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G-Zero-Flex®

G-Zero-Flex Technical Data Sheet (1) :

Characteristics	Test Method	Tested Value	Required Value
Thickness	EN 438-2 section 5 HGS[1], HGP[2]	According to the required thickness	0.5 ≤ t < 0.9 mm[10] ± 0.10 mm
Surface Quality	EN 438-2 Section 4 Dirt , Spots and similar surface defects Fibers , Hairs and scratches	 ≤ 1.0 mm^2/m^2 ≤ 10 mm/m^2	 ≤ 1.0 mm^2/m^2 ≤ 10 mm/m^2
Color Difference[8]	ISO 7724 Gentas Internal Standard[9]	Uni Colors : ΔE ≤ 1.0 Printed Designs : No Visual Difference	--- ---
Product Directionality	Simulated Daylight D65	Gentas G-Zero-Flex might have a slight directionality that could effect the color tone and/or the light reflection when application is conducted in different directions . It is recommended to laminate G-Zero-Flex in the same direction in order to avoid the slight color and/or reflection effect	---
Density	ISO 1183 - 1	1.42	Min. 1.35 gr/cm^3
Gloss Level @ 60°	ISO 2813	1.5	---

G-Zero-Flex Technical Data Sheet (1) :

Characteristics	Test Method	Tested Value	Required Value
Wear Resistance	EN 438-2 section 10 HGS(1), HGP(2)	Printed Designs IP = 153 Rev. Plain Designs IP = 336 Rev.	Initial Point ≥ 150 Rev. Wear Value ≥ 350 Rev.
Scratch Resistance	EN 438-2 section 25 HGS(1), HGP(2)	Printed Designs 6 N Plain Designs 4 N	Flat Surface Min. 2 N
Micro Scratch Resistance	EN ISO 12947-1 Procedure B on Plain Decor Procedure B on Printed Decor	Rating 5(4) Rating 5(4)	---
Micro Scratch Thermal Healing(7)	Gentas Internal test(3)	Rating 5(4)	---

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G-Zero-Flex Technical Data Sheet (2) :

Characteristics	Test Method	Tested Value	Required Value
Impact Resistance	EN 438-2 Small Ball section 20 HGS(1), HGP(2) 0.5 ≤ t < 0.9	25 N	Min. 20 N
Resistance to Dry Heat at 180°c	EN 438-2 section 16 HGS(1), HGP(2) Other Surface Finish	Level 5	Min. level 4
Resistance to Water Vapor	EN 438-2 section 14 HGS(1), HGP(2) Other Surface Finish	Level 5	Min. Level 4
Resistance to Immersion in boiling water	S EN 438-2 section 12 HGS(1), HGP(2) Appearance	Level 5 Level 4	Minimum Level 4 Min. Level 4
Resistance to Cigarette Burn	EN 438-2 section 30 HGS(1), HGP(2)	Level 4	Min. Level 3
Resistance to Chemicals	SEFA 8-1999 & SEFA 3-2010	See attached Table	---
Resistance to Staining	EN 438-2 section 26 HGS(1), HGP(2) Group 1 + 2 Group 3	Level 5 Level 5	Min.Level 5 Min. Level 4

G-Zero-Flex Technical Data Sheet (2) :

Characteristics	Test Method	Tested Value	Required Value
Resistance to Finger Print	Gentas Internal test[5]	Rating 5[6]	---
Flatness	EN 438-2 section 9 HGS[1], HGP[2] 0.5 ≤ t < 0.9 mm	15 mm	Max. 60 mm/m Maximum Deviation
Light Fastness	EN 438-2 section 27 HGS[1], HGP[2] Grey Scale	Level 5	Min. Level 4

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G-Zero-Flex Technical Data Sheet (3) :

Characteristics	Test Method	Tested Value	Required Value
Formability Radius	EN 438-2 section 31 / 32 HGP , VGP L (Machine Direction) T (Cross Direction)	 ≤ 10 x laminate nominal Thickness(11) ≤ 20 x laminate nominal Thickness(11)	 ≤ 10 x laminate nominal Thickness ≤ 20 x laminate nominal Thickness
Resistance To Blister	EN 438-2 section 33 / 34 HGP , VGP t2 – t1 (Sec) Nominal Thickness < 0.8 mm Nominal Thickness ≥ 0.8 mm	 15 18	 ≥ 10 ≥ 15
Electrostatic Property	EN 61340-4-1 HGS(1), HGP(2) Surface Resistance (Rs)	 Rs ≥ 1x10^{9}Ω	 ---
Total Migration of materials in contact with food	Food Contact Materials – Regulation (EC) 1935/2004	Test report No. 0003165598/30 AZ 222179 TÜVRheinland(9)	Pass According to (EC) 1935/2004
Release of PCP (Penta Chloro Phenol)	Intertek PV_C_01.01.02_02-08 (2014-01)	N.D. (Not Determinable	0.1 mg/kg

G-Zero-Flex Technical Data Sheet (3) :

Remarks :

(1) HGS = Horizontal Grade Standard Laminate
(2) HGP = Horizontal Grade Postforming Laminate
(3) Gentas Internal test procedure for thermal healing is available upon Request only
(4) Rating 5 : No visible scratches or only few scratches
(5) Gentas Internal test procedure for resistance to finger Print is available upon Request only
(6) Rating 5 : Surface unchanged comparing to reference sample (No moisture / oily residue)
(7) For Thermal Healing instructions, please see below “Cleaning and Maintenance instructions”
(8) The Color Difference refers to the color deviation from the master sample as agreed between Gentas and the customer per batch size (Refer to project batch size).
(9) Gentas internal test method for evaluation of color difference in plain color design. As part of Gentas quality test, The color difference is evaluated and can be guaranteed according to the claimed value. Any other color testing method and/or tested value will not be acceptable by Gentas and can not be the base to any claim.
(10) Other thickness upon technical approval only
(11) As forming quality depends on line performance (Heating Zone dimension, Heating Zone temp. , Forming speed) and raw materials used (Adhesive type, Core material, sealer), it is recommended To conduct compatibility approval test before moving to industrial orders.

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G-Zero-Flex Chemical Resistance According To SEFA 8-1999 (Ref. 2006) & SEFA 3-2010 (1) :

Test No	Chemical Reagent	Test Method[1],[2]	Test Result[3]
1	Acetate, Amyl	A	0
2	Acetate, Ethyl	A	0
3	Acetic Acid, %98	B	0
4	Acetone	A	0 – 1
5	Acid Dichromate, %5	B	0
6	Alcohol, Butyl	A	0
7	Alcohol, Ethyl	A	0
8	Alcohol, Methyl	A	0
9	Ammonium Hydroxide, %28	B	0
10	Benzene	A	0
11	Chloroform	A	0
12	Chromic Acid, 60%	B	0
13	Dichloracetic Acid	A	0
14	Dimethylformamide	A	0
15	Ferric (III) Chloride 10%	B	0
16	Formaldehyde, 37%	A	0
17	Formic Acid, 90%	B	0
18	Furfural	A	1 - 2
19	Gasoline	A	0
20	Hydrochloric Acid, %37	B	0
21	Hydrofluoric Acid, %37	B	2 – 3
22	Hydrofluoric Acid, %48	B	2 – 3
23	Hydrogen Peroxide, %3	B	0
24	Hydrogen Peroxide %30	B	0
25	Iodine Tincture	B	0
26	Methyl Ethyl Ketone	A	0
27	Methylene Blue %1	B	1
28	Methylene Chloride	A	1 – 0
29	Methyl Isobutyl Ketone	A	0
30	Methyl Violet 2B 1%	B	1
31	Mono Chlorobenzene	A	0
32	Naphtalene	A	0
33	Nitric Acid, %30	B	0

G-Zero-Flex Chemical Resistance According To SEFA 8-1999 (Ref. 2006) & SEFA 3-2010 (1) :

Test No	Chemical Reagent	Test Method[1],[2]	Test Result[3]
34	Nitric Acid, %70	B	2
35	Phenol, %90	A	0
36	Phosphoric Acid, %85	B	0
37	Potassium Permanganate %5	B	2
38	Silver Nitrate, Saturated	B	0
39	Sodium Hydroxide, %10	B	0
40	Sodium Hydroxide, %40	B	0
41	Sodium Hypochlorite %16	B	0
42	Sodium Sulfide, Saturated	B	0
43	Sulfuric Acid, %33	B	0
44	Sulfuric Acid, %77	B	0
45	Sulfuric Acid, %96	B	0
46	Sulfuric Acid 77% and Nitric Acid %70, Equal Parts	B	0
47	TetraHydroFurane (THF)	A	0
48	Toluene	A	0
49	Trichloroethylene	A	0
50	Xylene	A	0

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G-Zero-Flex Chemical Resistance According To SEFA 8-1999 (Ref. 2006) & SEFA 3-2010 (2) :

Test No	Chemical Reagent	Test Method[1],[2]	Test Result[3]
51	Zinc Chloride, Saturated	B	0
52	Chlorine Solution, 10,000 PPM	B	0
53	Hydrogen Peroxide, %30	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).

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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G-Zero-Flex Product Description :

General : **G-Zero-Flex is an innovative thin laminate born from the market demand for a multifunctional surface that will combine both the technical and aesthetical aspects of decorative laminate.**

The decorative surface is produced by a unique technology that create an extremely resilience surface that enable to acquire the following properties :

@ Warm & soft touch – the special surface finish imitates the natural touch of wood and not as in melamine surfaces / Plastic materials that gives "cold" touch while handling.

@ Low light reflectivity – the ultra matt surface prevents any light reflection that might be needed both Design and environmental wise.

@ Anti Finger print – the surface characteristic enables the repellency of any moisture residue due to finger Touch and hens do not leave any finger print after touching / handling.

@ High scratch and micro scratch resistance – the surface is resilient against scratches (caused by sharp Edges) and against micro scratch (caused by abrasive materials)

@ Self Healing – the surface can be repaired in case of slight scratches

@ PF – The laminate can be produces both as HGS or HGP

@ Hygienic – suitable for use as kitchen worktop

@ Chemical resistance – suitable for surface cleaning with all household cleaners / reagents and resistance Against most of the industrial chemicals (Hard acids / Hard bases / organic solvents / inorganic salts)

All the above listed advantages enable the G-Zero-Flex to be used in various areas such as : Kitchen, living Rooms, bathrooms, dining rooms, furniture, restaurant's, healthcare facilities and hospitals.

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G-Zero-Flex Cleaning and Maintenance Instructions (1) :

General :

As the surface of G-Zero-Flex acquire low light reflectivity , the use of any cleaning materials that contain abrasive substances and/or cleaning agents that contain low acidic value or high alkali value , might damage the surface permanently . Hence , the following cleaning instruction is recommended :

Cleaning Agents that should not be used :

The following cleaning agents should not be used : Abrasive scrubbing liquid , Abrasive scrubbing solid , Steal wool , Abrasive sponge , cleaning agents with low acidic value , cleaning agents with high alkali value

Cleaning Cloth / paper / sponge :

- Cleaning cloth should be free of dust that might scratch the surface
- Non abrasive Micro Fiber cloth use is highly recommended (Any non abrasive Micro Fiber cloth available in the market)
- Melamine Sponge
- Cleaning paper – any cleaning paper suitable for kitchen use

Cleaning Agents :

- Warm water : heated tap water up to 40°c
- Degreaser spray : Any Degreaser spray available in the market for kitchen surface cleaning
- Organic Solvent : Acetone / Methanol / Ethanol are suitable for cleaning use
- UNIKA Super Matt Laminate Cleaner

Cleaning food stuff :

- Any food stuff such as Coffee , Tea , Milk , Red Wine , Balsamic vinegar , Oil , Soft Drinks , Coca Cola , Fruit juice , wine , mustard , jam or ketchup must be cleaned from the surface of the laminate
- First remove the stain with a degreaser spray and a dry micro fiber cloth
- Second clean the residue with warm water and microfiber cloth
- In case the stain is not removed use UNIKA Super Matt Laminate cleaner according to producer instruction
- In case the stain is not removed see blow instructions for cleaning oily surface
- In case the stain is removed wipe any residue of moisture with a dry micro fiber cloth

Cleaning oily surface :

- Any substance that might cause oily surface such as vegetable oil , greasy cooked food , animal fat , glues or Acacia gum must be cleaned from the surface of the laminate .
- First remove the residue with cleaning paper .
- Second remove any stain left on the surface with a degreaser spray and a dry micro fiber cloth
- In case the stain is not removed use UNIKA Super Matt Laminate cleaner according to producer instruction
- In case the stain is not removed see blow instructions for cleaning sticky surface
- In case the stain is removed wipe any residue of moisture with a dry micro fiber cloth

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G-Zero-Flex Cleaning and Maintenance Instructions (2) :

Cleaning cosmetic product surface :

-Any cosmetic product such as Nail Varnish , Lipstick or facial powder must be cleaned from the surface of the laminate
-Remove the residue with a cleaning paper soaked with organic solvent
-Remove any stain left on the surface with a degreaser spray and a dry micro fiber cloth
-Clean the surface with warm water and microfiber cloth
-In case the stain is not removed use UNIKA Super Matt Laminate cleaner according to producer instruction
-Wipe any residue of moisture with a dry micro fiber cloth

Cleaning sticky surface :

-Any substance that might cause sticky surface as wax , solvent base glue , silicone base glue , adhesive tape , solvent base paint , nail polish , hair spray , oily facial past , Marker , Shoe polish , Pencil , graffiti spray or lacquers must be removed from the surface of the laminate
-Remove the residue with a cleaning paper soaked with organic solvent
-Remove any stain left on the surface with a degreaser spray and a dry micro fiber cloth
-Clean the surface with warm water and microfiber cloth
-In case the stain is not removed use UNIKA Super Matt Laminate cleaner according to producer instruction
-Wipe any residue of moisture with a dry micro fiber cloth

Micro Scratch Thermal Healing Instruction :

Micro Scratch Thermal Healing process : Heat iron to medium/high temperature (180 - 200°c) . Place a Wet towel (Paper base / full cotton base) on the area of the micro scratch . Place the hot iron on the wet Towel with a slight press for 20 seconds (Max.) . Remove the iron and the wet towel and wipe With a dry towel (Paper base / full cotton base) . wait for 2 minutes to examine the surface . The Thermal healing process can be applied on the same area (Heated and Micro scratched) only for 1 (one) Time and any attempt to return the Process for the 2nd time will damage the surface visual and physical Properties .

Maintenance Instructions :

As the surface of G-Zero-Flex acquire an anti static characteristics , no need for daily maintenance , only in case of dirt or dust . In case of micro scratches see the following maintenance instructions .

Periodic maintenance :

-Use a damp micro fiber cleaning cloth soaked with warm water
-Wipe any residue of moisture with a dry micro fiber cloth
-In case the stain is not removed use UNIKA Super Matt Laminate cleaner according to producer instruction

Micro scratches maintenance :

-See the above instructions for Micro Scratch Thermal Healing process