# SIGRAFLEX®
## Resistance to Radioactivity

Graphite is highly resistant to all types of radioactivity. For this reason, graphite can even be used in the hot core of a reactor (see pebble-bed reactor, graphite moderator), where most metals or alloys rapidly fail as a result of the high neutron flux. The use of graphite as a sealing material is limited mainly by the stability of the flange and valve material, which is usually lower than that of graphite. Radioactivity thus has no major influence on the sealing characteristics of SIGRAFLEX® or its other properties. For many years now, static SIGRAFLEX seals have been successfully used as flat, profiled and special elements in nuclear and other power stations, for instance by:

- ABB Atom AB, Sweden
- EDF, France
- Temelin nuclear power station, Czech Republic
- Melnik coal-fired power station, Czech Republic
- Paks nuclear power station, Hungary
- Brunsbüttel nuclear power station, Germany
- Grafenrheinfelden nuclear power station, Germany
- Grohnde nuclear power station, Germany
- Gundremmingen nuclear power station, Germany
- Isar I and Isar II nuclear power stations, Germany
- Krümmel nuclear power station, Germany
- Neckarwestheim nuclear power station, Germany
- Obrigheim nuclear power station, Germany
- Biblis nuclear power station, Germany
- Philippsburg nuclear power station, Germany
- Stade nuclear power station, Germany
- Unterweser nuclear power station, Germany
- Kahl experimental nuclear power station, Germany

To the best of our knowledge, SIGRAFLEX has been used for many years without problems in nuclear power stations with radiation doses of $5 \cdot 10^6$ rad (gamma and neutron radiation).

Other publications known to us quote figures of $1.5 \cdot 10^9$ rad (gamma radiation) or $5.5 \cdot 10^{21}$ NVT* (at 1,000 °C).

*) Integral neutron flux:

N = particle number, neutrons per $cm^3$
V = speed in cm/sec.
T = time in sec.

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This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should therefore not be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is guaranteed under our "General Conditions of Sale".

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