

# Environmental and Climatic testing

Environmental and climatic tests evaluate the behaviour of materials, components and equipment in normal or extreme weather conditions.



Over the course of their useful life, materials, components and equipment are subjected to multiple environmental conditions that may affect their reliability, behaviour and structural integrity. Manufacturers may need to evaluate the behaviour of their products under different conditions in order to meet both market requirements and applicable regulations. In any case, the increasing technical complexity of electrical and electronic devices implies a greater need to ensure functional performance and reliability.

## Environmental testing services

Applus+ Laboratories offers a climatic testing service that includes:

- Analysis of test specifications and standards
- Development of customised test specifications
- Design and manufacture of testing tools
- Turnkey testing programmes
- Defect analysis and diagnosis

## Environmental testing capabilities

Applus+ has a global network of environmental testing laboratories, equipped with different types of climatic chambers, enabling it to cover a wide range of testing requirements:

- Temperature and humidity variation
- Damp heat (cyclic and steady state)
- Combined temperature/humidity cycles

- Thermal shock
- Environmental lifetime durability
- Xenon and ultraviolet light accelerated ageing
- Heating of casings due to solar radiation
- Rain and dust resistance (IEC)
- Corrosive gas (SO<sub>2</sub> and Ozone)
- Salt fog/spray/mist
- Cyclic corrosion
- Augmented reliability programmes with HALT/HASS (Highly Accelerated Life Test /Highly Accelerated Stress Screen)

## ISO/IEC 17025 accredited environmental laboratories

Applus+ environmental laboratories are ISO/IEC 17025 accredited and have been working for over 20 years with weathering testing technologies across a wide range of sectors including:

- Industry
- Consumer goods
- [Fire alarm](#) and [intrusion alarm](#) systems and components (EN 50130, EN 50131, EN 23007, EN 54, etc.)
- Automotive (OEM standards: VW, PSA, GM, JLR, etc.)
- Aerospace (RTCA DO-160, MIL-STD-810)

## Benefits:

By partnering with Applus+ to carry out a range of environmental and climatic tests, clients will be able to:

- Ensure the quality and functionality of their products in any environmental conditions
- Optimise and improve product design
- Certify their products in accordance with current regulations or customer/industry specific requirements
- Assure the functional performance and lifetime reliability of their products