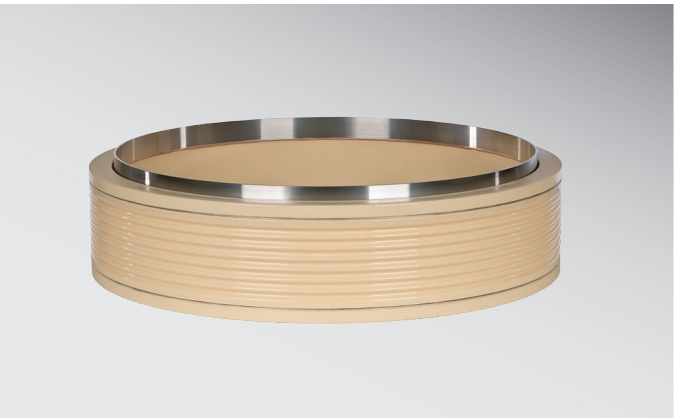
HIGH-PERFORMANCE CERAMICS

INSULATOR FOR ION SOURCE



Application:
Insulator for H-ion source

Material:
Alumina **F99.7**
Metal rings with NiFeCo (Kovar / 1.3981)

Products made of high-performance ceramics are used throughout the world in research and developmentas well as in the medical field.

KYOCERA manufactures insulators in customised dimensions. The ceramic-to-metal components, made of F99.7 and metal, display only minimal leakage and outgassing rates, and are thus ideal for use in ultrahigh vacuum (UHV) conditions.

The insulator shown above is used at the European Organisation for Nuclear Research (CERN) in Switzerland in the Large Hadron Collider (LHC) as a part of the ion source of LINAC 4.

The H-ions of the Linac 4, which are in use in the LHC, are accelerated through a positive charged anode. Due to the excellent insulation resistance of oxide ceramics, the insulator protects the environment against the high voltage.

With the production of this insulator we faced another challenge and manufactured, with an outer diameter of 580 mm, one of the biggest ceramic-to-metal components Kyocera has ever produced.

- **Minimum desorption and leakage rates**
- **Heatable up to 300°C**
- **Excellent insulation properties**

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