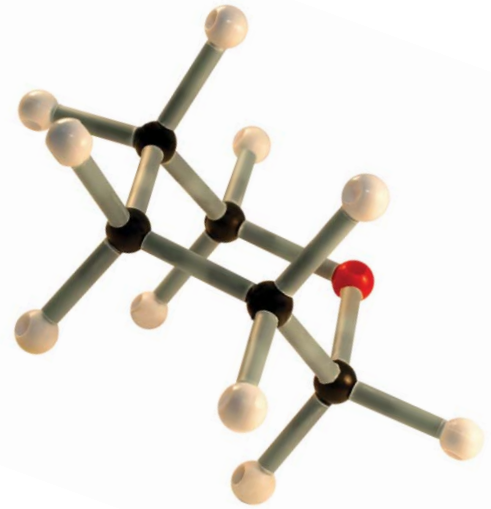


Laboratory Services



A unique feature of Smiths Advanced Metals is our 'in-house', UKAS accredited materials testing laboratory. Our qualified metallurgists are able to provide, and advise on, a comprehensive range of material testing and evaluation options. Our considerable investment in this facility not only underlines our total commitment to quality but also allows us to offer a vital service that many of our customers find invaluable.

Many of our customers operate in high technology markets where material failure is simply not an option. Some of our customers are applying mechanical properties right up to safe limits and need to be absolutely certain when it comes to the materials they are using. We therefore offer a material testing service and sampling routines that we are able to tailor to a customer's requirements.

Services / Investigations

The competence of the Smiths Advanced Metals laboratory covers a wide range of materials expertise to provide customer support, liaison with producing mills and services to outside industry. Smiths Advanced Metals is listed as an MOD UK Defence Standardisation (DStan) Helpdesk Supporter, competent to offer specialist support on alloy supply, consultancy and materials testing.

Test routines can be set up on materials dispatched to furnish customers with material identification and reassurance beyond the requirements of standard ISO quality systems. This can be a simple positive material identification (PMI) or a full analysis on an independent inspection certificate (UKAS).

Where even greater certainty is required material batches can be tested, witnessed by an outside inspector, to assure material traceability and integrity and an EN 10204 3.2 certificate issued.

Investigations into the quality of a particular material batch can be carried out if it has failed to perform as expected during manufacturing process, such as machining, anodising or welding.

We are also able to advise on material / alloy selection, multi-national / obsolete / unusual specifications, testing standards and the drafting of bespoke customer material purchasing specifications.

The Smiths Advanced Metals laboratory maintains an extensive technical library.

- Chemical composition verification**
- Tensile tests**
- Hardness tests**
- Machining & surface finish evaluation**
- Non-destructive testing**
- Metallography**
- Welder approval**
- Failure investigation**



Laboratory Equipment

- Optical emission spectrometer for analysis of alloy steels/stainless steels plus aluminium, copper, nickel and titanium alloys
- Leco CS-244 combustion analyser for carbon and sulphur
- Reichert metallurgical microscope (X 2000) adapted for digital photography
- Trinocular zoom stereo bench microscope with digital camera and LCD monitor
- Metallurgical specimen preparation equipment
- 100 tonne tensile test machine
- Vickers, Brinell & Rockwell hardness machines
- Microprocessor controlled electrical conductivity tester
- Fischer ferrite meter

