



Paint Test Equipment



Bresle Patch Test

Bresle Patch Test

The Bresle Test will measure water-soluble salts and corrosion products on blast-cleaned steel. These compounds are almost colourless and are localized at the lowest point of the rust pits.



If they are not removed prior to painting, chemical reactions can result in blister formation and accumulations of rust that destroy the adhesion between the substrate and the applied protective coating.

Specification

Conductivity Meter Accuracy: ± 2 .

Conductivity Meter range: 0–1999 μ S/cm.

Conductivity Meter resolution: 1 μ S/cm.

Storage: Do not expose the Bresle Patches to any extremes of temperature or daylight.

Shelf Life: The only degeneration on the Bresle Patches is the adhesive if exposed to extremes of temperature.

We would recommend that the Bresle Patches are used within a 12-month period from date of purchase.

Compliance

ISO 8502-6 and ISO 8502-9.



Paint Test Equipment

Supply

Supplied in an industrial foam-filled Carrying Case with Bresle Patches (pack of 35), Conductivity Meter, 500ml Deionised Water 500ml, 5ml Syringe with Needle, Calibration Solution (14ml) Conditioning Solution (14ml) and 25ml Beaker.

The Conductivity Meter Calibration Certificate with traceability to UKAS is an optional extra.



Ordering

- | | |
|-------|---|
| P2005 | Bresle Test. Includes 35 Bresle Patches |
| PS002 | Bresle Patches (pack of 35) |
| PS003 | Spare Deionised Water (500ml) |
| PS004 | Spare Syringes with Needles (pack of 10) |
| PS005 | Spare Conductivity Meter Calibration Solution (14ml) |
| PS006 | Spare 25ml Beakers (pack of 5) |
| PS007 | Spare Conductivity Meter Sensor Measurement Head |
| PS008 | Spare Conductivity Meter Conditioning Solution (14ml) |
| NP001 | Conductivity Meter Calibration Certificate |
| NPC01 | Conductivity Meter Calibration Solution Conformance Certificate |
| NPC04 | Bresle Patches Conformance Certificate |



Paint Inspection Kit

The Bresle Patch Test is also supplied in the Paint Inspection Kit. The Paint Inspection Kit contains all the equipment for the testing of blast-cleaned steel and coating inspection using the following equipment.

Testex Replica Tape / Replica Tape Gauge. Surface Profile measurement of blast-cleaned steel.

Bresle Test. Measurement of salts and corrosion products on blast-cleaned steel.

Dust Tape Test. Assessment of the quantity and size of dust particles on blast-cleaned steel.

Dewpoint Meter. Testing for the probability of condensation on blast-cleaned steel.

Wet Film Gauge. Wet film thickness measurement of the coating.

Coating Thickness Meter. Dry film thickness measurement of the coating.

Ordering Information

K3001. Paint Inspection Kit

NK002. Paint Inspection Kit Calibration Certificates



Paint Test Equipment

Instructions

Conductivity Meter Conditioning

For first use on a new Conductivity Meter, condition the measuring electrode with 3 to 4 droplets of the Conditioning Solution, ensuring that the Solution is in both sections of the electrode with no air bubbles and allow to sit for approximately 10 minutes, then the measuring electrode should be rinsed using the syringe with Deionised Water and shaken dry.



If the measuring electrode has not been used for a long period of time, or if the electrode has been left extremely dry, then use this moistening procedure.

Conductivity Meter Cal

Place 3 to 4 droplets of the 1413 μ S/cm Conductivity Solution into the measuring electrode, ensuring that the solution is in both sections of the electrode with no air bubbles. Check the displayed reading which is shown when the smiley face comes on and if this is not 1413 μ S/cm then calibrate as follows:

Press the Cal button, the CAL indicator and a smiley face will flash – the Conductivity Meter will now auto calibrate. When the CAL indicator and smiley face stop flashing the calibration is complete and the instrument will revert to normal measurement mode.

When you have finished calibrating the Conductivity Meter, the measuring electrode should be rinsed using the syringe with Deionised Water and shaken dry.

Press the Cal button, the CAL indicator and a smiley face will flash – the Conductivity Meter will now auto calibrate. When the CAL indicator and smiley face stop flashing the calibration is complete and the instrument will revert to normal measurement mode.

When you have finished calibrating the Conductivity Meter, the measuring electrode should be rinsed using the syringe with Deionised Water and shaken dry.

Replacing Batteries

When the batteries on the Conductivity Meter require replacement, low battery indicator will show on the display.

With the instrument switched off slide the Sensor while lifting the catch located on the rear of the instrument, replace with 2 lithium CR-2032 batteries, ensuring correct polarity.



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Instructions

Measurements

Pour approximately 10ml of Deionised Water into the Beaker.



Completely fill the Syringe with the Deionised Water from the Beaker, and then empty the Syringe back into the Beaker.

Using the Syringe, withdraw approximately 1ml of Deionised Water from the Beaker and place 3 to 4 droplets into the measuring electrode on the Conductivity Meter, ensuring that the Deionised Water is in both sections of the electrode with no air bubbles.

Record the conductivity of the Deionised water displayed by the Meter when the smiley face appears.

Take a Bresle Patch and remove the protective paper and the punched-out center foam. Ensure that you only hold the corner of the Patch away from the adhesive near the test chamber when the protective paper is removed.

Take a Bresle Patch and remove the protective paper and the punched-out center foam. Ensure that you only hold the corner of the Patch away from the adhesive near the test chamber when the protective paper is removed.

The adhesive on the Patch is more adherent in warmer temperatures and this can cause the protective paper stick more. If this is the case remove the backing paper by push the punched-out centre foam from the elastomer side. The centre foam will push off the backing paper when pressure is applied.

Press the adhesive side of the patch against the test surface by running the flat of your finger across from one side of the Patch in such a way that the air in the test chamber is pushed out and the minimum amount of air is trapped. The elastomer on the Patch should concave inwards and touch the steel in the center of the test

Fill the Syringe with 2.5ml of Deionised Water from the Beaker and insert the Syringe needle at an angle of about 30° to the test surface near the outer edge of the Patch so it passes through the adhesive foam body and into the circular test chamber.

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Measurements Continued

Inject the Syringe contents ensuring that it wets the entire test surface, then without removing the Syringe needle from the Patch, suck the contents of the Patch back into the Syringe. Repeat until at least 10 injection–sucking cycles have been completed.

At the end of the 10th cycle retrieve the contaminated water from the Patch with the Syringe and place 3 to 4 droplets into the measuring electrode on the Conductivity Meter, ensuring that the Deionised Water is in both sections of the electrode with no air bubbles.

Record the conductivity of the contaminated water displayed by the Meter when the smiley face appears.

Results

Subtract the initial Deionised Water conductivity reading from the contaminated water conductivity reading. The results are shown in $\mu\text{S}/\text{cm}$.

The Conductivity Meter measurements are shown in $\mu\text{S}/\text{cm}$ and no conversion is required for measurements in mg/m^2 .

For measurements $\mu\text{g}/\text{cm}^2$ add a decimal point in front of the last digit so $100\mu\text{S}/\text{cm}$ will be $10.0\mu\text{g}/\text{cm}^2$ or use the conversion table on the following page.

The conversions listed are based on a test area of 1250mm^2 and using a 2.5ml volume of water. Expression of results are based on section 7 of ISO 8502-9.

Example. The Deionised Water measurement taken is $4\mu\text{S}/\text{cm}$. The contaminated water measurement taken is $54\mu\text{S}/\text{cm}$. The difference is therefore $50\mu\text{S}/\text{cm}$ which is equivalent to $50\text{mg}/\text{m}^2$ or $5.0\mu\text{g}/\text{cm}^2$.

The Deionised Water temperature can be measured by pressing the MEAS button when the water is in the Conductivity Meter measuring electrode. Press the MEAS button again for normal conductivity measurement mode.

Care

When you have finished using the Conductivity Meter, the measuring electrode should be rinsed using the syringe with Deionised Water and shaken dry. Then place a small amount of Deionised Water in the measuring electrode and replace the sensor cap.

Also ensure the Syringe is cleaned to remove any contamination.



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Testing Abrasives

ISO 11127-6: Preparation of steel substrates before application of paints and related products. Test methods for non-metallic blast-cleaning abrasives. Part 6: Determination of water-soluble contaminants by conductivity measurement.

The Bresle Test can also be used for testing non-metallic abrasives for water-soluble salts and corrosion products.

Record the conductivity of the Deionised Water using the same procedure under the section Taking Measurements.

Place 100gm of abrasive into a flask and add 100ml of the Deionized Water that you have recorded the conductivity of. Shake for 5 minutes and allow to stand for 1 hour. If the liquid does not clear, filter by any suitable method.

Using the Syringe, withdraw approximately 1ml of contaminated water from the flask and place 3 to 4 droplets into the measuring electrode on the Conductivity Meter, ensuring that the contaminated water is in both sections of the electrode with no air bubbles.

Record the conductivity of the contaminated water displayed by the Meter when the smiley face appears.

Subtract the initial Deionized Water conductivity reading from the contaminated water conductivity reading. Record the results as shown in $\mu\text{S}/\text{cm}$.



The needles on the Syringes in the Bresle Test are blunt. Care must still be taken when carrying out the test.

When using the Syringes ensure the work area is well lit, be aware of people around you and assess any hazards. Ensure the protective cap is placed over the needle after use.

If the Calibration Solution comes into contact with exposed skin, wash with water. If the Solution comes into contact with eyes, rinse the eye immediately and seek medical advice.

About Us

Paint Test Equipment is a global leader in the manufacture of specialist test equipment specifically for the industrial painting and coating industries for the protection of steel assets from corrosion, mainly in the oil, renewables and steel construction sectors. We have over 30 years experience and extensive knowledge in delivering practical solutions in supporting our customers with world class products for corrosion prevention.

Prevention of corrosion on steel is essential to extend the asset lifetime, optimise performance and minimise downtime for expensive maintenance work. Using Paint Test Equipment products ensures that industrial coatings are applied to the highest achievable quality standards of ISO compliance.

We supply small, medium and multinational companies with the full range of technologies and innovations in our unrivalled portfolio of products for our customers to grow their business and enhance profits through cost effective corrosion management equipment.

Paint Test Equipment is committed to providing proactive and innovative solutions to meet customer requirements for the highest quality, user friendly inspection equipment. Paint Test Equipment is the partner of choice.

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