



Technical Data Sheet

G-Lab®

G-Lab® is produced with a nano-surface technology which forms a durable surface to ensure superior protection against a wide range of chemicals and acids.

G-Lab® is resistant to acids, bases, salts, paint and organic solvent. It has resistance against the most aggressive chemicals and does not get damaged or stained, provided that the chemical poured on the surface is cleaned within 24 hours. It eliminates forming of bacteria and fungus thanks to its smooth, polished and specially treated surface. Its surface does not reflect the light. It has become a favored and widely preferred product for use in the fields of chemistry, radiology, biology, botanic, physics, electronics, nuclear, cosmetics, graphics, education and photography laboratories, dentistry operation rooms, hospitals, surgery rooms, apothecary's shops, food industry, professional kitchens and freezer rooms thanks to these unique features.

Other than these, thanks to having the feature of resistancy against fire, it does not merge and form flame drops, blow up and emit toxic gases in case of fire.

EN Classification		CGS, CGF
EN 438-4	Thickness Range	0,8mm - 20mm
	Dimensions	1400x3660mm / 1540x3050mm / 1540x3660mm


WATER
REPELLANT


DRY HEAT
RESISTANCE


SCRATCH &
ABRASION
RESISTANCE


LOW LIGHT
REFLECTIVITY


HEAT & COLD
RESISTANCE


EASY TO
CLEAN


ULTRA COLOR
INTENSITY


IMPACT
RESISTANCE


RESISTANCE TO
LABORATORY
CHEMICAL

Characteristics	Test Method	Test Value	Required Value
Thickness	EN 438-2 section 5	According to the required thickness	$2.0 \leq t < 3.0$ mm : ± 0.20 mm $3.0 \leq t < 5.0$ mm : ± 0.3 mm $5.0 \leq t < 8.0$ mm : ± 0.4 mm $8.0 \leq t < 12.0$ mm : ± 0.5 mm $12.0 \leq t < 16.0$ mm : ± 0.6 mm $16.0 \leq t < 20.0$ mm : ± 0.7 mm $20.0 \leq t < 25.0$ mm : ± 0.8 mm $25.0 \leq t$: According To Agreement customer / producer
Density	ISO 1183 - 1	1.4	Min. 1.35 gr/cm ³
Wear Resistance	EN 438-2 section 10 CGS	IP = 175 Rev. Wear Value = 475 Rev.	Initial Point ≥ 150 Rev. Wear Value ≥ 350 Rev.
Scratch Resistance	EN 438-2 section 25 CGS	6 N 6 N	Flat Surface Min. 2 N Textured Surface Min. 3 N
Impact Resistance	EN 438-2 Big Ball section 21 CGS $2.0 \leq t < 6.0$ mm $t \geq 6.0$ mm	 No Crack , 4.5 mm No Crack , 3.5 mm	 1400 mm height: no crack, 10 mm Max. 1800 mm height: no crack, 10 mm Max.
Resistance To Crazing (20 Hours @ 80°C)	EN 438-2 section 24 CGS	Level 4	Min. level 4
Resistance to Dry Heat at 180°C	EN 438-2 section 16 CGS Glossy Surface Finish Other Surface Finish	 Level 4 Level 5	 Min. level 3 Min. level 4
Resistance to Water Vapor	EN 438-2 section 14 CGS Glossy Surface Finish Other Surface Finish	 Level 4 Level 5	 Min. Level 3 Min. Level 4
Resistance to Boiling Water	EN 438-2 section 12 CGS $2.0 \leq t < 5.0$ mm $t \geq 5.0$ mm Glossy Surface Finish Other Surface Finish	 1.2% 1.1% 0.55% 0.65% Level 4 Level 5	 Max. 5% in weight Max. 6% in thickness Max. 2% in weight Max. 2% in thickness Min. Level 3 Min. Level 4

Characteristics	Test Method	Test Value	Required Value
Resistance to Cigarette Burn	EN 438-2 section 30 CGS	Level 4	Min. Level 3
Resistance to Staining	EN 438-2 section 26 CGS		
	Group 1 + 2	Level 5	Min. level 5
	Group 3	Level 5	Min. level 4
Resistance against chemicals (Acid / Base / Organic solvent / Inorganic Salt)	SEFA 8 - 1999	See attached List	-----
Resistance against detergents, disinfectants ⁽¹⁾ and Anti Microbial Agent ⁽²⁾	SEFA 8 - 1999	See attached List	-----
Flatness	EN 438-2 section 9 CGS		
	$2.0 \leq t < 6.0$ mm	1.23 mm	Max. 8 mm / 1 M length
	$6.0 \leq t < 10.0$ mm	1.46 mm	Max. 5 mm / 1 M length
	$t \geq 10.0$ mm	1.87 mm	Max. 3 mm / 1 M length
Light fastness	EN 438-2 section 27 CGS		
	Grey Scale	Level 5	Min. level 4
High Temp. stability 70°C	EN 438-2 section 17 CGS		
	$2.0 \leq t \leq 5.0$ mm	L : 0.22 mm W : 0.35 mm	L : Max. 0.4 mm W : Max. 0.8 mm
	$t \geq 5.0$ mm	L : 0.18 mm W : 0.23 mm	L : Max. 0.3 mm W : Max. 0.6 mm
Tensile Strength	EN ISO 527 – 2 CGS	\ 85 Mpa	Min. 60 Mpa
Flexural Strength	EN ISO 178 CGS	114 MPa	Min. 80 Mpa
Flexural Modulus	EN ISO 178 CGS	16,522 Mpa	Min. 9000 Mpa
Coefficient Of Linear Thermal Expansion (COTE)	ASTM D696-08(3)	6.0×10^{-6} mm / mm °c	---

Remarks :

(1) Surface resistance against most common detergents and disinfectants used in hospitals , surgery room And Biological laboratories .

(2) 5 Types of Anti Microbial Agent commonly used in hospital , chemical lab and biological lab . Test Method according to SEFA 8 1999

@ CGS = Compact Grade Standard Laminate

@ Required Values Based on 438-4

Test No	Chemical Reagent	Test Method ^{(1),(2)}	Test Result ⁽³⁾
1	Hydrochloric Acid 10%	B	0
2	Hydrochloric Acid 37%	B	1
3	Sulphuric Acid 33%	B	0
4	Sulphuric Acid 98%	B	1
5	Nitric Acid 30%	B	0
6	Nitric Acid 65%	B	1
7	Phosphoric Acid 85%	B	1
8	Acetic Acid 99%	B	0
9	Hydrofluoric Acid 40%	B	2
10	Chromic Acid 10%	B	0
11	Ammonium Hydroxide 28%	B	0
12	Sodium Hydroxide 46%	B	0
13	Silver Nitrate 1%	B	1
14	Potassium Permanganate 10%	B	2
15	Ferric (III) Chloride 10%	B	0
16	Copper Sulphate 10%	B	0
17	Sodium Hypochlorite 16%	B	0
18	Sodium Chloride 10%	B	0
19	Formaldehyde 10%	A	0
20	Furfural	A	0
21	Formic Acid 90%	B	0
22	Phenol 90%	A	0
23	Acetone	A	0
24	Mono Ethylene Glycol	A	0
25	Ethyl alcohol	A	0
26	Ethylene Glycol Mono Butyl Ether	A	0
27	Methyl Ethyl Ketone	A	0
28	Dichloromethane	A	0
29	Ethylacetate	A	0
30	n – Butyl Acetate	A	0
31	n – Hexane	A	0
32	Methyl Alcohol	A	0
33	Methyl Isobutyl Ketone	A	0
34	TetraHydroFurane (THF)	A	0
35	Toluene	A	0
36	Tri Chloro Ethylene	A	0
37	Xylene	A	0
38	Iodine Tincture	B	0
39	Hydrogen Peroxide 3%	A	0
40	Malachite Green Oxalate 1%	B	0
41	Methylene Blue 1%	B	0
42	Methyl Violet 2B 1%	B	0
43	Wright Stain 1%	B	0
44	Chlorine 5 PPM	B	0

Remarks :

- (1) Method A : Saturate a cotton ball with the chemical reagent . Place the saturated cotton ball on the Surface of the laminate and cover the saturated cotton ball with a watch glass 10 cm Diameter . leave the covered reagent For 24 hours . after 24 hour wash the panel with Water , clean with detergent and rinse With de-ionized water . Leave the tested laminate For 24 hours and evaluate according to the level chart(3) .
- (2) Method B : Place 5 drops of the chemical reagent on the decorative surface of the tested laminate and Cover the chemical reagent with a watch glass 10 cm Diameter . leave the covered reagent For 24 hours . after 24 hour wash the panel with water , clean with detergent and rinse With de-ionized water . Leave the tested laminate For 24 hours and evaluate according to The level chart⁽³⁾ .
- (3) Level Chart :

Level No.	Description
0	No detectable stain , loss of gloss or change to the surface of the laminate
1	Slight stain or loss in gloss but no change to the surface of the laminate
2	Severe stain or slight change to the surface of the laminate
3	Swelling , Pitting , cracking or erosion to the surface of the laminate



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