

Salt Fog Test for Protective Coatings



ASTM B117



Salt Fog Test In A Nutshell

- ASTM B117 salt fog or salt spray test is a very popular corrosion test designed to provide corrosion resistance information on metals and coated metals. The ASTM B117 test standard has also been approved for use by Department of Defence agencies.

Why should you consider running an ASTM B117 test?

- To compare the corrosive resistance of various protective coatings on steel
- To determine the corrosive tendency when a metal or coated surface is scratched (Perform ASTM B117 + ASTM D1654 together)
- To measure coating adhesion and corrosion creep (Perform ASTM B117+ ASTM D3359 together)
- To best estimate corrosion resistance in a marine environment (wetness, temperature, salt fog)

What results can you expect from a B117 Salt Fog Test?

- With visual inspection following a B117 corrosion exposure, you can determine the suitability of coatings, paints and metals to resist corrosion or exposure to marine environments.
- With the addition of ASTM D3359 (adhesion with tape), you can see how well a coating adheres to metal and how far the corrosion crept.
- With the addition of ASTM D1654 (scribing), you can see how corrosion develops from a scratch through the paint or coating to the underlying metal.
- It should be understood that correlating corrosive results from ASTM B117 exposure to real-world conditions is also not part of this test standard and is difficult to predict.

What deliverables does ExcelPlas offer for ASTM B117?

- Following an ASTM B117 test, ExcelPlas will issue a test report, which will typically show:
- Photographs of the test samples. Pre & post exposure, or at any specified duration during the test. Many customers want a photo or the test to end at the first sign of corrosion.
- Calibration and compliance data of the salt fog chamber and supporting equipment.
- Detailed time/date entries of corrosive conditions, customer instructions.
- ExcelPlas' accreditations, certification of test performed.

What are the general conditions and most popular exposure durations of ASTM B117?

- ASTM B117 is performed in specialized chambers built to ASTM B117 specifications. The temperature is maintained at 35 deg.C (+ 1.1 deg.C to 1.7 deg.C), with a pH range of 6.5 to 7.2pH and a salt atmosphere of 5 parts sodium chloride to 95 parts ASTM D1193 Type IV water, introduced into the chamber at specific air pressure guidelines.
- ASTM B117 does not dictate the length of exposure. The standard calls for exposures in 24 hour blocks of time. The most popular durations are: #1) 96 hour exposure #2) 240 hour exposure #3) 600 hour exposure.

Next Steps

- ExcelPlas provides ASTM B117 salt spray, salt fog testing as a rapid method to evaluate the corrosion resistance of your protective coatings and coated materials.
- For more information on our ASTM B117 testing services, or to speak to one of our Engaged Experts, please contact us today at: info@excelplas.com