

Beryllium: A Metal of High Potential

Karlsruhe Beryllium Handling Facility (KBHF) Opened

In future fusion reactors, beryllium will be needed for both generation of tritium fuel and lining of the plasma chamber. Karlsruhe Institute of Technology (KIT) assumes a leading position in the development of materials for nuclear fusion. On KIT Campus North, a beryllium handling laboratory has now been established by the company of Goraieb Versuchstechnik in cooperation with KIT, which is unique in Europe.

Beryllium, often as an alloy with other metals, is used for many technical applications, for instance, in mobile phones. In future fusion reactors, beryllium will fulfill several functions. It is needed to generate tritium fuel and applied to line the so-called "first wall". The "first wall" is the inner surface of the plasma vessel, in which nuclear fusion takes place at temperatures of 100 million degrees.

During processing, it must be taken into account that pure beryllium in the form of dust is highly toxic. Handling of beryllium therefore requires specific protection measures. So far, scientific experiments with beryllium at KIT have been performed in cooperation with the company of Goraieb Versuchstechnik that has its office on the premises of Campus North and supplied the laboratory equipment required. Now, this cooperation shall be put on a broader basis. Goraieb Versuchstechnik has founded the "Karlsruhe Beryllium Handling Facility" (KBHF) that is also located on Campus North. Its infrastructure will be used by KIT among others. In addition, plans exist to sign a memorandum of understanding on future cooperation in the development of beryllium products with the world market leader for beryllium and beryllium products, the US company of Brush Wellmann Inc. This will result in unique research conditions in Europe.

Karlsruhe Institute of Technology (KIT) is one of Europe's leading energy research establishments: The KIT Energy Center pools fundamental research with applied research into all relevant energy sources for industry, households, services, and mobility. Holistic assessment of the energy cycle also covers conversion processes and energy efficiency. The KIT Energy Center links excellent competences in engineering and science with know-how in economics, the humanities, and social science as well as law. The activities of the KIT Energy Center are organized in seven topics: Energy conversion, renewable energies, energy storage and distribution, efficient energy use, fu-



KIT-Zentrum Energie: Zukunft im Blick

**Dr. Elisabeth Zuber-Knost
Press Officer**

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-7414
Fax: +49 721 608-3658

**For further information,
please contact:**

Inge Arnold
Public Relations and
Marketing (PKM)
Phone: +49 7247 82-2861
Fax: +49 7247 82-5080
Email : inge.arnold@kit.edu

sion technology, nuclear power and safety, and energy systems analysis.

Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT focuses on a knowledge triangle that links the tasks of research, teaching, and innovation.

This press release is available on the internet at www.kit.edu.