

## The scope of climatic research

The PROVO research laboratory offers services of specialized climatic tests, mainly in terms of photovoltaics, i.e. testing in accordance with the IEC 61215 standard. Our equipment also allows us to test other products, devices, machines or components when it is required to check the properties of materials and stability of device parameters in changing conditions of temperature and air humidity. Precise temperature and humidity control and recording system provides appropriate conditions for aging tests.

## Testing in climatic chambers enables:

- Reflection of the actual working conditions / use of the tested product.
- Research of resistance to the influence of climatic conditions of devices during operation or without load, and during storage.
- Creation of climatic conditions according to given time courses or programmed cycles, e.g. simulating a multiple passage through 0°C.
- Monitoring specific parameters of the device's operation or creating appropriate operating conditions using inspection channels in the chambers, e.g. monitoring the current flow or supplying electricity to the tested devices.
- Verification of the strength of products in extreme weather conditions.

## Our main equipment:

- CTS CW-60/4 climatic chamber
- Angelantoni ACS PV8500 climatic chamber
- Angelantoni ACS PV8500DH damp-heat climatic chamber, for long-term high temperature and high humidity testing
- Hail simulator
- UV radiation symulator
- Mechanical load simulators

## Climatic chambers parameters:

- Internal dimensions (W×H×D): CTS 1500 × 2400 × 1200 mm, ACS 2000 x 2200 x 2000 mm
- Max. lenght of the tested elements: CTS 3050 mm, ACS 3500 mm
- Door dimensions (W×H): CTS 1500 × 2400 mm, ACS 2000 x 2200 mm
- Temperature control: CTS od -60 do +100 °C, ACS PV8500 od -50 do +90 °C, ACS PV8500DH od +50 do +90 °C
- Humidity control: CTS od 10 do 95 RH, ACS PV8500 od 20 do 95 RH, ACS PV8500DH od 70 do 90 RH
- Floor max. load: 10000 N/m<sup>2</sup>
- Controller with a touch panel, real-time reading, alarms
- Possibility of connecting a USB memory for network-independent backup of measurement data,
- PLC controller with dedicated software and assigning predefined programs
- Ability to monitor the processes via a web browser

## Other testing possibilities

The Provo Laboratory also has a specialized hail simulator and a UV radiation simulator. We also have modern laboratory facilities that allow us to take infrared photos of the tested objects.