



# ADHESIVES AND SEALANTS FOR THE GLASS INDUSTRY

From a Single Source



H.B. Fuller



KÖMMERLING

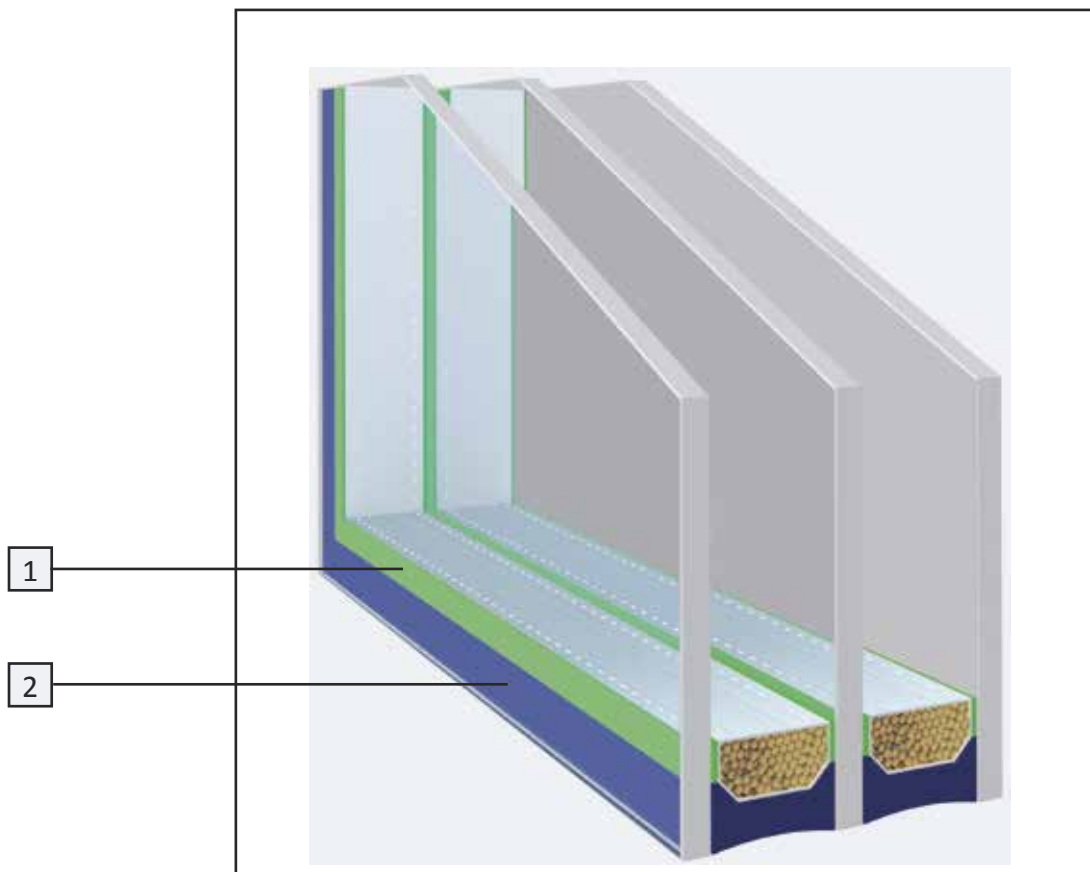
# CRYSTAL CLARITY AT ITS BEST

Our product portfolio offers premium solutions for all kinds of glazing. We have revolutionised the market for insulating glass sealants several times already. One example is the first primerless two-component sealant GD 116. It allowed the production of insulating glass to be simplified significantly. We also introduced the first low-viscosity polysulfide formulation for automated sealing systems - another milestone in the history of insulating glass.

# PRODUCT OVERVIEW

## INSULATING GLASS SEALANTS

KÖMMERLING, an H.B. Fuller company, offers the most complete product range for the glass industry - and hence solutions for nearly every application from a single source. Our adhesives and sealants fulfil the highest requirements of international certification standards. In addition, they are tested according to even more stringent internal criteria.



### 1 Primary Sealants

#### Polyisobutylenes

GD 115  
GD 115 grey  
GD 115 S  
Naftotherm BU-S

### 2 Secondary Sealants

#### 2-component Polysulfides

GD 116  
GD 116 NA  
GD 116 P  
Naftotherm M82-935

#### 2-component Polyurethanes

GD 677 NA  
GD 677 HM

#### Hotmelt

Isomelt  
Isomelt M  
Ködimelt IG

#### 2-component Insulating Glass Silicone

GD 920

#### 2-component Structural Glazing Silicone

Ködiglaze S

#### 1-component Insulating Glass Silicone

GD 823 N

# PRIMARY SEAL

## POLYISOBUTYLENE

GD 115 | GD 115 grey | GD 115 S | Naftotherm BU-S

The primary seal is the key to preventing moisture vapour transmission and gas permeation. The butyl used for this purpose seals the spacer width and prevents moisture from entering the insulating glass unit on the one hand and the gas contained in it from escaping on the other hand.

Our polyisobutylene sealants GD 115, GD 115 grey, GD 115 S and Naftotherm BU-S are characterised by an extremely low moisture vapour transmission rate and good gas retention and provide good adhesive properties on glass and spacer bars. All of our butyles do, of course, fulfil the requirements of EN 1279.

### Specific Product Properties

#### GD 115

- ✚ Also available as pre-extruded tape
- ✚ Adjustable after application

#### GD 115 grey

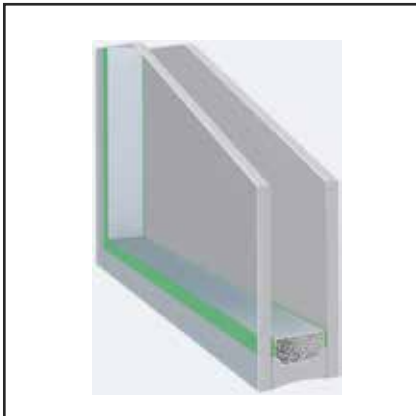
- ✚ For sealing gas filling holes in spacer bars

#### GD 115 S

- ✚ Primary sealant for flexible spacer bars

#### Naftotherm BU-S

- ✚ Also available as pre-extruded tape
- ✚ High initial tack after application







ENERGY EFFICIENCY  
IN ALL DIMENSIONS





## SECONDARY SEAL

The secondary seal connects the panes of insulating glass units with each other and seals the spacer width hermetically. The space between the spacer bar and the edge of the pane is filled with sealant and thus serves as a second level of sealing. All of our standard secondary sealants are, of course, fully compliant with EN 1279 and are approved for use with KÖMMERLING Direct Glazing-Systems.

### POLYSULFIDES

GD 116 | GD 116 NA | GD 116 P | Naftotherm M 82-935

Our 2-component polysulfide sealants are characterised by a low moisture vapour transmission rate and good gas retention as well as a wide range of adhesion. Tolerant of mix ratio deviations of up to  $\pm 20\%$ .

#### Specific Product Properties

**GD 116 | GD 116 NA | Naftotherm M 82-935**

- + Approved by CEKAL
- + Certified according to GMI

### POLYURETHANES

GD 677 NA | GD 677 HM

In addition to a low moisture vapour transmission rate and good gas retention, our 2-component polyurethane sealants are characterised by fast adhesion build-up as well as very good adhesive properties on many kinds of plastic.

#### Specific Product Properties

**GD 677 NA**

- + Mercury free
- + For use in serial production
- + Approved by CEKAL
- + Certified according to GMI

**GD 677 HM**

- + Special designed for the production of Heat-Mirror™ IG units



## SILICONES

GD 920 | Ködiglaze S | GD 823 N

If high UV stability of the edge is needed, silicones are preferred as secondary sealants. Our silicone sealants have not only excellent UV resistance but also particularly good weathering and temperature resistance.

### Specific Product Properties

#### GD 920

2-component insulating glass silicone

- + High modulus
- + ETA 08/0004
- + SNJF VI-VEC
- + Approved by CEKAL

#### Ködiglaze S

2-component structural glazing silicone

- + High modulus
- + ETA 08/0286
- + SNJF VEC und VI-VEC
- + Approved by CEKAL

#### GD 823 N

1-component insulating glass silicone

- + Wide range of adhesion

## HOTMELT

Isomelt | Isomelt M | Ködimelt IG

Our hotmelt sealants are characterised by an extremely low moisture vapour transmission rate and good gas retention. As they easily melt in tank and drum melting equipment and are easy to process, they are excellently suited for both automated production and use by smaller companies.

### Specific Product Properties


#### Isomelt | Isomelt M | Ködimelt IG

- + Processing temperature +150 °C to +180 °C
- + No loss of material, no waste disposal issues
- + No purging or flushing necessary





# FOR A BETTER QUALITY OF LIFE



Thermoplastic spacers are becoming ever more important in terms of energy savings. With Ködispace and Ködispace 4SG you get a top-of-the-line „Warm Edge System“. It represents the best quality in the production of insulating glass with thermoplastic secondary sealing. For 20 years, KÖMMERLING has been supplying Ködispace as a thermoplastic Warm Edge System to consumers all over the world.



# WARM EDGE SYSTEMS

## KÖDISPACE & KÖDISPACE 4SG

Polyisobutylene

Ködispace and Ködispace 4SG are thermoplastic Warm Edge Systems with integrated desiccant. They completely replace the conventional edge sealing system with spacer, desiccant and primary sealant and are applied fully automatically. Additionally, they are characterised by an extremely low moisture vapour transmission rate and good gas retention, which promotes high flexibility and long service life.

Ködispace 4SG has the additional ability to form a chemical bond with glass and silicone and is therefore particularly suited for use in façades.

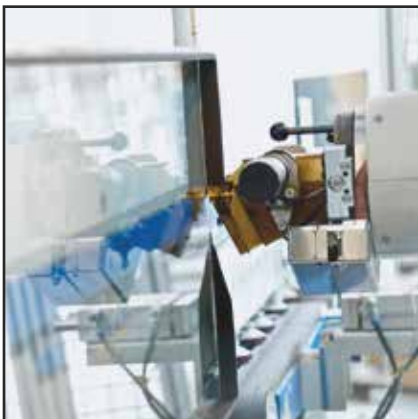
### Ködispace

- + Excellent Psi values
- + Individual shape design
- + Spacer widths from 1 mm to 20 mm possible
- + Fast wet out to glass after application
- + Manufacture of composite laminates also possible
- + Approved by CEKAL

### Ködispace 4SG

In addition to the properties of Ködispace, Ködispace 4SG also offers the following benefits:

- + Best Psi and Ug values also for façade glass panes
- + High temperature resistance
- + For structural glazing applications in all climate zones
- + Additional chemical bonding to glass and silicone secondary sealants, thus extremely tight and durable gas-filled façade glass panes
- + Approved by CEKAL

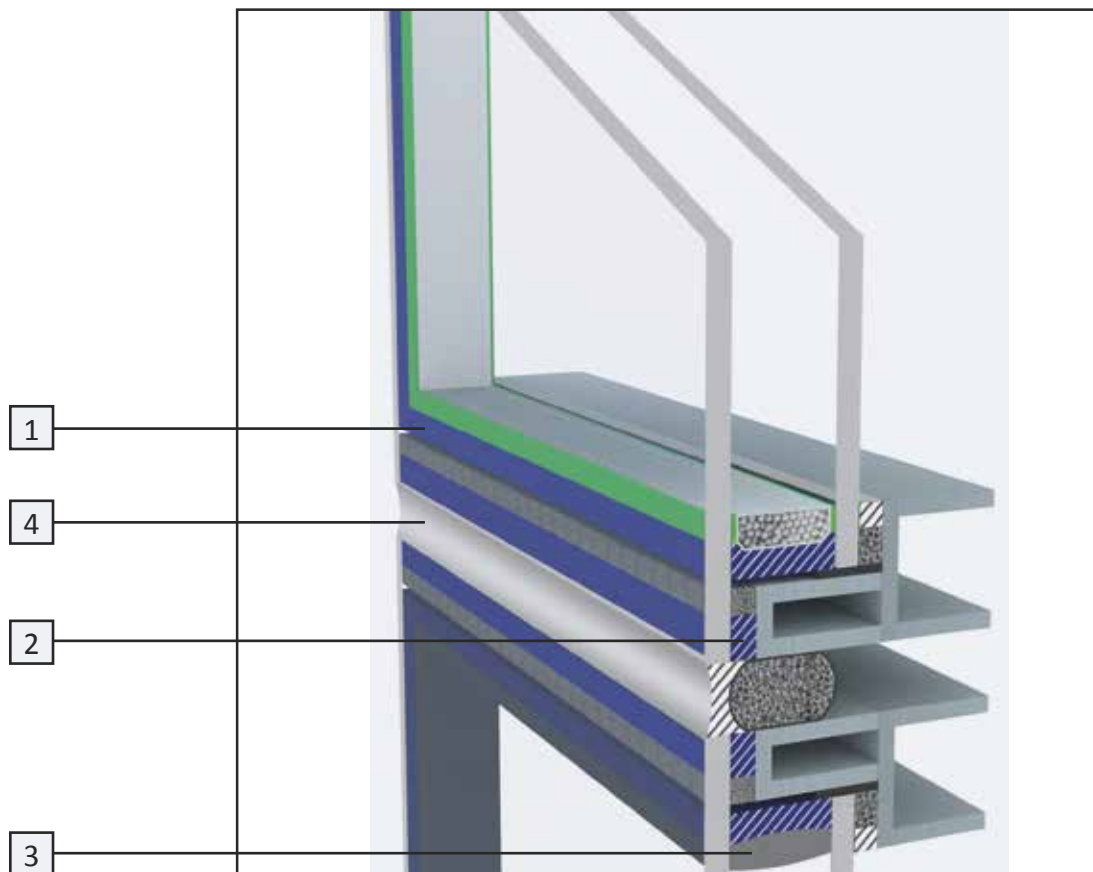


# SYSTEM SOLUTIONS FOR STRUCTURAL GLAZING

## MODERN FAÇADE TECHNOLOGY ON THE HIGHEST LEVEL

Unlike most other materials, glass is a material that represents lightness, timeless elegance and transparency. This is why glass façades have had a significant impact on modern architecture and have defined our cityscapes for decades. On the one hand, they must satisfy the most demanding aesthetic expectations; on the other hand, as smart technical systems, they must fulfil a multitude of construction-relevant functions. These requirements are reconciled perfectly by all-glass façades built with structural glazing.

Our high-performance, silicone-based structural glazing products guarantee that such façades with their fascinating designs will be long-lasting even under extreme climate conditions and will preserve their quality for years to come. Furthermore, with Ködispace 4SG, our Warm Edge System developed especially for use in façades, extremely tight and durable gas-filled façade glass panes can be realised.



### 1 Secondary Sealants

**2-component Silicones**  
Ködiglaze S  
GD 920

### 2 Structural Glazing

**2-component Silicone**  
Ködiglaze S

### 3 Warm Edge System

**Polyisobutylene**  
Ködispace 4SG

### 4 Weather Sealing

**1-component Silicone**  
GD 826 N



A photograph of a modern building with large glass windows. The windows reflect the surrounding environment, including trees and a sky. The building has a white facade and dark window frames. The text "FASCINATING DESIGN" is overlaid on the left side of the image.

# FASCINATING DESIGN

Structural Glazing projects are not only becoming ever more sophisticated architecturally, but are also highly complex in terms of their technical realisation. It goes without saying for us that our customers can count on individual and bespoke consulting and support services during the entire duration of a project.

# SYSTEM SOLUTIONS FOR WINDOW BONDING

## EDGE SEAL AND BONDING TECHNOLOGY FROM A SINGLE SOURCE

As traditionally used in the automotive industry, the special advantages of direct glazing are nowadays also exploited in window bonding. This means that the insulating glass is bonded with the window sash, which leads to significant improvements in the window's static properties. Load transfer no longer occurs selectively, but rather over the entire bonding area. This allows thinner frames, lower weight, larger pane sizes and unusual window shapes.

Direct glazing can be realised with all types of window frame material, from wood via plastic to aluminium. Depending on the profile system, different bonding positions are possible: overlap, rebate and glass edge.

With Ködiglaze, KÖMMERLING has developed a special product range for this innovative technology. Our Ködiglaze adhesives are characterised by very good weathering performance and temperature resistance as well as by an optimal relation between stability and flow behaviour. They also offer excellent creep resistance and are, of course, compatible with our insulating glass sealants.

### Specific Product Properties

#### Ködiglaze P

1- and 2-component polyurethane adhesive

- ✚ Formulation and properties adapted to insulating glass secondary sealants
- ✚ Can be processed either as 1- or 2-component system

#### Ködiglaze SDG

1- and 2-component silicone adhesive

- ✚ Optimum pot life / curing ratio
- ✚ High stability and elasticity
- ✚ Can be processed either as 1- or 2-component system

### System Combinations

Frame Material	Bonding Positions		
	Glass Edge	Overlap	Rebate
PVC	Ködiglaze SDG	Ködiglaze SDG	Ködiglaze P
Wood	Ködiglaze SDG	Ködiglaze SDG	Ködiglaze P
Wood + Aluminium	–	Ködiglaze SDG	Ködiglaze P
Aluminium	Ködiglaze SDG	Ködiglaze SDG	Ködiglaze P

Please contact our project team to get advice for your individual combination.





## BURGLAR-RESISTANT GLAZING – ON THE SAFE SIDE WITH KÖMMERLING

In addition to energy efficiency, security is an important issue when it comes to windows and doors. A break-in is a major intrusion into a person's private life. The feeling of being undisturbed and free in one's familiar home suffers greatly after a break-in. A large number of break-ins into flats and houses occur via the windows. This is why it is absolutely crucial to choose burglar-resistant windows when building a new house or modernising an old one.

When it comes to burglar-resistant glazing, you can count on our products for RC-2 and RC-3 bonding, which are optimally adapted to insulating glass sealants.

### Specific Product Properties

#### Ködiglaze P

1-component polyurethane adhesive

- + Test certificate available
- + Formulation and properties specially adapted to insulating glass secondary sealants
- + Available in 600 ml sachets

#### GD 116

2-component polysulfide sealant

- + Very good adhesion to glass and metal surfaces
- + Available in 345 ml mixing cartridges





# SYSTEM SOLUTIONS FOR LAMINATE GLASS PRODUCTION

## SECURITY, SOUNDPROOFING & UV PROTECTION WITH CREATIVITY

Regardless of whether their purpose is intrusion prevention, soundproofing or UV protection, composite laminates are nowadays used in a wide variety of application areas, such as in banks, high-security areas, airports or museums. KÖMMERLING offers one- and two-component cast resins developed specifically for these applications. Each product has been optimally designed for its range of use and for various production conditions.

Our low-viscosity, transparent cast acrylic resins are characterised by extremely high stability, excellent UV resistance as well as very good adhesion to glass and other composites. With Ködilan LED we are setting new standards in media functionality, thereby offering revolutionary new possibilities for display façades, advertising spaces, exhibition areas, etc.

### Specific Product Properties

#### KödiPhone Range

- ✚ Highly soundproofing properties

#### KödiGuard Range

- ✚ Security-relevant properties

#### KödiGuard Conservation

- ✚ Special UV protection

#### Ködilan LED

- ✚ Media-functionality



# COMPLEMENTARY PRODUCTS

## GLAZING SILICONE

### Ködisil N

1-component silicone sealant

- + For glazing applications, connecting joints and general expansion joints
- + Good weathering, ageing and temperature resistance from -40 °C to +160 °C
- + Neutral curing
- + Antifungal
- + Fulfils the requirements of DIN 18545, part 2, group E
- + Compliant with EN 15651



## LUBRICANTS

Köralub Range

Lubricants from the Köralub range reduce hardening of materials curing by humidity and reduce equipment wear and tear. They are suitable for use on seals, plungers and cylinders of mixing and dispensing equipment.

### Köralub PS

- + For polysulfide sealants

### Köralub SI

- + For silicone sealants

### Köralub PUR/POP

- + For polyurethane and MS polymer sealants

## CLEANERS AND FLUSHING AGENTS

Körasolv Range

### Körasolv PU 677

- + For GD 677 polyurethane sealants
- + Also suitable for cleaning of mixing equipment

### Körasolv SI

- + For 2-component silicone sealants
- + Dissolves uncured and cured silicone sealants
- + Also suitable for cleaning of mixing equipment

### Körasolv GL

- + For various plastic, metal and glass surfaces
- + For cleaning and removing uncured adhesive and tools
- + As pre-treatment prior to bonding with KÖMMERLING adhesives



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