Climatic testing

Testing under simulated climate conditions allows us to assess and improve electronic device reliability during the development phase – not only to fulfill regulatory requirements, but also to ensure low field failure rates and high consumer satisfaction.

Simulating the weather

In our advanced climatic test facilities, we are able to simulate various weather conditions such as temperature, humidity, sunlight, salt mist, and combined exposures. These weather conditions can be accelerated to show the long term effects on the electronics, thereby giving important information about its expected life time.

Solar and UV radiation

The irradiation from the sun can be hard on materials reaching temperatures of up to +80 °C or more. Our solar chamber simulates the sun at ground level on earth, ranging from 800 to 1200 W/m^2. Exposure to UV light gives a very high acceleration factor for degradation of materials exposed to the sun. We can also apply condensation or water spray exposure for initial UV-screening.

Salt mist

Salt mist occurs offshore and in coastal regions but sources of salt can also be sweat or the salting of roads. The presence of salt can have fatal consequences for electronic equipment and lead to corrosion of contact points and migration of tin or copper. Both metallic and non-metallic materials can degrade and corrode in saline environments.

Thermal shock

In aerospace, industrial or other extreme environments, devices or materials can experience sudden extreme temperature transitions at rates of tens of degrees per minute. These sudden temperature changes can result in extreme dimensional changes and internal stress levels which can lead to failures, e.g. cracks, delamination or deformation. Our temperature shock chamber is a so called elevator chamber with two separate temperature chambers connected by a sample lift. The temperature range is –80 °C to +220 °C, with a very short time transition time.

Temperature and humidity

High humidity levels can have fatal consequences for materials and condensation inside electronics can occur during cyclic temperature exposures. Our multiple climatic test chambers can provide temperatures ranging from –70 °C to +180 °C, with controlled humidity from 10% to 98% RH. Temperature and humidity profiles can be programmed and monitored in order to simulate a wide range of natural and artificial weather phenomena.

Vibration, temperature, and humidity testing combined

Test conditions can include severe combinations of vibration, temperature and humidity. These conditions are likely to be encountered by electronics on ships or in connection with freight transport. We can combine vibration with a force up to 26 kN, temperatures from –70 °C to +180 °C, with rates of change up to 11 K/min, and humidity from 10% to 98% RH.

We can simulate most climatic conditions, including the formation of ice

Salt mist testing is a proven method to verify if your product is corrosion resistant

ilac-MRA

DANAK
TEST Reg.No. 563
Member of EA MLA

EKTOS TRS is accredited by DANAK. We provide the necessary basis for approvals in most countries worldwide

Want to know more?
Contact EKTOS Testing & Reliability Services for more information about accredited or non-accredited testing in Copenhagen and Struer

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PROVEN ELECTRONICS

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