Material Testing Services

Material Quality Determines your Saleability

TÜV Rheinland India offers complete range of Material Testing services which include evaluation of components for their composition, impurity and hazardous substance contents. Our latest tech equipment along with highly qualified expertise can provide the best analytical solutions to all sectors of industry.

- Chemical composition analysis of metals, plastics, rubbers and ceramics
- Evaluation of Substances of Very High Concern (SVHCs) as per REACH, RoHS and ELV requirement
- PAH, Phthalates, Nitrosamine and banned substance analysis
- Environmental and Climatic Testing - Salt spray, dry heat, humidity, steam ageing, thermal endurance, thermal shock, industrial environment test (SO Test) and chemical resistance
- Material characterization and process identification for metals, plastics, rubbers, ceramics, coating material, specialty chemicals, glass and asbestos including grade confirmation, VM and filler content
- Process route identification including heat treatment condition
- Testing as per CPSC, USFDA and food contact material directives applicable to EU
- Mechanical Testing – Tensile, Bend, Impact (Charpy and Izod), Drift expansion, Hardness (Rockwell, Brinell, Micro Vickers, Shore A & D etc.)
- Petroleum Product Analysis
- Used oil and waste oil analysis as per schedule 05 & 06 of CPCB requirement
- Failure analysis and prevention studies on metallic and engineered components
- Critical dimension measurement on engineered component
- Metallurgical Evaluation – Microstructure, inclusion rating, grain size and case depth measurement.
- Non-destructive testing & evaluation – UT, Radiography (X-ray & Gamma ray), DPE & Eddy current tests
- Environmental testing for water, air and soil: Environmental Impact assessment studies, Air and Emission monitoring studies, Water and waste water characterization, Soil characterization, Industrial Hygiene monitoring studies as per OSHA and USEPA norms, Sludge and Hazardous Wastes analysis
- Food and Microbiological Testing that includes microbiological and chemical testing of raw and packaged food as FSSAI guidelines, Microbiological and Chemical Testing of Cooked food at Restaurants, Canteens, Cafeterias and Caterers
- Nutritional Labeling Analysis, Shelf Life Study, Heavy Metal and Pesticide Residue Testing, Swab Testing for personnel and equipment Hygiene

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Scanning Electron Microscope - Energy-dispersive X-ray spectroscopy (SEM-EDS) Services:

- Unknown material and process route identification of metals and materials
- Fractography, Facture analysis, Microstructure studies, failure route cause identification
- Cleanliness test: Particle contamination, contaminant identification and size distribution
- Classification of materials, component failure and damage analysis
- Examination of surface morphology (including stereo imaging), Analysis and identification of surface and airborne contamination
- Powder morphology, particle size analysis, Cleaning problems and chemical etching
- Welding and joining technology quality evaluation and failure investigation
- Paint and coating failure and delamination investigation
- Identification of corrosion and oxidation problems
- Contamination or stain investigation, Structural analysis, Microscopic feature measurement
- Environmental acceptance requirements for Tin Whisker susceptibility of tin and tin alloy surface finishes as per JEDEC STANDARD and customer requirements

Quality Acceptability Requirements for Electronic Assemblies as per IPC-A-610 Standard:

- Micro-sectional analysis of PCB components as per IPC standard using SEM and optical microscope
- Determination of Cleanliness, coating thickness, PTH Quality, Solider and Flux evaluation, Ionic contamination
- Evaluation for settling out of filler materials in painted coatings.
- Metallographic sample preparation inspecting for the presence of different metallurgical phases, defects or porosity.
- Measurement of the extent of interlayer mixing and diffusion in laminated or coated structures.
- Determining potential root cause for failure of engineered components

Contact Us

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