



CORROSION TESTING FACILITY

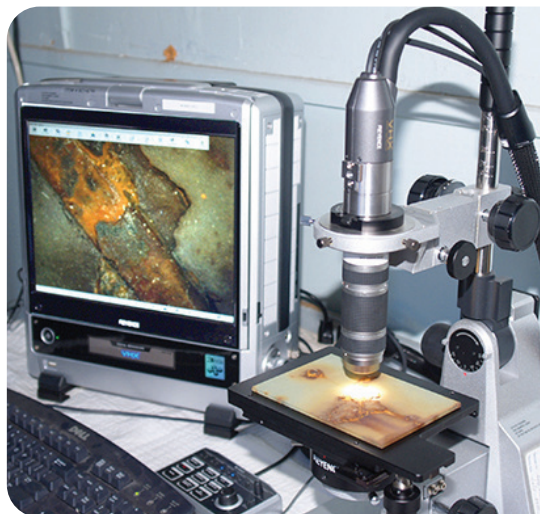
LABORATORY INFORMATION FACT SHEET

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The Corrosion Testing Facility (CTF) is a dedicated Department of Defense facility established to provide an in-house and cost effective means to investigate, experiment and evaluate the corrosion resistance of Army materiel.

TECHNOLOGY/FACILITY DESCRIPTION:

The CTF consists of three main sections: Corrosion Instrumented Test Yard (CITY), Electrochemical Testing Lab (ETL) and Salt Fog Corrosion Chamber Lab (SFCCL). The CITY provides a fully functional atmospheric

exposure test site with the capability to conduct long-term corrosion studies in accordance with ASTM G50. A weather station within the CITY monitors and records temperature, humidity, time-of-wetness, solar/UV radiation, rainfall and wind speed/direction. The proximity of the test site allows for thorough and frequent evaluations and data collection on exposed specimens in a secure location. Next, the ETL has high precision electrochemical testing equipment and software capable of running the full gambit of corrosion analysis tests including DC corrosion experiments as well as Electrochemical Impedance Spectroscopy (EIS). The third section is the SFCCL which has two corrosion chambers and several other environmental chambers and destructive interrogation equipment capable of conducting cyclic and static exposure tests on all types of Army materiel.



EQUIPMENT AND EXPERTISE AVAILABLE:

- CITY: 300sq ft exposure test site with 3 ASTM G50 test racks and a weather station/data collection system
- ETL: potentiostats/galvanostat/zero resistance ammeter and associated software, specialized corrosion testing cells and wet lab
- SFCCL: 2 corrosion chambers, temperature/humidity and xenon arc chambers, gravel-o-meter, contact angle meter, scratch, hydraulic adhesion and impact tester
- Access to scanning electron microscope (SEM), 3D digital microscope, handheld X-ray Fluorescence (XRF) as well as full Metallurgy Lab
- Accelerated corrosion testing and analysis using electrochemical, atmospheric and environmental chamber techniques
- Failure analysis
- Coating thickness, hardness, elemental composition, metallurgy and microscopy
- Corrosion Prevention and Control (CPC) statements
- Consultation on technical drawing specifications and call-outs