

WARM-EDGE-SYSTEMS KÖDISPACE & KÖDISPACE 4SG

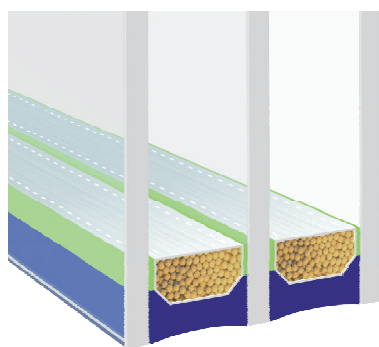


KÖMMERLING - MORE THAN JUST A PRODUCT QUALITY & RELIABILITY

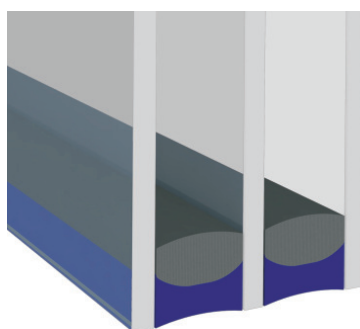
Adhesives and sealants are increasingly used in everyday situations. They are indispensable in many manufacturing areas of window production, be it in structural glazing or direct glazing of Insulating Glass into the window sash. Adhesives and sealants already play an important role in the manufacture of Insulating Glass. Thermoplastic spacers are becoming more important in relation to energy saving. With KÖMMERLING **Ködispace** products you will receive a top class "warm edge". For more than 15 years KÖMMERLING CHEMISCHE FABRIK GMBH has delivered **Ködispace** as a thermoplastic spacer material for TPS Insulating Glass lines around the world.

KÖMMERLING is your experienced and reliable partner for adhesives and sealants. **Ködispace** and **Ködispace 4SG** set the standard for high quality in the manufacturing of high performance Insulating Glass. In addition to this the automated production of Insulating Glass with these **Ködispace** products offers numerous commercial and technical advantages.

By offering **Ködispace** for universal application of Insulating Glass in the construction industry and transport sectors or **Ködispace 4SG** for structural glazing, KÖMMERLING provides a solution for every application.



The traditional Insulating Glass construction uses frames of rigid spacer profiles which are filled with desiccant, coated on both sides with butyl and then placed on the glass and then finally sealed with secondary sealant.



Ködispace or **Ködispace 4SG** thermoplastic products are simply extruded directly onto the glass and sealed with a suitable secondary sealant.

THE RIGHT SOLUTION FOR EVERY APPLICATION KÖDISPACE & KÖDISPACE 4SG

Ködispace and **Ködispace 4SG** are thermoplastic warm edge systems with built in desiccant. They completely replace the traditional edge system made of spacer, desiccant and primary seal.

Ködispace 4SG has the capability to form a chemical bond with glass and silicone which is why **Ködispace 4SG** is particularly suitable for structural glazing.



	KÖDISPACE	KÖDISPACE 4SG
Base	Synthetic rubber (Polyisobutylene)	Synthetic rubber (Polyisobutylene) + reactive groups
Color	Black	Black
Service temperature of insulating glass	from -20 °C to +70 °C	Increased heat stability from -20 °C to +90 °C
Gas permeation	< 0,001 g/m ² -h	< 0,002 g/m ² -h
Water vapour transmission rate	<0,01 g/m ² -d	<0,01 g/m ² -d
Bonding to glass	Adhesive	Cohesive (chemical bonding)
Bonding to secondary sealing	Adhesive / Polysulfide, PU	Cohesive (chemical bonding) to silicone
Field of application	All multi-pane insulation glazings with released secondary sealants on polysulfide basis	Especially suitable for silicone glazings, in particular for structural glazing All multi-pane insulation glazings, also with polysulfide sealing
Certificates	EN 1279 EN 1279 for triple insulated glass Avis technique	EN 1279 EN 1279 for gas-filled silicone window panes Avis technique *

* Tests in progress

We would be pleased to send you upon request our technical data sheets as well as the leaflet "Psi-value window".

ADVANTAGES FOR THE MANUFACTURING OF INSULATING GLASS FLEXIBILITY & EFFICIENCY

With **Ködispace** products from KÖMMERLING, spacer, desiccant and primary seal are replaced by a single component offering benefits in **material procurement** and **internal logistics**:

- Eliminates the need for storage space for spacers in different colours and widths as well as accessories such as corner keys, straight connectors and desiccant
- **Ködispace** produces no waste
- All cavity widths from 1mm to 20mm come from one drum

The greatest advantage of **Ködispace** products is in the elimination of many stages of **production preparation**:

- All Insulating Glass production can be produced on one line with consistent high quality regardless of shape or size
- Different cavity spaces can be made in any order eliminating size batching
- Simplification of production capacity planning
- Off line production, such as frame bending and desiccant filling as well as primary sealing is eliminated
- Interruption free production of double or triple insulating glass in varying spacer widths and combinations is automatic
- The TPS production using **Ködispace** is of course the same for **Ködispace 4SG**

The use of **Ködispace** minimises the risk from a number of factors that can threaten smooth production:

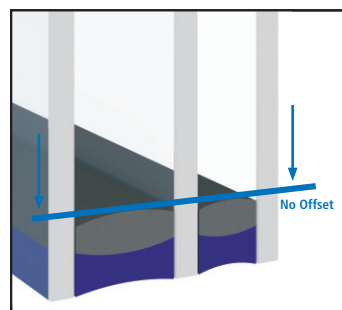
- The sorting of frames to production pattern is eliminated
- No butyl coating errors
- No production delay due to incorrectly manufactured or missing frames
- No profile change production interruption, as you would get with foam spacers
- Interruption free barrel change → zero waste
- The desiccant handling is eliminated completely so there is no chance of unit contamination with desiccant dust



ADVANTAGES FOR THE INSULATING GLASS UNIT CLEANLINESS & PRECISION

When manufacturing large or triple units the setting of the spacer frame can be difficult. With **Ködispace** or **Ködispace 4SG** this problem is overcome:

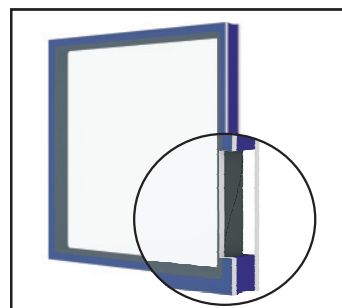
- The Spacer is always parallel to the glass edge, also for big glass sizes
- The Spacer gives a consistent and accurate seal depth, this is particularly important with triple insulating glass
- The overall thickness of the Insulating Glass can be adjusted to exact measurements, independent of glass tolerances
- The corners are formed perfectly each time



ADVANTAGES FOR THE INSULATING GLASS UNIT SAFETY & DURABILITY

With conventional spacer profiles the butyl application is the main contributor to the sealing of the IG. The pumping movements of the Insulating Glass caused by climatic stress lead to enormous strain on the butyl. This constant load caused by compression and elongation of the primary seal can cause seal failure over time. The edge bond with **Ködispace** or **Ködispace 4SG** remains elastic which results in considerably less stress on the bond and hence longer Insulated Glass life span:

- **Ködispace** flexibility compensates for climatic loads
- **Ködispace** gives an optimum sealing barrier against gas loss and humidity penetration



ADVANTAGES FOR THE INSULATING GLASS UNIT UNIQUE CONFORMITY

With both **Ködispace** and **Ködispace 4SG** there are hardly any limits to greater design possibilities:

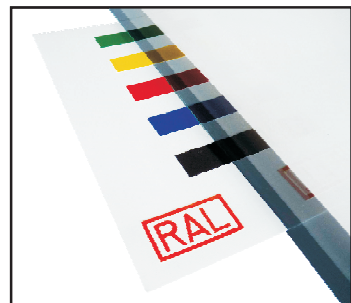
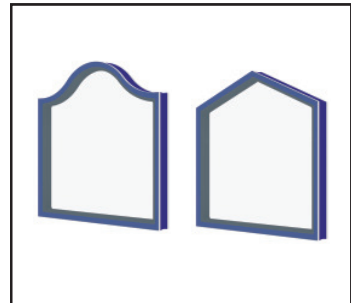
- Gas-filled, rectangles or shapes can be created directly with CAD - the smallest radius is 100 mm
- Ideal for large glass sizes
- Suitable also for units with muntin bars

Ködispace and **Ködispace 4SG** are suitable for different glass types:

- Ideal for small cavity widths, e.g. for landmarked window panes
- Ideal for insulated glass units or façade glasses with fixing holes
- Adaptation to the glass contour
- Ideal for the manufacture of insulating glass with cast resin for sound insulation
- Suitable for the glazing of vehicles and trains as well as for solar applications

The esthetic is unique. **Ködispace** or **Ködispace 4SG** lead to optically appealing harmony of the glass and the frames:

- The colour of the window frame is reflected on to the Spacer
- No glossy metal surfaces



WARM-EDGE WITH A SYSTEM ENERGY EFFICIENCY & COMFORT

Warm edge systems improve the edge bond insulating, **Ködispace** and **Ködispace 4SG** offer top level PSI values which lead to improvements in the U_w values of the window and the U_{cw} values of structural glazing:

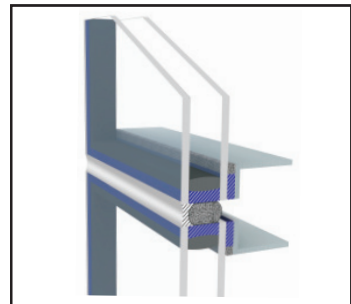
- Completely metal free material with very low heat conductivity
- Minimises condensation formation
- Improves the internal environment, giving more comfort
- Reduces heating costs
- Contributes to CO₂ reduction



KÖDISPACE 4SG THE GAS-TIGHT STRUCTURAL GLAZING SYSTEM

Modern structural glazing with gas filling, warm edge and silicone seal places high demands on the edge seal. **Ködispace 4SG** has a unique chemical bond to the glass which gives an extremely robust and resilient system:

- **Ködispace 4SG** gives the best possible PSI and U_g values for structural glazing
- **Ködispace 4SG** enables increased heat stability making it suitable for applications in hot climates
- Minimal gas loss with silicone edge seal enables long lasting structural glazing



KÖMMERLING WORLDWIDE



KÖMMERLING

KÖMMERLING CHEMISCHE FABRIK GMBH

Kömmerring Chemische Fabrik GmbH
P.O. Box 2162
D-66929 Pirmasens
Germany
0049 6331 562000 Phone
0049 6331 561999 Fax
e-mail: info@koe-chemie.de
www.koe-chemie.de

Kömmerring UK Limited
27 Riverside Way, Uxbridge
GB-Middlesex UB8 2YF
England
0044 1895 465 600 Phone
0044 1895 465 617 Fax
e-mail: enquiries@kommerlinguk.com
www.kommerlinguk.com

Kömmerring Chimie Sàrl
7, Rue des Corroyeurs
F-67200 Strasbourg
France
0033 3.88.28.83.59 Phone
0033 3.88.28.22.23 Fax
e-mail: info.france@koemmerling.com
www.koe-chemie.fr

ADCO Products, Inc.
4401 Page Avenue
P.O. Box 457
US-Michigan Center, MI 49254
001.800.248.4010 Phone
001.517.764.6697 Fax
e-mail: info@adccorp.com
www.adccorp.com

ADCO Europe Holding GmbH
China Representative Office
1007 Air China Plaza,
36 Xiaoyun Road, Chaoyang District
CN - Beijing 100027 China
0086 10 6461 9988 Phone
0086 10 6461 9900 Fax
e-mail: info@adcochina.net
www.koe-chemie.com