



TECHNOLOGY INFRASTRUCTURE – CERN

TECHNOLOGICAL LABORATORIES AND FACILITIES FOR SPECIAL TECHNOLOGICAL TREATMENTS



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CERN operates and maintains a large number of technological infrastructures aimed at the production and testing of magnets and accelerator components, which are placed in different locations on the two main sites of the Laboratory.

Facilities for superconducting cavities

SM18 SC Cavities Testing Area

Test of SC cavities at cryogenic temperature.



Surface Treatment Workshop for RF Cavities

Clean room. Chemical and electrochemical polishing on Copper and Niobium substrates.



Cryogenic Laboratory and Tensile Facility

Cryogenic testing in the temperature range down to 50 mK.

Chemistry Laboratory

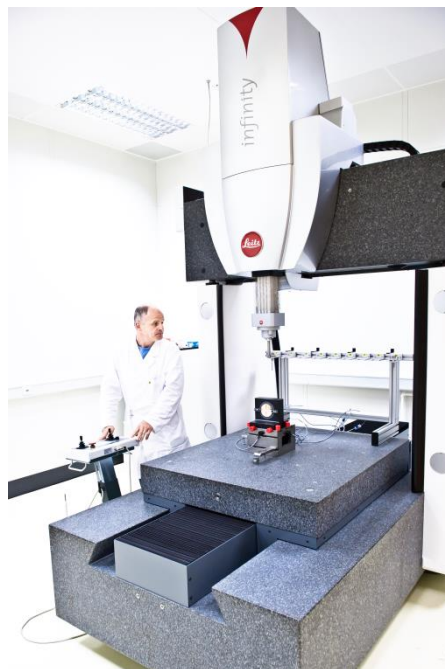
Chemistry analysis and quality control of baths for surface treatment, of fluids for experiments (detector gases, cooling fluids...) and accelerators.

DCCT and Electrical Standards Laboratory

Test, evaluate and calibrate current measurement devices for power converters.

High precision Coordinate Measuring Machine (micrometers)

Testing with a volumetric measuring and probing error in the submicrometric range with a very low probing force.



Polymer laboratory

Development of use of polymer, selection of glue, development of insulation systems, rapid 3D prototyping.

Surface Analysis Laboratory

Control of surface chemical composition as thin films coatings, cleaning for UHV, corrosion investigations and general failure diagnostics.

Surface Treatment Workshop

Degreasing, pickling, etching and polishing of copper, aluminium and iron based metals. Electroplating of Copper, Nickel, Silver, Gold and Rhodium.

Horizontal Vacuum Brazing Furnace

Vacuum treatment and vacuum brazing of metal/metal or metal/ceramic components.



Large Vacuum Furnace for Vacuum Firing Treatments, Material Characterization for Vacuum Application Workshop

Thermal treatment of UHV components up to 1050°C, characterization of materials for vacuum in terms of outgassing, NEG transmission, and pumping speed.



Coating Facilities

Carbon and NEG coating, thin film laboratory, surface analysis

Presently most of the CERN technological infrastructures are fully occupied because of the needs of the LHC luminosity upgrade and of other accelerator projects. Access to the infrastructure is possible for external users but has to be agreed on a case-by-case basis giving priority to internal users.