



Paul N. Gardner Company

BRESLE PATCHES pH, CONDUCTIVITY AND REFRACTOMETERS

Instructions for using Bresle Patches to measure water-soluble salts and corrosion products on blast-cleaned steel.



Bresle Patches



Bresle Patches are used to extract soluble salts and other contaminants from steel surfaces for measurement with a conductivity meter. They are used to assess the level of surface contamination prior to coating application. The GARDCO Bresle Patches Standard High Adhesion are latex- and chloride-free and comply with ISO 8502-6 and ISO 8502-9.

Instructions for Use

1. Select the area of the steel surface to be used as the test area for assessment of the total surface density of salts. The surface should preferably be dry and free of loosely adherent rust, dirt, or moisture so that the patch frame can properly adhere to the surface. The Bresle Patch can be used in almost any position, including vertical, horizontal, slanted, or slightly irregular surfaces. It is recommended to test more than one spot to account for variation in contamination levels.
2. Remove the square protective backing of the Bresle Patch with its inner protective paper and discard it. Place the Bresle Patch with the adhesive side against the test surface and press firmly to create a tight seal.
3. Use the syringe to draw 2.5 mL from the large 200 mL bottle and inject it into the Bresle Patch. Make sure the needle is inserted through the foam frame of the patch from the top side and that all the water is injected into the patch. Do not insert the needle through the transparent part of the patch or from the bottom side, as this may cause leakage.
4. Dissolve the salts on the test surface by carefully moving the water back and forth between the syringe and the patch compartment. Continue this operation for about 3 to 5 minutes, using 2 to 4 pumping strokes per minute. Rubbing the cell area of the sampler between pumping strokes can increase the rate of dissolution.
5. When finished, draw the entire volume of water back into the syringe and remove the syringe from the Bresle Patch. Spray some water onto the measuring cell of the conductivity meter. The remaining water should stay in the syringe.
6. Measure the conductivity of the solution in the measuring cell and record the value. This is the measured value.
7. Calculate the difference between the measured value (displayed at "F" on the meter) and the zero reference determined earlier ($\mu\text{S}/\text{cm}$ measured value – $\mu\text{S}/\text{cm}$ zero reference). The total surface density of soluble salts or contaminants **S**, in mg/m^2 , is calculated as:
 $S = 1 \times (\text{Sample Value} - \text{Zero Reference})$
8. Dispose of the contaminated water and clean all critical parts by rinsing with clean distilled water.
9. Remove the Bresle Patch from the surface after the test has been completed.

Test Methods

ISO 8502-6

Preparation of steel substrates before application of paints and related products. Tests for the assessment of surface cleanliness. Part 6: Extraction of soluble contaminants for analysis. The Bresle method.

ISO 8502-9

Preparation of steel substrates before application of paints and related products. Tests for the assessment of surface cleanliness. Part 9: Field method for the conductometric determination of water-soluble salts.

Technical Data

Test Area	1250 mm ²
Test Volume	2.5 mL volume of water
Expression of results	Based on section 7 of ISO 8502-9
Patch Shelf Life	The only degeneration on the Bresle Patches is the adhesive if exposed to extreme temperatures. It is recommended that the patches are used within a 12-month period from the date of purchase.

Available Accessories



Syringe and Needle 10cc 21G 1"

Used to inject and extract test solution through the Bresle Patch foam frame during salt extraction. Provides controlled 2.5 ml dosing and safe handling of the test solution when working on vertical or horizontal steel surfaces.

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Rectangular Bottle 500ml Distilled Water

Supplies the distilled water used in the Bresle test to establish the zero-reference reading, fill the syringe, and inject the 2.5 ml test volume into the patch. It can also be used to rinse critical parts after testing so residual contamination does not affect future measurements.

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Bresle Patches



Available Accessories (continued)



Disposable PP Beaker 30ml Graduated

Small polypropylene beaker used to collect, mix, or temporarily hold extracted test solution for conductivity or pH measurements. Graduated markings make it easy to verify sample volume and support repeatable Bresle Patch testing.

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EC500 Cond/pH/TDS Meter

Handheld meter used to measure conductivity, pH, and total dissolved solids of the solution extracted with Bresle Patches. Provides digital readings needed to calculate surface salt contamination levels according to ISO 8502-9.

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