

PELIT ARSLAN KONTRPLAK FABRIKASI A.S.
TECHNICAL DATA SHEET FOR HIGH PRESSURE LAMINATE (EN 438-3,4,6)

NO	SPEIFICATIONS (TEST METHOD)	PRODUCT TYPE	REQUIREMENTS of STANDARD	PERFORMANCE VALUES
1	Thickness (EN 438-2/5)	HGS, HGP VGP	0.5 ≤ t ≤ 1.0 mm : ± 0.10 mm 1.0 < t < 2.0 mm : ± 0.15 mm	O.K
		CGS EGS	2.0 ≤ t < 3.0 mm : ± 0.20 mm 3.0 ≤ t < 5.0 mm : ± 0.3 mm 5.0 ≤ t < 8.0 mm : ± 0.4 mm 8.0 ≤ t < 12.0 mm : ± 0.5 mm 12.0 ≤ t < 16.0 mm : ± 0.6 mm 16.0 ≤ t < 20.0 mm : ± 0.7 mm 20.0 ≤ t < 25.0 mm : ± 0.8 mm	
2	Flatness (EN 438-2/9)	HGS, HGP VGP	60 mm/m max. deviation	O.K
		CGS EGS	2.0 ≤ t < 6.0 mm : 8 mm/m max. deviation 6.0 ≤ t < 10.0 mm : 5 mm/m max. deviation 10.0 ≤ t : 3 mm/m max. deviation	
3	Resistance to Surface Wear (EN 438-2/10)	HGS, HGP	IP≥150 WP≥(IP+FP)/2≥350	≥150 ≥350
		VGP	IP≥50 WP≥(IP+FP)/2≥150	≥50 ≥150
		CGS	IP≥150 WP≥(IP+FP)/2≥350	≥150 ≥350
4	Resistance to Immersion in Boiling Water (EN 438-2/12)	HGS HGP	Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
		VGP	Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
		CGS	Mass increase m≥5mm ise max. 2 % Thickness increase t≥5mm ise max. 2 % Appearance Rating ≥ 4 (Between : 1-5)	1,9 % 1,9 % Rating 5
5	Resistance to Dry Heat 180°C (EN 438-2/16)	HGS, HGP VGP, CGS	Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
6	Resistance to Wet Heat 100°C (EN 12721)	HGS HGP VGP	Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
7	Resistance to Scratching (EN 438-2/25)	HGS HGP	Appearance Rating ≥ 3 (Between : 1-5)	Rating 4 (Force 6N)
		VGP	Appearance Rating ≥ 2 (Between : 1-5)	Rating 3 (Force 4N)
		CGS	Appearance Rating ≥ 2 (Between : 1-5)	Rating 4 (Force 6N)
8	Resistance to Staining (EN 438-2/26)	HGS HGP	Appearance Rating Group 1 ve 2, ≥ 5 (Between : 1-5) Group 3, ≥ 4	Rating 5 Rating 5
		VGP	Appearance Rating Group 1 ve 2, ≥ 5 (Between : 1-5) Group 3, ≥ 4	Rating 5 Rating 5
		CGS	Appearance Rating Group 1 ve 2, ≥ 5 (Between : 1-5) Group 3, ≥ 4	Rating 5 Rating 5
9	Resistance to Water Vapour (EN 438-2/14)	HGS HGP	Appearance Rating Gloss finish ≥ 3 (Between : 1-5) Other finishes ≥4	Rating 5 Rating 5
		VGP	Appearance Rating Gloss finish ≥ 3 (Between : 1-5) Other finishes ≥4	Rating 5 Rating 5
		CGS	Appearance Rating Gloss finish ≥ 3 (Between : 1-5) Other finishes ≥4	Rating 5 Rating 5
10	Resistance to Craziing (EN 438-2/24)	CGS	Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
11	Resistance to cracking under stress (EN 438-2/23)	HGS, HGP VGP	Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
12	Resistance to Wet Conditions (EN 438-2/15)	EGS	Mass increase max.5 % for t≥ 5mm Appearance Rating ≥ 4	0,8 % Rating 5

13	Dimensional Stability at Elevated Temperature (EN 438-2/17)	HGS, HGP VGP	% Dimensional Change Longitudinal $\leq 0.55\%$ % Dimensional Change Transversal $\leq 1.05\%$	0.35 % 0.50 %
		CGS	% Dimensional Change Longitudinal $\leq 0.30\%$ % Dimensional Change Transversal $\leq 0.60\%$	0.15 % 0.30 %
		EGS	% Dimensional Change Longitudinal $\leq 0.30\%$ % Dimensional Change Transversal $\leq 0.60\%$	0.20 % 0.35 %
14	Resistance to Cigarette Burn (EN 438/30)	HGS, HGP VGP	Appearance Rating ≥ 3 (Between : 1-5)	Rating 5
		CGS	Appearance Rating ≥ 3 (Between : 1-5)	Rating 5
15	Resistance to Impact by Small-Diameter Ball (EN 438-2/20)	HGS, HGP	(N) ≥ 20	35 N
		VGP	(N) ≥ 15	35 N
16	Resistance to Impact by Large-Diameter Ball (EN 438-2/21)	HGS, HGP	Drop Height (mm) ≥ 800 Hole diameter ≤ 10	800mm, Hole diameter=7.5mm
		VGP	Drop Height (mm) ≥ 600 Hole diameter ≤ 10	600mm, Hole diameter=7.5mm
		CGS	Drop Height (mm) ≥ 1800	1800mm, Hole diameter ≤ 4.5 mm
		EGS	Drop Height (mm) ≥ 1800	1800mm, No hole
17	Flexural Modulus (EN ISO 178)	CGS	(Mpa) ≥ 9000	10849
		EGS	(Mpa) ≥ 9000	9062
18	Flexural Strength (EN ISO 178)	CGS	(Mpa) ≥ 80	135
		EGS	(Mpa) ≥ 80	99
19	Tensile Strength (EN ISO 527-2)	CGS	(Mpa) ≥ 60	L = 83 Longitudinal W= 66 Transversal
		EGS	(Mpa) ≥ 60	L = 132 Longitudinal W= 89 Transversal
20	Density (EN ISO 1183-1)	HGS, HGP VGP	Density (g/cm ³) ≥ 1.35	1.53
		CGS	Density (g/cm ³) ≥ 1.35	1.48
		EGS	Density (g/cm ³) ≥ 1.35	1.46
21	Fire Resistance (TS EN 13 501-1)	CGF, EGF	A1.A2.B.C.D.E.F (Fire resistant) s1.s2.s3 (Burning smoke) d0.d1.d2 (Burning drop)	B s1 d0
22	Electrostatic Properties (IEC 61340-5-1)	HGS, HGP, VGP	-	Between $1 \times 10^9 - 1 \times 10^{12}$
23	Resistance to Artificial Weathering (EN 438/29)	EGS	Contrast, Grey Scale Rating ≥ 3	Rating 5
			Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
24	Lightfastness (EN 438-2/27)	HGS, HGP, VGP	Contrast, Grey Scale Rating ≥ 4 (Between : 1-5)	Rating 5
		CGS	Contrast, Grey Scale Rating ≥ 4 (Between : 1-5)	Rating 4
25	Resistance to Climatic Shock (EN 438-2/19)	EGS	Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
			Flexural strength Index $D_s \geq 0.95$	0.97
			Flexural modulus Index $D_m \geq 0.95$	0.98
26	Resistance to UV Light (EN 438-2/28)	EDS EDF	Grey Scale Rating ≥ 3	Rating 5
			Appearance Rating ≥ 4 (Between : 1-5)	Rating 5
27	Flammability Behavior (for railway systems) CEN/TS 45545-2:2009	CGF	R1 HL2	HL3 (best grade level)

HGS : Horizontal grade General purpose Standart grade Laminate
HGP : Vertical grade General purpose Postformable grade Laminate
VGP : Vertical grade General purpose Postformable grade Laminate
CGS : Compact grade General purpose Standard grade Compact Laminate
CGF : Compact grade General purpose Flame-Reterdant grade Compact Laminate
EGS : Exterior grade General purpose Standart grade Compact Laminate
EGF : Exterior grade General purpose Flame-Reterdant grade Compact Laminate
EDS : Exterior grade Severe use Standart grade Compact Laminate
EDF : Exterior grade Severe use Flame-Reterdant grade Compact Laminate

Rating:
5 : No visible change
4 : Slight change of gloss and / or colour, only visible at certain viewings angle
3 : Moderate change of gloss and / or colour
2 : Marked change of gloss and / or colour
1 : Surface distortion and / or blistering