

**TECH DATA**

NEMA STAIN TEST RESULTS				
REAGENT		CLEANING STEPS	SCORE	EFFECT
1	Distilled Water	- - - - -	0	N
2	Ethyl alcohol: water (50:50)	- - - - -	0	N
3	Acetone	- - - - -	0	S
4	Household ammonia	- - - - -	0	N
5	10% citric acid solution	- 1 - - -	1	N
6	Vegetable cooking oil	- - - - -	0	N
7	Coffee	- - - - -	0	N
8	Tea	- - - - -	0	N
9	Tomato catsup	- - - - -	0	N
10	Yellow mustard	- - - - -	0	N
11	Povidone iodine (10%)	- - - - -	0	N
12	Permanent marker	- 1 1 - 1	3	N
13	#2 pencil	- 1 1 - 1	3	N
14	Wax crayon	- 1 1 - 1	3	N
15	Black shoe polish	- 1 1 - 1	3	N
<b>OVERALL CLEANABILITY</b>			<b>13</b>	

Total Score represents number of cleaning steps implemented to remove stains made by common household substances (shown left)

**CLEANING STEPS**

- 0 = Removed with water
- 1 = 25 cycles spray cleaner or sponge
- 2 = 25 cycles baking soda plus spray cleaner on brush
- 3 = Acetone and cotton ball
- 4 = Bleach plus cotton ball
- 5 = Not removed

**STAIN RESISTANCE/EFFECT**

- N = No Effect
- M = Moderate Effect  
Difficult to perceive stain
- S = Severe Effect  
Easily perceive stain or damage to surface

SCRATCH, WEAR, AND IMPACT RESISTANCE	
TEST	RESULTS
DIN EN 15186 ....	0.4 N / Class 4F
3.7 Linear Glass Scratch ....	<20g
3.7 Diamond Scratch ....	Rating 2
3.8 Ball impact resistance....	<250 mm
3.9 Dart Impact resistance....	>125 mm
3.13 Wear resistance....	8,000 (average cycles)

Please see NEMA LD3 2005 for a complete description of methods and list testing procedures.

Test results may vary by color and finish.

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be understood as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed.



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REAGENT		CLEANING STEPS	SCORE	EFFECT
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3	Acetone	- - - - -	0	S
4	Household ammonia	- - - - -	0	N
5	10% citric acid solution	- - - - -	0	N
6	Vegetable cooking oil	- - - - -	0	N
7	Coffee	- - - - -	0	N
8	Tea	- - - - -	0	N
9	Tomato catsup	- - - - -	0	N
10	Yellow mustard	1 1 1 1 1	5	N
11	Povidone iodine (10%)	- 1 - - -	1	N
12	Permanent marker	- 1 1 - 1	3	N
13	#2 pencil	- 1 1 - 1	3	N
14	Wax crayon	- 1 1 - -	2	N
15	Black shoe polish	- 1 1 - -	2	N
<b>OVERALL CLEANABILITY</b>			<b>16</b>	

Total Score represents number of cleaning steps implemented to remove stains made by common household substances (shown left)

### CLEANING STEPS

- 0 = Removed with water
- 1 = 25 cycles spray cleaner or sponge
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### STAIN RESISTANCE/EFFECT

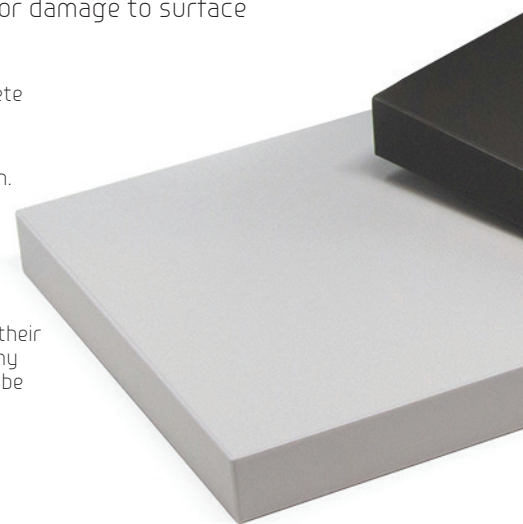
- N = No Effect
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Difficult to perceive stain
- S = Severe Effect  
Easily perceive stain or damage to surface

SCRATCH, WEAR, AND IMPACT RESISTANCE	
TEST	RESULTS
DIN EN 15186 ....	1.6 N / Class 4F
3.7 Linear Glass Scratch ....	<20g
3.7 Diamond Scratch ....	Rating 1
3.8 Ball impact resistance....	300 mm
3.9 Dart Impact resistance....	>125 mm
3.13 Wear resistance....	8,000 (average cycles)

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TEST		RESULTS		
Properties	description	PET	HPL	RTF/TFM
<b>NEMA Scratch resistance Diamond Scratch Method (Rating 1-5)</b>	Reports the scratch resistance as the lowest mass at which a grade of "1" occurs or greater than 200 g if no grade of "1" is recorded.	High Gloss 0.4 N   2 Super Matte 1.6 N   2	1 N   2	2 N   3
<b>NEMA Scratch Resistance Linear Glass Scratch Method</b>	Measures the ability of the surface to resist scratching by a material of similar sharpness and hardness to silica or diamond.	<20g	-	-
<b>NEMA Light resistance (UV)</b>	Measures the ability to retain its color when exposed to a light source approximating sunlight through window glass.	No Effect	Slight Effect	Slight Effect
<b>NEMA Wear resistance</b>	Measures the ability of the surface to resist abrasive wear-through of the decorative layer.	8,000 cycles	400 cycles	400 cycles
<b>NEMA Stain resistance</b>	Measures the stain resistance of the laminate by common household substances, coffee, tea, mustard, catsup, amonia, etc.	Stain 1,2, 4-15 No Effect 3 Severe (acetone only)	Stain 1-10 = No effect 11-15 = Moderate	Stain 1-10 = Moderate 11-15 Slight to moderate (iodine only)
<b>NEMA Cleanability</b>	Value represents number of cleaning steps implemented to remove stains made by common household substances.	0-13	10-20	5-13
<b>NEMA Ball Impact resistance 224g steel ball 38.1mm diameter</b>	Measures the ability of the laminate to resist fractures due to impact by a large diameter ball.	>118" results in dents	> 50" results in fracture	> 15" results in fracture
<b>NEMA High Temperature Resistance</b>	This test measures the ability of the surface to maintain its color and surface finish when subjected to a high temperature. 185° C (365° F) for 20 minutes.	No Effect >245° C   473° F results in distortion of surface	Slight Effect >180° C   356° F results in discoloration	Moderate Effect >140° C   285° F results in discoloration

### NEMA Test Results Version LD3-2005

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