About us

RST is an independent, medium-sized company and offers highly specialised materials testing and engineering services for all industries. RST supports developers and manufacturers from product development and market launch to quality control during production and maintenance.

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Fire laboratory
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DAkkS Deutsche Akkreditierungsstelle D-PL-11012-01-00 | IMO International Maritime Organization | Deutsches Institut für Bautechnik DIBt | KBA Benannter TD KBA-P 00104-18

Accreditation valid for scope according to document system D-PL-11012-01-00

RST
TESTING THE WORLD FOR TOMORROW

Fire laboratory

We perform fire tests

In our DIN EN ISO / IEC 17025:2018 accredited fire laboratory, we test your development samples, prototypes and series products according to national and international standards and regulations. In FIRST tests, we test your vehicle components and materials for flammability, heat resistance, flame spread, fire behaviour, heat release, smoke gas development and smoke gas toxicity.

Exactly, what you need

Purchasing

Our optimised processes guarantee you fast and smooth processing of your order without long wait times. Our wealth of experience is based on countless test orders successfully completed for a wide range of customers. Our in-house test frame production as well as our in-house calibration laboratory guarantee the highest flexibility and cost efficiency.

Project management

We are always at your side – even in the event of unexpected changes to the planned test sequence, necessary rework and adjustments to the test specimen, and tight deadlines. You can rely on responsive communication with our testers and engineers. You are welcome to personally observe your tests being completed on site or via video transmission.

Quality management

Our competent and experienced testing staff is ready for any challenge. Our flexible accreditation allows us the widest possible choice of standardised test procedures. RST creates complex and customised test and trial plans with you. We prepare our test reports in German, English and French.

Fire tests

We carry out fire tests on building materials, small parts and component sections for rail vehicles, automobiles, ships and for the construction and electrical industries. Our extensive testing equipment enables a wide range of fire tests.

Test methods

Flame spread

We test **flame propagation** on test specimens with and without **heat emitters**. For classification, the **flame front** is determined as the boundary of the flame zone on the surface of a material.

Flammability

We check how easily your product ignites or burns when exposed to a flame or heat. For these tests, we use **defined ignition sources**, starting with very small flames with a height of only 12 mm and a power of 5 W, through flame lengths of 20 mm and powers of 50 W in the range of a lighter flame, up to a flame height of 125 mm and a power of 500 W.

Heat release rate

The rate of heat release is one of the most important fire risks that must be limited. Using a **cone and bomb calorimeter**, we determine the **heat energy** released during combustion of the test specimen.

Smoke development

Fire is a complex phenomenon. How it develops and acts depends on a variety of factors. To assess the risk of fire, **smoke** is almost always considered as one of the first indicating characteristics of a fire. After all, in the event of a fire, smoke is one of the greatest hazards to people in burning buildings or enclosures, e.g. ships or trains.

Toxicity

Under controlled conditions, we determine the **smoke density** and **toxicity potential** of the fire gases during combustion. In the process, representative conditions are produced for fires that may affect the component during fire development or during a fully developed fire. In the course of the toxicity test, flue gas samples are continuously taken from the test chamber for **FTIR analysis**. In accordance with the applicable standards, the tests are carried out at a fixed irradiance.