

PRODUCT TECHNICAL SHEET

PROTECH HPL HIGH PRESSURE LAMINATES

High Pressure Laminates (HPL) as per EN 438-2 & 3 : 2016, are available in the standard HGS/VGS range.

Sl. No.	Properties	Test Method	Attributes of Performance	Unit of Measurement	Results (As per EN 438-3)
			EN-438 Laminate Classification		HGS / VGS
1	SURFACE QUALITY				
1.1	Surface quality	EN 438-2:2016 (Clause-4)	Spots, dirt and similar surface defects	mm ² /m ²	≤ 1
			Fibres, hairs and scratches	mm/m ²	≤ 10
2	DIMENSIONAL PROPERTIES				
2.1	Thickness	EN 438-2:2016 (Clause-5)	Thickness tolerance	mm	0.5≤T<1 : ±0.1
				mm	1≤T<2 : ±0.15
2.2	Size	EN 438-2:2016 (Clause-6)	Length and width	mm	+ 10 / - 0
2.3	Straightness of edges	EN 438-2:2016 (Clause-7)	Straightness of edges	mm/m	≤ 1.5
2.4	Squareness	EN 438-2:2016 (Clause-8)	Squareness	mm/m	≤ 1.5
2.5	Flatness	EN 438-2:2016 (Clause-9)	Flatness (measured on full-size sheet)	mm/m	60
3	PHYSICAL PROPERTIES				
3.1	Resistance to surface wear	EN 438-2:2016 (Clause-10)	Wear Resistance - Initial Point	Revolutions	≥ 150 (HGS) / ≥ 50 (VGS)
3.2	Resistance to immersion in boiling water	EN 438-2:2016 (Clause-12)	Appearance - Gloss Finish	Rating	≥ 3
			Appearance - Other Finishes	Rating	≥ 4
3.3	Resistance to water vapour	EN 438-2:2016 (Clause-14)	Appearance - Gloss Finish	Rating	≥ 3
			Appearance - Other Finishes	Rating	≥ 4
3.4	Resistance to dry heat (160°C)	EN 438-2:2016 (Clause-16)	Appearance - Gloss Finish	Rating	≥ 3
			Appearance - Other Finishes	Rating	≥ 4
3.5	Dimensional stability at elevated temperatures	EN 438-2:2016 (Clause-17)	Cumulative dimensional change -	Longitudinal %	≤ 0.55 (HGS) / ≤ 0.75 (VGS)
				Transversal %	≤ 1.05 (HGS) / ≤ 1.25 (VGS)
3.6	Resistance to Wet Heat	EN 438-2:2016 (Clause-18)	Appearance - Gloss Finish	Rating	≥ 3
			Appearance - Other Finishes	Rating	≥ 4
3.7	Resistance to impact with Small diameter ball	EN 438-2:2016 (Clause-20)	Spring Force	N	≥ 20 (HGS) / ≥ 15 (VGS)
3.8	Resistance to cracking under stress	EN 438-2:2016 (Clause-23)	Appearance	Rating	≥ 4
3.9	Resistance to scratching	EN 438-2:2016 (Clause-25)	Appearance - Smooth Finishes	Rating	≥ 2 (HGS) / ≥ 1 (VGS)
			Appearance - Textured Finishes	Rating	≥ 3 (HGS) / ≥ 2 (VGS)
3.10	Resistance to staining	EN 438-2:2016 (Clause-26)	Appearance - Group 1 & 2	Rating	≥ 5
			Appearance - Group 3	Rating	≥ 4
3.11	Light fastness (Xenon arc)	EN 438-2:2016 (Clause-27)	Contrast	Grey scale rating	4 to 5
3.12	Density	EN ISO 1183-1	Density	gm/cm ³	≥ 1.35

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Disclaimer : Protech HPL complies with the applicable standards as listed above, but the results may vary due to difference in application of product. PROTECH reserves the right to change product composition and characteristics.