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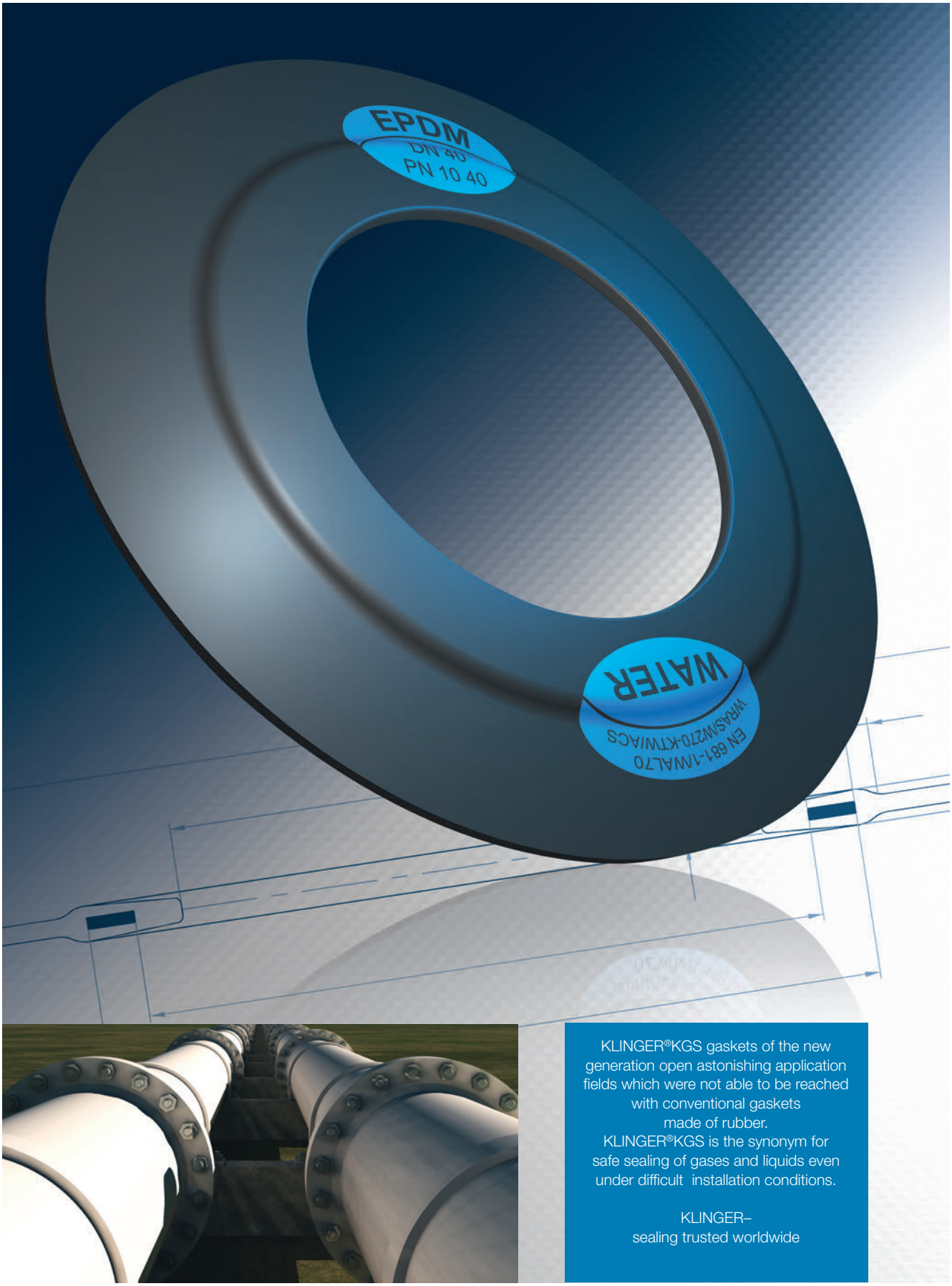
KLINGER® KGS G II

Rubber-Steel-Gaskets—the new generation II



KLINGER®KGS gaskets of the new generation open astonishing application fields which were not able to be reached with conventional gaskets made of rubber.
KLINGER®KGS is the synonym for safe sealing of gases and liquids even under difficult installation conditions.

KLINGER–
sealing trusted worldwide

KLINGER® KGS GII

The new generation II

"The better is the enemy of the good" said Voltaire. This is the case with the improvement of the well-known KLINGER®KGS rubber-steel gasket.

By optimising several parts of this sealing concept the performance range could be dramatically extended.

The familiar high quality rubber types used by KLINGER® along with the high-strength rubber-metal bond, the optimised cross-sectional profile and the particular ratio of rubber and steel along the flange result in a rubber-steel gasket which can absorb significantly higher flange forces than previously known.

In a first for a rubber-steel gasket an exact centering of the steel ring was achieved during the molding process of the gasket.

Therefore the leverage forces are spread homogeneously during flange mounting and the force application is symmetric. The quality factor of the assembly process is clearly higher than for traditional rubber-steel gaskets (see diagram below).

The geometry is chosen so that already at lowest gasket loads safe sealing occurs. On the other hand the gasket can absorb extremely high static loads due to short compensation movements of the rubber. This means that the flange connection will become significantly safer at higher bolt and pipe forces.

Special reservoir areas have the effect that even at the highest possible compression no intrusion of the rubber into the internal tube diameter or extrusion into the outer centering area will occur.

The German institute TÜV SÜD performed tests accordingly to prove the high level of quality of this new gasket generation. The leakage, blow-out and ageing behaviour was tested. The high requirements have been exceeded—even the blow-out safety class C, where the requested minimum load of the gasket was reduced again by 25 %, could be documented safely. These results were proven at a pressure of 100 bar after ageing at 110 °C for 1500 hours.

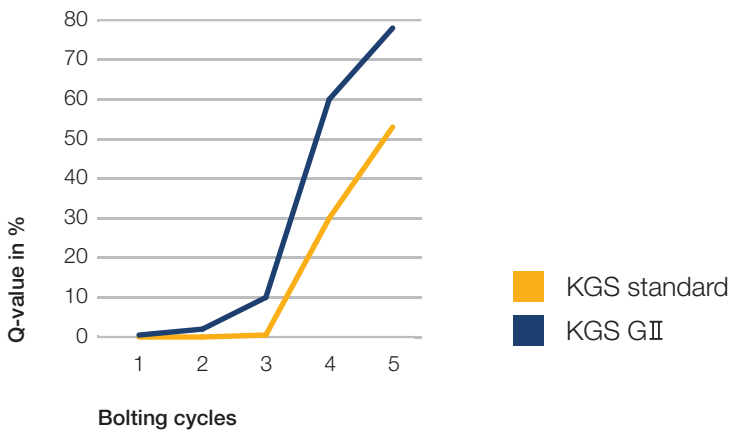
Due to these significant improvements the sealing concept has been registered for patent approval.

Factor of mounting quality Q:

To evaluate the characteristics of the new development KGS GII regarding assembly, the behaviour of gasket assembly in comparison to the standard version KGS has been checked by using the test stand FM20 of the company GAIST.

To obtain a quick evaluation of the assembly quality with the test stand the Q-factor is used. It is the product of bolt force target divided by the effective bolt force, difference of the minimum and maximum forces of the individual bolts and the standard deviation to bolt force target.

Comparison Q-Factor:



>> The quality gain after five bolting cycles can be clearly recognised in the diagram

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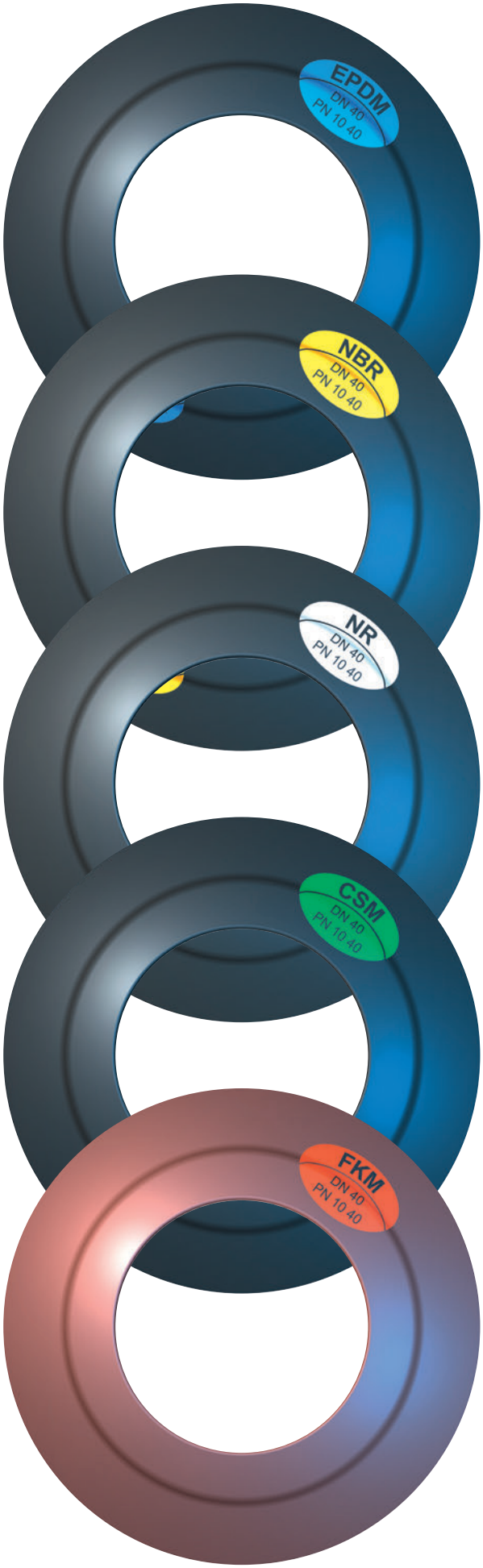
Typical application fields for the elastomer compounds



EPDM
Potable water,
waste water,
process water (on request)

NBR
Gas, media containing hydrocarbons,
waste water, water

NR
Waster, circuit water,
diluted alkaline solutions
(on request)

CSM
Acids and alkalines

FKM
Acids, alkalines and chemicals
at elevated temperatures
(on request)

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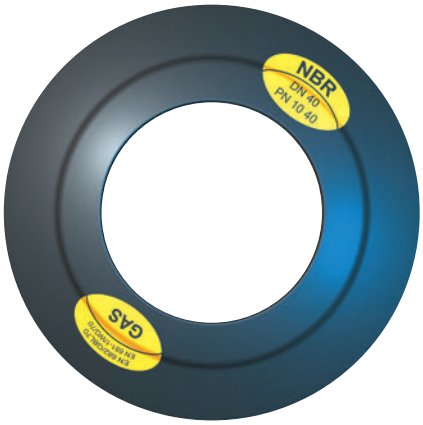
The important application fields gas and potable water



Application field:
The gasket KLINGER®KGS GⅡ made of NBR exhibits good resistance against aliphatic hydrocarbons, mineral oils and fats as well as fuels. Therefore this type is suited well for media containing hydrocarbons and combustible gases. This type can also be used for waste water, service and industrial water systems.

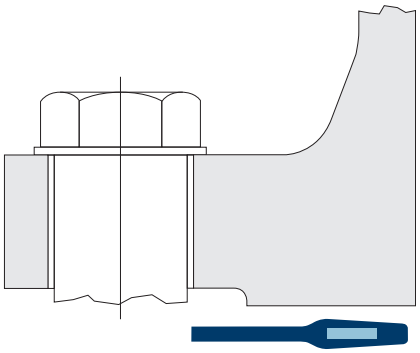
The temperature range is from -15 °C to +110 °C.

Approvals and Certificates:
DVGW-Certificate according to EN 682 GBL
EN 681-1 WG Class 70
EN 682 GBL Class 70
TA-Luft (Clean Air Act)

Application field:
The EPDM version demonstrates good chemical resistance as well as the good stability against ozone, ageing and environmental effects. Due to the approvals the application in potable water is particularly important.

The temperature range is from -40 °C to +110 °C.

Approvals and Certificates:
EN 681-1 WAL/WCL Class 70
Elastomer-Guideline (new KTW)
DVGW W270
ACS, WRAS (BS6920)
FDA Conformity statement
TA-Luft (Clean Air Act)



Ordering example:
KLINGER®KGS GⅡ made of NBR
according to DIN EN 1514-1
Form IBC
DN 100, PN 10-16

TÜV-QUALITY APPROVED

The German institute TÜV SÜD performed tests of the gasket in the size DN 40 PN 40 at a pressure up to 100 bar regarding the leakage, blow-out and ageing behaviour—the gasket passed with flying colours!

KLINGER® KGS G II

The advantages of the new generation II

**KLINGER® KGS G II–
the advantages:**

- Stable centering of the steel reinforcement in the sealing ring for a homogeneous force distribution and sealing effect in the flange connection
- High load-bearing capacity of the bond between steel ring and rubber
- Safe sealing possible even at the lowest surface pressures
- Very high static loads such as pipe and bolt forces can be absorbed
- No intrusion into the open pipe diameter (DN)
- No extrusion into the centering area (IBC)
- Highly efficient material usage leads to lower weight (easier handling and lower transport costs)
- Registered for patent approval

KLINGER® KGS

Installation instructions for rubber-metal-gaskets

The following instructions have to be observed so that a reliable sealing connection can be ensured.

1. Gasket selection
The suitable material quality can be selected from the KLINGER® information sheet—above all, from the resistance chart.

2. Flanges
Flanges should be parallel, metallic, clean and dry, the gasket has to be mounted centrically.
Please ensure the correct gasket dimensions.
The gasket should never tower into the throughhole (media flow)!

The outer diameter of the KLINGER®KGS gasket is adapted to the bolt circle of the flange. Therefore safe centering at the screws is ensured.

3. Installation
The installation of the gaskets should be carried out without using any grease or oil containing separating/sealing agents or similar, because they have a negative influence on the safety of the whole flange connection.

4. Screws
When installing the screws, they have to be tightened evenly in two to three steps crosswise.The screws should be lubricated. Pay attention to the tightening torques.

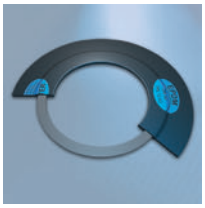
5. Retightening
“Retightening” is not required if these instructions are followed.

6. Multiple use
For reasons of safety, the multiple use of gaskets is generally not recommended.

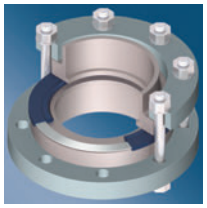
On request, please make use of advice of the KLINGER GmbH!

KLINGER offers you excellent sealing products for all fields of applications

KLINGER®KGS GⅡ

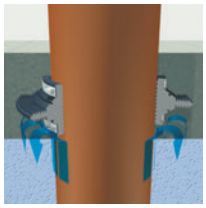


KLINGER®KGS/TK

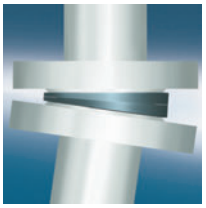


KLINGER®KGS-Flon

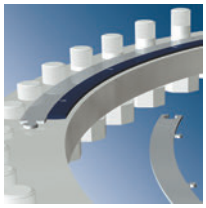
KLINGER®MK



KLINGER®KGS/VD



KLINGER®KNS



Certified according to DIN EN ISO 9001:2008

Subject to technical changes.
No responsibility is accepted for the accuracy of this information.
Status: January 2018

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