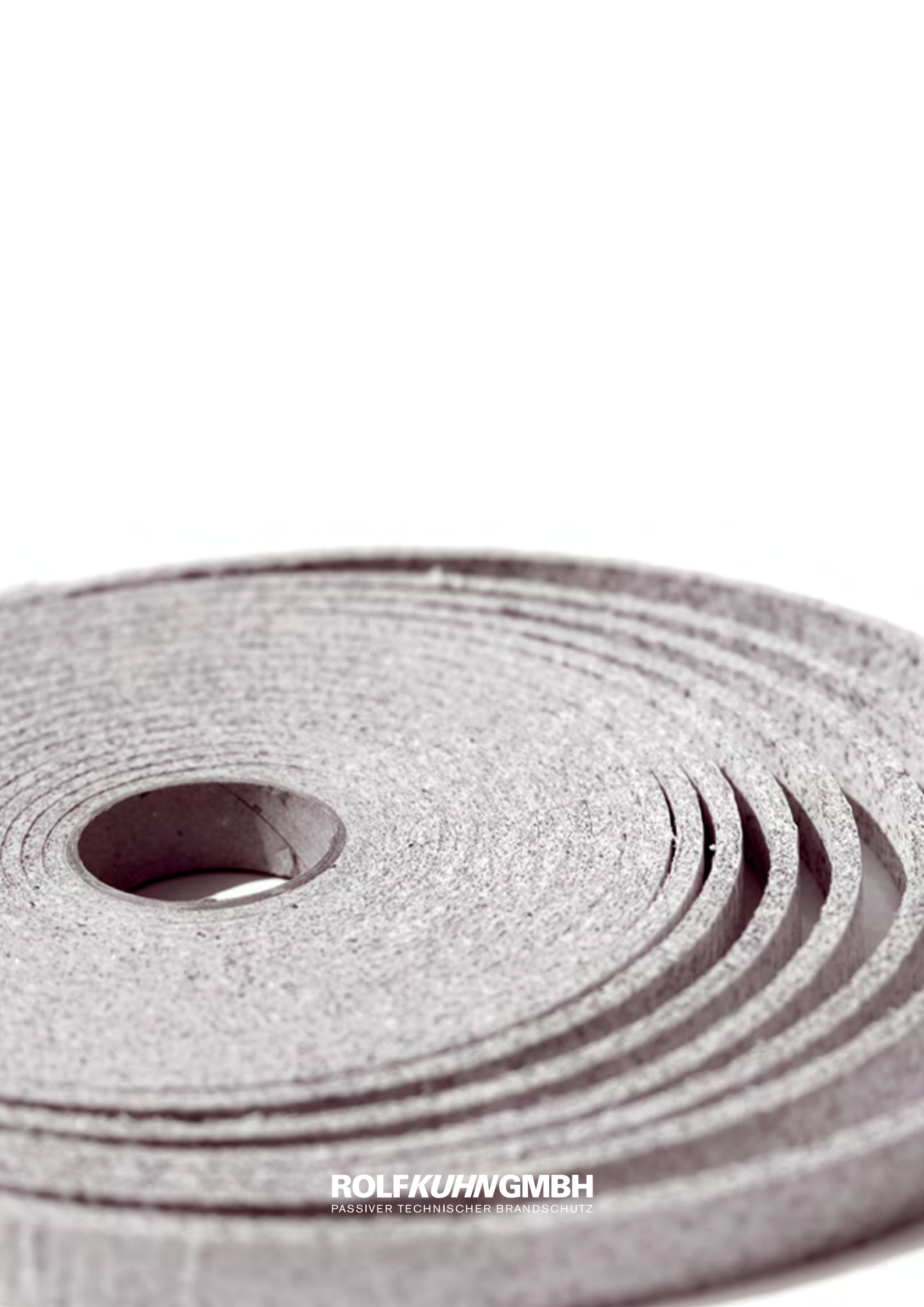


**GLUSKE** BRANDSCHUTZ  
ZUBEHÖR

Fire protection accessories for  
the glazing industry



**ROLFKUHN GMBH**  
PASSIVER TECHNISCHER BRANDSCHUTZ



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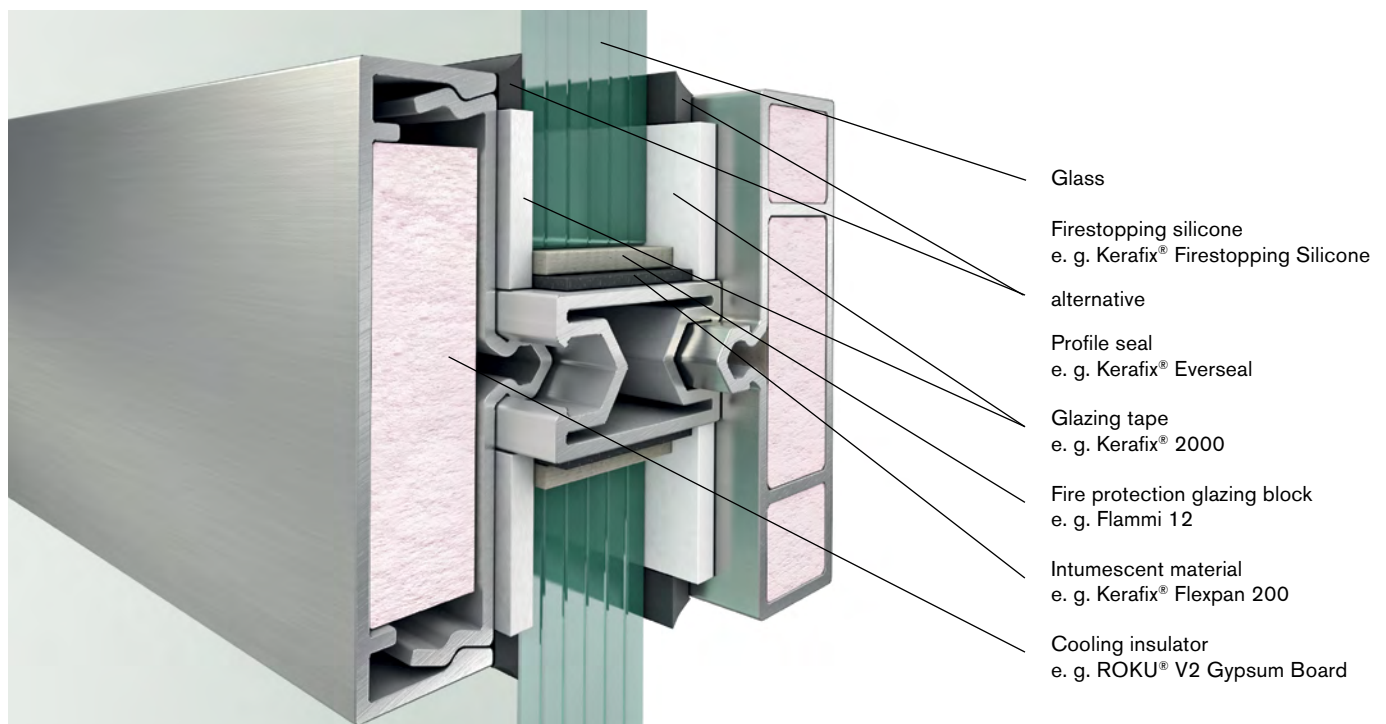
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# Fire protection glazing – a definition.

Modern architecture without glass construction? An unimaginable idea. Glass is a very convincing building material due to its broad application, material advantages and visual appearance, whether for outside constructions like façades and roofs or inside use.

Fire protection glass alone is not effective enough against fire and heat and does not offer sufficient protection. Therefore, professionals are required in order to find best solutions out of the combination of the three building elements fire protection glass, fire protective frames and fire protection accessories.



**The better the alignment of the building elements the safer the glass construction.**

The fire protection accessories consist of glazing blocks, sealant strips, silicones and intumescent materials which are used in the frame construction. These elements are suitable for almost every kind of common or more complex glass constructions.



# „All from one hand“ – our responsibility is your advantage.

Over 30 years market experience guide our actions. At this time we adapted our development of fire protection solutions to the needs of our customers. Owing to the production and the distribution on site we deliver everything from a single source.

With the allocation into the different product areas you'll profit of synergy effects, which we present as an variety of custom-made fire protection solutions. The effects of this synergys not least reflected in our modern machinery park which allows us to manufacture products for fire protection glazing in nearly every possible customized way.



The factory of the Rolf Kuhn GmbH in Erndtebrück.



Kerafix® 2000 classic

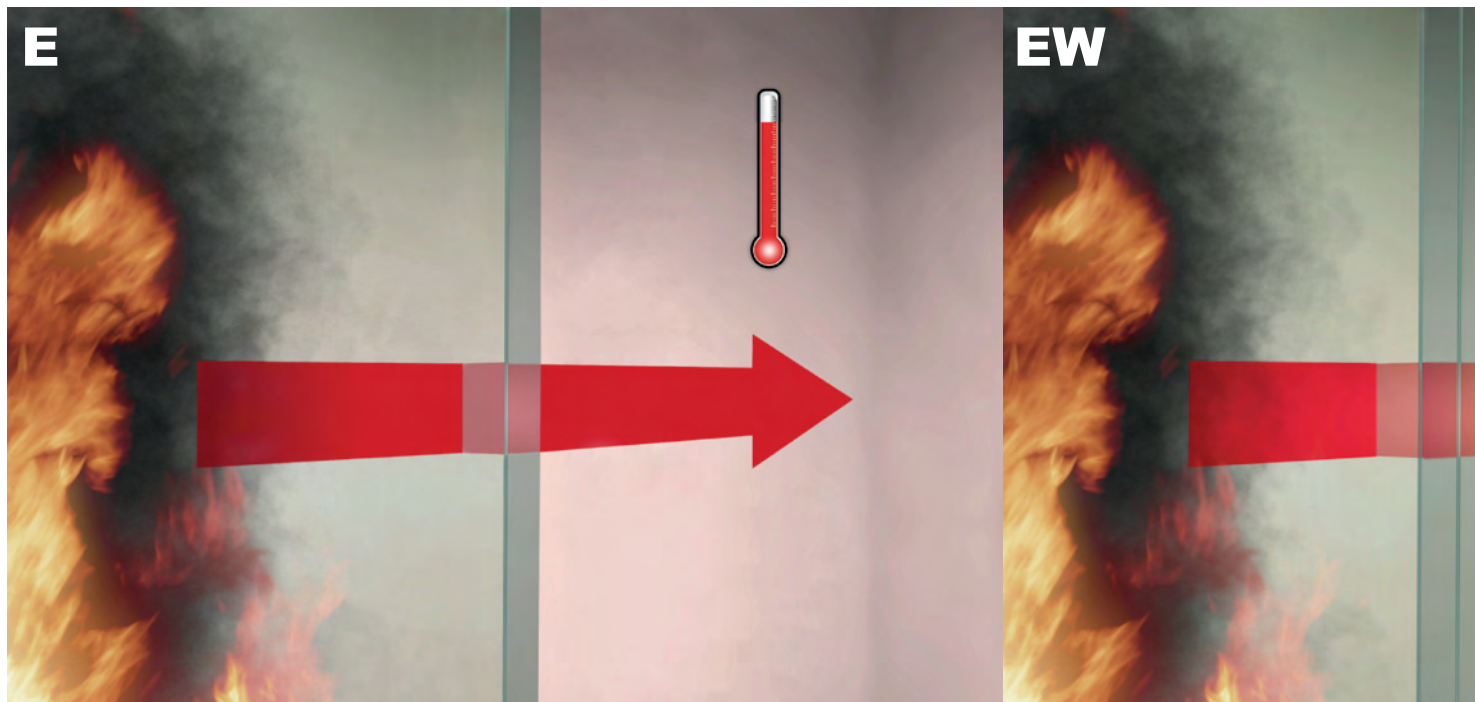


Customized cutting machine for insulation materials



Storage of Kerafix® 2000

# Functionality and classification of



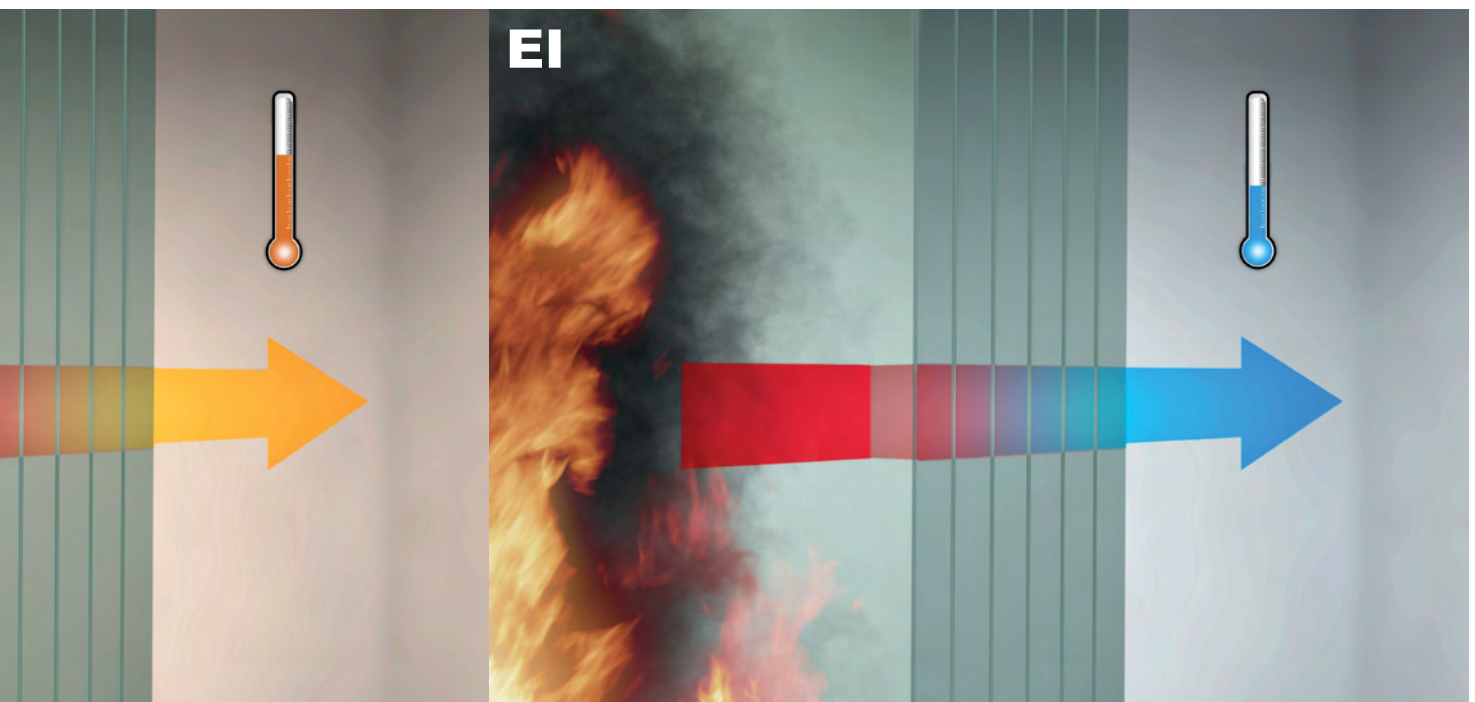
E = Enclosing function. No flames or combustible gases on the unexposed face.

EW = Reduction of radiation. EW offers an additional passage of heat radiation.

The classification of fire protection glazings is determined according to DIN EN 13501-1. There are three different categories which define the ability of a building component with an enclosing function to withstand a fire according to a determined time.

The fire classification rating is tested in a test laboratory and eventually documented by an approval certificate. This approval certificate contains all provisions for the installation of a building component and its construction.

# fire protection glazing materials.



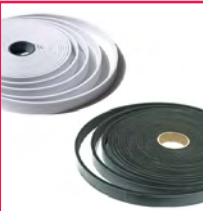

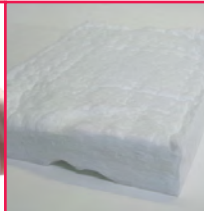

tional effect compared to E due to its reduced

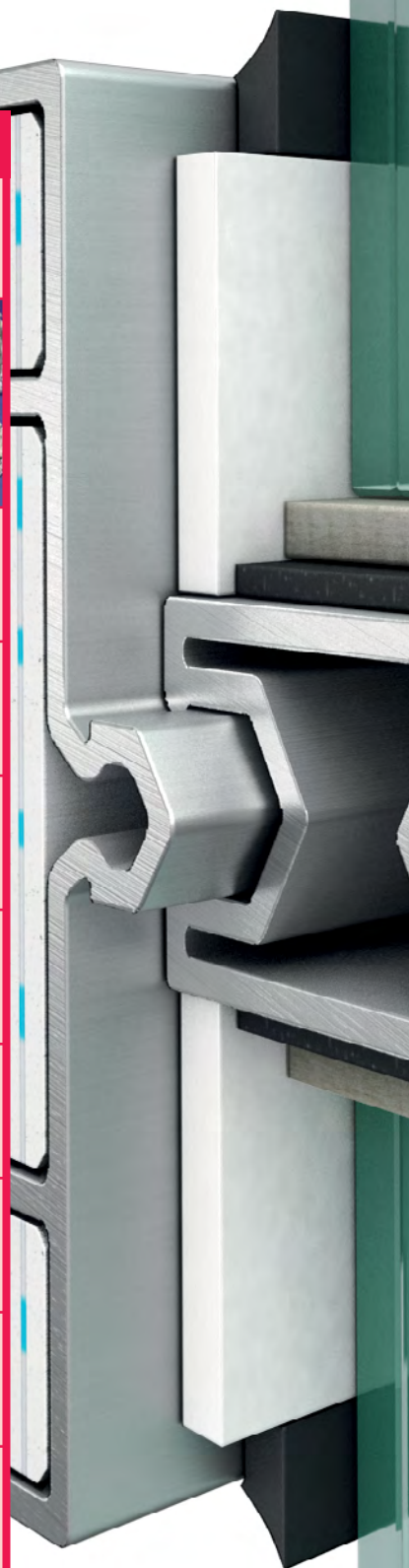
EI = Insulation. Besides the integrity against fire, smoke and hot gases a thermal insulation is provided.

## More research. More control. Much more safety.

In order to keep up with the most recent developments of economic processes and reliable materials, our employees are maintaining a permanent contact with the most important manufacturers of the glass industries. In laboratories with special furnaces we are imitating fire situations and thus amplify our know-how continuously.



# Insulation materials



PRODUCT NAME	Kerafix® 2000 classic	Kerafix® 2000 premium	Kerafix® 2000 Matte	Kerafix® 2000 Wolle
PRODUCTS				
OFFICIAL VERIFICATION	P-3074/3439-MPA BS	P-3074/3439-MPA BS	–	–
BUILDING MATERIAL CLASSIFICATION	B2 as to DIN 4102-1 E as to DIN EN 13501-1	B2 as to DIN 4102-1 E as to DIN EN 13501-1	A1 as to DIN 4102-1	–
MATERIAL STRUCTURE	Soft roll material	Soft roll material	Soft plate material	Finely or coarsely hackled, soft material
GROSS DENSITY [kg/m³]	200 up to 240	200 up to 240	128 [(±10 %) at 25 mm]	–
TEMPERATURE ENDURANCE [°C]	1200	1200	1200	1200
MELTING POINT [°C]	From approx. 1330	From approx. 1330	From approx. 1330	From approx. 1330
TENSILE STRENGTH [N/mm²]	From approx. 0,35	From approx. 0,35	Approx. 0,07	–
THERMAL CONDUCTIVITY [W/mK]	0,057	0,057	–	–
COLOUR	White, black	White	White	White
SPECIAL FEATURES	Biodegradable glazing tape	Biodegradable glazing tape with insidelying self-adhesive tape	Thermal insulation for different applications	Excellent form-properties with moisture








# Reactive products



PRODUCT NAME	Kerafix® Everseal P N (based on PVC)	Kerafix® Everseal T N (based on TPE)
PRODUCTS		
OFFICIAL VERIFICATION	–	Z-19.11-2068
BUILDING MATERIAL CLASSIFICATION	E as to DIN EN 13501-1	B2 as to DIN 4102-1 E as to DIN EN 13501-1
MATERIAL STRUCTURE	Soft flexible material	Soft flexible material
GROSS DENSITY [kg/m³]	980 (±10 %)	980 (±10 %)
START EXPANSION TEMPERATURE [°C]	From approx. 220	From approx. 220
EXPANSION RATE [x-times]	3 up to 6,5-times (450 °C; 30 Min; without load)	3 up to 6,5-times (450 °C; 30 Min; without load)
EFFECT DIRECTION	Three-dimensional	Three-dimensional
INFLATABLE BODY	Solid stable char	Solid stable char
PRESSURE [N/mm²]	–	–
THERMAL CONDUCTIVITY [W/mK]	0,189	0,166

Kerafix® Flexlit	Kerafix® Expanding Paper N
	
Z-19.11-1759 ETA-13/0237	Z-19.11-1506
B2 as to DIN 4102-1 E as to DIN EN 13501-1	B2 as to DIN 4102-1
Soft roll material	Soft roll material
620 [(±8 %) at 5 mm]	800 (±10 %)
From approx. 350	From approx. 200
2 up to 5,5-times (400 °C; 30 Min; with load)	9 up to 17-times (450 °C; 30 Min; with load)
Three-dimensional	Flat
Soft cohesive char	Soft cohesive char
–	Minimum 0,25
0,057	–



For more information about our reactive products please look at our brochure „Fire Protection Components“.

# Pasty building materials

PRODUCT NAME	Kerafix® Firestop Putty	ROKU® 1000/1100 Sealant	ROKU® AC Sealant
PRODUCTS			
OFFICIAL VERIFICATION	Z-19.11-1746 ETA-13/0666	Z-19.11-1193	Z-19.11-1941
BUILDING MATERIAL CLASSIFICATION	B2 as to DIN 4102-1 E as to DIN EN 13501-1	B2 as to DIN 4102-1	B2 as to DIN 4102-1
MATERIAL STRUCTURE	Pasty material	Pasty material	Pasty material
GROSS DENSITY [kg/m³]	1390 (±10 %)	1250 (±10 %)	1360 to 1840
START EXPANSION TEMPERATURE [°C]	From approx. 140	From approx. 185	From approx. 200
EXPANSION RATE [x-times]	14,5 up to 20-times (450 °C; 30 Min; without load)	6 up to 10-times (550 °C; 30 Min; with load)	1,9 up to 5-times (400 °C; 30 Min; without load)
EFFECT DIRECTION	Three-dimensional	Three-dimensional	Flat
INFLATABLE BODY	Solid char	Solid char	Solid char
PRESSURE [N/mm²]	Minimum 0,8	Minimum 0,3	–
PH VALUE	–	6,5 to 7	–

Kerafix® Firestopping Silicone
 
P-HFM 00 4 147 U.S. Coast Guard 164.112/EC0736/ 118.292
B1 as to DIN 4102-1
Pasty material
Approx. 1000 (transparent); 1250 (coloured) (±15 %)
–
–
–
–
–

# Glazing blocks

PRODUCT NAME	Flammi 12	Flammi 22
PRODUCTS		
OFFICIAL VERIFICATION	–	–
BUILDING MATERIAL CLASSIFICATION	E as to DIN EN 13501-1	A1 as to DIN 4102-1
MATERIAL STRUCTURE	Solid material	Solid material
GROSS DENSITY [kg/m³]	790 up to 1120	Approx. 870 (±10 %)
TEMPERATURE ENDURANCE [°C]	1100	1000
START EXPANSION TEMPERATURE [°C]	–	–
EXPANSION RATE [x-times]	–	–
TENSILE STRENGTH [N/mm²]	3,5	–
THERMAL CONDUCTIVITY [W/mK]	–	–
SPECIAL FEATURES	Without artificial mineral fibres	Made of non-combustible mineral fibre-free material

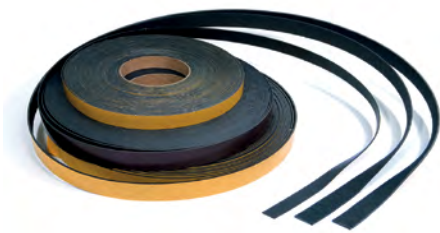




# Custom-built solutions for fire

## Intumescent Materials

Higher requirements on the different fire protection glazings have been leading to a more frequent implementation of intumescent materials in glazing constructions.



Thus, the constructions benefit from a reduced passage of heat and higher mechanical stability. Due to their different technical performance, the great number of different intumescent materials such as Kerafix® Flexpress 100, Kerafix® Flexpan 200 or Kerafix® FXL 200 allows a comprehensive variety of applications.

Please contact us for more information and ask for our brochure "Fire Protection Components":  
[www.kuhn-brandschutz.com](http://www.kuhn-brandschutz.com) or [info@rolfkuhnmbh.com](mailto:info@rolfkuhnmbh.com)

## Accessories for ROKU® Round Glazing System GH1

For high quality doors the appearance plays an important role. The ROKU® glazing rings meet highest requirements due to their seamless joint manufacturing. The whole system is accomplished by integrated rubber profiles allowing a perfect fitting. The accessories for the ROKU® Round Glazing System GH1 comprise round glazings in different sizes, rubber profiles in different cross-sections, screws and nuts.

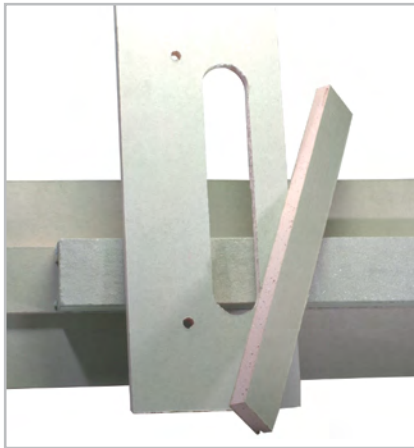
Please contact us for more information and ask for the technical data sheet:  
[www.kuhn-brandschutz.com](http://www.kuhn-brandschutz.com) or [info@rolfkuhnmbh.com](mailto:info@rolfkuhnmbh.com)





# protection glazings

## Customized punched parts



For all sorts of fire protection applications we offer customized punched parts. Precise cuttings in almost every manufacture makes our building and plate materials to an convincing alternative on the market.

Depending on the field of application the punch parts are manufactured of intumescent materials e.g. Kerafix® Flexpan 200, plate materials e.g. ROKU® V4 Gypsum Board or cooling insulators e.g. Kerafix® Coolmax.

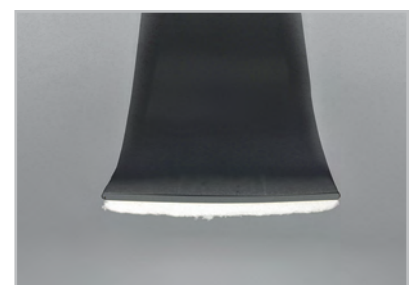


## Special sandwich elements

For special constructions we offer various combinations of different products as sandwich elements, also available with adhesives.

Thus, the advantages of the compressible Kerafix® 2000 may be combined with the technical features of intumescent materials.

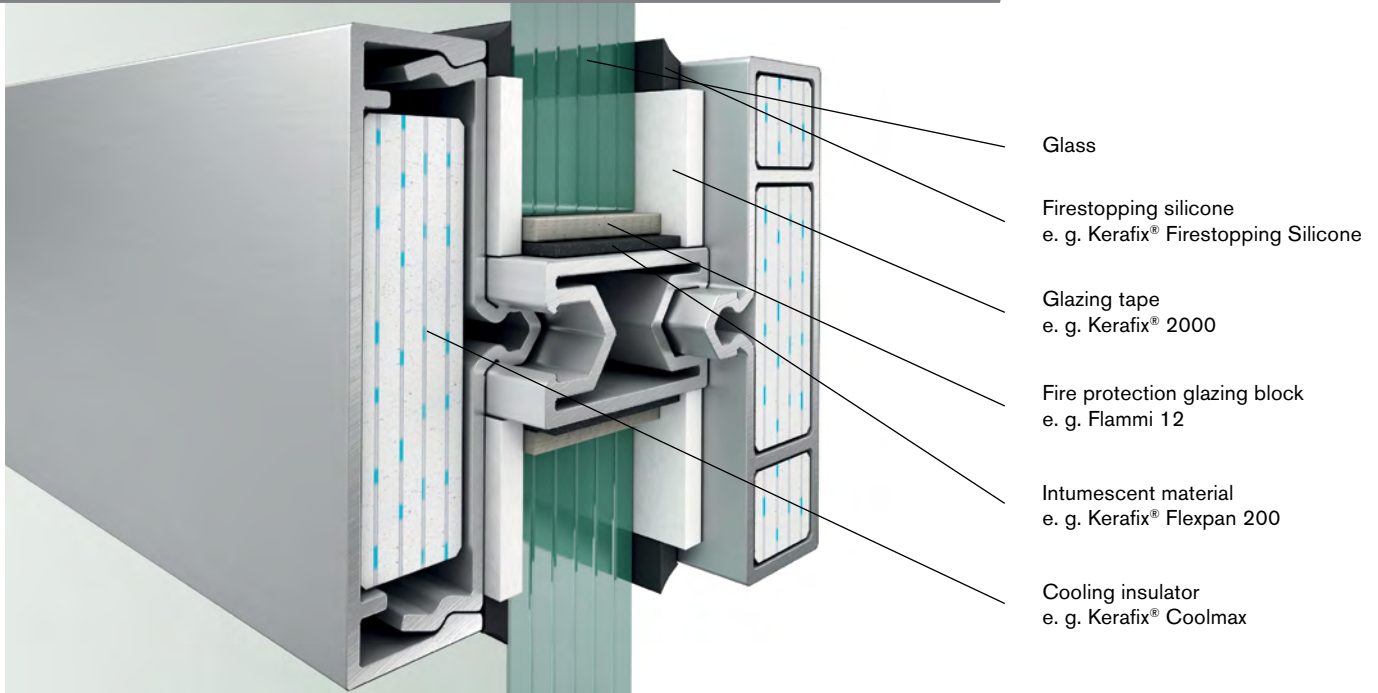
Sandwich elements are available in different product combinations depending on the requirements on the building components.



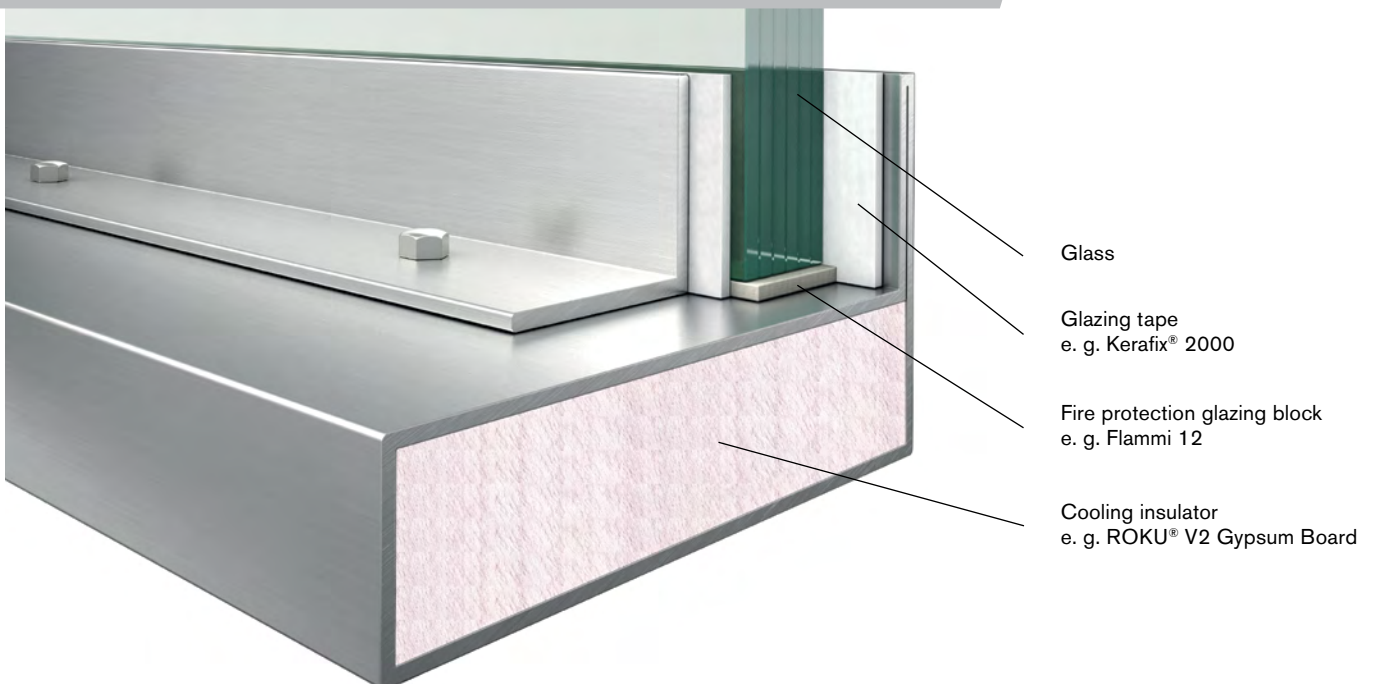
# Examples for fire protection glazings

The illustrations show the constructions schematically. Only a fire test may proof the functionality of a construction.

## EI 90 Fire glazing steel girder



## EI 60 Fire glazing steel girder



## EI 90 Fire glazing wood girder

Glass

Firestopping silicone  
e. g. Kerafix® Firestopping Silicone

Glazing tape  
e. g. Kerafix® Flexlit

Fire protection glazing block  
e. g. Flammi 12

Intumescent material  
e. g. Kerafix® Flexpan 200



## EI 30 Fire glazing wood girder

Glass

Firestopping silicone  
e. g. Kerafix® Firestopping Silicone

Glazing tape  
e. g. Kerafix® 2000

Fire protection glazing block  
e. g. Flammi 12

Intumescent material  
e. g. Kerafix® Flexpress 100



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