

All tests at our Institute are conducted by experts. Our employees include specialists from the fields of physics, chemistry, and mineralogy as well as material testing and technology.

Further testing methods are:

- Gas Permeability of Refractories at Elevated Temperature
- Gas Corrosion Tests for Reducing Media
- Induction Melting Aggregates
- Wedge-Splitting Test
- Quantitative Oxidation Test
- Friction Wear
- Blast Wear
- Computer-Aided Thermochemistry
- Thermal Conductivity

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Deutsches Institut
für Feuerfest und
Keramik GmbH

We are a central institute with more than 50 years of experience in all areas of refractories technology. We are absolutely committed to neutrality and are therefore a partner to all companies working in refractories technology.

Contact:

DIFK Deutsches Institut für
Feuerfest und Keramik GmbH

Rheinstr. 58
56203 Hoehr-Grenzhausen
GERMANY

Phone: +49 2624 9433-200
Fax: +49 2624 9433-205
E-Mail: info@difk.de

www.difk.de



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für Feuerfest und
Keramik GmbH

Rotary Kiln Test

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At high temperatures in metallurgical vessels a very complex corrosion of the refractory material occurs: chemical corrosion and erosion by the steel melt and its slag and thermal fatigue as well.

These facts can be tested in the so called rotary kiln test with a high relevance for praxis.

In the furnace used by DIFK GmbH eight segments of four different refractory materials are arranged in such a way in pairs, that an octogon crucible (26 cm bore x 24 cm) is obtained. The joints are free of mortar. The rotary kiln is rotating 2 - 10 times/min. A gas-burner is heating up the furnace up to 1750 °C and melts the steel and slag as well.

All experimental parameters have to be agreed upon the partners.

After the experiment the wear is measured (in mm/min) and the different materials are compared with each other with regard to fissures infiltration and corrosion.

Fig. 1 shows the furnace in operation and Fig. 2 its pouring.



Fig. 1: Rotary kiln test



Fig. 2: Pouring