

# MS SCREEN BOND HD

## DESCRIPTION

MS Polymer based adhesive with a very high green strength. For bonding windscreens to heavy duty vehicles (buses, trucks, trains, boats, tractors, construction vehicles, caravans, etc.) Crash tested according to FMVSS212 (TÜV Süd) after 1 h with double airbags.

## PROPERTIES

- Very high Green strength (high initial strength).
- Due to its high green strength clamping times can often be reduced or not needed anymore.
- Free of isocyanates, PVC and solvents.
- Very good UV-resistance and ageing properties.
- In general good adhesion on several substrates without the use of a primer.
- Have low conductivity that reduces interference on GPS, radio, mobile phone and other integrated components in the screen.
- Permanent elastic within temperatures from -40°C till +100°C.
- Neutral, odourless and fast curing.
- Paintable after skin forming (wet on wet); this will not influence the curing speed.
- Paintable with most paint systems when the surface is dry after approximately 10 minutes.
- Makes windscreen installations simpler, quicker, safer and more efficient than traditional PU products.
- Crash tested according to FMVSS212 (TÜV Süd) after 1 h.

## FIELD OF APPLICATION

- Provides an elastic adhesive and sealing joint that is ideal for assembly of glass for various vehicles.
- Bonding of windows in heavy duty vehicles.
- Elastic bonding and sealing in e.g. bus-, train-, caravan-, camper and truck construction.
- General bonding applications where a very high green strength and fast strength build up is required.
- Can be extruded with a hand- or air pressure gun at temperatures between +5°C and 35°C.

**MS SCREEN BOND HD – MSH – 149****Art.no. 15456-2, 15458-1,**

Signature: JH

Date: 2021-12-29

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# MS SCREEN BOND HD

## USER INSTRUCTIONS

Recommended pressure in Air-gun is 3-4 bars.

Always follow vehicle manufacturer information about width and height on the adhesive when used for windscreen replacement.

In bonding applications the substrates have to be assembled within 15 minutes (at 20°C/50%R.H.) after MS Screen Bond HD. The higher the temperature, the shorter the open time will be. In sealing applications MS Screen Bond HD should be tooled or smoothed within 10 minutes (at 20°C/50%R.H.) with a spatula or putty knife, occasionally moistened with a soap solution. Avoid soap solution penetrating between joint sides and sealant, because this will create loss of adhesion.

Used as general adhesive: thickness of 2 mm is recommended if similar materials (similar stiffness's) are bonded. The larger the difference in thermal expansion is, the thicker the adhesive bead should be.

At 20°C and 50% R.H MS Screen Bond HD can be painted with the most industrial paints already 10 minutes after application. Best adhesion of paint coats is generally obtained if painted within 4 hours after applying MS Screen Bond HD.

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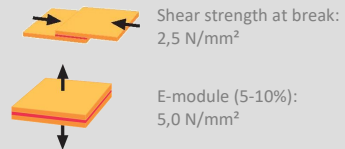
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# MS SCREEN BOND HD

## TECHNICAL DETAILS

<b>Colour</b>	Black
<b>Packaging</b>	290 ml cartridge. Art.no. 15456-2 600 ml sausage. Art.no. 15458-1
<b>Accessories:</b>	V-nozzle cartridge: Art.no. 15472-1 V-nozzle sausage: Art.no. 15452 Alu Gun: Art.no 15264
<b>Odour</b>	mild.
<b>Curing speed after 24h at 20°C and 50%RH</b>	3,5 mm
<b>Skin forming time at 20°C and 50%RH</b>	Ca 10 min
<b>Time for fixation at 20°C and 50%RH</b>	Separate document
<b>Open time at 20°C/50%R.H.</b>	<15 min.
<b>Specific gravity</b>	~1,4 g/ml
<b>VOC directive 2010/75/EU</b>	0 %
<b>Elastic recovery</b>	>70 %
<b>Volume change DIN 52451</b>	<3 %
<b>Shelf life unopened at +5°C to +30°C</b>	18 months (cartridge). 15 months (sausage).
<b>Elongation at break (DIN 53504/ISO 37)</b>	300%.
<b>Shear stress at break (DIN 53283/ASTM D 1002)</b>	2,5 N/mm <sup>2</sup>
<b>Tensile strenght at 100% (DIN 53504/ISO 37)</b>	1,7 N/mm <sup>2</sup>
<b>Tensile strength at break (DIN 53504/ISO 37)</b>	3,2 N/mm <sup>2</sup>
<b>E-Modulus 5-10% (DIN 53504/ISO 37)</b>	5 N/mm <sup>2</sup>
<b>G-modulus</b>	2,0 MPa
<b>Initial strength at 20°C and 50%RH</b>	Ca 3000 Pa
<b>Initial strength 1h at 20°C and 50%RH</b>	Ca 12000 Pa
<b>Hardness Shore A</b>	58
<b>Temperature resist</b>	-40°C to +100°C (200°C for max 10 min).
<b>Application &amp; Surface temperature</b>	+5°C to +35°C
<b>Certificates &amp; Registrations:</b>	GREEN WORLD, BASTA, TÜV SÜD Crash tested FMVSS212 – 1 hour drive away.
<b>Others</b>	In compliance with the legal regulations, please see current Material Safety Data Sheet. <a href="https://veidec.com/en/msds">https://veidec.com/en/msds</a>
<b>Chemical resistance guide</b>	Separate list available.
<b>Bonding guide</b>	See separate instructions (IB) for windscreen replacement.
<b>User Instruction:</b>	Scan QR-code for MSDS, video and information.

### SYMBOLS



### CERTIFICATES/REGISTRATIONS



GREEN WORLD



MS Screen Bond HD is registered by BASTA.



Crash tested according to FMVSS212 – 1 h drive away.



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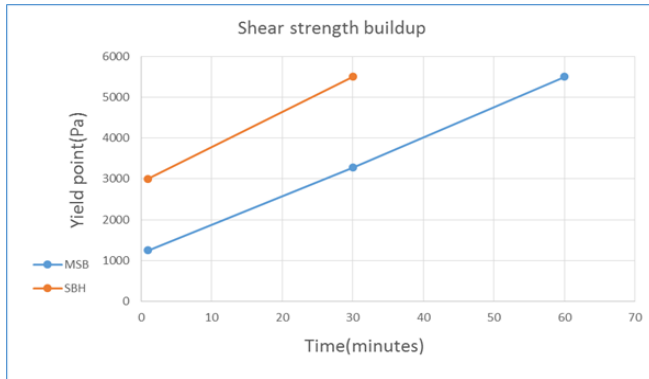
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# MS SCREEN BOND HD



## Fixation, clamping time for MS Screen Bond HD. The Green Strenght.

The chart above shows the shear strenght build up directly after assembly off the window for MS Screen Bond HD (MSH). MSH holds 3000 Pa (N/m<sup>2</sup>) direct and ca 12000 Pa after 1h at 20°C/50RH.

For a windscreen of 2,5 x 1,5 meter (5m+3m) and width of 20mm the total adhesion surfaces are 8,0 x 0,02 meters = 0,16m<sup>2</sup>.

MS Screen Bond HD (MSH) has a initial value of 3000 Pa (48kg at 0,16m<sup>2</sup>) directly at assambly and 192kg (1920N) after 1h. Note! These data shall only be used as information for fixation time and not when the vehicle can be returned to service. These data are produced at 20°C and 50% RH. A lower RH value will lower these data (slower and less strong) but is similar at 20°C and 40-45% RH. At humidity at ≤20RH the curing time and strength build up is very low and can stop. Humidity ≥ 50 % at 20°C accelerate strength the curing time and strength build by 40 % and more. Water or moister can be applied directly on the bead to accelerate curing time even more but if water gets between the surfaces less adhesion will be an unwanted effect. These data is valid regardless if the adhesives are used on old MS, PU or hybrids.

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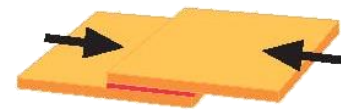
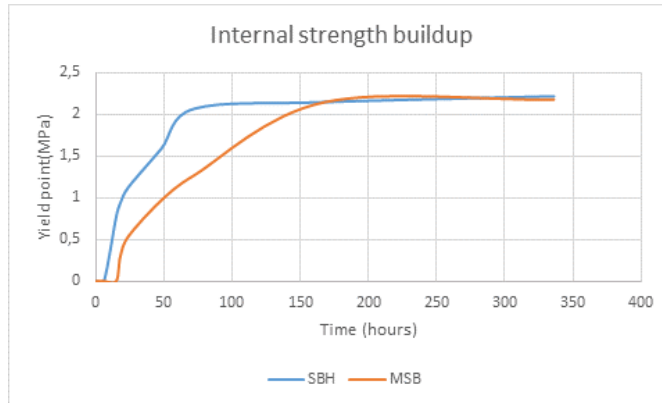
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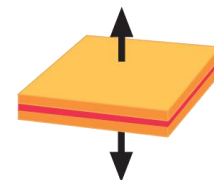
At 20°C och 50% relative humidity, (i.e. 9 gram water/m<sup>3</sup>) with a total adhesion surface of 0,12m<sup>2</sup>, 1MPa ~ 100N/cm<sup>2</sup>

### Shear strength MS Screen Bond HD

Hours	MPa / kg
After 6 hours	0,35 / 5.600kg
After 15 hours	0,78 / 12.480kg
After 18 hours	0,94 / 15.040kg
After 24 hours	1,13 / 18.080kg
After 48 hours	1,59 / 25.440kg
After 72 hours	2,07 / 33.120kg
After 168 hours	2,15 / 34.400kg

### Elastic strength / E-modulus (5-10%)

After 168 hours	5,0 / 80.000kg
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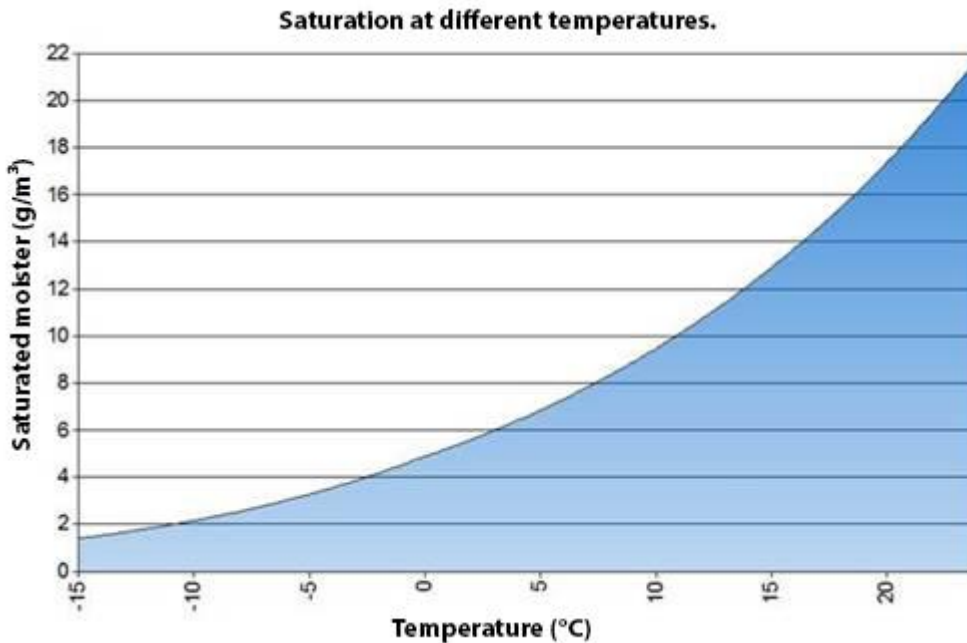
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Maximal amount of water in the form of moisture (gram/m<sup>3</sup>) that the air can carry in different temperatures.

Moister is a measure of the amount of water that is in the air. It can be given as the exact amount of water in g/m<sup>3</sup> that is Absolute humidity. It ranges from roughly 0 to 30 gram / m<sup>3</sup> when the air is saturated (100%) at 30°C.

Moister can also be measured as Relative humidity. That is how much water there is in the air as a percentage of the maximal amount of water the air can carry at the actual temperature. Because different temperatures can carry different amount of water, look at the chart. The relative humidity can vary a lot over a day.

Since there are an upper limit of how much water the air can carry at different temperatures, condensation i.e. water drops will come as a result if this limit is exceeded by adding more moisture or that the temperature gets lower. The total pressure of the air is often around 0,1 MPa.

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