

CHARACTERIZATION OF BIOMATERIALS FOR CONSTRUCTION

Innovations and benefits - The service allows the definition of the mechanical and thermal insulation properties of the materials used in construction. The instrumental equipment and the skills developed allow to characterize materials and components for building with a particular attention to the evaluation and increase of energy efficiency. The mechanical characterization is performed with destructive methods; the thermal characterization can be carried out both by laboratory tests with thermo-flowmeters and theoretical simulation models. It is also possible to verify the thermal performances of the building envelope by thermographic analysis.

Uses - The laboratory allows to characterize building materials both from a thermal and mechanical point of view in accordance with the current technical standards. It makes use of a universal machine with a 50 kN load cell and a machine with a 3000 kN load cell for tests of compression, tensile, NETZSCH HFM 436/3/1E thermo-flowmeter with a plate temperature range of $-30^{\circ}\text{C} \div 90^{\circ}\text{C}$, AVIO thermal imaging camera.

Past and present activities - Thermal and mechanical characterization of basalt fiber products for the construction sector (thermal insulation panels, geo-grid and chopped) - HG-GBF Consulting.

Mechanical characterization of cement-based composite materials, fiber-reinforced with organic natural fibers (cane, straw) and inorganic fibers (basalt fiber) - Area Science Park consultancy (Basilicata innovation).

Thermal and mechanical characterization of autoclaved aerated cements - Area Science Park consultancy (Basilicata innovation).

Energy characterization and qualification of biomaterials connected to biorefinery and green chemistry.



CUSTOM Thanks to its flexibility, the Laboratory Service can be adjusted to different needs and contexts.