

Copper Electroforming Service at Laboratorio Subterráneo de Canfranc

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Ultra-pure construction materials are required for the next generation experiments on neutrino physics and dark matter. Copper has excellent mechanical, electrical and, thermal properties and is easily purified by electrochemical methods. Electroforming is an electrochemical process that enables the manufacture of metallic parts with high chemical and radioactive purity, process reproducibility and good mechanical properties. Therefore, the electroforming of copper pieces has been reported to be an effective way to obtain high-pure copper needed for the construction of these low-background experiments.

To support the construction of the experiments at the Laboratorio Subterráneo de Canfranc (LSC) in Spain, a Copper Electroforming Service (CES) is in operation. The technique, set-up and results of the electroformed copper pieces obtained at the CES are presented. Results from several gamma spectrometry measurements and ICP-MS assays on electroformed copper are reported.

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