

TESTS FOR THE DEVELOPMENT, THE ENERGY CHARACTERIZATION AND THE QUALIFICATION OF LOW AND MEDIUM TEMPERATURE COLLECTORS AND SOLAR SYSTEMS

Innovations and Benefits - ENEA has testing facilities capable of supporting the national industry in the development and performance assessment of components and systems for the production of low and medium temperature heat for civil and industrial uses. The production of process heat at medium temperature (100-300 ° C), with concentrated solar power systems, represents an application of great potential for the national industrial system.

Use -

- Energy characterization and qualification of low and medium temperature solar thermal components in accordance with European and international sector technical standards (EN 12975, EN 12976, ISO 9806)
- Support to the development and energy optimization of flat and concentrated prototypes (CPC systems, CSP mini and micro, Linear-Fresnel systems, dish / stirling systems) for civil and industrial applications (process heat, district heating, solar-cooling, distributed cogeneration)
- Use of thermo-fluid dynamic and optical models for the analysis, design and development of new components to support SMEs interested in the technological improvement of products
- Laboratory testing of pre-industrial prototypes and on-site testing of components and systems

Applications and ongoing Activities - Qualification and certification of low and medium temperature solar thermal components: ACCREDIA accredited laboratory n. 1346, in about 15 years of activity it has supported the Italian industrial sector in the development and characterization of new products, contributing to the relaunch of a national industrial chain. It is the only laboratory in Italy to operate on medium temperature in the process heat production for industrial uses, summer cooling and combined production of heat and electricity on a small scale. In this context, ongoing technical-scientific consultancy activities are addressed to companies for the development and qualification of small-scale prototype components. Within the framework of national projects, both optical and thermo-fluid dynamics modeling for the development of prototypes are underway, as well as the development of advanced methods for the energy characterization of concentrated solar power systems of various types (mini-CSP, Linear -Fresnel, Dish / Stirling). The laboratory is represents Italy in CEN / TC312; coordinates the technical committee on solar thermal in the CTI area for the definition of sector technical regulations; it supports incentive mechanisms through the qualification of concentrated solar power systems for medium temperature applications, releasing the certificates in compliance with the Ministerial Decree 28.12.2012 (Thermal Account).



Characteristics:

Custom The service can be flexibly adapted to different needs and contexts