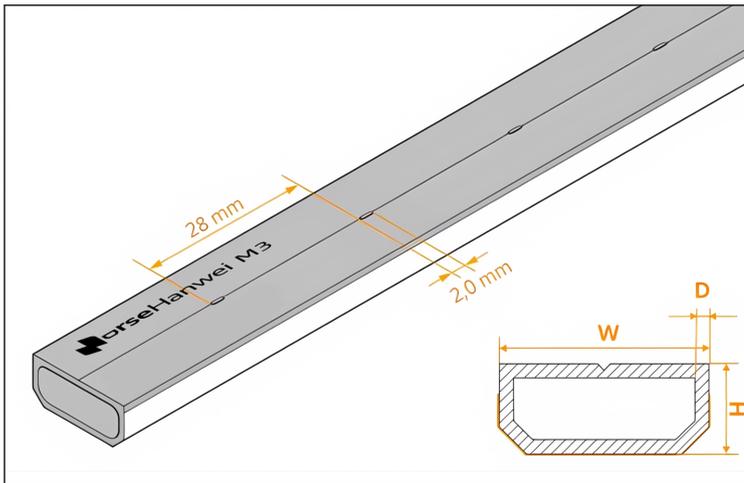


# NorseSpacer

## M3-ABS Glass Fiber

### Product data sheet

With its outstanding thermal performance, the NorseSpacer M3 spacer bar is one of the best warm edge products on the market. Thanks to the sophisticated material composition of ABS and glass fibres, NorseSpacer M3 has a high degree of elasticity with special advantages for processing – and at the same time ensures the required stability for the spacer bar frame. The optimally coordinated design of material, geometry, perforation and film also delivers maximum certainty about the functionality of the insulating glass units, in particular as regards the lifespan.



### DIMENSIONS

Sizes	H[mm] +/-0.15	W[mm] +/-0.15	D[mm] +/-0.15
6A	6.5	5.5	1.0
8A	6.5	7.5	1.0
9A	6.5	8.5	1.0
10A	6.5	9.5	1.0
11A	6.5	10.5	1.0
12A	6.5	11.5	1.0
13A	6.5	12.5	1.0
14A	6.5	13.5	1.0
15A	6.5	14.5	1.0
16A	6.5	15.5	1.0
18A	6.5	17.5	1.0
19A	6.5	18.5	1.0
20A	6.5	19.5	1.0
22A	6.5	21.5	1.0
24A	6.5	23.5	1.0
27A	6.5	26.5	1.0

### EFFICIENT PROCESSING OPTIONS FOR EVERY REQUIREMENT



 Welded corner    
  Push-fit corner    
  Rounded corner

### ACCESSORIES

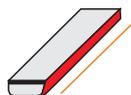


NorseSpacer M3 can be processed with various methods entirely to suit individual requirements. Apart from classic frame manufacture by hand, automated processing using welding systems or bending machines is also possible. As you would expect, curves and various special shapes can also be made. Our portfolio also includes the necessary accessories.

### COLORS



## Specification / Test method



5000 mm 6000mm +10/0 mm  
Measuring tape



The stomatal distribution  
is uniform, and the air  
pressure difference is  $>0.1\text{Mpa}$   
JC/T 2453-2018 6.5



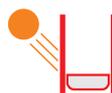
**Rectitude from production**  
Sideways max. 5 mm/m  
Up/down max. 10 mm/m



$<0.3\%$   
Test at ift Rosenheim according  
to EN 1279-4:2018 Annex H



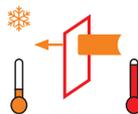
$\leq 13\text{kg}$   
Dynamometer



**No significant color change  
after 4000 h**  
EN ISO 4892-2 CSTB certified  
(French DTA)



**The distortion value is not  
greater than 1.0mm**  
JC/T 2453-2018 6.2



$\lambda_{eq} = 0.15\text{W}/(\text{m}\cdot\text{K})$   
The equivalent thermal conductivity has been  
determined in accordance with the ift guideline  
WA-17 eng/1 "Thermally Improved Spacers –  
Determination of the Equivalent Thermal  
Conductivity by Measurement".

## PSI values comparison

Window system W/m <sup>2</sup> K	Wood 1.4-1.3	Plastic 1.2	Wood + aluminium 1.4	Aluminium 1.6	
<b>Glazing</b>	<b>Double  triple glazing</b>				
<b>NorseSpacer M3-ABS Glass Fiber</b>	$\psi$ value	0.031   0.029	0.032   0.030	0.032   0.030	0.036   0.031
	$U_w$ Window	1.27   0.95	1.21   0.90	1.28   1.00	1.36   1.09
	Temperature factor $f_{RSI}$	0.66   0.74	0.68   0.73	0.63   0.71	0.69   0.76
	Surface temp. $T_o$ at $-10\text{C}^\circ, +20\text{C}^\circ$	11.4   13.4	12.0   13.3	10.7   12.8	12.4   14.1

Double glazing insulating glass unit: 4-16-4 ( $U_w = 1.1\text{ W}/\text{m}^2\text{K}$ )  
Triple glazing insulating glass unit: 4-12-4-12-4 ( $U_w = 0.7\text{ W}/\text{m}^2\text{K}$ )  
Source: ift Rosenheim WA-08/3 (Warm Edge working group)/ BF window data sheets

## Standard packaging profiles and accessories NorseSpacer M3-ABS Glass Fibers

PROFILES by 5 and 6 meters Bars					ACCESSORIES					
Product	Sizes	Width in mm	Cardboard boxes		Product	Sizes	Width in mm	Cardboard boxes		
			5 meters	6 meters				Plastic Corner	Plastic Straight Plug	Gas Corner Keys
NorseSpacer M3-ABS Glass Fibers	6A	5.5	1870	2244	Accessories for NorseSpacer M3-ABS Glass Fibers (Pieces for box)	6A	5.5	2000	2000	2000
	8A	7.5	1320	1584		8A	7.5	2000	2000	2000
	9A	8.5	1100	1320		9A	8.5	2000	2000	2000
	10A	9.5	1100	1320		10A	9.5	2000	2000	2000
	11A	10.5	880	1056		11A	10.5	2000	2000	2000
	12A	11.5	880	1056		12A	11.5	2000	2000	2000
	13A	12.5	770	924		13A	12.5	2000	2000	2000
	14A	13.5	770	924		14A	13.5	2000	2000	2000
	15A	14.5	660	792		15A	14.5	2000	2000	2000
	16A	15.5	660	792		16A	15.5	2000	2000	2000
	18A	17.5	550	660		18A	17.5	2000	2000	2000
	19A	18.5	550	660		19A	18.5	2000	2000	2000
	20A	19.5	525	630		20A	19.5	2000	2000	2000
	22A	21.5	450	540		22A	21.5	2000	2000	2000
	24A	23.5	450	540		24A	23.5	2000	2000	2000
27A	26.5	350	420	27A	26.5	2000	2000	2000		

The cardboard boxes for 5 m profiles measure: 510 x 16x 11(H) cm.  
The cardboard boxes for 6 m profiles measure: 610 x 16x 11(H) cm.

Sizes	Content [g/m] +/-10% Desiccant 0.5-0.9 mm grain	Connector		
		Plastic Corner (DP *)	Plastic Straight Plug (DP *)	Gas Corner Keys
6A	16			
8A	18			
9A	23			
10A	25			
11A	29			
12A	31			
13A	34			
14A	38			
15A	42			
16A	45			
18A	52			
19A	58			
20A	55			
22A	65			
24A	72			
27A	82			

\*DP = Desiccant passage

All connectors are plastic plug-in corners, with no channels for desiccant flow after filling.  
Note that there will be a difference in pull force between preinserted- and direct inserted connectors.

## PERFORMANCE CHARACTERISTICS

- Completely non-metallic material with ultra-low thermal conductivity  $\lambda_{eq}=0.15W/(m \cdot k)$ , effectively blocking heat transfer, is the best choice for passive rooms.
- Greatly reduce condensation, prevent mold growth, and make living more comfortable.
- Good flatness, not easy to deform, and easy to process.
- Excellent flame retardancy and noise reduction performance can effectively improve building safety and quality of life.
- Suitable for conventional processes such as corner insertion, welding, heating and bending.
- Excellent weather resistance, can adapt to different climate conditions.
- Has a wide range of secondary compatibility, Such as polysulfide sealant, silicone sealant, silicone structure sealant, butyl sealant .

## QUALITY ASPECTS

### Quality management

EN ISO 9001 for quality

### Tests of the product

Processes and routines are established to secure the quality of the delivered material. During production the spacers are continuously monitored through systematic and random checks. Data will be available for a period of 15 years.

### Full filing external demands according to:

- EN 1279
- Swiss standard SGS

## CUSTOMER FOCUS AND WARRANTY

On all spacers we offer a 15 years' product warranty. The warranty covers free exchange of spacers in case of a defect .The warranty does not cover any other cost than the mere exchange of the defect spacers, and the warranty expressly does not cover installation of the spacers. The spacers must have been stored, installed and used according to present norms and technical standards. Special solutions and usage that are not standardized will need prior approval in writing from us in order to be covered. Related to temperature standardized condition for IG is  $-30^{\circ}C/+70^{\circ}C$ .

### Storage and use

To secure the performance of the spacers, the stock conditions must be acceptable. Broken packaging, humidity and variation in temperature will have an effect on the spacer in general Make sure the spacer is conditioned at room temperature before use.

Preferred conditions will be temperatures over  $15^{\circ}C$  and humidity RH of minimum 45%. Avoid having an environment with high concentration of dust.General handling and attention according to safety data sheet for the spacer. Use gloves when handling the spacer/frames and make sure there is exhausting when cutting the spacer.System performance

The user (the IG producer) must secure the whole system consisting of spacer, connector/corner key, bending machine,desiccant, butyl and sealant works well together in the chosen setup. Focus an compatibility, adhesion, dust and corner quality.

After handling and transport of the frames, it's important to check if the connector/corner keys are still in the correct position, if not there is a significant risk for desiccant dust inside the IG unit. Foam behind the connector/corner can be used to avoid such problems.

### Cleaning the plastic surface

If for some reason, the plastic surface is defiled by dust from other materials it can be cleaned again by use of water or air. Dust can easily be removed with antistatic loaded compressed air or a moist cloth Solvent based cleaners are not recommended, but if used, it is recommended to test influence on products.

It is recommended to investigate and control all the specific points above.



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