

Innovative High Voltage Void-free Insulation Systems and Diagnostics

In a competitive market, with short development timescales and the drive to achieve high product reliability, the key to improved productivity and efficiency is an accurate optimised design.

ALSTOM Grid Research & Technology can assist with your insulation systems development programmes and qualify your power equipment for service.

We provide a service in the HV testing of insulation materials and power equipment. You will have access to an extensive range of HV to UHV test facilities and our experts can carry out dielectric loss analysis, partial discharge (PD) detection, interpretation and diagnostic, but also specialist voltage withstand and impulse evaluation to a wide range of standards. We assess the quality of electrical insulation but can also develop and prototype void-free bespoke insulation systems for a wide range of power applications in Power, Traction and for Oil & Gas. In addition, we also undertake predictive life and accelerated ageing studies.

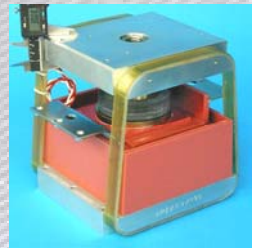
Our Facilities

- Full Faraday Cage 6m x 5m x 3m (H) up to 150kVac (*)
- Direct Partial Discharge detection & analysis
- UHF, acoustic probe and UV detection (partial discharge)
- Lightning impulse to 300 kV (*)
- Dielectric loss analysis
- HVDC evaluation and development
- Surge Arrester characterisation
- New HV power PWM inverter insulation test facilities
- Multifactor accelerated ageing and pollution testing
- Forensic & failure investigation

(*) for higher voltage requirements please enquire

Scope and Benefits

- Expert support and analysis, not simply Pass/Fail
- Short notice / Fast turnaround
- Wide experience in solid, liquid and gaseous dielectric HV systems
- Void-free, bespoke high performance insulation expertise
- Stress grading technologies



For further details

Dr Fabrice PERROT MIET, CEng, Eurlng
Technology Consultant & ALSTOM Grid Senior Expert
HV Technology & Dielectric Materials Manager

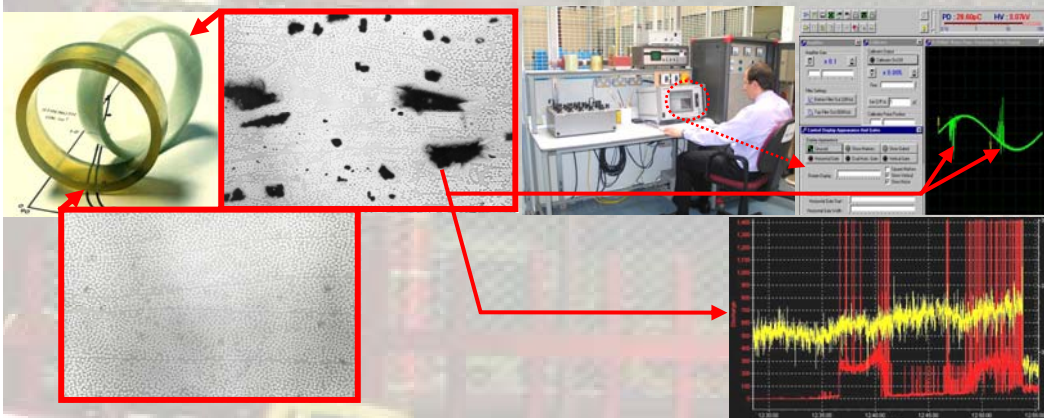
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ALSTOM

Innovative High Voltage Void-free Insulation Systems & Components

In a competitive market, with short development timescales and the drive to achieve high product reliability, the key to improved productivity and efficiency is an accurate optimised design.

ALSTOM Grid Research & Technology can assist with your insulation systems development programmes based on our extensive knowledge coupled with powerful modelling capability, to undertake prototyping and qualify your power equipment for service.

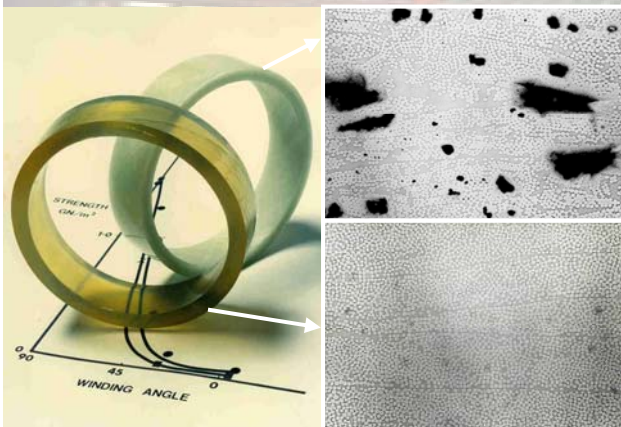
We provide a service in the design, material selection and fabrication of specialised high quality HV components using glass filament winding and vacuum casting processing routes. Our knowledge and experience, of air removal to achieve void free systems and gain superior properties, allows the equipment to function at the limits of their design in a wide range of power applications in Power, Traction and for Oil & Gas. An essential feature is also an understanding of their material compatibility and the assembly technologies for HV applications.

Processing Capabilities

- Filament winding machines (3.5m long x 1m dia. max)
- Autoclave / vacuum chambers (0.1mbar, 1.5m long x 1.2m dia.)
- Large range of air circulating ovens (variable sizes)
- Rheology measurements (flow cups, viscometers, gel timers)
- Thermal Scanning Calorimetry (range 0-600°C)
- Tensometer (range 0-50kN from ambient to 240°C)
- Machining and tool making support facilities

Scope and Benefits

- Expert design analysis and development of prototypes
- Wide experience in vacuum casting and filament winding
- Wide experience in thermosetting / thermoplastic composites
- Void-free high performance insulation expertise
- Investigative, type and qualification testing



For further details

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