



## **Focusing on Technical Ceramics - products that provide solutions from the depths of the ocean to the furthest reaches of space**

Originally founded in Mannheim in 1863 as a brickyard, the ceramics business has successfully evolved through the FRIATEC brand and since September 2019 they have formed part of KYOCERA Corp, a world-leading ceramic and technology company. Umicore plays an important role in supporting and distributing Kyocera's high quality technical ceramics worldwide, and in the UK our Technical Sales Manager, Ian Smith, has over 28 years of experience working with them.

### **So what exactly are Technical Ceramics?**

Ceramics is a class of materials that dates back to the early history of mankind. Decorative ceramics more than 24,000 years old have been found. Closer to home, useful containers dating over 8,000 years old have been discovered in Europe.

Modern, high-performance ceramics really started to develop in the second half of the 20<sup>th</sup> Century, with the term Technical Ceramics being more related to the application. It is generally understood to mean high-quality, usually synthetic raw materials, carefully processed and sintered (fired) into defect-free products. Properties include:

- high mechanical strength
- temperature resistance
- corrosion and wear resistance
- often combined with specific electric, magnetic, dielectric or optical properties.

The products we sell are distinguished by their:

- extreme purity
- extreme resistance to corrosion
- high dielectric strength
- good thermal conductivity
- stability in both oxidising and reducing atmospheres
- ultra-high vacuum resistance
- high temperature stability
- and good resistance to thermal shock

Resulting in top performance, reliability and long lifetimes!

Watch Kyocera's new video and get to know more about our ceramic containment shells - a safe solution for pumping liquids and gases: [Kyocera Video](#)



## HIGH-PERFORMANCE CERAMICS

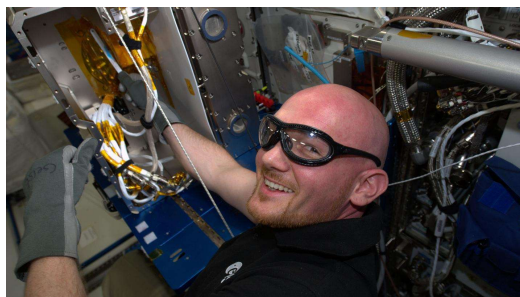
Capable of resisting the high temperatures, pressures and corrosive environment of the world's deepest holes, where they are used in a variety of sensors, to the International Space Station – and everything in between.

- Environmentally, regulating the emissions from vehicle exhausts and industrial flues
- Monitoring the purity of packaging and medical gases such as oxygen.
- Mechanically, providing wear and corrosion resistant parts for pumps, paper production machines.
- Medically, producing insulators for computerised tomography and x-ray and heavy-ion therapies.
- Scientifically, from simple crucibles, through a huge variety of analysis instruments, to high-energy physics of accelerators and synchrotrons and nuclear fusion.

The list of applications goes on and on!

## KYOCERA SUPPORTS INTERNATIONAL SPACE STATION WITH CERAMIC COMPONENTS

**We are reaching for the stars:** from 2023, KYOCERA Fineceramics Solutions GmbH will be supplying ceramic tubes for the extension of the Electromagnetic Levitator (EML) on the International Space Station (ISS). The ceramic products help to measure oxygen and are part of a new research facility that is constantly being expanded.

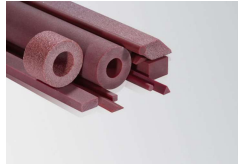


**A German ESA astronaut installs new components in the melting furnace of the EML system on board the International Space Station.**

## SURFACE FINISHING

Oxide-ceramic fine grinding tools. Consisting of a mixed crystal with exceptional hardness, mainly composed of alumina. When machining hard materials, these products can achieve excellent surface qualities.

More info? Call us on 01992 551939 or email at [sales.hertford@umicore.com](mailto:sales.hertford@umicore.com)



Did you know we are on **Social Media?**

Click below to get to know **Umicore**:



We stock a wide range of standard products in the UK, including tubes with holes as small as 0.2 mm upwards, for very fast delivery.



Once an application is established, we stock custom-made lengths and special products, for flexible just-in-time delivery.



**Don't forget we stock a wide range of Jewellery!!**



**As well as Brazing Alloys (rods, foils) and Fluxes (paste/powder)!!**



### [Have you seen our website recently?](#)

We've had a bit of a revamp so have a look and let us know what other products you need. We'll do our very best to source high quality complementary products.

**[umicore.co.uk](http://umicore.co.uk)**

Please note that we do not share your details with 3rd parties.

Umicore Marketing Services UK Ltd, Collier House, Mead Lane, Hertford, Herts SG13 7AX, United Kingdom, 01992 551939

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