

**ASD MARKFREE LAMINATE** ; less than 2 mm thick, according to EN 438-3, consisting of the surface layer on one side, having decorative colours are impregnated with antifinger feature and a core made of layers of kraft paper impregnated with phenolic based resins. The back of the sheets is made suitable for adhesive bonding to substrates. They are available the types HGS, HGP.

<b>HGS</b>	Horizontal Grade Standard Laminate	<b>EXAMPLES OF TYPICAL APPLICATIONS</b> Kitchen and office working surfaces, restaurant and hotel tables, doors and wall coverings in public areas, interior walls of public transport vehicles
<b>HGP</b>	Horizontal Grade Postforming Laminate	<b>EXAMPLES OF TYPICAL APPLICATIONS</b> Front panels for kitchen, office and bathroom furniture, wall coverings, ceiling panels, shelves and furniture elements

PROPERTIES	TEST METHOD	PROPERTY OR ATTRIBUTE	UNIT (max or min)	VALUES
				HGS HGP

### SURFACE QUALITY

Surface Quality	EN 438-3	Spots, dirt and similar surface defects	mm <sup>2</sup> /m <sup>2</sup>	≤1
		Fibres, hairs and scratches	mm/m <sup>2</sup>	≤10

### DIMENSIONAL TOLERANCES

Dimensional Tolerances	EN 438-2.5	Thickness tolerances (t: nominal thickness )	mm	0,5≤t<1,0mm:±0,10 mm 1,0<t<2.0 mm:±/0,15 mm
	EN 438-2.6	Lenght and width (b)	mm	+10/-0
	EN 438-2.7	Straightness of edges (b)	mm/m	≤1,5
	EN 438-2.8	Squareness (b)	mm/m	≤1,5
	EN 438-2.9	Flatness (a)	mm/m	60

### GENERAL PROPERTIES

Resistance to surface wear	EN 438-2.10	Wear value	Revalution	≥ 550
Resistance to immersion in boiling water	EN 438-2.12	Appearance-Other Finish	Rating (min)	4
Resistance to water vapour	EN 438-2.14	Appearance-Other Finish	Rating (min)	4
Resistance to dry heat (180 °C)	EN 438-2.16	Appearance-Other Finish	Rating (min)	5
Resistance to weat heat (85 °C)	EN 12721	Appearance-Other Finish	Rating (min)	5
Dimensional stability at elevated temperature	EN 438-2.17	Cumulative dimensional change	Longitudinal %	≤ 0,55
		Cumulative dimensional change	Transversal %	≤ 1,05
Resistance to impact with small diameter	EN 438-2.20	Spring Force	N	≥ 20
Resistance to impact with large diameter ball	EN 438-2.21	Drop height Indentation diameter	mm mm	≥ 800 ≤ 10
Resistance to cracking under stress	EN 438-2.23	Appearance	Rating (min)	4
Resistance to scratching	EN 438-2.25	Appearance	Rating (min)	3
Resistance to staining	EN 438-2.26	Appearance-Group 1&2	Rating (min)	5
		Appearance-Group 3	Rating (min)	5
Light fastness (Xenon-arc)	EN 438-2.27	Contrast	Grey scale rating	4 - 5
Formability ( HGP – VGP )	EN 438-2.31-32	Radius	L(parallel to fibre direction) mm	≤ 10 x laminate nominal thickness
		Radius	T (right angles to fibre direction) mm	≤ 20 x laminate nominal thickness
Resistance to blistering	EN 438-2.33-34	Time to blister	Seconds-nominal thickness<0,8mm	≥ 10
		Time to blister	Seconds-nominal thickness≥0,8mm	≥ 15
Density	EN ISO 1183	Density	g/cm <sup>3</sup>	≥1,35

(a) : Provided that the laminates are stored in the manner and conditions recommended by the manufacturer the shall comply with the flatness requirements specified in Table 4 when measured in accordance with EN 438-2 Clause 9.

(b) :Tolerances for cut – to – size panels shall be agreed between supplier and purchaser.