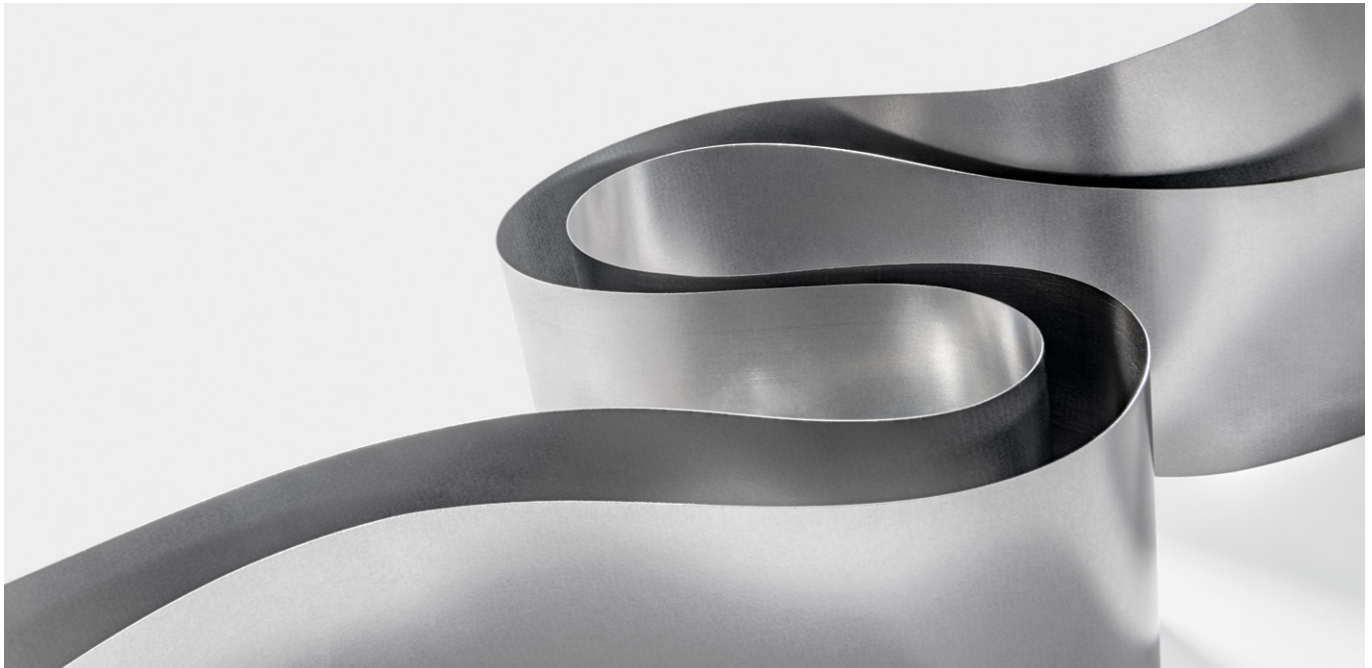


SIGRAFLEX® LL foil

Low leakage flexible graphite foil



↑ SIGRAFLEX LL graphite foil

SGL Carbon has developed a special PFAS-free SIGRAFLEX low leakage graphite foil to meet the increasing demand for low-emission packings and to reduce life cycle costs: SIGRAFLEX LL. The special LL treatment is applied to different flexible graphite foils to significantly reduce the leakage rate.

The base material SIGRAFLEX flexible graphite foil is manufactured from high quality expanded natural graphite which is free of adhesives and binders. To further enhance material performance inhibitors are often added.

In addition to our well-known gasket sheet material, SIGRAFLEX foil is also used in the manufacture of spiral wound, corrugated and kammprofile gaskets as well as die formed packing rings used for the sealing of stuffing boxes in pumps and valves.

Applications

- Production of die formed packing rings used for the sealing of stuffing boxes in pumps and valves
- It is generally known that sealing materials containing fluoropolymers such as PTFE, ETFE, PFA, FEP, PVDF, FKM or FFKM release toxic and corrosion-causing degradation products at high temperatures. These negative effects do not occur using SIGRAFLEX LL foil. It is a safe substitute for many applications where PFAS materials are used today.

Packing rings made from SIGRAFLEX LL are suitable for

- Chemical, petrochemical and refining industries
- Steam pipework and boilers in power generation plants, including nuclear power plants
- Heat transfer oils and heating equipment

Properties

- Reduction of fugitive emissions due to high leak tightness
- The improved leak tightness was demonstrated in comparison tests at AMTEC with different sets of die formed packing rings manufactured from flexible graphite foil with and without LL treatment. The LL type offers a leakage reduction by more than a factor of 100.

The physical properties of SIGRAFLEX LL foil are largely identical to the properties of SIGRAFLEX flexible graphite foil without LL treatment, see also TDS SIGRAFLEX flexible graphite foil for industrial sealing for more information:

- Soft and flexible, inert and highly impermeable to gases and liquids, fire safe
- PFAS-free, asbestos-free, no associated health risks
- Very good chemical resistance and high thermal shock capability
- No aging or embrittlement, thus long-term stable operational reliability
- Easy handling and processability

Approvals and test reports

Tests were carried out at AMTEC which compare the leakage behavior of sets of die formed packing rings, manufactured from flexible graphite foil with and without LL treatment. Please contact us for details on the test and its results. Typically, packing ring set manufacturers use a combination of different packing rings therefore leakage can be lower or higher.

Foil designation

SIGRAFLEX LL treatment is a foil finishing to improve leakage behavior. It can be applied to different SIGRAFLEX flexible graphite foil qualities. The letters LL are added to our well-known SIGRAFLEX foil grade designation. For example, SIGRAFLEX foil grade Z with a thickness of 0.5 mm and a density of 1.0 g/cm³ with special LL treatment comes as F05010ZLL.



↑ Die formed packing rings made from SIGRAFLEX LL



Additional information on our SIGRAFLEX sealing materials can be found under "Download Center" on our homepage.

www.sigraflex.com/downloads



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