

SIGRAFLEX®

Physiological Inertness

With regard to physiological inertness, SIGRAFLEX® stands out due to the following characteristics:

Flexible graphite gaskets are manufactured from natural graphite without the use of any binders or fillers.

Even at elevated temperatures, such as in the event of fire, no harmful gases are released other than the possible formation of CO₂ in air at temperatures above 450 °C, as determined by the supply of oxygen.

Owing to the low level of impurities in the graphite and the almost inert nature of these impurities (inorganic mineral and oxidic residues found in natural graphite mines), no harmful substances are present in flexible graphite gaskets.

The impurities content of SIGRAFLEX C is ≤ 2 %. In the case of SIGRAFLEX Z quality, the impurities are even ≤ 0.15 %.

The presence of impurities has a considerable influence on the leakage rate, thermal stability and corrosion resistance of graphite when used as gaskets in steel flanges.

Pure graphite is unable to release soluble constituents, e.g. in the form of ions. Graphite differs from other carbon modifications, such as diamond for example, only in its crystalline lattice structure.

Pure graphite is particularly renowned for its excellent physiological compatibility. Various forms of this material are therefore being successfully used in medical implant applications such as: cardiac pacemakers, artificial joints and tendon replacements etc.

SIGRAFLEX is notable for its excellent abrasion resistance. It does not break up into fiber particles which penetrate into the lungs when inhaled, as does asbestos.

Using SIGRAFLEX in contact with food stuffs and drinking water presents no health hazards. On the basis of recommendations by the Federal German Ministry of Health for maximum levels of plastics allowed in drinking water (KTW), the German Association of Gas and Water Operatives (DVGW) has approved the use of flexible graphite in contact with drinking water. Published in the Federal German Health Gazette, these confirm that no hazardous substances are released by SIGRAFLEX into drinking water.

SIGRAFLEX® scrap and waste can be disposed of together with domestic refuse in domestic refuse landfills or incineration plants.

The relevant approval certificate has been issued by the Bavarian State Office for Environmental Protection.

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