

## HPL type S

Decorative high pressure laminate in standard quality of classification HGS / VGS acc. to EN 438-3.

Made of several impregnated cellulose layers and melamine impregnated decor papers which are pressed together under pressure and heat. The back side is sanded for gluing.

Impregnated design paper with melamine resin

Resin-impregnated sheets

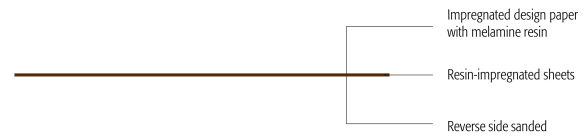
Reverse side sanded

Spezification							Unit	Standard
Nominal thickness	0.6	0.8	1	1.2	1.5	2	mm	
Length	2,750	2,750	2,750	2,750	2,750	2,750	mm	
Width	2,020	2,020	2,020	2,020	2,020	2,020	mm	
Thickness tolerance	± 0.1	± 0.1	± 0.1	± 0.15	± 0.15	± 0.2	mm	EN 438-2
Length tolerance	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	mm	EN 438-2
Width tolerance	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	mm	EN 438-2
Straightness of edges	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	mm/m	EN 438-2
Squareness	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	mm/m	EN 438-2
Flatness (length)	≤ 60	≤ 60	≤ 60	≤ 60	≤ 60	≤ 60	mm/m	EN 438-2
Edge defects	≤ 20	≤ 20	≤ 20	≤ 20	≤ 20	≤ 20	mm	EN 438-3
Surface defects	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	mm <sup>2</sup> /m <sup>2</sup> mm/m <sup>2</sup>	EN 438-3
Density	1,500	1,500	1,500	1,500	1,500	1,500	kg/m <sup>3</sup>	ISO 1183
Density range	± 10	± 10	± 10	± 10	± 10	± 10	%	ISO 1183
Resistance to impact (small diameter ball)	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	N	EN 438-2
Dimensional stability at elevated temperature (length)	≤ 0.55	≤ 0.55	≤ 0.55	≤ 0.55	≤ 0.55	≤ 0.55	%	EN 438-2
Dimensional stability at elevated temperature (width)	≤ 1.05	≤ 1.05	≤ 1.05	≤ 1.05	≤ 1.05	≤ 1.05	%	EN 438-2
Resistance to dry heat / 180 °C (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to dry heat / 180 °C (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2
Resistance to wet heat / 100 °C (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 13986
Resistance to wet heat / 100 °C (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 13986

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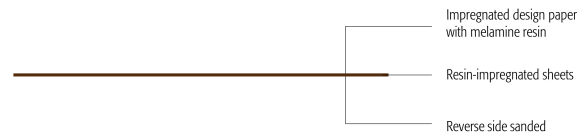


Spezification							Unit	Standard
Nominal thickness	0.6	0.8	1	1.2	1.5	2	mm	
Length	2,750	2,750	2,750	2,750	2,750	2,750	mm	
Width	2,020	2,020	2,020	2,020	2,020	2,020	mm	
Initial wear point (IP)	≥ 150 <sup>4</sup> ≥ 50 <sup>3</sup>	≥ 150 <sup>4</sup> ≥ 50 <sup>3</sup>	≥ 150 <sup>4</sup> ≥ 50 <sup>3</sup>	≥ 150 <sup>4</sup> ≥ 50 <sup>3</sup>	≥ 150 <sup>4</sup> ≥ 50 <sup>3</sup>	≥ 150 <sup>4</sup> ≥ 50 <sup>3</sup>	U	EN 438-2
Wear resistance (WR)	≥ 350 <sup>4</sup> ≥ 150 <sup>3</sup>	≥ 350 <sup>4</sup> ≥ 150 <sup>3</sup>	≥ 350 <sup>4</sup> ≥ 150 <sup>3</sup>	≥ 350 <sup>4</sup> ≥ 150 <sup>3</sup>	≥ 350 <sup>4</sup> ≥ 150 <sup>3</sup>	≥ 350 <sup>4</sup> ≥ 150 <sup>3</sup>	U	EN 438-2
Resistance to abrasion (printed designs)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	class	EN 438-2
Resistance to abrasion (plain colours)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	class	EN 438-2
Resistance to scratching (smooth finishes)	min. 2	min. 2	min. 2	min. 2	min. 2	min. 2	rating	EN 438-2
Resistance to scratching (textured finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Stain resistance (groups 1 & 2)	min. 5	min. 5	min. 5	min. 5	min. 5	min. 5	rating	EN 438-2
Stain resistance (group 3)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2
Resistance to cigarette burns	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to water vapour (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to water vapour (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2
Resistance to immersion in boiling water (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to immersion in boiling water (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2

## HPL type S

Decorative high pressure laminate in standard quality of classification HGS / VGS acc. to EN 438-3.

Made of several impregnated cellulose layers and melamine impregnated decor papers which are pressed together under pressure and heat. The back side is sanded for gluing.



Spezification							Unit	Standard
Nominal thickness	0.6	0.8	1	1.2	1.5	2	mm	
Length	2,750	2,750	2,750	2,750	2,750	2,750	mm	
Width	2,020	2,020	2,020	2,020	2,020	2,020	mm	
Light fastness (xenon arc light)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	grey scale rating	EN 438-2
Calorific value	env. 19	env. 19	env. 19	env. 19	env. 19	env. 19	MJ/kg	ISO 1716
Reaction to fire	normally inflammable	normally inflammable	normally inflammable	normally inflammable	normally inflammable	normally inflammable		DIN 4102-1
Reaction to fire (Euroclass)	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards		EN 13501-1, CWFT
Formaldehyde emission class	E1	E1	E1	E1	E1	E1		EN 717-1

<sup>1</sup> dirt, spots and similar surface defects

<sup>2</sup> fibres, hairs and scratches

<sup>3</sup> smooth finishes

<sup>4</sup> textured finishes

## HPL type S

Decorative high pressure laminate in standard quality of classification HGS / VGS acc. to EN 438-3.

Made of several impregnated cellulose layers and melamine impregnated decor papers which are pressed together under pressure and heat. The back side is sanded for gluing.

Impregnated design paper with melamine resin  
Resin-impregnated sheets  
Reverse side sanded

Spezification							Unit	Standard
Nominal thickness	2.5	3	0.6	0.8	1	1.2	mm	
Length	2,750	2,750	5,500	5,500	5,500	5,500	mm	
Width	2,020	2,020	2,020	2,020	2,020	2,020	mm	
Thickness tolerance	± 0.2	± 0.2	± 0.1	± 0.1	± 0.1	± 0.15	mm	EN 438-2
Length tolerance	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	mm	EN 438-2
Width tolerance	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10	mm	EN 438-2
Straightness of edges	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	mm/m	EN 438-2
Squareness	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5	mm/m	EN 438-2
Flatness (length)	≤ 60	≤ 60	≤ 60	≤ 60	≤ 60	≤ 60	mm/m	EN 438-2
Edge defects	≤ 20	≤ 20	≤ 20	≤ 20	≤ 20	≤ 20	mm	EN 438-3
Surface defects	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	≤ 1 <sup>1</sup> ≤ 10 <sup>2</sup>	mm <sup>2</sup> /m <sup>2</sup> mm/m <sup>2</sup>	EN 438-3
Density	1,500	1,500	1,500	1,500	1,500	1,500	kg/m <sup>3</sup>	ISO 1183
Density range	± 10	± 10	± 10	± 10	± 10	± 10	%	ISO 1183
Resistance to impact (small diameter ball)	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	≥ 15 <sup>3</sup> ≥ 20 <sup>4</sup>	N	EN 438-2
Dimensional stability at elevated temperature (length)	≤ 0.55	≤ 0.55	≤ 0.55	≤ 0.55	≤ 0.55	≤ 0.55	%	EN 438-2
Dimensional stability at elevated temperature (width)	≤ 1.05	≤ 1.05	≤ 1.05	≤ 1.05	≤ 1.05	≤ 1.05	%	EN 438-2
Resistance to dry heat / 180 °C (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to dry heat / 180 °C (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2
Resistance to wet heat / 100 °C (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 13986
Resistance to wet heat / 100 °C (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 13986

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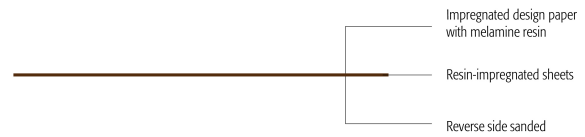
Impregnated design paper with melamine resin  
Resin-impregnated sheets  
Reverse side sanded

Spezification							Unit	Standard
Nominal thickness	2.5	3	0.6	0.8	1	1.2	mm	
Length	2,750	2,750	5,500	5,500	5,500	5,500	mm	
Width	2,020	2,020	2,020	2,020	2,020	2,020	mm	
Initial wear point (IP)	$\geq 150^4$ $\geq 50^3$	$\geq 150^4$ $\geq 50^3$	$\geq 150^4$ $\geq 50^3$	$\geq 150^4$ $\geq 50^3$	$\geq 150^4$ $\geq 50^3$	$\geq 150^4$ $\geq 50^3$	U	EN 438-2
Wear resistance (WR)	$\geq 350^4$ $\geq 150^3$	$\geq 350^4$ $\geq 150^3$	$\geq 350^4$ $\geq 150^3$	$\geq 350^4$ $\geq 150^3$	$\geq 350^4$ $\geq 150^3$	$\geq 350^4$ $\geq 150^3$	U	EN 438-2
Resistance to abrasion (printed designs)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	class	EN 438-2
Resistance to abrasion (plain colours)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	class	EN 438-2
Resistance to scratching (smooth finishes)	min. 2	min. 2	min. 2	min. 2	min. 2	min. 2	rating	EN 438-2
Resistance to scratching (textured finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Stain resistance (groups 1 & 2)	min. 5	min. 5	min. 5	min. 5	min. 5	min. 5	rating	EN 438-2
Stain resistance (group 3)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2
Resistance to cigarette burns	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to water vapour (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to water vapour (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2
Resistance to immersion in boiling water (smooth finishes)	min. 3	min. 3	min. 3	min. 3	min. 3	min. 3	rating	EN 438-2
Resistance to immersion in boiling water (textured finishes)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	rating	EN 438-2

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Spezification							Unit	Standard
Nominal thickness	2.5	3	0.6	0.8	1	1.2	mm	
Length	2,750	2,750	5,500	5,500	5,500	5,500	mm	
Width	2,020	2,020	2,020	2,020	2,020	2,020	mm	
Light fastness (xenon arc light)	min. 4	min. 4	min. 4	min. 4	min. 4	min. 4	grey scale rating	EN 438-2
Calorific value	env. 19	env. 19	env. 19	env. 19	env. 19	env. 19	MJ/kg	ISO 1716
Reaction to fire	normally inflammable	normally inflammable	normally inflammable	normally inflammable	normally inflammable	normally inflammable		DIN 4102-1
Reaction to fire (Euroclass)	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards	D-s2,d0 or worse in connection with normal and easily inflammable core boards		EN 13501-1, CWFT
Formaldehyde emission class	E1	E1	E1	E1	E1	E1		EN 717-1

<sup>1</sup> dirt, spots and similar surface defects

<sup>2</sup> fibres, hairs and scratches

<sup>3</sup> smooth finishes

<sup>4</sup> textured finishes

### Additional Information

Special	<ul style="list-style-type: none"> <li>The coarser the structure and the lighter the decor, the greater the scratch resistance.</li> <li>The smoother the structure and the the darker the decor, the more sensitive it gets to stains.</li> </ul>
Reaction to fire	<ul style="list-style-type: none"> <li>The ignition temperature is approx. 400°C. The material does not melt. Thermal disintegration begins at over 250°C. Toxic gases may occur depending on the conditions (temperature, oxygen content).</li> </ul>
Product safety	<ul style="list-style-type: none"> <li>The surface is physiologically safe, and approved for direct contact with food.</li> <li>The decorative surface and the core consists of paper layers that are impregnated with thermosetting resins. The resins harden completely during the manufacturing process by heat and high pressure. They form a stable, resistant and non-reactive material.</li> <li>We manufacture the panels without the use of halogens, heavy metals, preservatives, wood protectors or organic solvents.</li> <li>This product is following the REACH regulation EG 1907/2006 an article. Following Article 7 it needs not to be registered.</li> <li>The material is not rated as hazardous material</li> </ul>

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