MAKE US YOUR PARTNER!

Seibersdorf Laboratories provide testing services for Total Ionizing Dose (TID), Displacement Damage (DD) and Single Event Effects (SEE). Our team of experts is dedicated to developing both experimental and numerical methods to thoroughly investigate radiation effects on components and systems in various radiation fields.

Our mission is to provide expert radiation hardness assurance services for components and systems, fully compliant with all relevant test standards such as ECSS, ESCC and MIL-STD and accredited to EN ISO/IEC 17025. We serve various sectors including the European (space) industry, nuclear medicine and academic research institutes.

Our vision is to become your primary partner for radiation hardness testing of your systems and components and to support you with advanced numerical investigations tailored to your specific radiation-related challenges.

WHY RADIATION HARDNESS ASSURANCE?

Radiation Hardness Assurance (RHA) is essential due to the susceptibility of electronic components and systems to degradation in electrical performance when exposed to ionizing radiation. As component structures continue to shrink, their susceptibility to radiation increases, underscoring the critical need to ensure uninterrupted functionality. In addition, the increasing relevance of cosmic radiation effects on the Earth's surface emphasizes the need for stringent RHA measures.

These measures play a critical role in ensuring the reliability of equipment used in a variety of industries, including aerospace, nuclear medicine, automotive and various terrestrial applications. To qualify components and systems for use in sensitive environments, they must pass specific test procedures defined by international bodies such as the European Cooperation on Space Standardization (ECSS).

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SEIBERSDORF LABORATORIES

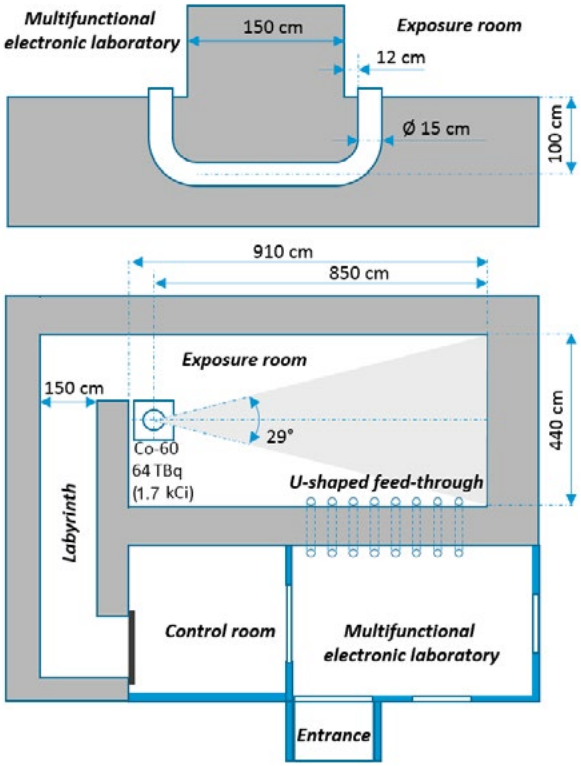
FREQUENTLY ASKED SOLUTIONS

AEROSPACE RADIATION COMPETENCE CENTER

TEC LABORATORY

TEC LABORATORY

- 24/7 Cobalt-60 TID Gamma Irradiation Testing Services
- Compliance with ESCC-22900, MIL-STD-750 and ECSS standards
- Support for ESA standard and low dose rates
- Spacious exposure room
- Large homogeneous field size
- Economical long term low dose rate TID testing (ELDRS)
- Traceable dosimetry for all setups
- Multifunctional electronic laboratory for remote or in-situ electronic measurements



TOTAL IONIZING DOSE EXPOSURE FACILITY

- High-activity Cobalt-60 irradiation source: 64 TBq (1.7 kCi)
- Dose rate range: 50 Gy/h (5 krad/h) - 0.3 Gy/h (30 rad/h)
- Pneumatic system for source movement
- Source container (Pb): Shielding thickness 35 cm
- Collimator: 29° cone (Pb, W) according to ISO Standard
- Automatic data logging of all source conditions
- Automatic data logging of the access to the exposure facility and all sensors of the security system
- Automatic data logging of dose, dose rate, temperature, humidity, and atmospheric pressure
- High quality multichannel dosimeter system for each experiment (PTW Farmer Chambers, Si-Detectors)

MULTIFUNCTIONAL ELECTRONIC LABORATORY

- Attached multifunctional equipped electronic laboratory
- Possibility to setup customer testing equipment
- Five fully-equipped working places
- Eight independent feed-throughs between electronic laboratory and exposure room (15 cm diameter, 4 m long)
- Automatic component parameter analyzer (UNIMET 2020 and UNIMET 3000) with numerous test-heads
- Common laboratory equipment can be provided: Power Supplies, DMM, SMU, oscilloscopes, function generators, etc.
- Annealing oven compliant with ESCC-22900
- Versatile mechanical workshop for 3D printing and for the development and population of irradiation and test boards

QUALITY STANDARDS

- EN ISO/IEC 17025
  Accredited Testing Laboratory
- EN ISO 9001
  Quality Management Certification