World

Klinger News

February 2009 www.klinger.ch

The giant ball valve is here

KLINGER Fluid Control GmbH, Austria

Josef Nahringbauer, MD KLINGER Fluid Control and Dr Thomas Klinger-Lohr, Chairman next to the gigantic KLINGER KHSVI ball valve with a 1 meter diameter.

To meet new demands from the marketplace, the management of KLINGER Fluid Control has decided to extend its range of large-scale valves to include a size of DN 1000 (equaling an internal diameter of 1000 mm). The ball valve has been developed in the company's own R&D department using state-of-the-art, three-dimensional tools and computer simulations, especially for use in district heating networks.

On 20 November 2008, KLINGER's first ever ball valve of that size was launched by Dr Thomas Klinger-Lohr in the presence of the entire Management Team of KLINGER Fluid Control GmbH.

As an environmentally friendly and cheap energy source district heating has

become established in many cities. Due to the rising energy costs, the scarcity of fossil fuels and the need to reduce CO_2 emissions in line with Kyoto, the expansion of district heating has been given top priority. The continuing expansion of existing district heating networks demands larger pipelines and also correspondingly dimensioned shut-off equipment.

KLINGER Fluid Control is now able to meet these demands

Manufacture of the first prototype started in May 2008 and testing began in the company's own laboratory in August 2008. In the testing department, the valve was checked out at maximum loads according to a pre-ordained series of tests. Prototype testing was brought to a succesful conclusion at the end of October 2008. An investment of more than EUR 200,000 in new gantries, jigs, tools, etc. was required before manufacture of the new ball valve was feasible at the Gumpoldskirchen facility. KLINGER Fluid Control, based in Gumpoldskirchen (Vienna), has been a supplier of special high-quality valves for the district heating industry for more than 30 years. These valves are used not only in Austria but also in district heating networks for example in Moscow, St. Petersburg, Paris and Munich. KLINGER valves are known throughout the world for their reliability and long service life. ■

Technical specifications

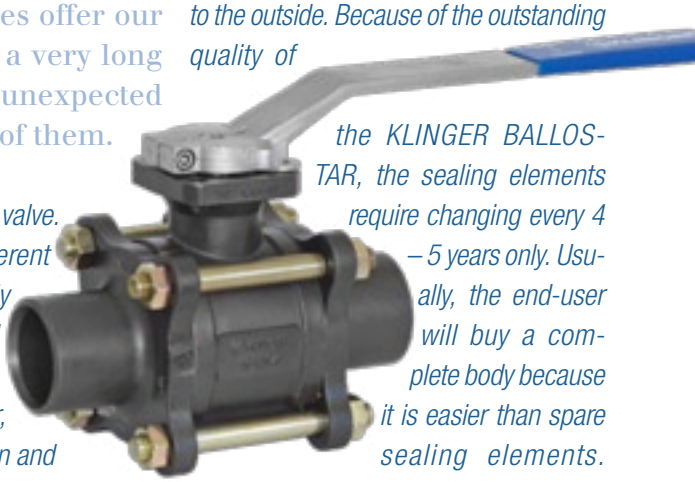
■ *Internal diameter*	*1000 mm*
■ *Length*	*1981 mm*
■ *Height with gearbox and actuator*	*2350 mm*
■ *Maximum body diameter*	*1715 mm*
■ *Weight*	*9100 kg*
■ *Maximum working overpressure*	*40 bar*

KLINGER BALLOSTAR for alternating temperature loads

KLINGER Fluid Control GmbH, Austria

At KF Fluid, our French sales representative, strategy rests on two important columns: product differentiation and focus. KF Fluid has identified applications such as steam or hot water at 160/180 °C where the KVN and BALLOSTAR ranges offer our customers superior tightness during service over a very long period of time. But sometimes success comes from unexpected quarters - and MEG Mono Ethylene Glycol is one of them.

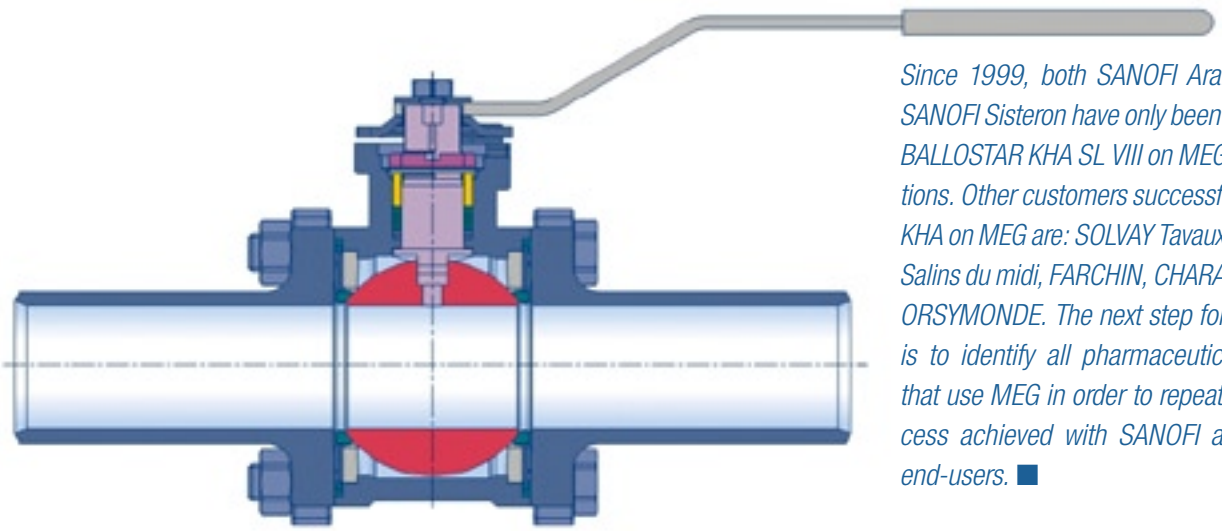
MEG is used in many pharmaceutical processes for cooling thermal fluids. The first BALLOSTAR KHA SL VIII was installed in 1999 at SANOFI Aramon. MEG fluctuates from – 25 °C to + 150 °C at 10 bars with 1 cycle every 8 hours, which is going to be very tough for any valve. Many valves from different brands have previously been installed, but did not give satisfaction to the end-user. However, thanks to its 3 pcs design and 2 elastic sealing elements the KLINGER BALLOSTAR KHA can handle the change in temperature and stay tight in-line and to the outside. Because of the outstanding quality of the KLINGER BALLOSTAR, the sealing elements require changing every 4 – 5 years only. Usually, the end-user will buy a complete body because it is easier than spare sealing elements.



New applications

KLINGER Fluid Control

The second and very successful applications meeting was held at the Gumpoldskirchner location in October 2008 - a key event that was attended by our trading partners from Western, Central and Eastern Europe.



Since 1999, both SANOFI Aramon and SANOFI Sisteron have only been installing BALLOSTAR KHA SL VIII on MEG applications. Other customers successfully using KHA on MEG are: SOLVAY Tavaux, SOLVAY Salins du midi, FARCHIN, CHARABOT, and ORSYMONDE. The next step for KF Fluid is to identify all pharmaceutical plants that use MEG in order to repeat the success achieved with SANOFI and other end-users. ■

KLINGER technologies on the move

KLINGER Limited, Australia

KLINGER Limited is proud to be associated with HIsmelt Corporation and their cutting-edge HIsmelt® process technology.

The HIsmelt® process has been specially developed by Rio Tinto to treat iron ore fines with minimal raw material preparation using non-coking coals. It is very flexible in terms of the qualities of iron ore it can use - including high phosphorus ores - and produces a premium quality iron metallic for the marketplace. HIsmelt® is a direct iron-making process in which iron ore fines and non-coking coals are injected directly into a molten iron bath to produce a quality molten pig iron. It can be considered both as a potential replacement for the blast furnace and as a new source of low-cost iron units for the electric-arc steelmaking industry. HIsmelt® technology brings many advantages to the iron making industry such as low operating costs, low capital outlay, lower environmental impact, and greater raw material and operational flexibility. HIsmelt® technology is ready to be licensed worldwide.

HIsmelt® 860 mm Pressure Relief Valve (KLINGER gasket attached) being craned up into position.

The world's first commercial HIsmelt® plant is located in Kwinana, Western Australia. Owned jointly by Rio Tinto, Nucor Corporation, Mitsubishi Corporation and Shougang Corporation, construction commenced in January 2003 with hot commissioning beginning in April 2005.

Currently, there are two other licensees who have signed up for the HIsmelt® process: the Laiwu Steel Group Limited and the Nanjing Iron and Steel Group Jiangsu Huaigang Corporation Limited, both from China .The licences entitle these groups to develop an iron-making facility using world-beating HIsmelt® technology. Under the agreements, the groups will be able to replicate the 800,000 tonnes-per-year output of the Kwinana HIsmelt® plant. ■

The two-day meeting is aimed primarily at an exchange of experience between KLINGER Fluid Control as a manufacturer and its trading partners. A total of 32 trading partners from 21 countries took part in what has now become a favorite event. This year, too, was an opportunity to tell participants about several new applications, making it very much easier for them to identify new markets for high-quality KLINGER valves. KLINGER Fluid Control products are highly appreciated throughout the world for their excellent quality, broad range of applications, long service life and low maintenance and life cycle costs. In addition to many new and interesting applications, the highlight of the event was without doubt the presentation of the new DN 1000 sized valve in our BALLOSTAR range. During a 12 bar saturated steam test, participants were able to see for themselves just how the new product performs. With a further prototype currently «in the pipeline», series production is scheduled from the beginning of 2009.

Thanks to the great success of these application meetings, we are pleased to announce that further events are being planned for Asia, America and Africa for the current year. ■

KLINGERtop-chem-2000

The pressure resistant PTFE material for narrow-section gaskets

KLINGER GmbH, Germany

A look at the special requirements for achieving a leak-free seal with narrow-section gaskets - for example in threaded unions - reveals that although these connections have been in use for many decades, problems are always reoccurring in a number of application areas.

Typical applications can be found in the plumbing and heating sector, in other words with water as the medium and a maximum temperature of approximately 86 °C. But threaded unions are also used in gas supply. In industrial plant and machine tool construction, supply lines for water, nitrogen, oxygen, fuel gas, and also oil, heating media and coolants, are often closed off using threaded unions. Threaded unions are also one of the fittings used for connecting solar collectors, where the temperature of the heat transfer medium can exceed 180 °C, to the pipe system.

Threaded unions with flat gaskets are thus exposed to the most varied media, temperatures and stresses.

The Behavior of threaded unions incorporating flat gaskets

Two different types of threaded union can be examined:

- *Connection of a male and a female end using a screw-thread connection, where the two sealing surfaces are rotated in opposite directions when fitting.*
- *Connection of two components with flanged sealing surfaces using a union nut, with manual resistance either reducing or preventing rotation of the sealing surfaces (Fig. 1).*

Fig. 1: Typical screw connection

A common feature of both types is the connection's relatively rigid behavior. This can best be explained with a contrasting example - a flange connection (Fig. 2) - where the long bolts and the flange plate have a sprung effect.

In the illustration (Fig. 3), below it can be seen that the length of the portion under tension merely equates to the thickness of the gasket plus the flange on the right-hand coupling. The connection surface of the union nut can also flex slightly.

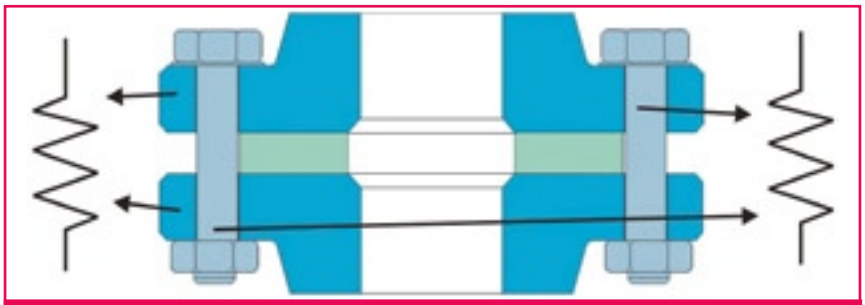


Fig. 2: Flange connection with spring components

In the case of a loss of thickness of the gasket (e.g. through heat-relaxation), spring action will result in the maintenance of some degree of surface pressure - and thus sealing effect and mechanical stability.

With a threaded union, only the pipe or the tensioned section of the union nut can be regarded as a sprung element, although it's clear that component lengths of only a few millimeters are involved.

In practice, the options for compensating a possible loss of thickness are very restricted.

A further problem with threaded unions is the width of the gasket. Often, the actual sealing width is merely the wall thickness of the component (pipe). In this situation, wider gasket rings merely appear more secure. Moreover, depending on the component, damage can be caused to the ring gasket during assembly, while rotational movement during assembly can also lead to considerable shear stresses. And with assembly often being carried out using pump pliers, a specific torque loading cannot be relied on and the resultant forces can vary considerably.

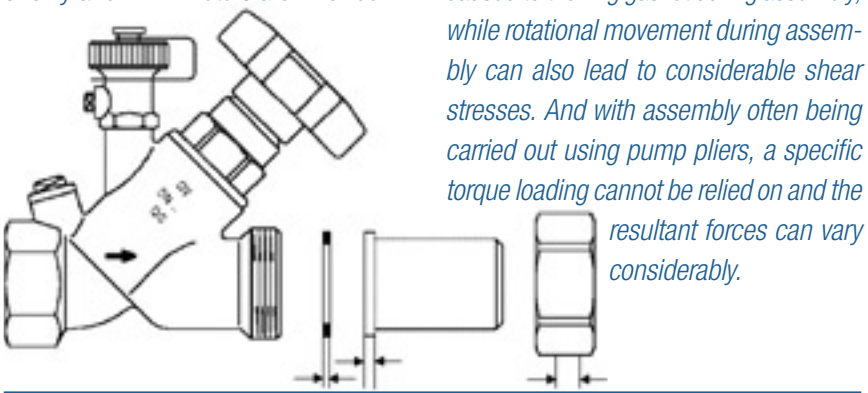


Fig. 3: Elastic component length of a threaded connection

The requirements on the gasket material

The types of stress described above mean that special demands are placed on the gasket material. They include:

- *Low shrinkage, even under temperature stress, in order to maintain the sealing forces.*
- *Edge stability, despite unfavorable ring width (thickness/width ratio)*
- *Resistance to shear or frictional forces arising from possible relative motion of the gasket surfaces during assembly.*

Additionally:

- *The gasket material must be able to conform to the seal counterpart (metal surfaces are standard) so that no leaks occur on the contact surfaces.*
- *The sealing material must also be impermeable, so that this leakage route is also eliminated.*

The sealing sequence

In the case of standard ring gaskets made from soft fibrous materials (filler, fibers, elastomer as the binder), the sealing process ensues as follows:

The gasket is pressed:

- *It adapts to the surfaces of the sealing counterpart and seals the contact surfaces.*
- *In so doing, the cross section of the gasket is placed under mechancal pressure and the existing capillaries and cavities are closed.*
- *This process requires a certain time, however, and is associated with a loss of thickness in the gasket.*
  On first heating, the gasket material again becomes slightly softer and resets - with additional loss of thickness.

If, therefore, higher demands are to be placed on the security of the threaded union, also from a temperature and duration point of view, standard materials are no longer able to satisfy these demands.

The alternatives

Which gaskets can be seen as alternatives, and how are they to be assessed?

- *Rubber gasket rings - these are very impermeable and have an excellent ability to adapt; nevertheless, they possess low stability when faced with higher demands relating to temperature and screw forces.*
- *Metal gasket rings - these are very stable and impermeable, but adapt insufficiently to the sealing surfaces.*
- *Pure graphite gasket rings - these have very high adaptability, but are too fragile during assembly and cope badly with the unfavorable thickness/width ratios.*
- *PTFE gasket rings - these exhibit high conformability and are impermeable but standard materials still possess excessive flow properties.*

The prospects for PTFE gaskets are therefore exrtremely good if the problems associated with flow characteristics can be solved.

The following features and measurements will allow an evaluation of the flow characteristics:

- *Compressibility*
- *Residual surface pressure on the gasket after temperature cycling*

KLINGER GmbH lectures at the 15th International Sealing Conference

KLINGER GmbH took advantage of the 15th ISC in October 2008 in Stuttgart to showcase their PTFE gasket materials and to lecture on the stability of PTFE-material for narrow gaskets. Sales Manager Norbert Weimer, KLINGER GmbH, presented the latest results of research and development and the experiences of applications in practice for KLINGERtop-chem-2000.

We can create subgroups according to compressibility:

Subgroups according to compressibility		
■ ***Compressibility < approx. 3 %***	***High grade PTFE***	***Very suitable***
■ ***Compressibility approx. 5 –10 %***	***Medium grade PTFE***	***Suitable with conditions***
■ ***Compressibility approx. 15 – 30 %***	***Soft PTFE***	***Hardly suitable***
■ ***Compressibility > approx. 50 %***	***Expanded PTFE***	***Unsuitable***

The remaining residual surface pressure after temperature cycling is a measure of the longterm stability of gasket materials. If the gasket material continues to flow, the residual surface pressure will be lower.

Experience from practical applications

A user of a KLINGERtop-chem-2000 high-grade material has run a test to select the correct gasket material, and has been generous enough to make the results available to us. This particular application was in the area of chemical pumps. The vent and drain plugs in these pumps are mostly equipped with narrow ring gaskets (Fig. 4). However, because there is a requirement for the universal use of sealing materials in the chemical industry, PTFE is the correct basis.

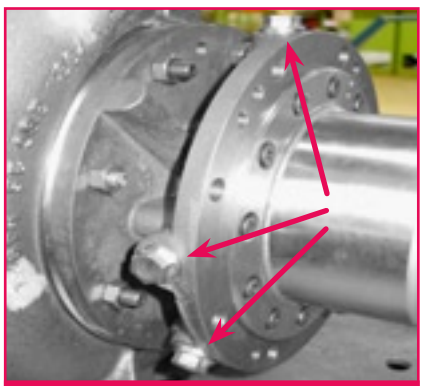


Fig. 4: Pumps with vent & drain plugs

Test structure: *non-grooved 120 × 112 mm ring gasket, torque 40 Nm, equivalent to 15.8 N/mm².*

Test cycle: *5 temperature cycles from 20 – 120 °C over a total of 110 hours. Measurements: thickness of the gasket before and after the measuring sequence, and remaining residual torque.*

The measurement results are summarized in the following diagrams. Note that material of equal thicknesses was not available. The results have thus been standardized to a thickness of 1 mm (linear). The original thicknesses are listed for information purposes.

In the first diagram (Fig. 5) it can be seen that, after the temperature cycles, minimal thickness loss was experienced on high-grade material only.

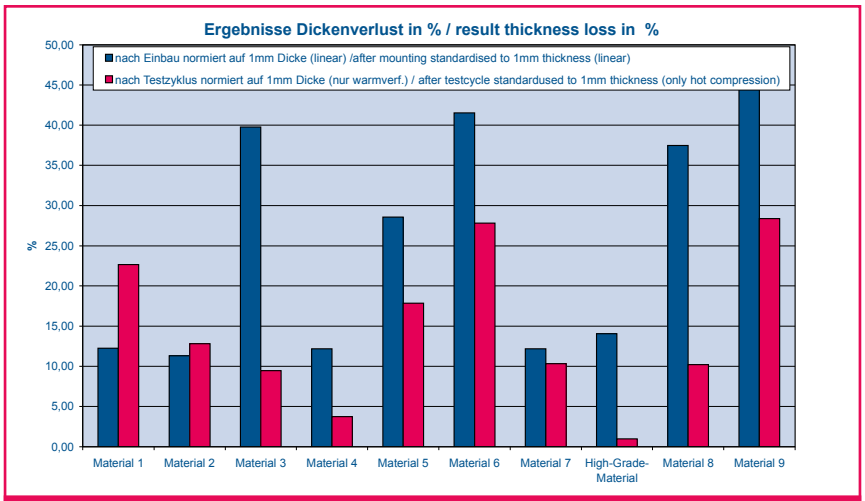


Fig. 5: Loss of thickness results

From the Loss of Torque diagram (Fig. 6) it can be seen that because of low loss of thickness during the temperature cycles, the loss of torque is also at its lowest. Note that the linear standardization of the results does not correspond to reality, and thinner original thicknesses always come out with a better evaluation. Because the high-grade material is one of the thicker ones, the results can therefore be seen as especially positive. In reality, for assembly reasons, gaskets between 2 mm and 3 mm are mostly used, as in the chemical pump with the threaded plugs (Fig. 7). The significance of the results and the differences between materials are thus all the more distinct.

The test results clearly show that, for plug gaskets with a cross section of approx. 2 × 2 mm, only a gasket material with high-grade properties can be considered, because this is able to maintain the residual surface pressure.

Further applications for high-resistance KLINGERtop-chem 2000 with threaded unions

In addition to the examples described in the above, the special advantages of the material are shown on the basis of further applications:

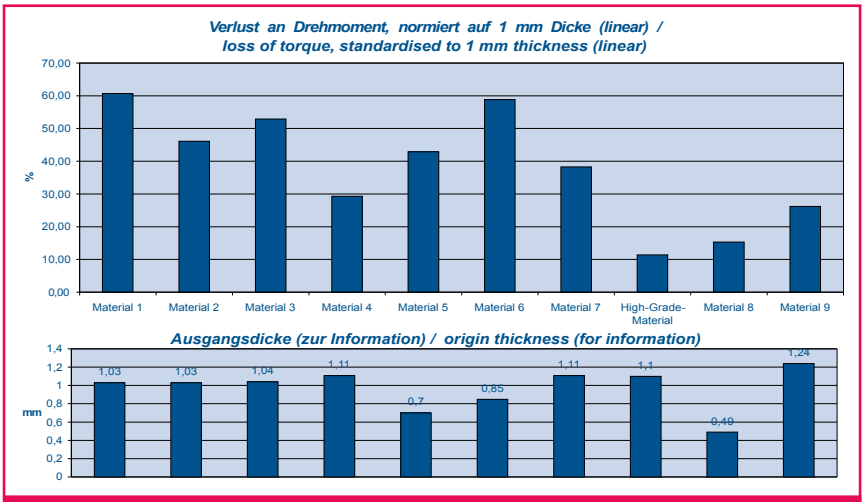


Fig. 6: Flange connection with spring components

Fig. 7: Plug with gasket ring of KLINGERtop-chem-2000 with a cross section of 2.1 mm in width and 2.0 mm in thickness.

- *In the district heating substations of a well-known German energy supplier, the threaded unions are sealed by high-grade PTFE material alone. After a three-year test phase and with experience now adding up to more than 10 years, the results are so positive that no further risk is deemed to exist. Previoulsy, service personnel inspected all stations and were required to check the tightness of the connections in the distribution network on an annual basis. Conversion to fully insulated stations was accompanied by a desire to extend the inspection intervals to 5 years along with great uncertainty that leaks may not be discovered promptly. Tests were therefore run on the most varied solutions, and the KLINGERtop-chem-2000 material was then used.*
- *In the case of solar collector installations, the threaded unions were sometimes exposed to very high temperatures. Here, too, the stability of the gasket material was in the critical conditions within the union. Resistance to changes in temperature and the absence of material ageing are further key factors in favor of this material, in addition to the stability of the connection.*

Experience gained thus far shows that, with high-performance gasket and sealing materials based on pressure-resistant PTFE gasket materials, it is possible to extend the limites governing the use of threaded unions incorporating security. KLINGERtop-chem-2000 is the only PTFE gasket material in this performance class, and can be obtained from any good dealer. ■

KLINGERSIL® C4265 - a soft solution to a hard problem

Rich. KLINGER Dichtungstechnik GmbH & CoKG, Austria

Because new regulations and directives are increasingly focused on pollution prevention, the tightness of joints is currently the subject of reappraisal. Application engineers are now confronted more frequently with requirements like excellent tightness with low bolt forces and universal chemical resistance. It is precisely these criteria that apply to many OEM applications. So far, no KLINGERSIL® grade has been able to meet them in full. However, KLINGERSIL® C4265, the latest development from KLINGER Dichtungstechnik, has been designed specially for such applications. And a comprehensive range of tests has demonstrated the potential of the new grade and its unparalleled features.

A review of the latest documents issued by law makers and NGOs to deal with pollution related issues on the technical level shows that gaskets are also impacted by the requirements. A very direct example is when application engineers are asked to provide assistance to a customer and recommend the most effective sealing material for a given service situation. The demands can be summarized as follows:

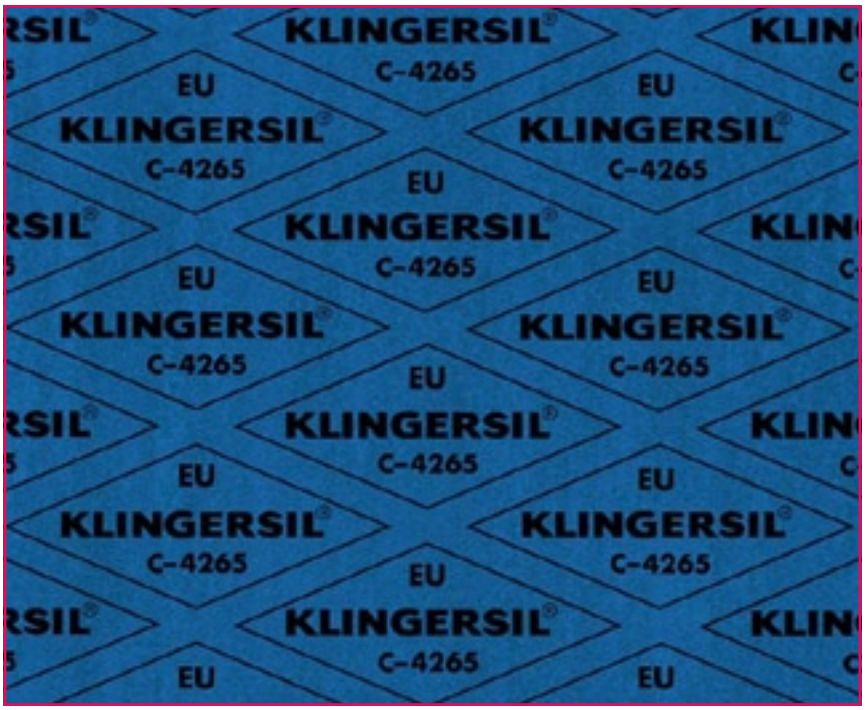
- *High tightness*
- *Low bold forces*
- *Universal chemical resistance*
- *Uneven and/or rough surfaces*
- *Temperatures up to 250°C/500 °F*

Many sealing applications impose these requirements, especially in the OEM market. The consultant engineer will consult the KLINGER Product Catalogue of Gasket Materials in order to identify a grade that can satisfy the customer's requirements. A look through the catalogue will reveal a number of NBR-based grades that could meet the specification - with the exception of tightness at low loads, because these grades show low compressibility. A further search for a grade with high compressibility will locate an SBR grade. Unfortunately, however, this grade is not chemical resistant, and service temperature is critical. What now?

In order to provide a «missing link» solution, KLINGER Dichtungstechnik has developed KLINGERSIL® C4265. This is an NBR-based, synthetic fiber-reinforced sheeting material designed for use in applications where superior tightness at low bolt forces is required. KLINGERSIL® C4265's high compressibility leads to the excellent surface sealing experienced with common SBR materials, but with the tried-and-tested stress resistance and chemical compatibility of NBR materials. KLINGERSIL® C4265 is suitable for use in liquid and gaseous media such as oils, hydrocarbons, solvents, water, refrigerants and many other substances at temperatures up to 250 °C/500 °F. The material is dark blue on both sides, with a grayish center.

Having now identified KLINGERSIL® C4265 as a suitable material, the application engineer will start to check the customer's requirements against a special set of properties:

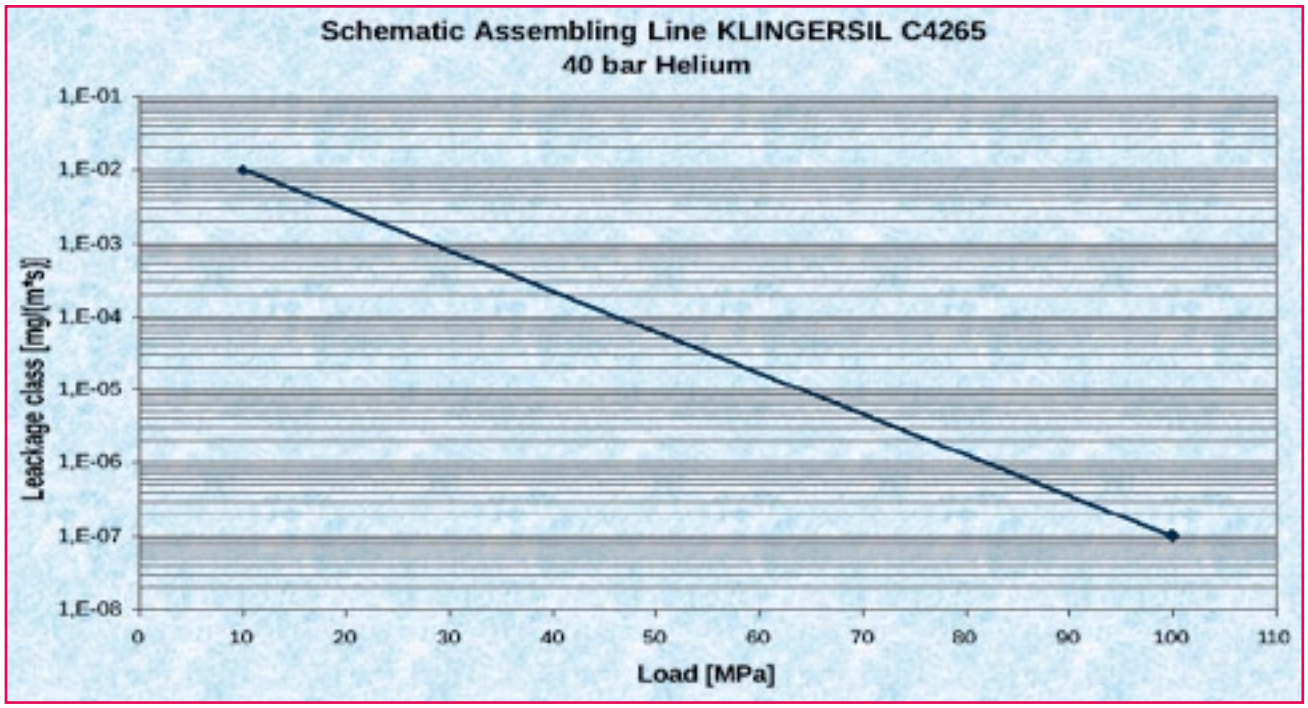
Superior tightness at low bolt forces: *KLINGERSIL® C4265 has demonstrated its excellent tightness during tests with fluids, nitrogen and helium. For example, to seal 40 bar of helium at a tightness*



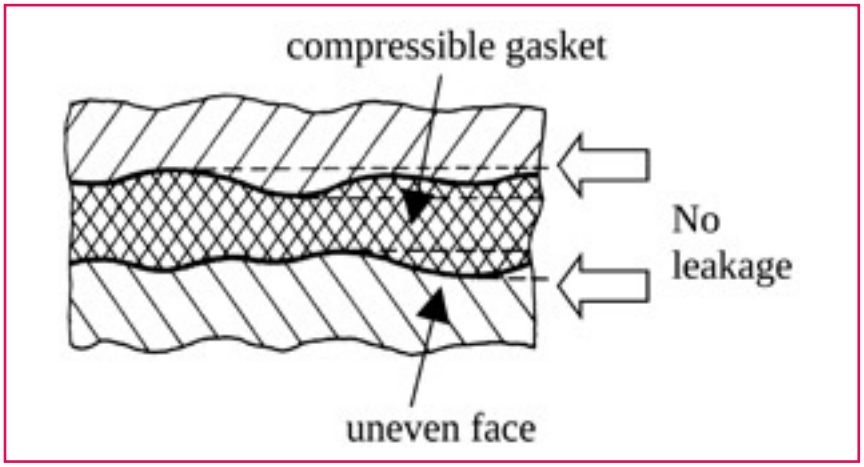
*of 0.01 mg/m*s, all that's required is a 10 MPa load! What's more, a tightness of 0.0000001 mg/m*s can be achieved simply by increasing the load under the same conditions. In-house lab tests have shown that KLINGERSIL® C4265 complies with the requirements of the German Air Pollution Directive (TA-Luft).*

The most striking effect of KLINGERSIL® C4265's high compressibility is the material's ability to compensate for uneven faces even under very low loads, as emphasized and evaluated by a series of so-called «Out of Flatness Tests».

For this test, a gasket is assembled between a steel and a glass plate under a load of 10 MPa. To simulate an uneven sealing face on the steel plate, a radial groove with a defined geometry is milled onto the face in contact with the gasket. ASTM Oil IRM 903, for example, is allowed to impinge under pressure on the inner diameter of the gasket, and the whole test fixtures is heated in order to simulate service conditions. By looking through the glass plate, it is possible to observe how the gasket creates a seal along the groove.



Applicable on rough and/or uneven surfaces: *It's widely known that the compressibility of a sheeting material indicates its ability to adjust to critical surfaces. The compressibility of standard materials varies between 5 and 12 %. Compared with existing state-of-the-art products, KLINGERSIL® C4265 shows a compressibility in the region of 30 %. This exceptional property enables the material to adapt to irregular sealing faces. A comparison of a Shore Hardness of 40 for KLINGERSIL® C4265 with the average hardness of approximately 65 for standard grades underlines the adaptability of the new product.*



The following Fig. 1 and Fig. 2 illustrate the sealing properties of a standard material compared to KLINGERSIL® C4265.

Fig. 1

Fig. 2

Note the left-hand test fixture (Fig. 1) sealed with KLINGERSIL® C4265 (blue). This shows no penetration of the media along the groove. Due to its superior flexibility and compressibility, the material is able to fill the space of the reduced cross section of the steel plate and prevent leakage. The right-hand test fixture (Fig. 2), on the other hand, has been sealed with a reference material (green), which has a compressibility of about 10 %. Under identical test conditions, this material shows insufficient compressible deformation to prevent media from passing along the groove.

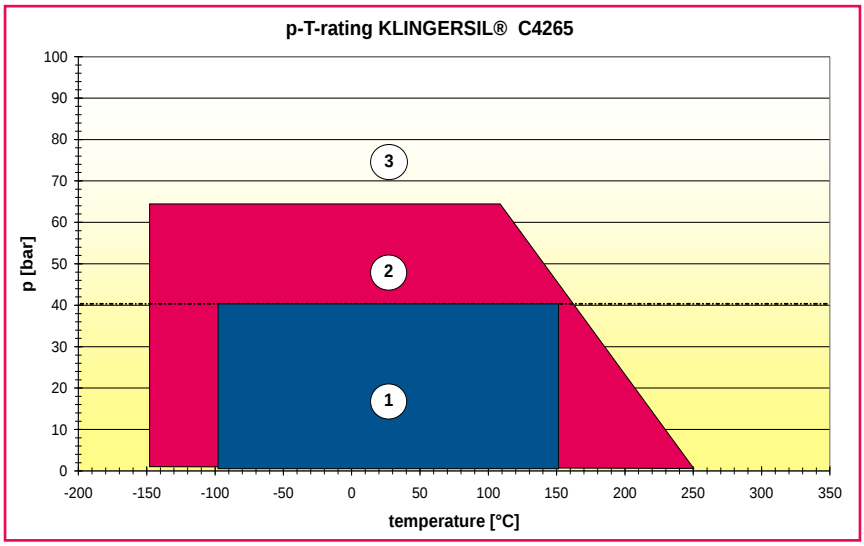
Universal chemical and temperature resistance up to 250 °C/500 °F:

Because KLINGERSIL® C4265 is based on NBR as a binder, it is a non-swelling grade. When it comes to chemical resistance, it compares with other NBR materials in the KLINGERSIL® C range. In addition to a basic chemical resistance, the formulation and raw materials have been designed to obtain a gasket that is also suitable for contact with various refrigerants. Extraction tests with representative refrigerants have demonstrated the suitability of KLINGERSIL® C4265, and a separate chemical compatibility chart can be forwarded on request.

Acceptable load bearing properties at elevated temperatures are not contradictory to high compressibility. Thanks to a sophisticated formulation of rubber, fillers and fibers, it has been possible to achieve a well-balanced pressure/temperature rating.

After digesting all this information and reviewing his request form, what will the application engineer discover? A tick against each and every requirement! Having now found the perfect solution, all that's left to do is to call the customer and say: "Use KLINGERSIL® C4265. It will work for sure!" ■

For more information, please visit www.klinger.co.at, or contact piringer@klinger.co.at



AES operates 9 power plants with an installed capacity of 2,828 megawatts - or approximately 10 % of the total installed capacity in Argentina. It has two distribution companies, EDELAP and EDES, serving more than 460,000 customers.

A seal of approval from AES Alicura

Rich. KLINGER S.A.A.C.I.yF., Argentina

A problem solved - AES Corporation is one of the world's largest energy concerns. Operating in 29 countries and on 5 continents, AES generating plants and distribution companies supply energy to 100 million people. In 2007, sales topped USD 13,600 million.

At the beginning of 2006, Rich. KLINGER Argentina received an enquiry from AES Alicura regarding a fault with JIS standard spiral wound gaskets (in AISI 316 stainless steel with graphite filler) supplied by competitors. These gaskets were causing a leak in the refrigeration duct of a Mitsubishi 701 gas turbine, where air was at 460 °C and 16 bars. Replacement of the damaged gasket required the gas turbine to be taken out of service and the whole operation took approximately 10 hours. Normal operations require regular shutdowns and start-ups with corresponding expansion and contraction in the pipes. The faulty gasket showed a fracture on the centering ring as well as distortion on the spiral-wound body. Dr Teodorico Lythgoe, Technical Director at Rich. KLINGER Argentina, and Mark Williams of KLINGER Ltd, UK, concluded that because of the high temperatures of this application, gaskets with KLINGER Maxiflex Zonal mica/graphite/mica filler should be used. Spiral-wound gaskets with mica and graphite offer excellent resistance to high temperature applications. The mica acts as a barrier and insulates the graphite against possible oxidation. "We have been using this type of gasket since 2006 without air leakage", say maintenance personnel at AES Alicura, and thus give KLINGER their seal of approval! During the last plant shutdown, AES replaced the set of KLINGER gaskets as a scheduled maintenance measure. After 8000 hours of use, the company was able to confirm their perfect condition. Ten turbine shutdowns and start-ups were scheduled during this period, each accompanied by the risk of a leak, but the KLINGER Maxizonal mica/graphite/mica gaskets stood up to the conditions easily, safely and reliably.

AES Argentina

With capital expenditure exceeding USD 1 billion since it started its operations in 1993, AES Argentina is one of the three main investors in the electricity sector in Argentina and the largest from the United States.

AES Alicura

The Alicura Dam is the first of five dams on the Limay River in the northwest of the Comahue region on the border between the provinces of Neuquen and Rio Negro, Argentina. With an installed capacity of 1,050 MW, it was acquired by AES in August 2000. ■

Small is the new big

Rich. KLINGER Ind e Com Ltda, Brazil

The new compact actuated control valve is lighter, easier to install, and consumes less compressed air.

The Brazilian market already knows that Richard KLINGER offers technically advanced products that come with real reductions in operating costs for the generation and distribution of steam, compressed air and other industrial fluids.

Until now, KLINGER has supplied the market with an actuated control valve that thanks to its high durability and reliability, has achieved considerable success. With thousands of units installed all over the world, this valve is recognized by users as a design that combines outstanding performance, the safety of a globe valve with a piston sealing system, and the efficiency of an actuator using a pneumatic spring and no diaphragm.

Now, KLINGER is extending its product line by offering a new compact actuated globe control valve. This is the second generation of a product with qualities that are already acknowledged by the market. It comes with additional advantages for industrial control operations, including the control of termperature, pressure, flow and level.

The very latest in actuator technology

Always attuned to the needs of the industry, KLINGER has developed a smaller product that will help its customers decrease the time and cost of installation, operation and maintenance. That's because the KLINGER compact control valve introduces a new concept in control valves. Its main feature is the new, surprisingly compact, light and modern KVA actuator.

Manufactured entirely in injection-molded aluminium, this new actuator is far lighter and smaller, making it easier to install and handle and facilitating the design of the piping.

Despite its compact size (approximately 40 % less than the previous KLINGER actuator), the new KVA actuator retains the classic advantage of all KLINGER actuators: it uses a maintenance-free, pneumatic spring in place of a diaphragm.

This actuator allows the new KLINGER control valve to carry out on/off control operations in diameters of ½" to 2" and at pressures of 0 to 40 bar with almost any type of fluid. This means that a single actuator can be used for the three sizes

New compact actuated control valve: small, light, attuned to the needs of the industry.

Principal advantages of the new valve:

- ***Light and super-compact actuator***
- ***A single actuator for dimensions between ½" and 2"***
- ***Faster response and lower consumption of compressed air***
- ***Class VI leakage level for temperatures up to 400 °C***
- ***Easier to install, operate and maintain***

■ ***The compact KLINGER valve supports the new concept of preventing losses and decreasing emissions of pollutants into the atmosphere.***

of actuator previously used in the ½" and 2" range. In other words, the actuator on a DN 50 valve can also be used on a DN 15, thus simplifying stocking.

Previous actuator and the new KVA model: a 30 to 50 % decrease in dimensions.

Food companies, textile companies, machine-tool manufacturers and sugar/alcohol refineries are among the users that have already installed the new compact KLINGER control valve. Like its predecessor (which is still available in diameters between 2 ½" and 8"), the new compact KLINGER valve can be used in liquids, gasses and steam. On/off and control functions (flow rate, pressure and temperature) are combined in the same valve.

Surprising dimensions promote savings

The innovative design of the compact KLINGER valve can best be appreciated when compared with the previous model for applications with diameters between ½" and 2". The weight has been decreased from 18 kg to approximately 5 kg. There's also an impressive drop in size: the height of the new actuator is down by 30 %, while the diameter is down approximately 50 % (an especially important factor for machine-tool and equipment manufacturers).

Thanks to the new dimensions, response times are faster and compressed air consumption is also improved: with the new 2" compact valve, for example, it is possible to reduce compressed air consumption by more than 90 %. But that's not all: installation and maintenance are much faster - with the quick connection system enabling rapid assembly and dismantling - and because the actuator is now much lighter, lifting tackle is a thing of the past. Furthermore, the positioning component is now installed directly on the actuator, thus eliminating the need for adaptors or fittings. ■

Reliable for industry, safe for the environment

The KXGT graphite seals employed in the compact KLINGER valve guarantee that the unit has Class VI leakage. As a key KLINGER feature, KXGT graphite seals prevent the emission of chemicals into the atmosphere and the subsequent loss of valuable and/or corrosive fluids for users.

KXGT graphite seals also mean greater energy efficiency, with less steam loss, less waste, and less consumption of fuels such as natural gas and oil. Because the contact is metal-graphite rather than metal-metal, the «soft» technology of the graphite rings guarantees a 100 % seal.

A further advantage of the compact KLINGER valve is that its lanterns are specially dimensioned to suit each application in order to control the glow coefficient in line with each process.

Another key feature of the new product is the quick connection system that enables the valve and actuator to be separated for maintenance of the two components (valve and actuator). Moreover, in conventional valves, depending on the working pressure, it may be necessary to open the actuator and replace the springs. But the compact KLINGER valve functions well between 0 and 40 bar, with no need to replace the springs.

With a body assembled from high strength materials (carbon steel or stainless steel), the compact KLINGER control valve is ideal for incorporation into new line layouts or the replacement of valves that have reached the end of their service life. Once again, KLINGER has launched yet another product that meets the company's standards in full: namely, high quality and high strength, in addition to the Class VI leakage already mentioned. ■

To find out more about this compact valve, phone (11) 4596-9514, or e-mail: rkvendas@rklinger.com.br.

Success and recognition for SAIDI at Expoquimio '08

SAIDI, Spain

Exhibitors and visitors alike expressed their complete satisfaction at the close of 2008's three Fira de Barcelona shows - Expoquimia, Eurosurfas and Equiplast - which are staged at the Gran Via Exhibition Center and make up the Mediterranean region's largest applied chemistry event.

Expoquimia with its special focus on biotechnology and nanotechnology featured a host of commercial and scientific offerings plus a large variety of products, solutions and new technological applications that will help define the future of a chemical sector that is increasingly committed to sustainability and environmental care. Expoquimia also highlighted the sector's commitment to sustainability with ***Lab&Bio****, a special exhibition zone where over 7,500 square meters of exhibition space were assigned to biocompanies, and* ***Compositech****, which is dedicated to new materials.*

Eurosurfas *and* ***Equiplast*** *also promoted the use of more eco-friendly products, both in surface treatment technology and in the manufacture of plastics. At Equiplast, the plastics sector called for a renewal scheme to replace current production machines with new and cleaner equipment.*

With speakers like Japanese scientist ***Yoshinobu Baba****, who predicted that within five years nanotechnology will be applied in the early detection of the initial stages of cancer, and* ***Kurt Wüthrich, the Nobel Prizewinner in Chemistry*** *who is studying the composition of the* ***SARS*** *virus, Barcelona also became the centre of scientifc debate.*

A rise in foreign visitors

Provisional estimates show that the three shows organized by Fira de Barcelona were visited by over ***55,000 professionals****. The rise in the number of foreign visitors is estimated at approximately 10 %. With a total of 1,100 direct exhibitors and over 2,000 visitors attending the full program of seminars and congresses, Director of Expoquimia, Eurosurfas and Equiplast* ***Pilar Navarro*** *was upbeat in his assessment of this year's shows, stating that they «equaled the 2005 figures despite the current economic climate".*

SAIDI launches its new corporate identity

To coincide with this important International and European trade show, SAIDI appeared with a new, state-of-the-art stand that promoted its new corporate identity and logo. Our suppliers made sure that KLINGER was represented by a wide variety of product samples.

With clients and suppliers being greeted to our stand by salsa rhythms and a glass of mojito, a typical Caribbean drink, we always knew we could count on the invaluable assistance of our Barcelona branch! All of its members - from both front and backoffice - bent over backwards to make it possible. Our success was entirely due to them. So thanks to all! ■

SAIDI attends World Petroleum Congress in Madrid

SAIDI, Spain

The World Petroleum Congress staged in Madrid between 28 June and 3 July, 2008, has earned its reputation as the «Olympics of the oil and gas industry».

19TH WORLD PETROLEUM CONGRESS

This year, at the 19th World Petroleum Congress, the Congress Program Committee prepared a wide-ranging technical program to acknowledge scientific, technological and professional achievements in the petroleum industry and selected «A World in Transition. Delivering Energy for Sustainable Growth» as their offical theme.

The program for the 19th WPC included a number of new features: high-level plenary discussions with leading industry decision-makers; interactive round-tables; and in-depth forums on a wide variety of issues such as the current state of the sector and the main challenges that it faces. This dialogue, which was conducted throughout the four days of the congress, attracted the interest not only of experienced industry players, but also the next generation of young professionals.

The 19,000 m² exhibition area was occupied by a diverse selection of suppliers and contractors. SAIDI's presence at this event was focused on the wide range of sealing products and valves available to the industry, and the company was pleased to have given KLINGER brand exposure to visitors from all over the world. ■

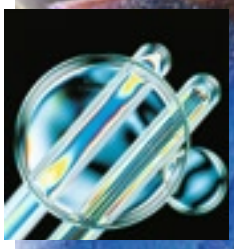
CELEBRATING 20 YEARS

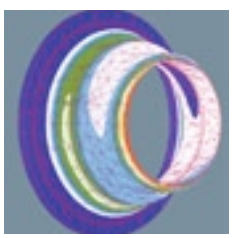
KLINGER shows its metal

KLINGER Ltd, UK

During the late 1980s, the KLINGER Group of Independent Klinger Companies, already a well-established front-runner in sealing technology, had the foresight to acquire Macmichael Gaskets Ltd, an independent gasket manufacturer of metallic and semi-metallic gaskets located in a small industrial unit in Bradford. The KLINGER Board's goal was to supply a complete range of industrial sealing products worldwide. This was a vision that could only be realized on the basis of a KLINGER-owned company specializing in metallic gaskets to complement KLINGER's existing portfolio of non-metallic products, which are manufactured in plants in Europe and across the world. 20 years on, and KLINGER Ltd has become established as the market leader for the production of metallic and semi-metallic gaskets. With significant investment in the UK production facilities over the last 10 years, KLINGER Ltd's position as the market leader is sure to be maintained well into the future. ■

Connect with Quality





The Global Partner for Global Players

Editorial address:

KLINGER ADMINISTRATION AG
Industrie Nord, Seonerstrasse 287
5704 Egliswil/Switzerland
T +41(0)62 769 30 11
F +41(0)62 769 30 13