

PRESS RELEASE

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Materials Engineering

Using suitable materials is key to constructing durable, reliable products. As a result, one of the main tasks of materials science and engineering is to assess materials and parts to determine their maximum permissible conditions of use. The tests cover the specimens' chemical, thermal and mechanical resistance as well as their suitability for specific climate conditions.

As products are not always installed in moderate environments, the ROLF SANDVOSS INNOVATION CENTER provides facilities to simulate the different atmospheric conditions that exist across the world. Accelerated simulations help determine the resistance of metal and non-metal parts as well as entire devices to these conditions. The processes involve exposing the parts to seawater and industrial atmospheres, humid environments as well as different weather conditions. As a result, SAMSON can ensure that all products are fit for outdoor service all across the world over many years.

In addition, resistance tests to commonly available chemicals are performed in the chemistry lab for all materials contained in SAMSON products. These tests are particularly important for equipment used in challenging process conditions, for example to handle corrosive process media. SAMSON is equipped to determine the corrosion resistance of metals as well as the resistance of organic materials, including plastics, elastomers, lubricants and adhesives, to other substances.

The materials' thermal resistance is tested in lab ovens and climatic cabinets. For example, organic materials undergo aging tests and material compounds are subjected to thermal cycling tests at temperatures between -70 and 300 °C.

An array of analyzers and test machinery is available to perform material analyses. Universal test equipment, different strength testers and other instruments help determine the mechanical coefficients and properties of material samples, parts and entire devices. Modern methods are employed to analyze the thermal properties, states and composition of organic materials and parts.

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