Automotive materials and components testing service
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Testing at SATRA
Automotive Original Engineering Manufacturers (OEMs) demand the highest quality components throughout the supply chain. Every automotive material and component must undergo rigorous testing and meet the highest industry and legal requirements.

At SATRA, we are here to assist manufacturers and suppliers with independent assured testing services against a wide range of OEM testing specifications, national (BS, ASTM, DIN, JASO) and international (ISO, EN, SAE) standards. SATRA’s testing services are accredited to ISO 17025.

The SATRA difference
With more than 90 years’ experience in product research, testing and development, SATRA is trusted by manufacturers and suppliers across the world. At our purpose-built test facility, we offer full evaluation of all interior components including leather, textiles, plastics, carpets, vinyls and threads.

We can carry out a range of tests including physical, chemical, environmental, acoustic, flammability and colour testing. Our testing ensures your components are safe, fit for purpose and meet the relevant legislation. And our technical expertise means you have support and guidance when you need it.
Physical testing
SATRA’s physical testing facility offers a wide range of performance related testing including:

- Strength testing: tear, seam strength, tensile and elongation
- Abrasion testing: Martindale, Taber, chisel scuff and scratch testing
- Adhesion testing: finish adhesion, cross-hatch testing and bonding strength
- Flexing endurance: Bally, Shildknecht and De Mattia flexing
- Compression resistance testing.

Flammability testing
Motor vehicles contain components that can burn if subjected to a large enough ignition source. These include seat upholstery, headlining, trim panels and floor coverings. SATRA’s flammability testing includes FMVSS 302 (USA), BS AU 169a and ISO 3795. These standards have been developed to help reduce deaths and injuries to occupants caused by vehicle fires, especially those started inside a vehicle from discarded cigarettes and matches.

Environmental testing
Automotive components are expected to withstand harsh environmental conditions; extreme hot and cold temperatures, rain, snow, and the potentially corrosive effects of exposure to salty air or road gritting. Components must be durable and have a long lifespan. SATRA’s environmental test facilities and tests include:

- Artificial accelerated weathering and fade resistance
- Reflective and gravimetric fogging
- Perceivable odour rating
- Heat and humidity controlled chambers capable of operating between -40°C and 200°C and large enough to accommodate whole instrument panels, consoles and dashboards
- Salt spray and ozone resistance.
Colour and appearance testing
Automotive upholstery and trim materials need to be resistant to soiling or staining in order to keep the vehicle looking like new. Once soiled, some components may be difficult to clean such as non-removable coverings. At SATRA we can assess the soiling resistance and cleanability of materials or vehicle components and test their resistance to particular cleaning products.

Chemical testing
SATRA has its own chemical analysis laboratory where we assess materials used in automotive interiors for the presence of restricted or harmful substances. As components break down over time, these harmful chemicals may be released so it's important to establish that levels are safe and compliant with OEM standards. The tests include:
- Formaldehyde emissions
- Volatile organic compounds (VOCs)
- Absence of pentachlorophenol (PCP) and other chlorinated phenols
- Total carbon content
- Qualitative and quantitative analysis of restricted substances
- Chromium, fat and heavy metal content and pH of value upholstery and trim leather
- Assessment of azo dye content of dyed materials.

Acoustic testing
SATRA can also offer acoustic absorption testing to assess the absorption of interior coverings and fittings as well as sound power measurements of mechanical and electrical components.
Visit SATRA Technology

SATRA is based in Kettering, Northamptonshire, one hour from London by train and close to the A14 road link connecting the M1/M6 and the A1/M11. If you would like to arrange a visit to see our automotive test facilities, please contact us at:

automotive@satra.co.uk