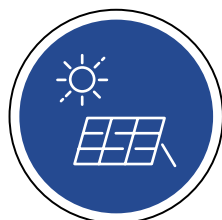


CORROSION TESTS FOR THE AUTOMOTIVE INDUSTRY

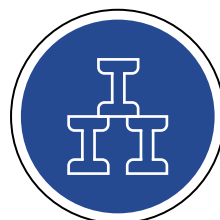
We have available the most complexly equipped laboratories for corrosion tests in Slovakia. Besides the standard laboratory for corrosion tests (intercrystalline corrosion, crevice and point corrosion, stress corrosion cracking) we perform also special tests on the equipments developed by the specific criteria of WRI - II of SR (VÚZ – PI SR).



Automotive industry



Solar technology



External steel structure



Energy industry



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– Industrial Institute of SR
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WE HAVE AVAILABLE
THE EQUIPMENTS
**FOR ACCELERATED
CORROSION TESTS,**
WHICH ARE CERTIFIED
WITHIN THE EU AND
ARE REGULARLY
CALIBRATED.



OUR BENEFITS:

- » the most complex set of corrosion tests in Slovakia
- » new-built laboratories, new fully automated equipments
- » specialist with long time experience
- » tailored preparation of specimens in cooperation with technologists and designers
- » individual approach, tailored design of tests, meeting the customers' needs
- » possibility of a complex metallographic assessment and chemical and structural analysis of the corrosion damage in cooperation with the accredited metallographic and chemical laboratory directly in the premises of WRI – II of SR (VÚZ – PI SR)

SCOPE OF ACTIVITIES FOR THE AUTOMOTIVE INDUSTRY:

SALT CHAMBER:

Volume of the test area: 640 l

CORROSION TESTS:

- » NSS, ASS and CASS methods in accordance with EN ISO 9227 (ASTM B117) standard
- » Condensation corrosion test in accordance with STN 03 8131 and STN EN ISO 6270 -1,2 standards

OTHER STANDARDS APPLIED:

1. EN ISO 9227 (ASTM B117)
2. ASTM G85:A5
3. CCT-1 (CCT-A)
4. GMW 14872, GM9540P
5. Ford CETP: 00.00-L-467
6. SAE J2334, SAE J2721
7. ISO 16701, GB/T 20853 (Aug 2014)
8. Volkswagen PV 1210
9. Volvo VCS 1027,14; 1027,149; 423-0014
10. STN 03 8131

OUR EQUIPMENT FOR THE LABORATORY CORROSION TESTS:

1. **Corrosion loop**, serves for simulation of a real service environment with extreme parameters, attaining the pressure of 35 MPa and the temperature of 650 °C. The corrosion loop is connected with an autoclave where the simulated environment may circulate. In the autoclave are thus performed both, the exposure corrosion tests and also the tensile test at a slow strain rate and/or at a constant loading. The equipment allows to check the content of dissolved oxygen and hydrogen, pH and conductivity of the flowing medium during the test. The autoclave also allows to perform the electrochemical corrosion tests at the temperatures up to 300 °C and the pressure up to 18 MPa.
2. **Fully automated corrosion chamber**, serves for testing the corrosion resistance and inspecting the desired quality of metallic materials, paints and coatings used for protection against atmospheric corrosion. The equipment may create 100% relative humidity and to control the temperature up to 50 °C, while it also allows a controlled atomization of the selected medium in the form of a fine mist and/or cyclic spraying with the test solution.
3. **Equipment for testing the corrosion resistance** of base metals and welded joints against corrosion cracking in the hydrogen sulphide environment in accordance with NACE TM0177 specification.
4. **The complex set of equipments for a wide scope of electrochemical tests** for estimation of basic corrosion properties of materials, determination of resistance against the „pitting“ corrosion by the aid of cyclic voltammetry, determination of passivity and/or barrier effect against the corrosion current by the aid of electrochemical impedance spectroscopy in accordance with ASTM G3 standard, determination of sensitivity to intercrystalline corrosion in accordance with ASTM G108 standards etc.