

PRESS RELEASE

Waldkraiburg, September 2020

Gummiwerk KRAIBURG GmbH & Co. KG
 Teplitzer Str. 20
 84478 Waldkraiburg
 GERMANY

Phone: +49 8638 61-0

www.kraiburg-rubber-compounds.com

Certified compounds for use in the gas industry

Gummiwerk KRAIBURG compound generation in line with DVGW standards

Approval from a competent institution is required for seals and membranes used in sensitive areas such as gas supply. Gummiwerk KRAIBURG offers elastomer compounds for the gas industry which are certified according to the DIN standards EN 549 and EN 682. The certifications confirm that the compound generations meet the requirements for use in gas supply as well as in gas devices and systems.

Seals and membranes in gas devices and gas systems

Primarily, two EN standards from the DVGW (German association for gas and water) are applied to elastomers in the gas industry. EN 549 stipulates the requirements for the materials used to manufacture seals and membranes for gas devices and systems, such as gas meters. This standard prescribes tests of standardised samples which are made from sheets of the material. To confirm that the finished part is functionally suitable, finished parts can also be inspected once integrated in gas devices and systems.

The materials are classified according to their temperature range and hardness (fig. 1). With certified NBR-based compounds, Gummiwerk KRAIBURG serves the common temperature classes B1 and B2 and the important hardness ranges H2 and H3.

Temperature – classes:

Class		A1	B1	C1	D1	E1	A2	B2	C2	D2	E2
Operating temperature [°C]	from	0	0	0	0	0	-20	-20	-20	-20	-20
	to	60	80	100	125	150	60	80	100	125	150

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Hardness range – classes:

Class	H1	H2	H3
Nominal hardness range [IRHD]	< 45	45 to 60	> 60 to 90

Fig. 1: Classification of a material according to EN 549.

Example: The classification of an elastomer material which can be used in temperatures ranging from -20°C to +80°C and where the nominal hardness is around 50 IRHD, is B2/H2.

Seals in supply lines and components for gases and liquid hydrocarbons

The second important standard for elastomers in the gas industry is DIN EN 682. This specifies the requirements of the materials used in seals for supply lines and components in operating temperatures ranging from -5° C (in special cases -15° C) to +50° C.

Here, a distinction is made between “general applications” (type G) and “special application” (type H). Type G is used for gaseous fuels as well as liquid hydrocarbons containing up to 30 vol. % aromatic hydrocarbons, or liquid petroleum gas in its liquid phase. Type H is used for materials which convey gaseous fuels containing gas condensates, as well as for liquid synthetic hydrocarbons with an unlimited aromatic content.

Elastomer seals are designated according to EN 682 depending on their type, application and operating temperature (fig. 2). Gummiwerk KRAIBURG’s NBR-based compounds, certified according to EN 682, are well assorted in the hardness range between 60 and 93 Shore and available for the commonly required type GA – for the 70 Shore version, type GBL is also available.

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Type	Application	Operating temperature °C
GA	Gaseous fuels	- 5 to 50
GAL	Gaseous fuels	- 15 to 50
GB	Liquid hydrocarbons and gaseous fuels	- 5 to 50
GBL	Liquid hydrocarbons and gaseous fuels	- 15 to 50
H	Aromatic liquid hydrocarbons and gaseous fuels with gas condensates	- 5 to 50

Fig. 2: Designation of elastomer seals according to EN 682 depending on their type, application and operating temperature.

If suitable, this standard should be used in combination with the product standards which specify the performance requirements for seals. The operating temperature ranges do not determine the temperature of use of the respective materials. They merely define the certified and thus approved working temperatures for the respective use.

The “Deutscher Verein des Gas- und Wasserfaches e. V.” – a technical scientific association (DVGW) – is the federal association of the German gas and water industry. Its tasks include drawing up the Technical Rules which guarantee a safe and reliable supply of gas and water. As well as preparing the (national) DVGW rules, the institution is also involved in creating DIN, EN and ISO standards. Its other tasks include testing and certifying products in the gas industry.

About Gummiwerk KRAIBURG

Gummiwerk KRAIBURG GmbH & Co. KG is a company of KRAIBURG Holding GmbH & Co. KG and currently employs about 400 people. Gummiwerk KRAIBURG, a leading manufacturer of rubber and silicone compounds, has been developing and producing highly customised solutions for the demands of customers and markets for

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more than 70 years. KRAIBURG rubber and silicone compounds are used in the automotive sector, in machine construction, oil and gas production, the roller industry and by numerous other manufacturers of moulded rubber components.

Contact:

Gummiwerk KRAIBURG GmbH & Co. KG

Teplitzer Str. 20

84478 Waldkraiburg

Germany

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Fig. 3: Gummiwerk KRAIBURG's compounds are certified for use in gas supply as well as in gas devices and systems.