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: 0–1999µS/cm.

Conductivity Meter resolution: 1µS/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.

Ascott Analytical Equipment Limited
6-8 Gerard, Lichfield Road Industrial Estate, Tamworth, Staffordshire, B79 7UW, Great Britain
T +44 (0) 1827 318040 F +44 (0) 1827 318049 E sales@ascott-analytical.com W www.ascottshop.com

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.

Ordering

T01-30215	Bresle Test. Includes 35 Bresle Patches
T01-30221	Bresle Patches (pack of 35)
T01-30222	Spare Deionised Water (500ml)
T01-30223	Spare Syringes with Needles (pack of 10)
T01-30224	Spare Conductivity Meter Calibration Solution (14ml)
T01-30225	Spare 25ml Beakers (pack of 5)
T01-30226	Spare Conductivity Meter Sensor Measurement Head

Ascott Analytical Equipment Limited
6-8 Gerard, Lichfield Road Industrial Estate, Tamworth, Staffordshire, B79 7UW, Great Britain
T +44 (0) 1827 318040 F +44 (0) 1827 318049 E sales@ascott-analytical.com W www.ascottshop.com

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 1413µS/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 1413µS/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.

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.

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.

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 pushing 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 oam body and into the circular test chamber.

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 contaminatedwater 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 µS/cm.

The Conductivity Meter measurements are shown in µS/cm and no conversion is required for measurements in mg/m^2.

For measurements µg/cm^2 add a decimal point in front of the last digit so 100µS/cm will be 10.0µg/cm^2or 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 4µS/cm. The contaminated water measurement taken is 54µS/cm. The difference is therefore 50µS/cm which is equivalent to 50mg/m^2 or 5.0µg/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.

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 µS/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

Conversions

Results	Conversion µg/cm²	Conversion mg/m²	Results	Conversion µg/cm²	Conversion mg/m²
1µS/cm	0.1µg/cm²	1mg/m²	32µS/cm	3.2µg/cm²	32mg/m²
2µS/cm	0.2µg/cm²	2mg/m²	33µS/cm	3.3µg/cm²	33mg/m²
3µS/cm	0.3µg/cm²	3mg/m²	34µS/cm	3.4µg/cm²	34mg/m²
4µS/cm	0.4µg/cm²	4mg/m²	35µS/cm	3.5µg/cm²	35mg/m²
5µS/cm	0.5µg/cm²	5mg/m²	36µS/cm	3.6µg/cm²	36mg/m²
6µS/cm	0.6µg/cm²	6mg/m²	37µS/cm	3.7µg/cm²	37mg/m²
7µS/cm	0.7µg/cm²	7mg/m²	38µS/cm	3.8µg/cm²	38mg/m²
8µS/cm	0.8µg/cm²	8mg/m²	39µS/cm	3.9µg/cm²	39mg/m²
9µS/cm	0.9µg/cm²	9mg/m²	40µS/cm	4.0µg/cm²	40mg/m²
10µS/cm	1.0µg/cm²	10mg/m²	41µS/cm	4.1µg/cm²	41mg/m²
11µS/cm	1.1µg/cm²	11mg/m²	42µS/cm	4.2µg/cm²	42mg/m²
12µS/cm	1.2µg/cm²	12mg/m²	43µS/cm	4.3µg/cm²	43mg/m²
13µS/cm	1.3µg/cm²	13mg/m²	44µS/cm	4.4µg/cm²	44mg/m²
14µS/cm	1.4µg/cm²	14mg/m²	45µS/cm	4.5µg/cm²	45mg/m²
15µS/cm	1.5µg/cm²	15mg/m²	46µS/cm	4.6µg/cm²	46mg/m²
16µS/cm	1.6µg/cm²	16mg/m²	47µS/cm	4.7µg/cm²	47mg/m²
17µS/cm	1.7µg/cm²	17mg/m²	48µS/cm	4.8µg/cm²	48mg/m²
18µS/cm	1.8µg/cm²	18mg/m²	49µS/cm	4.9µg/cm²	49mg/m²
19µS/cm	1.9µg/cm²	19mg/m²	50µS/cm	5.0µg/cm²	50mg/m²
20µS/cm	2.0µg/cm²	20mg/m²	51µS/cm	5.1µg/cm²	51mg/m²
21µS/cm	2.1µg/cm²	21mg/m²	52µS/cm	5.2µg/cm²	52mg/m²
22µS/cm	2.2µg/cm²	22mg/m²	53µS/cm	5.3µg/cm²	53mg/m²
23µS/cm	2.3µg/cm²	23mg/m²	54µS/cm	5.4µg/cm²	54mg/m²
24µS/cm	2.4µg/cm²	24mg/m²	55µS/cm	5.5µg/cm²	55mg/m²
25µS/cm	2.5µg/cm²	25mg/m²	56µS/cm	5.6µg/cm²	56mg/m²
26µS/cm	2.6µg/cm²	26mg/m²	57µS/cm	5.7µg/cm²	57mg/m²
27µS/cm	2.7µg/cm²	27mg/m²	58µS/cm	5.8µg/cm²	58mg/m²
28µS/cm	2.8µg/cm²	28mg/m²	59µS/cm	5.9µg/cm²	59mg/m²
29µS/cm	2.9µg/cm²	29mg/m²	60µS/cm	6.0µg/cm²	60mg/m²
30µS/cm	3.0µg/cm²	30mg/m²	61µS/cm	6.1µg/cm²	61mg/m²
31µS/cm	3.1µg/cm²	31mg/m²	62µS/cm	6.2µg/cm²	62mg/m²

Ascott Analytical Equipment Limited
6-8 Gerard, Lichfield Road Industrial Estate, Tamworth, Staffordshire, B79 7UW, Great Britain
T +44 (0) 1827 318040 F +44 (0) 1827 318049 E sales@ascott-analytical.com W www.ascottshop.com

Conversions

Results	Conversion µg/cm²	Conversion mg/m²	Results	Conversion µg/cm²	Conversion mg/m²
63µS/cm	6.3µg/cm²	63mg/m²	94µS/cm	9.4µg/cm²	94mg/m²
64µS/cm	6.4µg/cm²	64mg/m²	95µS/cm	9.5µg/cm²	95mg/m²
65µS/cm	6.5µg/cm²	65mg/m²	96µS/cm	9.6µg/cm²	96mg/m²
66µS/cm	6.6µg/cm²	66mg/m²	97µS/cm	9.7µg/cm²	97mg/m²
67µS/cm	6.7µg/cm²	67mg/m²	98µS/cm	9.8µg/cm²	98mg/m²
68µS/cm	6.8µg/cm²	68mg/m²	99µS/cm	9.9µg/cm²	99mg/m²
69µS/cm	6.9µg/cm²	69mg/m²	100µS/cm	10.0µg/cm²	100mg/m²
70µS/cm	7.0µg/cm²	70mg/m²	101µS/cm	10.1µg/cm²	101mg/m²
71µS/cm	7.1µg/cm²	71mg/m²	102µS/cm	10.2µg/cm²	102mg/m²
72µS/cm	7.2µg/cm²	72mg/m²	103µS/cm	10.3µg/cm²	103mg/m²
73µS/cm	7.3µg/cm²	73mg/m²	104µS/cm	10.4µg/cm²	104mg/m²
74µS/cm	7.4µg/cm²	74mg/m²	105µS/cm	10.5µg/cm²	105mg/m²
75µS/cm	7.5µg/cm²	75mg/m²	106µS/cm	10.6µg/cm²	106mg/m²
76µS/cm	7.6µg/cm²	76mg/m²	107µS/cm	10.7µg/cm²	107mg/m²
77µS/cm	7.7µg/cm²	77mg/m²	108µS/cm	10.8µg/cm²	108mg/m²
78µS/cm	7.8µg/cm²	78mg/m²	109µS/cm	10.9µg/cm²	109mg/m²
79µS/cm	7.9µg/cm²	79mg/m²	110µS/cm	11.0µg/cm²	110mg/m²
80µS/cm	8.0µg/cm²	80mg/m²	111µS/cm	11.1µg/cm²	111mg/m²
81µS/cm	8.1µg/cm²	81mg/m²	112µS/cm	11.2µg/cm²	112mg/m²
82µS/cm	8.2µg/cm²	82mg/m²	113µS/cm	11.3µg/cm²	113mg/m²
83µS/cm	8.3µg/cm²	83mg/m²	114µS/cm	11.4µg/cm²	114mg/m²
84µS/cm	8.4µg/cm²	84mg/m²	115µS/cm	11.5µg/cm²	115mg/m²
85µS/cm	8.5µg/cm²	85mg/m²	116µS/cm	11.6µg/cm²	116mg/m²
86µS/cm	8.6µg/cm²	86mg/m²	117µS/cm	11.7µg/cm²	117mg/m²
87µS/cm	8.7µg/cm²	87mg/m²	118µS/cm	11.8µg/cm²	118mg/m²
88µS/cm	8.8µg/cm²	88mg/m²	119µS/cm	11.9µg/cm²	119mg/m²
89µS/cm	8.9µg/cm²	89mg/m²	120µS/cm	12.0µg/cm²	120mg/m²
90µS/cm	9.0µg/cm²	90mg/m²	121µS/cm	12.1µg/cm²	121mg/m²
91µS/cm	9.1µg/cm²	91mg/m²	122µS/cm	12.2µg/cm²	122mg/m²
92µS/cm	9.2µg/cm²	92mg/m²	123µS/cm	12.3µg/cm²	123mg/m²
93µS/cm	9.3µg/cm²	93mg/m²	124µS/cm	12.4µg/cm²	124mg/m²

Ascott Analytical Equipment Limited
6-8 Gerard, Lichfield Road Industrial Estate, Tamworth, Staffordshire, B79 7UW, Great Britain
T +44 (0) 1827 318040 F +44 (0) 1827 318049 E sales@ascott-analytical.com W www.ascottshop.com

Conversions

Results	Conversion µg/cm²	Conversion mg/m²	Results	Conversion µg/cm²	Conversion mg/m²
125µS/cm	12.5µg/cm²	125mg/m²	156µS/cm	15.6µg/cm²	156mg/m²
126µS/cm	12.6µg/cm²	126mg/m²	157µS/cm	15.7µg/cm²	157mg/m²
127µS/cm	12.7µg/cm²	127mg/m²	158µS/cm	15.8µg/cm²	158mg/m²
128µS/cm	12.8µg/cm²	128mg/m²	159µS/cm	15.9µg/cm²	159mg/m²
129µS/cm	12.9µg/cm²	129mg/m²	160µS/cm	16.0µg/cm²	160mg/m²
130µS/cm	13.0µg/cm²	130mg/m²	161µS/cm	16.1µg/cm²	161mg/m²
131µS/cm	13.1µg/cm²	131mg/m²	162µS/cm	16.2µg/cm²	162mg/m²
132µS/cm	13.2µg/cm²	132mg/m²	163µS/cm	16.3µg/cm²	163mg/m²
133µS/cm	13.3µg/cm²	133mg/m²	164µS/cm	16.4µg/cm²	164mg/m²
134µS/cm	13.4µg/cm²	134mg/m²	165µS/cm	16.5µg/cm²	165mg/m²
135µS/cm	13.5µg/cm²	135mg/m²	166µS/cm	16.6µg/cm²	166mg/m²
136µS/cm	13.6µg/cm²	136mg/m²	167µS/cm	16.7µg/cm²	167mg/m²
137µS/cm	13.7µg/cm²	137mg/m²	168µS/cm	16.8µg/cm²	168mg/m²
138µS/cm	13.8µg/cm²	138mg/m²	169µS/cm	16.9µg/cm²	169mg/m²
139µS/cm	13.9µg/cm²	139mg/m²	170µS/cm	17.0µg/cm²	170mg/m²
140µS/cm	14.0µg/cm²	140mg/m²	171µS/cm	17.1µg/cm²	171mg/m²
141µS/cm	14.1µg/cm²	141mg/m²	172µS/cm	17.2µg/cm²	172mg/m²
142µS/cm	14.2µg/cm²	142mg/m²	173µS/cm	17.3µg/cm²	173mg/m²
143µS/cm	14.3µg/cm²	143mg/m²	174µS/cm	17.4µg/cm²	174mg/m²
144µS/cm	14.4µg/cm²	144mg/m²	175µS/cm	17.5µg/cm²	175mg/m²
145µS/cm	14.5µg/cm²	145mg/m²	176µS/cm	17.6µg/cm²	176mg/m²
146µS/cm	14.6µg/cm²	146mg/m²	177µS/cm	17.7µg/cm²	177mg/m²
147µS/cm	14.7µg/cm²	147mg/m²	178µS/cm	17.8µg/cm²	178mg/m²
148µS/cm	14.8µg/cm²	148mg/m²	179µS/cm	17.9µg/cm²	179mg/m²
149µS/cm	14.9µg/cm²	149mg/m²	180µS/cm	18.0µg/cm²	180mg/m²
150µS/cm	15.0µg/cm²	150mg/m²	181µS/cm	18.1µg/cm²	181mg/m²
151µS/cm	15.1µg/cm²	151mg/m²	182µS/cm	18.2µg/cm²	182mg/m²
152µS/cm	15.2µg/cm²	152mg/m²	183µS/cm	18.3µg/cm²	183mg/m²
153µS/cm	15.3µg/cm²	153mg/m²	184µS/cm	18.4µg/cm²	184mg/m²
154µS/cm	15.4µg/cm²	154mg/m²	185µS/cm	18.5µg/cm²	185mg/m²
155µS/cm	15.5µg/cm²	155mg/m²	186µS/cm	18.6µg/cm²	186mg/m²

Ascott Analytical Equipment Limited
6-8 Gerard, Lichfield Road Industrial Estate, Tamworth, Staffordshire, B79 7UW, Great Britain
T +44 (0) 1827 318040 F +44 (0) 1827 318049 E sales@ascott-analytical.com W www.ascottshop.com

Conversions

Results	Conversion µg/cm²	Conversion mg/m²	Results	Conversion µg/cm²	Conversion mg/m²
187µS/cm	18.7µg/cm²	187mg/m²	218µS/cm	21.8µg/cm²	218mg/m²
188µS/cm	18.8µg/cm²	188mg/m²	219µS/cm	21.9µg/cm²	219mg/m²
189µS/cm	18.9µg/cm²	189mg/m²	220µS/cm	22.0µg/cm²	220mg/m²
190µS/cm	19.0µg/cm²	190mg/m²	221µS/cm	22.1µg/cm²	221mg/m²
191µS/cm	19.1µg/cm²	191mg/m²	222µS/cm	22.2µg/cm²	222mg/m²
192µS/cm	19.2µg/cm²	192mg/m²	223µS/cm	22.3µg/cm²	223mg/m²
193µS/cm	19.3µg/cm²	193mg/m²	224µS/cm	22.4µg/cm²	224mg/m²
194µS/cm	19.4µg/cm²	194mg/m²	225µS/cm	22.5µg/cm²	225mg/m²
195µS/cm	19.5µg/cm²	195mg/m²	226µS/cm	22.6µg/cm²	226mg/m²
196µS/cm	19.6µg/cm²	196mg/m²	227µS/cm	22.7µg/cm²	227mg/m²
197µS/cm	19.7µg/cm²	197mg/m²	228µS/cm	22.8µg/cm²	228mg/m²
198µS/cm	19.8µg/cm²	198mg/m²	229µS/cm	22.9µg/cm²	229mg/m²
199µS/cm	19.9µg/cm²	199mg/m²	230µS/cm	23.0µg/cm²	230mg/m²
200µS/cm	20.0µg/cm²	200mg/m²	231µS/cm	23.1µg/cm²	231mg/m²
201µS/cm	20.1µg/cm²	201mg/m²	232µS/cm	23.2µg/cm²	232mg/m²
202µS/cm	20.2µg/cm²	202mg/m²	233µS/cm	23.3µg/cm²	233mg/m²
203µS/cm	20.3µg/cm²	203mg/m²	234µS/cm	23.4µg/cm²	234mg/m²
204µS/cm	20.4µg/cm²	204mg/m²	235µS/cm	23.5µg/cm²	235mg/m²
205µS/cm	20.5µg/cm²	205mg/m²	236µS/cm	23.6µg/cm²	236mg/m²
206µS/cm	20.6µg/cm²	206mg/m²	237µS/cm	23.7µg/cm²	237mg/m²
207µS/cm	20.7µg/cm²	207mg/m²	238µS/cm	23.8µg/cm²	238mg/m²
208µS/cm	20.8µg/cm²	208mg/m²	239µS/cm	23.9µg/cm²	239mg/m²
209µS/cm	20.9µg/cm²	209mg/m²	240µS/cm	24.0µg/cm²	240mg/m²
210µS/cm	21.0µg/cm²	210mg/m²	241µS/cm	24.1µg/cm²	241mg/m²
211µS/cm	21.1µg/cm²	211mg/m²	242µS/cm	24.2µg/cm²	242mg/m²
212µS/cm	21.2µg/cm²	212mg/m²	243µS/cm	24.3µg/cm²	243mg/m²
213µS/cm	21.3µg/cm²	213mg/m²	244µS/cm	24.4µg/cm²	244mg/m²
214µS/cm	21.4µg/cm²	214mg/m²	245µS/cm	24.5µg/cm²	245mg/m²
215µS/cm	21.5µg/cm²	215mg/m²	246µS/cm	24.6µg/cm²	246mg/m²
216µS/cm	21.6µg/cm²	216mg/m²	247µS/cm	24.7µg/cm²	247mg/m²
217µS/cm	21.7µg/cm²	217mg/m²	248µS/cm	24.8µg/cm²	248mg/m²

Ascott Analytical Equipment Limited
6-8 Gerard, Lichfield Road Industrial Estate, Tamworth, Staffordshire, B79 7UW, Great Britain
T +44 (0) 1827 318040 F +44 (0) 1827 318049 E sales@ascott-analytical.com W www.ascottshop.com