

NUCLEAR MATERIALS TESTING & ANALYSIS

Lucideon M+P has extensive experience in providing materials testing and analysis support for the nuclear power industry. We offer a complete range of services, including chemical, thermal, mechanical, metallurgical and electrical property testing to support commercial-grade dedication, failure analysis and other testing needs.

COMMERICAL-GRADE DEDICATION

We routinely perform material characterizations of components used to repair and replace equipment in safety-related applications. Applying decades of experience supporting the industry, Lucideon M+P verifies properties such as chemical composition, physical dimensions, bond strength, electrical insulation properties and tensile strength. Materials across a spectrum of metallic and non-metallic materials are evaluated including alloys, springs, O-rings, gaskets, tapes, adhesives, penetrants, lubricants, laminations, papers, wires and conductors, paints and primers, resin systems, coatings and insulation systems.

DETRIMENTAL MATERIAL ANALYSIS

Lucideon M+P provides complete detrimental material analysis to ensure compliance with safety standards, including MIL-STD-2041E (SH). This includes analysis of halogens (total and leachable), sulfur, phosphorous, low melting point metals and mercury.

FAILURE ANALYSIS

Utilize Lucideon's complete in-house physical and chemical testing capabilities, and draw upon our decades of experience analyzing materials for the nuclear industry, to quickly identify contaminants and unknown materials and determine the root causes for failures. Services include extensive metallography, metallurgical evaluation and

fractography performed by optical and scanning electron microscopy. Lucideon also specializes in failure investigations of motors, generators and other electrical equipment.

EXAMPLES

- Comparison of material footprint or chemical composition of O-rings, tapes, resins, springs, etc.
- Failure analysis of under-voltage relays
- Evaluation of crevice corrosion in generator stator bar brazed joints, leak path and insulation failure investigations
- Characterization of insulating materials: composition, dielectric strength, mechanical properties, etc.



QUALITY ASSURANCE

Lucideon M+P has a comprehensive quality assurance program, which is in compliance with 10CFR50 Appendix B, ISO 17025 and Nadcap (aerospace and defense industries). These rigorous QA requirements are applied to every job we perform, regardless of whether it requires conformance to any of these accreditations.