



Solar Thermal Systems - Testing and Certification

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|-------------------------------------|-------------------------------|--|
| PV module qualification | Benchmarking | Components |
| PV module certifications | BIPV | PV plants |
| Performance characterisation | Mounting systems | Certification of installation firms |
| Stress tests | Calibration | Solar thermal systems |
| Quality assurance | R&D and consulting | Other product tests |

With a view to detail and the offer of testing for solar thermal-collectors and systems as well as all key components we support manufacturers and operators competently and sustainably – and have done so for many years.



and increase your solar-thermal yield. With test laboratories in Germany, Japan, China, USA, Taiwan and India, TÜV Rheinland offers manufacturers and operators of photovoltaic and solar thermal systems a complete range of tests and services. TÜV Rheinland’s laboratories on three continents are expressly concerned with the testing of solar thermal collectors and systems. A worldwide unique solar simulator is available at our test centre in Cologne

of outdoor testing areas, among other measures.

Given the general market access, the focus lies on TÜV Rheinland’s high reputation as an independent testing body. Thanks to its global presence, TÜV Rheinland maintains the required testing capacity at all times and at every location.

TÜV Rheinland is a significant partner in the worldwide dissemination of solar energy use and the quality assurance of solar thermal components and systems. We will help you lower costs

In the interest of the manufacturers, we have significantly shortened our testing times through continual process optimisation, state-of-the-art test equipment and the global distribution

Standard tests

For the certification of your solar-thermal collectors and components we have recourse to the most important national and international standards. The focus is always on: top quality, safety and efficiency.

- Collector tests according to DIN/EN/ISO
- System tests according to DIN/EN/ISO
- Accumulator tests according to DIN/EN/ISO
- Collector tests in Canada, USA
- Accumulator tests in USA
- Solar standards in Australia, New Zealand, South Africa

Special testing offer

TÜV Rheinland offers numerous service packages particularly distinguished by a high level of flexibility.

- The prompt determination of performance data by means of a unique indoor solar simulator
- Testing of solar-thermal large-area collectors of over 16 m²
- Fast project processing
- Testing all year-round through utilisation of TÜV Rheinland's global locations

- Sample picking and production site inspections by our TÜV Rheinland employees located throughout the world
- Testing of
 - uncovered collectors
 - PVT collectors (combined photovoltaics/solar heat collectors)
 - concentrating collectors
- Prototype testing as part of product engineering
- Power control certificates for collectors
- Long-term tests in different climate zones
- Complete consulting service regarding the DIBt (German Institute for Building Technology) requirements in Germany
- Consulting and testing services in connection with the European Ecodesign Directive as well as energy labelling of products from lots 1 and 2

Expanded testing offer

TÜV Rheinland offers all standard test methods for Solar Keymark or SRCC. Our expanded range of tests also gives you the opportunity to highlight your

products even more, whether through individual or expanded standardised methods or adapted test sequences. They include:

- Regular performance checks of your standard product
- Efficiency optimisation through volumetric flow adaptation
- Testing of cyclical mechanical stress
- Hail testing with ice balls of different hail classes
- Testing of ageing processes by means of climate chambers (humidity/frost, damp/heat, temperature cycles)
- Cyclical outdoor and indoor shock tests on collectors and absorbers
- Rain tests with tightened requirements
- Rain penetration test for roof-mounted systems
- Testing of frost resistance of heat pipes
- Fire tests on collectors
- Tests for collectors in facades
- Determination of condensation gains with uncovered collectors

Besides standard-based test methods and customer-specific requirements, we also offer consulting services.

Our experience – your advantage

You can rely on our 30 years of experience in solar energy utilisation. Take advantage of the achievement potential of our test laboratories offering you fast and first-class service around the world. Gain a partner with worldwide acceptance. Document test quality and the safety of your products with the test mark from TÜV Rheinland.

Always a good sign.



This mark stands for all the information about products, services and systems that are tested, certified or inspected by TÜV Rheinland.

Transparent, available anytime worldwide – powerful and unique. The TÜV Rheinland test mark.



TÜVRheinland®
Precisely Right.

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