



Technical Data Sheet

G-Com Anti Graffiti®

G-Com Anti Graffiti® is a high pressure laminate adjusted for the use as a surface material in areas that are exposed to graffiti or vandalism. The performance of the G-Com Anti Graffiti® achieved by the property of the HPL core, gives a high performance of mechanical properties (Tensile strength, flexural strength, low coefficient of thermal expansion and high electrical resistance). Together with a special surface treatment for high surface performance (high abrasion, high scratch and high resistance against different types of paint / markers / cleaners used in graffiti) makes G-Com Anti Graffiti® one of the best products available.

The laminate is produced from different layers of impregnated paper (phenolic for core and melamine for surface) pressed together in a high pressure hydraulic press that exposes the impregnated paper layers to a high temperature (up to 150°C) and high pressure (up to 90 Kg/cm²).

EN Classification		CGS, CGF
EN 438 - 4	Thickness Range	2mm - 20mm
	Dimensions	1540x3660mm

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 WATER REPELLANT
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 DRY HEAT RESISTANCE
- 
 SCRATCH & ABRASION RESISTANCE
- 
 LOW LIGHT REFLECTIVITY
- 
 HEAT & COLD RESISTANCE
- 
 EASY TO CLEAN
- 
 ULTRA COLOR INTENSITY
- 
 IMPACT RESISTANCE
- 
 RESISTANCE TO HOUSEHOLD AND 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 = 185 Rev. Wear Value = 485 Rev.	Initial Point ≥ 150 Rev. Wear Value ≥ 350 Rev.
Scratch Resistance	EN 438-2 section 25 CGS	3 N 4 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	2.2% - 3.1% 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
Graffiti Resistance	ASTM D 6578-00	See Annex 1	---
Resistance to Detergents	DB TL 918 340 (Table 1)	See Annex 2	---
Resistance to graffiti removal agents	DB TL 918 340 (Table 1)	See Annex 3	---
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 :

@ CGS = Compact Grade Standard Laminate

@ Required Values Based on 438-4

Annex 1: Graffiti Resistance According To ASTM D 6578-00

Design Marker	Marker 1	Marker 2	Marker 3	Marker 4	Marker 5	Marker 6	Marker 7	Marker 8	Marker 9
G-Com Anti Graffiti	Level 3	Level 3	Level 3	Level 3	Level 2	Level 3	Level 3	Level 3	Level 3

Notes :

-ASTM 6578-00 outlines the sequence of cleaning procedures for the test samples according to :

- Level 1 : With a dry cotton cloth
- Level 2 : 1% aqueous detergent solution
- Level 3 : Citrus cleaner
- Level 4 : Isopropanol (IPA)
- Level 5 : Methyl Ethyl Ketone (MEK)

The material's graffiti resistance designation level for each marking agent is Assigned by the first cleaning method that removes the mark . A "Not Clean-able" designation is assigned if the Graffiti mark can not be removed after all of the prescribed cleaning procedures are used.

-A total of nine (9) marking agents used in the laboratory tests including : five (5) specifically listed in ASTM 6578-00:

- Marker 1 :Blue Wax Crayon (Dixon™)
- Marker 2 : Blue Solvent-Based Marker (Sanford™ Sharpie™)
- Marker 3 : Black Permanen Marker (Avery™ Marks-a-lot™)
- Marker 4 : Red Solvent-based Spray Paint (Krylon™)
- Marker 5 : Black Water-Based Ink Marke (Crayola™)

Four (4) additional marking agents were added by Gentas :

- Marker 6 : Sanford Magnum 44™
- Marker 7 : Sanford King Size™
- Marker 8 : Sanford Expo 2™ Dry Erase
- Marker 9 : Sanford SilverCoat™ Metallic Metal Paint Marker .

-Cleanability Levels refer to minimum cleaning method necessary to obtain a visually clean surface.

Annex 2: Resistance to Detergents According to DB TL 918 340⁽¹⁾ (March 2005):

Detergent	Result
Benduroi Forte ⁽²⁾	No change of the surface
Alkaline : 1:1 concentration	
Purol ⁽²⁾	No change of the surface
Hydrochloric : 1:1 concentration	
Rapol 58 ⁽²⁾	No change of the surface
Phosphorous : 1:4 concentration	
Rapidol S ⁽²⁾	No change of the surface

(1)Application of detergent upon the surface covered with a watch glass for 4 hours @ 23°C

(2)Bendrol Forte , Purol , Rapol 58 and Rapidol S products from company Dr. Schnell GmbH

Annex 3: Resistance to graffiti removal agents according to DB TL 918 340⁽¹⁾ (March 2005):

Graffiti removal agent	Results	
AGS 221 ⁽²⁾	Immediate Removal After 24 hr.	No changes of the surface No changes of the surface
Novo Pen off ⁽³⁾	Immediate Removal After 24 hr.	No changes of the surface No changes of the surface

(1)Application of detergent upon the surface covered with a watch glass for immediate removal and after 24 hours @ 23°C removal .

(2)AGS 221 product from company Tensid Deutschland GmbH .

(3)Novo Pen off product from company Dr. Schnell GmbH


WATER
REPELLANT


DRY HEAT
RESISTANCE


SCRATCH &
ABRASION
RESISTANCE



LOW LIGHT
REFLECTIVITY


HEAT & COLD
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EASY TO
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ULTRA COLOR
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IMPACT
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RESISTANCE TO
HOUSEHOLD AND
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CHEMICAL