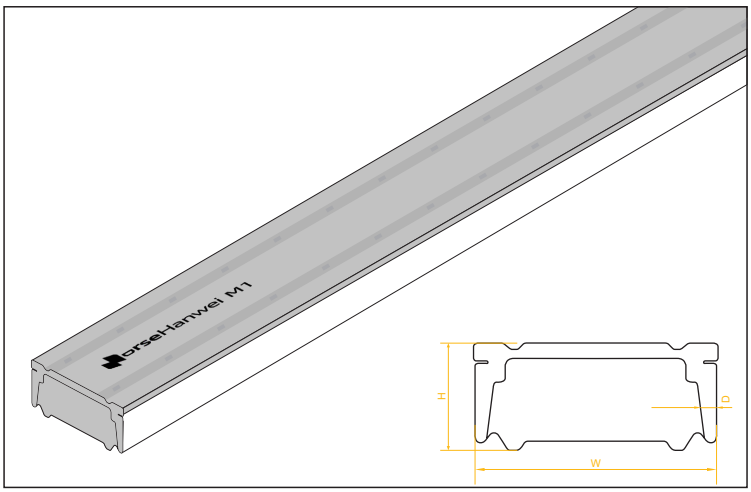
NorseHanwei

NorseSpacer

M1-AGR Composite

Product data sheet

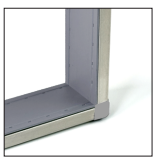
With its outstanding thermal performance, the NorseSpacer M1 spacer bar is one of the best warm edge products on the market. Thanks to the sophisticated material composition of AGR and stainless steel materials, NorseSpacer M1 has a high degree of elasticity with special advantages for processing – and 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.



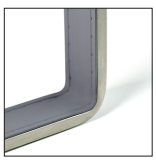
DIMENSIONS

Sizes	H[mm] +/-0.15	W[mm] +/-0.15	D[mm] +/-0.15
6A	6.5	6	0.9
8A	6.5	7.5	0.9
9A	6.5	8.5	0.9
10A	6.5	9.5	0.9
11A	6.5	10.5	0.9
12A	6.5	11.5	0.9
13A	6.5	12.5	0.9
14A	6.5	13.5	0.9
15A	6.5	14.5	0.9
16A	6.5	15.5	0.9
18A	6.5	17.5	0.9
19A	6.5	18.5	0.9
20A	6.5	19.5	0.9
22A	6.5	21.5	0.9
24A	6.5	23.5	0.9
27A	6.5	26.5	0.9

EFFICIENT PROCESSING OPTIONS FOR EVERY REQUIREMENT



Push-fit corner



Rounded corner

ACCESSORIES

NORSESPACER PLASTIC CORNER

NORSESPACER GAS CORNER KEYS

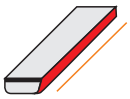
NORSESPACER BLACK PLUG-IN

NorseSpacer M1 can be processed with various methods entirely to suit individual requirements. Apart from classic frame manufacture by hand, automated processing using 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.

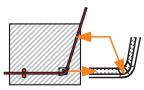
COLORS

Traffic white RAL9016	Light grey RAL7035	Window grey RAL7040	Clay brown RAL8003	Mahogany brown RAL8016	Black RAL9004

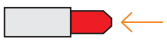
Specification / Test method



5000 mm 6000mm +10/0 mm
Measuring tape



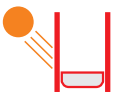
After bending, there is no rupture in the bending part
JC/T 2453-2018 6.4



≤13kg
Dynamometer

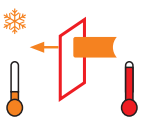
<0.05%
Test at ift Rosenheim according to EN 1279-4:2018 Annex H

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



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

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



λ_{eq}=0.28W/(m•K)
The equivalent thermal conductivity has been determined in accordance with the ift guideline WA-17 engl/1 “Thermally Improved Spacers – Determination of the Equivalent Thermal Conductivity by Measurement”.

PSI values comparison

Window system W/m²K		**Wood** 1.4-1.3	**Plastic** 1.2	**Wood + aluminium** 1.4	**Aluminium** 1.6
Glazing		**Double |triple glazing**			
NorseSpacer M1-AGR Composite	ψvalue	0.040 I 0.039	0.040 I 0.038	0.044 I 0.042	0.049 I 0.044
	U_wWindow	1.29 I 0.98	1.23 I 0.92	1.31 I 1.03	1.39 I 1.12
	Temperature factor f_{RSi}	0.62 I 0.70	0.65 I 0.70	0.59 I 0.59	0.66 I 0.73
	Surface temp. T_{oi}at-10C°,+20 C°	10.6 I 12.5	11.3 I 12.9	9.7 I 11.9	11.5 I 13.3

Double glazing insulating glass unit: 4-16-4 (Uw = 1.1 W/m²K)
Triple glazing insulating glass unit: 4-12-4-12-4 (Uw = 0.7 W/m²K)
Source: ift Rosenheim WA-08/3 (Warm Edge working group)/ BF window data sheets

NorseHanwei

Standard packaging profiles and accessories
NorseSpacer M1-AGR Composite

PROFILES by 5 and 6 metersBars				
Product	Sizes	Width in mm	Cardboard boxes	
			5 meters	6 meters
NorseSpacer M1-AGR Composite	6A	6	1650	1980
	8A	7.5	1320	1584
	9A	8.5	1100	1320
	10A	9.5	1100	1320
	11A	10.5	880	1056
	12A	11.5	880	1056
	13A	12.5	770	924
	14A	13.5	770	924
	15A	14.5	660	792
	16A	15.5	660	792
	18A	17.5	550	660
	19A	18.5	550	660
	20A	19.5	525	630
	22A	21.5	450	540
	24A	23.5	450	540
	27A	26.5	350	420

ACCESSORIES					
Product	Sizes	Width in mm	Cardboard boxes		
			Plastic Corner	Gas Corner Keys	Black Plug-in
Accessories for NorseSpacer M1-AGR Composite (Pieces for box)	6A	6	2000	2000	5000
	8A	7.5	2000	2000	5000
	9A	8.5	2000	2000	5000
	10A	9.5	2000	2000	5000
	11A	10.5	2000	2000	5000
	12A	11.5	2000	2000	5000
	13A	12.5	2000	2000	5000
	14A	13.5	2000	2000	5000
	15A	14.5	2000	2000	2500
	16A	15.5	2000	2000	2500
	18A	17.5	2000	2000	2500
	19A	18.5	2000	2000	2500
	20A	19.5	2000	2000	2500
	22A	21.5	2000	2000	2500
	24A	23.5	2000	2000	2500
	27A	26.5	2000	2000	2500

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 *)	Gas Corner Keys	Black Plug-In
6A	18			√
8A	20			√
9A	25			√
10A	29			√
11A	33			√
12A	36			√
13A	41			√
14A	45			√
15A	49			√
16A	52			√
18A	60			√
19A	64			√
20A	68			√
22A	76			√
24A	84			√
27A	89			√

*DP = Desiccant passage

The plastic plug corner of the connector lacks a drying agent flow channel after filling, while the black straight plug-in is basically U-shaped with passage for flow of desiccant during after filling.
Note that there will be a difference in pull force between preinserted- and direct inserted connectors.

PERFORMANCE CHARACTERISTICS

- The heat conduction coefficient is as low as λ_{eq}= 0.28 w/(m · K) , which is the best choice for passive housing.
- Greatly reduce the phenomenon of dew, prevent the growth of mold, so that more comfortable living.
- The 0.1 mm stainless steel sheet can effectively block water vapor.
- Excellent flame retardant, noise reduction performance, can effectively improve building safety and quality of life.
- Excellent bending performance, can be applied to conventional automatic cold bending, to meet the production process of any bending angle requirements.
- 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°C/+70°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°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.

HENAN WARM EDGE ENERGY SAVING TECHNOLOGY DEVELOPMENT CO., LTD.

Add：No.1 Village North, Mizhuang Village, Gudan Town, Mengzhou City, Henan , China
Tel：+86 15036511234 | +86 18530031620
Email：yilin@norsespacer.com | liningning@hnnbjskf.com
https://norsespacer.com | https://hnglsnewmaterial.en.made-in-china.com
http://www.hnnbjskf.com