framatome

Extraction of activated samples from components

In-air and underwater sampling of surfaces and base material for validation calculations

Framatome provides expert sampling services to ensure accurate activity assessment and robust planning for the dismantling of activated components.

Challenge

Dismantling activated components requires extensive preparatory work to evaluate and reliantly determine the number of waste containers needed for packaging. Preliminary theoretical calculations of activation distribution within a component often differ from the component´s actual activity. This discrepancy can pose challenges regarding packaging, where amount and type of waste containers are key, as well as a compliant declaration of the waste, and adhering to the ALARA principle during execution.

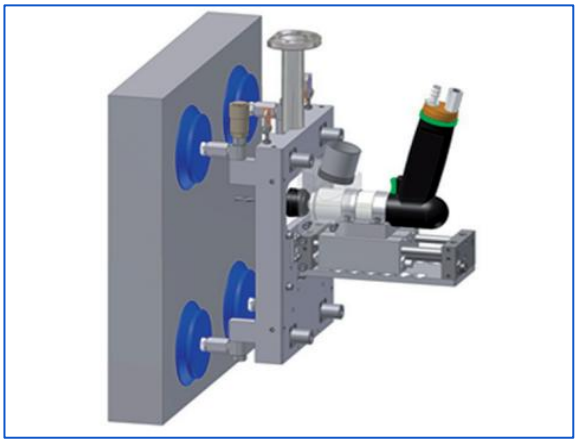
Solution

Framatome provides comprehensive services for sampling components to address challenges in assessment of the activity and contamination. These samples undergo radiochemical analysis to accurately determine the activity of the base material and surface contamination. The resulting data enables precise updates to theoretical calculations, ensuring robust, reliable and compliant packaging planning. Our services and expertise include:

- Designing or supporting the development of a tailored sampling concept.
- Extracting samples from various locations e.g., RPV-plating, lower internals, etc.
- Coordination of the transportation of samples to and from the radiochemical laboratory.
- Refining activity calculations based on updated analysis results.

Customer benefits

- Streamlined services and project management throughout the whole project
- All competences provided by Framatome in-house
- Inclusion of surface contamination to activation model possible
- Security for packaging planning and on-site concepts for radiation protection



Lens cutting tool with pneumatic suction and collector used for characterization of surface contamination and activation of base material of lowly or intermediately activated surfaces © Framatome

Technical Information

Framatome has set of tools for sampling activated components, featuring both a variety of frames for precisely positioning the sampling tools on different, often highly complex geometric surfaces, and three distinct sampling tools:

- drill for collecting chips to evaluate the activation of the base material.
- lens grinder for taking surface samples from thick materials to assess contamination and activation.
- core drill for extracting surface samples from thin materials to evaluate contamination and activation

Key figures

35 and 52 mm diameter of lenses to be chosen. Weight of drill samples can be as low as **1,5 g** enabling even highly activated sampling

Contact : dismantling@framatome.com
www.framatome.com

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