

G-INNO Technical Data Sheet ⁽¹⁾

Characteristics	Test method	Tested Value	Required Value
Thickness	EN 438-2 section 5	According to the required thickness	$1.0 \leq t < 2.0 \text{ mm} : \pm 0.10 \text{ mm}$ $6.0 \leq t < 8.0 \text{ mm} : \pm 0.4 \text{ mm}$ $8.0 \leq t \leq 12.0 \text{ mm} : \pm 0.5 \text{ mm}$
Density	ISO 1183 – 1	1.47 gr/cm ³	Min. 1.35 gr/cm ³
Gloss Level @ 60°	ISO 2813	1.5	--
Scratch Resistance	EN 438-2 section 25 CGS ⁽¹⁾	3 N	Flat Surface Min. 2 N
Wear Resistance	EN 438-2 section 10 CGS	IP = 185 Rev. Wear Value = 485 Rev.	Initial Point \geq 150 Rev. Wear Value \geq 350 Rev.
Impact Resistance	EN 438-2 Big Ball section 21 CGS $1.0 \leq t < 6.0 \text{ mm}$ $t \geq 6.0 \text{ mm}$	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 (20 min. @ 160°C)	EN 438-2 section 16 CGS Flat Surface Finish	Level 4	Min. level 4
Resistance to Water Vapor	EN 438-2 section 14 CGS Flat Surface Finish	Level 5	Min. Level 4

G-INNO Technical Data Sheet (2)

Characteristics	Test method	Tested Value	Required Value
Resistance to Immersion in Boiling Water	EN 438-2 section 12 CGS $t \geq 6.0$ mm	$\Delta t = 0.7\%$ $\Delta m = 0.9\%$	Max. 2% in thickness Max. 2% in thickness
	Flat Surface Finish	Level 5	Min. Level 4
Resistance to Staining	EN 438-2 section 26 CGS Group 1 + 2	Level 5	Min. level 5
	Group 3	Level 5	Min. level 4
Durability of surface finish and adhesion of surfacing and edging materials	BS 6222 : 1999	Level 5 Pass	Min. rating 4
Flatness	EN 438-2 section 9 CGS $1.0 \leq t < 2.0$ mm	2.23 mm	Max. 60 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
Dimensional Stability at Elevated Temp. (70°C)	EN 438-2 section 17 CGS $1.0 \leq t \leq 2.0$ mm	L : 0.22% W : 0.35%	L : Max. 0.45% W : Max. 0.9%
	$t \geq 5.0$ mm	L : 0.18% W : 0.23%	L : Max. 0.3% W : Max. 0.6%
Tensile Strength	EN ISO 527 – 2 CGS	104 MPa	Min. 60 MPa

G-INNO Technical Data Sheet (3)

Characteristics	Test method	Tested Value	Required Value
Flexural Strength	EN ISO 178 CGS	105 MPa	Min. 80 MPa
Flexural Modulus	EN ISO 178 CGS	10,434 MPa	Min. 9000 MPa
Resistance to Fixings	EN 13894-1 12 mm	6,873 N	4,000 N
Coefficient Of Linear Thermal Expansion (COTE)	ASTM D696-08 ⁽³⁾	6.0×10^{-6} mm / mm °c	---
Thermal Conductivity	ASTM C 518 CGS 6 mm	0.416 W/mK	---
Determination of Formaldehyde release – Part 3 : Gas Analysis Method	ISO 12460-3 : 2015	0.86 mg/m ² hr E0	≤ 1.75 mg/m ² hr E0 Class
Formaldehyde Emission	EN 717-1 10 - 13 mm	≤ LOQ ⁽³⁾ mg/m ³ ≤ LOQ ⁽³⁾ ppm	≤ 0.124 0.1 ppm (E0 Class)
Release of dangerous substances	UNI EN 16516 : 2020 10 mm	0.068 mg/m ³ 0.06 ppm	≤ 0.124 0.1 ppm (E0.5 Class)
	13 mm	0.071 mg/m ³ 0.06 ppm	≤ 0.124 0.1 ppm (E0.5 Class)
Contact With Food – Overall Migration	EN 1186-3 Acetic Acid 3% w/w	9.6 mg/dm ²	< 10 mg/dm ²
	EN 1186-14 Ethanol 10% w/w	4.3 mg/dm ²	< 10 mg/dm ²
	EN 1186-14 Ethanol 95% w/w	< 2 mg/dm ²	< 10 mg/dm ²

G-INNO Technical Data Sheet (4)

Characteristics	Test method	Tested Value	Required Value
Fire Classification ⁽⁴⁾	<u>EN 13501-1</u> t = 0.7 mm ⁽⁵⁾ HGS/VGS	B S1 d0	C S2 d0
	t = 12 mm CGS	B S1 d0	D S2 d0
Total Migration of materials in contact with food	Food Contact Materials – Regulation (EC) 1935/2004	Test report No. 0003165598/30 AZ 222179 TÜV Rheinland ⁽⁹⁾	Pass According to (EC) 1935/2004
Chlorine Surface Resistance	Gentas Internal test Method	See Table below	---
Hydrogen Peroxide Surface Resistance	Gentas Internal test Method	See Table below	---
Antiseptics & Sanitizers Surface Resistance	Gentas Internal test Method	See Table below	---

Remarks :

- (1) CGS = Compact Grade Standard Laminate
- (2) Required Values Based on 438-4
- (3) LOQ : Limit Of Quantification (0.02 mg/m³)
- (4) The fire classification refer only for the tested thicknesses . For any other thickness , a test is required
- (5) The Fire Classification refer to 0.7 mm laminates bonded with A class FR adhesive on Non Combustible A class Fiber Cement substrate . For further detailed information , Please refer to Fire Resistance Explanation Sheet .

Chlorine Surface Resistance Test ⁽⁵⁾ :

3096⁽¹⁾ / 4596⁽²⁾ ; 8 mm⁽³⁾ ; Velur 1400x3600 ; 1000 ppm concentration⁽⁴⁾

Duration ⁽⁵⁾ Decor	1 Hour	2 Hours	4 Hours	8 Hours	12 Hours	24 Hours
3096 ⁽¹⁾ Rating Scale ⁽⁷⁾	0	0	0	0	0	0
4596 ⁽²⁾ Rating Scale ⁽⁷⁾	0	0	0	0	0	0

3096⁽¹⁾ / 4596⁽²⁾ ; 8 mm⁽³⁾ ; Velur 1400x3600 ; 10,000 ppm concentration⁽⁴⁾

Duration ⁽⁵⁾ Decor	1 Hour	2 Hours	4 Hours	8 Hours	12 Hours	24 Hours
3096 ⁽¹⁾ Rating Scale ⁽⁷⁾	0	0	0	0	0	0
4596 ⁽²⁾ Rating Scale ⁽⁷⁾	0	0	0	0	0	0

Remarks :

- (1) 3096 Plain décor CGS
- (2) 4596 Printed décor CGS
- (3) 8 mm pressed in Velur finish in size 1400 x 3600
- (4) 1000 and 10,000 ppm water base solutions
- (5) Duration according to Tables ; Test method according to the below instructions ; Rating Scale according to the below instructions
- (6) Test method :
 - With a pipette drop 5 drops from the tested concentration and cover with a laboratory glass cover
 - After the required duration , remove the glass cover , rains with water and wiper with a dry cotton cloth
 - Examine the tested samples according to the below rating scale and advice with a test report
- (7) Rating Scale : Level 0 – No Detectable Change for naked eye
 - Level 1 – Slight Change in Color or Gloss or surface structure
 - Level 2 – Slight Surface Etching or Severe Staining
 - Level 3 – Pitting / Cracking / Swelling / Erosion of the surface
 - Level 4 - Obvious & Significant Deterioration of the surface

Hydrogen Peroxide Surface Resistance Test ^(1,5):

3103 ⁽²⁾; 4 mm Matt 1300x3050 ⁽³⁾

Duration ⁽⁴⁾ Decor	12 Hours	24 Hours
3103 ⁽²⁾ Rating Scale ⁽⁶⁾	0	0

Remarks:

- 1) Hydrogen Peroxide 30% (H₂O₂ 30%)
- 2) 3103 Plain décor CGS
- 3) 4 mm pressed in Matt finish in size 1300 x 3050
- 4) Exposure Duration according to Tables .
- 5) Test method :
 - With a pipette place 5 drops from the tested H₂O₂ 30% and cover with a laboratory glass cover
 - After the required duration , remove the glass cover , rains with water and wiper with a dry cotton cloth
 - Examine the tested samples according to the below rating scale and advice with a test report
- 6) Rating Scale : Level 0 – No Detectable Change for naked eye
 - Level 1 – Slight Change in Color or Gloss or surface structure
 - Level 2 – Slight Surface Etching or Severe Staining
 - Level 3 – Pitting / Cracking / Swelling / Erosion of the surface
 - Level 4 - Obvious & Significant Deterioration of the surface

Antiseptics & Sanitizers Surface Resistance Test^(1,7):

3103 ⁽²⁾; 4 mm Matt 1300x3050 ⁽³⁾

Duration(4) Reagent	12 Hours Rating ⁽⁹⁾	24 Hours Rating ⁽⁹⁾
Benzethonium Chloride 2% ⁽⁵⁾	0	0
Domiphen Bromide 4% ⁽⁶⁾	0	0
Benzalkonium Chloride 4% ⁽⁷⁾	0	0

Remarks :

- 1) The surface resistance is tested against common Antiseptics and Sanitizers available and common in the market
- 2) 3103 Plain décor CGS
- 3) 4 mm pressed in Matt finish in size 1300 x 3050
- 4) Exposure Duration according to Tables .
- 5) Benzethonium Chloride 2% (Antiseptic & Disinfectant)
- 6) Domiphen Bromide 4% (Antiseptic)
- 7) Benzalkonium Chloride 4% (Antiseptic)
- 8) Test method :
 - With a pipette place 5 drops from the tested reagent and cover with a laboratory glass cover
 - After the required duration , remove the glass cover , rains with water and wiper with a dry cotton cloth
 - Examine the tested samples according to the below rating scale and advice with a test report
- 9) Rating Scale : Level 0 – No Detectable Change for naked eye
 - Level 1 – Slight Change in Color or Gloss or surface structure
 - Level 2 – Slight Surface Etching or Severe Staining
 - Level 3 – Pitting / Cracking / Swelling / Erosion of the surface
 - Level 4 - Obvious & Significant Deterioration of the surface