenon and Humidity

Standards: DIN 75202, ASTM C1442, ASTM D3451, ASTM G15, ASTM G155, UNE EN ISO 4892-2, DIN 53387, ASTM D2565, ASTM D4459, UNE EN ISO 11341, DIN 53231

Instrument for testing accelerated ageing or colour loss due to exposure to sunlight using a xenon lamp and with temperature and humidity control.

Irradiance bandwidth control sensor (300 to 400 nm.) Irradiance controlled and monitored up to 1,000 W/m2 (in the 300 - 800 nm. band).

Temperature irradiated controlled by a BST (Black Standard Thermometer).

Relative humidity generated and controlled by an ultrasonic humidifier.

Complete range of advanced UV filters to simulate exterior and interior sunlight exposure.

Optional system for immersing samples, programmable and with controlled duration.

Models	Reference	Exposure Area
1500eRH	05011S700	280 x 200 mm.
3000eRH	05011S800	420 x 200 mm.

COLOUR AND GLOSS

The **Appearance** of a product has become one of the main reasons for purchase as consumers instinctively associate it with quality. All materials are able to reflect and absorb the energy and light that they receive, which grants them a certain tone, colour intensity and surface appearance (cleanliness, gloss and mirror effect).

The first control should be **Visual** and the fundamental tool for this purpose is **Light Booth.** It generates a controlled environment and enables products to be inspected under different illuminants or light sources. Standardised **Colour Cards** (e.g. RAL Cards) allow different internationally recognised colour samples to be determined, which facilitates communication during the whole process: design, client approval, control of suppliers and raw material, manufacturing, correction of the end product …

The **spectrophotometers** measure the **spectral curve**, from which the **Colour Coordinates** can be defined, (e.g. L*a*b*, L*c*h*, xyY) and establish tolerances in **Colour Difference** (e.g. dE*, dECMC, Metamerism) between the defined colour and the original samples.

There are different measuring geometries to determine the colour of a material:

- Integrating sphere or diffuse light **d/8º**. Common in the industry for Colour determination, regardless of other parameters such as gloss, roughness. It's ideal for the manufacturing of paints, pigments and general products, both for quality control, formulation and colour correction in opaque and translucent samples. Can be combined with measurements using transmission or UV control.
- Direct light, **45/0º**, for production control given that the values depend on the surface appearance (gloss, roughness, shape, size, etc.) or for specific sectors such as Signs and Graphic Arts.
- **Multi-angle** to control special pigments on the exterior of automotive applications, from several angles: -15º, 15º, 25º, 45º, 75º, 110º
- There are other options, such as **contactless measuring** so as not to contaminate the sample, or **online colour** to ensure that the process is controlled.

Gloss is the main parameter for measuring the surface appearance. Depending on the sample's level of gloss, different measuring angles should be used (**60º** for all types of gloss; **20º** for high gloss; **85º** for low gloss). According to the type of Surface finish we will use, a gloss meter of 1 angle at 60º or 3 angles at 20/60/85º for all types of finishes.

These glossmeters can be complemented with the measurement of other parameters, such as the **Haze** and the **DOI** which are becoming increasingly important, above all in glossy samples where the goal is to achieve a clean sensation or mirror-effect, two samples of the same colour and gloss can have different appearances if they have a different haze or DOI,

At **NEURTEK**, we have been working **for 40 years** assessing and providing a service in colorimetry systems, performing real tests, the installation of systems, personalised colour courses, webinars, technical conferences.

All of this is complemented with our own **Calibration Laboratory**, the first private laboratory in Europe to receive accreditation for compliance with **ISO 17025** by **ENAC** in Colour and Gloss and Illumination.

ENAC
CALIBRACIÓN
Nº 117/LC10.084

Calibration Laboratory accredited by ENAC according to UNE EN ISO 17025

Portable and Benchtop Spectrophotometers

Ci60/62/64 d/8°

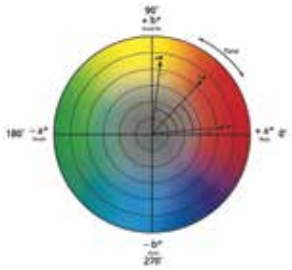
Portable spectrophotometers with diffuse sphere geometry, d/8° and specular component included / excluded SCI/SCE, for versatile, fast and precise colour measuring

Absolute values L*a*b*, L*c*h, xyY, colour difference dE*, dECMC, dE2000, and other colorimetric values: Opacity, Whiteness, etc.

Memory for 1,000 readings and automatic search for the closest Standard.

The range begins with the autonomous Ci60, followed by the Ci62 with PC connection and, finally, the high-precision Ci64 which has a UV filter option.

$$dE^* = \sqrt{dL^2 + da^2 + db^2}$$



Ci4200 d/8° Compact

Compact spectrophotometer, with diffuse sphere geometry d/8°, specular component included / excluded and UV control in the model Ci4200-UV.

A magnificent solution for quality control, formulation and colour correction. CIE Lab, dE*, Metamerism, etc.

Attachment and display of samples using an accesory designed specifically for this purpose.

Simultaneous measurement of included and excluded specular components (SCI/SCE) in 2 seconds (Ci4200)

Horizontal and vertical positioning.

Ci7600/7800 d/8° Precision, Reflection/ Transmission

The benchtop diffuse sphere spectrophotometers d/8° Ci7860, Ci7800 and Ci7600 by X-Rite offer true control of the process in order to achieve perfect colour fidelity.

Benchtop spectrophotometers d/8° with large sphere and 5 measuring areas, Included/Excluded specular component, Reflection/Transmission, UV filter control.

Colour Measurement, Colour Differences L*a*b*c*h*, dE*, dECMC, dE2000, Whiteness and Yellowness Indices, APHA, HAZE, etc.

Self-adjustment with NetProfiler application.

Combined with the Formulation and Correction software, iMATCH, with opacity control (for transparent, translucent and opaque samples) the most powerful colour-match system on the market for Paints - Varnishes, Plastics - Masterbatch, and Textile.

Reference	XR-CI60	XR-CI62	XR-CI64	XR-CI4200	XR-CI4200UV	XR-Ci7600	XR-Ci7800	XR-Ci7860
Model	CI-60	CI-62	CI-64	Ci4200	Ci4200UV	Ci7600	Ci7800	Ci7860
Geometry	d/8°			d/8°		d/8°		
Transmission	0.10	0.05	0.04	No		Yes		
Repeatability (dE*)	0.40	0.20	0.13	0.05		0.03	0.01	0.01
Inter-instrumental (dE*)	8 mm.	8 mm.	8 and 4 mm.	0.20		0.15	0.08	0.06
Measurement Openings		14 mm.	14 mm.	8 mm.		6, 10, 25 mm.	6, 10, 17, 25 mm.	
Spectral Range	400 – 700 nm.			400 – 700 nm.		360 – 780 nm.		
Bandwidth	10 nm.			10 nm.		10 nm.		
UV Control	No	No	Yes	No	Yes	Yes		
PC Connection	Yes	Yes	Yes	Yes		Yes		
for QC and Formulation	No	Yes	Yes					
Applications	Paints, Construction, Plastics, Textile, Food, Ceramics, Chemistry, etc.							

Lighting Booths
Colour Comparison Chambers

JUST Lighting Booths

Wide range of Lighting Booths, with 3, 4 or 5 illuminants, from the most basic ones to programmable ones, and even larger ones for bigger samples.

Reference	No. Lights	Illuminants	Programming	Connectivity	Dimensions (cm.)
JUST 3 Basic	**3**	**D65, TL84, A**			70 x 47 x 43
JUST 4 Basic	**4**	**D65, TL84, A, UV**			70 x 47 x 43
JUST 5 Basic	**5**	**D65, D50, TL84, A, UV**			70 x 47 x 43
JUST Advanced	5	D65, D50, TL84, A, UV	Yes		81 x 60 x 60
JUST Professional	5	D65, D50, TL84, A, UV	Yes		81 x 60 x 60
JUST L	5	D65, D50, TL84, A, UV	Yes		**132 x 71 x 60**
JUST XL	5	D65, D50, TL84, A, UV	Yes	Yes	**162 x 94 x 60**
JUST XXL	5	D65, D50, TL84, A, UV	Yes		**128 x 111 x 100**

RM-200QC Spectrocolorimeter

Ref. XR-RM200QC

X-Rite quality at an affordable price.

Portable 45/0º spectrocolorimeter designed to compare the colour of similar materials and products in a reliable manner in processes where chromatic control is fundamental.

Colour screen, Memory for 20 standards and 350 samples, data export to PC in pdf format.

- Differences dE* and coordinates L*a*b*C*h°
- "Pass/Fail" Indicator

Request Colour, Gloss and Illumination Calibration

ENAC CALIBRACIÓN Nº 117/LC10.084

Colour Cards

RAL Classic

Collection of 213 colours, with 4-figure Codes (e.g. RAL 9001).

From the popular economic fan displays for visual control (K7, K5, K1), which can be personalised, to certified, high-quality cards which can be purchased individually (840HR in semi-matt and 841GL in gloss).

Reference	Characteristics
RAL-K7	Fan with 6 colours per page, from 50 x 20 mm.
RAL-K5	Fan with 1 colour per page, from 150 x 50 mm., semi-matt.
RAL-K5B	Fan with 1 colour per page, from 150 x 50 mm., gloss.
RAL-K1	Booklet with 16 colours per page, from 1.8 x 2.8 cm.
RAL-840HR	Original collection of 213 cards, semi-matt, from 105 x 148 mm. (DIN A6).
RAL-841GL	Original collection of 196 cards, gloss, from 105 x 148 mm. (DIN A6).

Personalised RAL Card (sample displays)

Send us your corporative image and personalise your RAL card (front and back cover).

Reference	Characteristics	Units
RAL-K7A-50	PERSONALISED RAL Cards (front cover), K7 format	50 units.
RAL-K7A-100	PERSONALISED RAL Cards (front cover), K7 format	100 units.

Consult other quantities: 200, 500, 1000….

RAL Effect

Ref. RAL-E1

490 colours (420 solid colours and 70 metallic colours).

4-figure codes, three for the tone and one for the concentration (e.g. RAL 350-1).

Designed to reproduce with the new pigments to water, VOC-free.

RAL Design

Ref. RAL-D2

1,825 colours (26 new pastel colours) ordered by Tone (H), Clarity (L) and Intensity (C), with 7-figure codes (e.g. RAL 220 60 30). For any design and manufacturing process.

RAL Plastic

Ref. RAL-P1

New colour standard in polypropylene (PP).
P1 Classic Colours / 100 colours
P2 Design Colours / 200 colours
Sample Size: 105 × 148 × 3 mm.
3 levels of thickness (1, 2, 3 mm.) with different levels of opacity.
Finish: each test sample with 3 different finishes, enables you to analyse the colour according to the roughness: high-gloss polish, rough VDI 24 and very rough matt VDI 42.
Includes reflectance curve, absolute values and difference with the original RAL Classic paper samples.

Surface Gloss and Appearance

NovoGloss – Glossmeter

Standards: ISO 2813, ISO 7668 ASTM D523, ASTM D2457, DIN 67530, JIS 8741

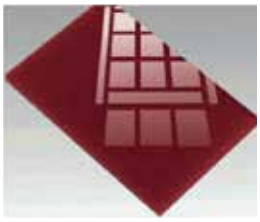
Glossmeters for measuring any surface, from matt finishes to very glossy ones, even for metals.

Digital reading with 0.1 resolution, with Memory, Statistics, USB connection and data transfer to PC with software for carrying out analysis and reports.

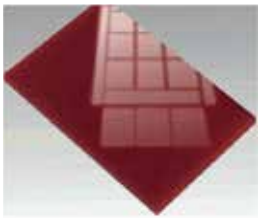
Perfect for Laboratory and Production.

Option of one 60º angle, dual 20/60º or 3 angles 20/60/85º.

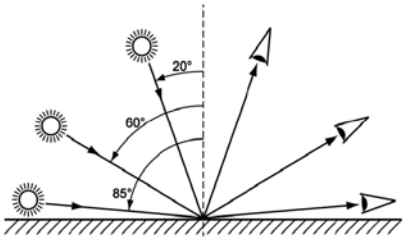
Reference	Model	Angle
RHO-NG60	Glossmeter Novo-Gloss 60	60º
RHO-NG2060	Glossmeter Novo-Gloss Dual	20º/60º
RHO-NG206085	Glossmeter Novo-Gloss TRIO	20º/60º/85º
RHO-NGTRIGLOSS	Glossmeter Novo-Gloss Trigloss Haze	20º/60º/85º



Sample 1 - No diffusion, deep reflection.



Sample 2 - High diffusion, surface finishing.



IQ – Glossmeter: Gloss, Haze, DOI

Ref. RHO-IQ206085

Standards: UNE EN ISO 2813, ASTM D523, ASTM D 2457, DIN 67530, ISO 7668, ASTM E 430, ASTM D5767

Glossmeter with 3 angles (20, 60 and 85º) which incorporates the Haze and DOI (mirror effect) measurements, allowing a full analysis of the surface and the detection of common problems: roughness, orange peel effect, polishing, levelling, sedimentation of particles, shadows, mirror effect, etc.

The perfect tools for high quality surface finishes, at the price of a Glossmeter.

Haze

Haze

DOI, mirror effect

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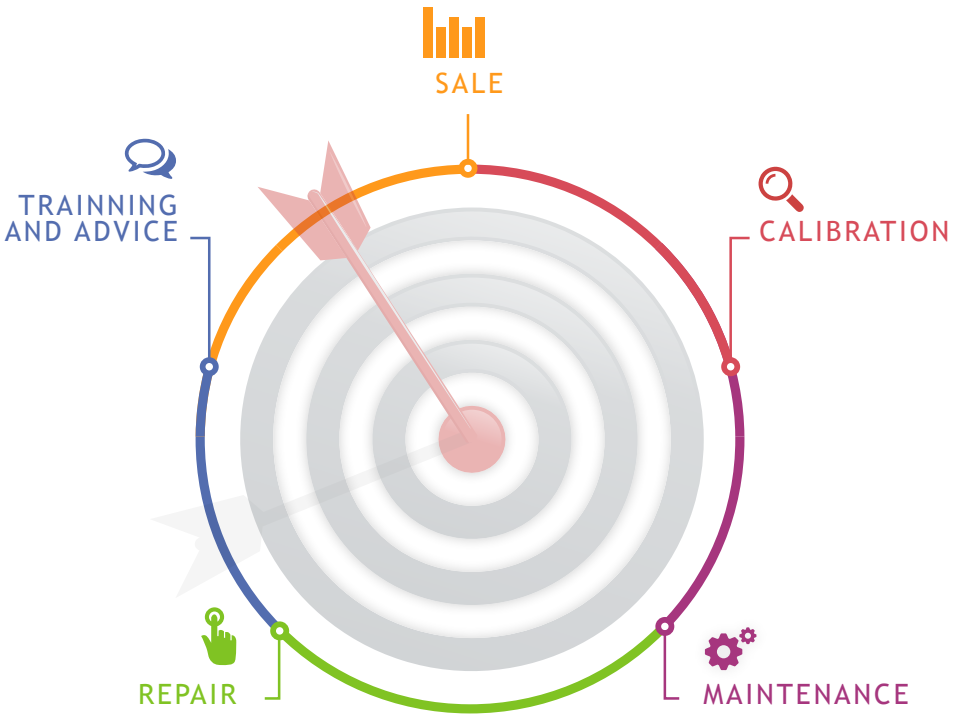
NEURTEK's objective is to be your travel companion, your reference supplier in Quality Control.

From an analysis of your needs and expert advice to a full, specialised after-sales service. Maintenance, Calibration, Repair and Training.



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Efficient and competent, with excellent training in electronics, refrigeration, control and regulation technology, mechanics and software.

A professional service which is available at all times to provide cooperative and reliable assistance.

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- Stock of original replacement parts
- Technicians who specialise in applications
- Personalised training courses
- Advice regarding laboratory lay out
- Laboratory · Showroom for demos and tests

Calibration Laboratory

Calibration and Maintenance for all brands and models.

ENAC
CALIBRACIÓN
Nº 117/LC10.084
En Óptica: Color, Brillo e Iluminación.
Temperatura y Humedad

Calibrations ISO 17025 / ENAC

Optics: Colour, Gloss and Illumination

Colorimeters, spectrophotometers, patterns and colour samples, glossmeters, gloss patterns, colour comparison chambers...

Temperature and Humidity

Climatic chambers, isothermal tools, thermometers, temperature indicators, thermohygrometers, autoclaves...

Calibrations with Traceability

Taber rotatory abrasion tester, Computrac humidity analyser, scales, conductivity meter, viscosity cup, densitometers, force gauges, buchholz hardness tester, shore hardness testers, cupping tester, photometers, hygrometers, impact tester, cylindrical mandrel, digital adhesion gauge, thickness gauge, microscope and image analysis systems, persoz pendulum, ph-meter, pycnometers, resistivitimeter, temperature, turbidimeter, rotatory viscometers...

Maintenance and Repair

Maintenance of Climatic Chambers.

Maintenance of Metallographic Machines.

Maintenance of other equipment (colour and gloss instruments, abrasion, thickness, viscosity, etc.).

Stock of replacement parts from the original supplier.

... your Quality Control Instruments Supplier since 1979

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Quality Control Instruments
Manufacturer and Distributor since 1979

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NEURTEK's objective is to be your travel companion, your reference supplier in Quality Control.

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Maintenance, Calibration, Repair and Training.

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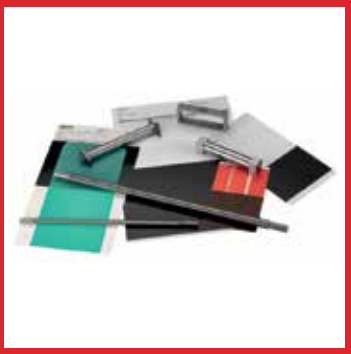

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We design and manufacture our own instruments.

Direct relationship with the best brands

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T. +(34) 943 82 00 82
info@neurtek.com

www.neurtek.com

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