



NUCLEAR
RESEARCH
INSTITUTE

Radiation Chemistry and Environmental Qualification Department Integrity and Technical Engineering Division



RADIATION TECHNOLOGIES

Radiation ageing of cable samples at low dose rates in Panoza irradiation facility

Value for customers

- Irradiation facilities equipped with cobalt sources, offering a large variability of parameters in terms of dose rate, temperature, and atmosphere.
- Possibility to monitor the functional parameters of tested equipment during irradiation
- Routine dosimetry based on alanine dosimeters evaluated by EPR (electron paramagnetic resonance) spectroscopy

Applications

- Testing of radiation stability of components in nuclear facilities and space
- Long-term monitoring of operation doses and dose rates in nuclear facilities
- Innovation in industrial production of application-oriented polymeric materials
- Mapping of gamma radiation fields and fields and accelerated electrons
- Sterilization of medical equipment

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What we offer

- Radiation sterilization of medical, healthcare and pharmaceutical materials
- Radiation modification of polymeric materials and composites
- Testing of radiation stability of components designated for operation conditions of nuclear power plants or space
- Dosimetry services for determination of optimal doses in radiation technology applications

Our references

- Sterilization of healthcare materials in ÚJV Řež, a. s.
- Radiation modification of polyethylene (PE) pipes for hot water distribution
- Determination of the radiation resistance of electronic components for customers around the world
- Dosimetry of radiation fields in production lines for radiation cross-linking of polymeric industrial products (cable insulations, PE pipes etc.)
- Accredited testing laboratory



Radiation induced colour change of plexiglass – testing the radiation resistance of camera system and lights for reactor pressure vessel inspections