



**Organic PV**

**TECNALIA**

**Characterization and accelerated test lab**

**Location of the infrastructure :**

San Sebastian, Spain

**Contact person:**

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**Objectives:**

- Cell/module characterization and aging.

**Main features:**

The lab includes techniques for

- Characterisation of chemical composition, microstructural morphology and optical properties. The instrumentation comprises SEM-EDS, AFM, XPS, FTIR, Raman and UV-Vis spectroscopy.
- Equipments for adhesion, hardness and scratch resistance of the encapsulation system.
- Equipments for gloss and colour change measurements of the modules.
- Equipments for accelerated lab tests include chambers for UV aging chamber, temperature and humidity cycling, and salt spray.
- Class A Solar Simulator

**Limitations or constraints:**

Solar Simulator details:  
Power range: I: 0.01—30A; V: 0.7—10V  
Temperature range: 15-70°C  
Spectrum: AM1.5; Filters for discrete measurement at: 405, 450, 500, 550, 600,694, 800, 940nm  
4ms flash  
Illuminated area: 22x22cm  
Light intensity: 0.7-1.2kW/m<sup>2</sup>

**Typical services or results:**

- Durability study of new encapsulation systems.
- The climatic chambers can be modified as required by specific tests to introduce additional accelerating parameters or compounds.

**Examples of research projects:**

- Study of barrier properties of encapsulants, sealants, etc.
- Study of degradation of the encapsulation system.