



SGS intertek

SEVENHRTM

ALUMINIUM COMPOSITE PANEL



WIN-WIN COOPERATION AND INNOVATION



MS-3101 Bright Silver



MS-3102 Sub Silver



MS-3104 Iron Grey



MS-3105 Champagne Golden



MS-3114 Cooper



MS-3117 Golden



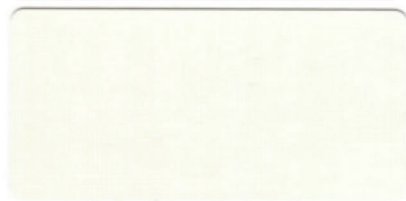
MS-3118 Jade Silver



MS-2013 Pearl Orange



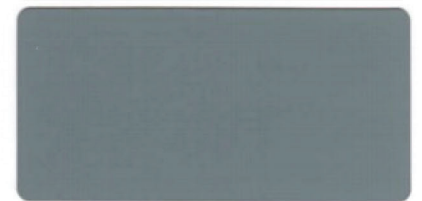
MS-3150 Champagne Gold Metallic



MS-3152 Snow White



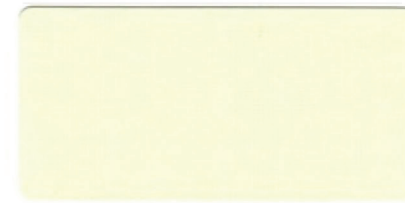
MS-3112 Grey



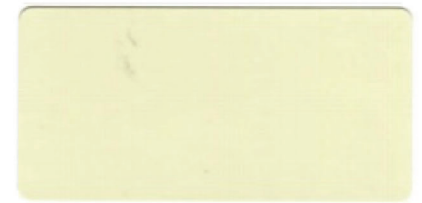
MS-3115 China Grey



MS-3103 White



MS-3125 Milk White



MS-3153 Cream



MS-3136 Pure Gold



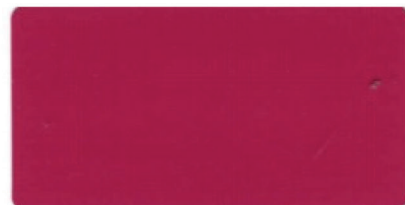
MS-3113 Green



MS-7015 Grey Ral



MS-3111 Red



MS-3198 Magenta Red



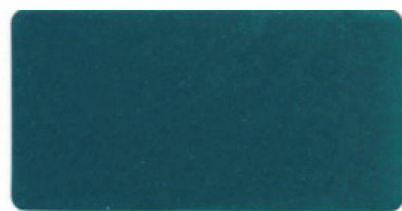
MS-3202 Espresso



MS-3116 Dark Blue



MS-3108 Coffee



MS-3129 Dark Green



MS-3237 Signal Blue



MS-3123 Dark Yellow



MS-3383 Light Green Glossy



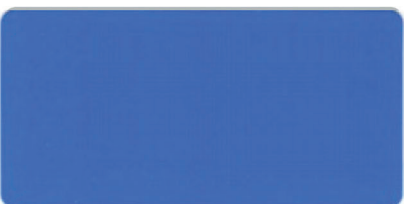
MS-9101 Blue



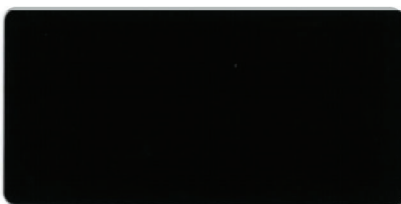
MS-3110 Yellow



MS-3238 Signal Orange



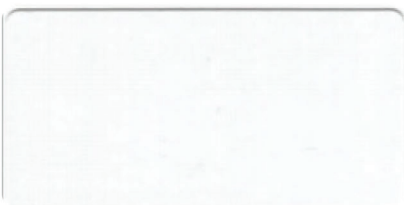
MS-3109 Sea Blue



MS-3130 Black



MS-3115 Orange



MS-3176 White Glossy



MS-3177 Red Glossy



MS-3231 Yellow Glossy



MS-4218 Green Glossy



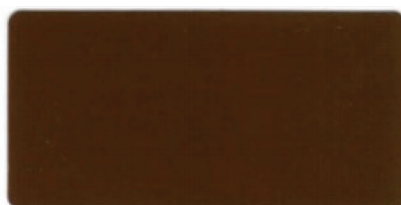
MS-3003 Ruby Red Glossy



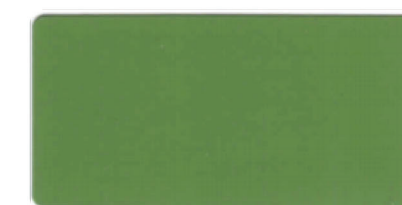
MS-3181 Green Lime



MS-3175 Brilliant Orange Glossy



MS-3178 Brown Glossy



MS-3036 Sparkling Autumn



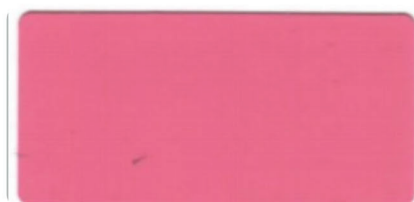
MS-3236 Dark Blue Glossy



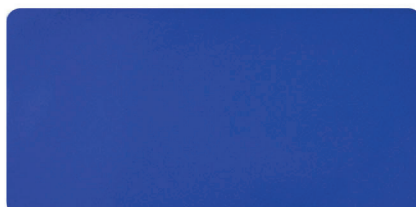
MS-3195 Light Almond Glossy



MS-3232 Signal Blue Glossy



MS-3242 Pink Rose Glossy



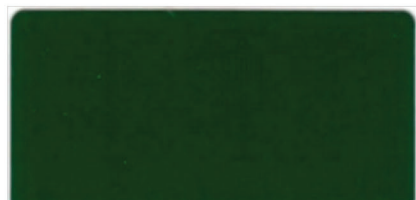
MS-3235 Blue Glossy



MS-3246 Black Glossy



MS-3006 Sparkling Purple



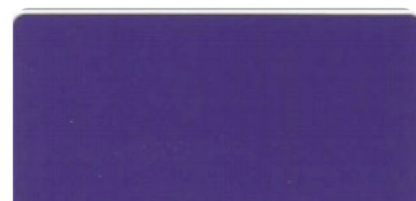
MS-3035 Sparkling Green



MS-3030 Sparkling Black



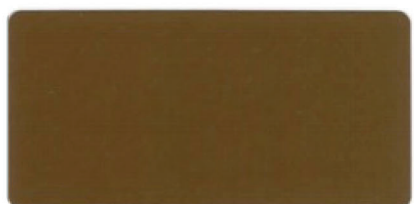
MS-3244 Sparkling Red



MS-3243 Sparkling Violet



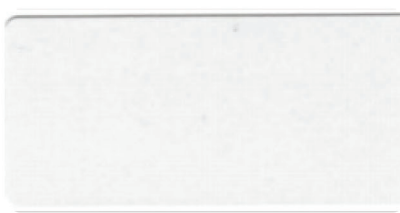
MS-3239 Sparkling Blue



MS-8008 Olive Brown



MS-6025 Blue Glossy



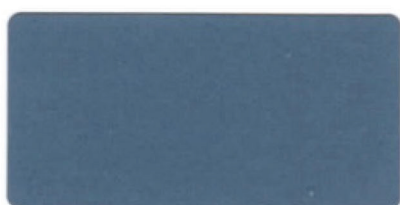
MS-3358 Sparkling White



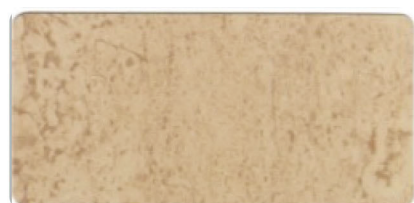
MS-3182 Metallic Grey



MS-3179 Metallic Black



MS-3319 Metallic Blue



MS-3306 Travertine Marble



MS-5101 Horse Chestnut



MS-5102 Hazel Bright



MS-5103 Savin Golden



MS-5104 Alpine Maple



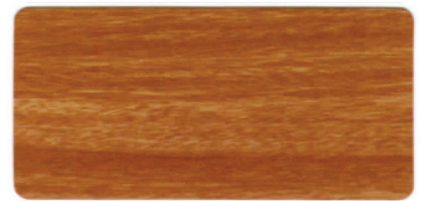
MS-5105 Mezereon Brown



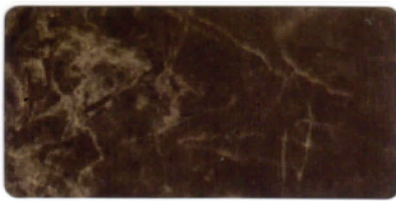
MS-5106 Grape Rose



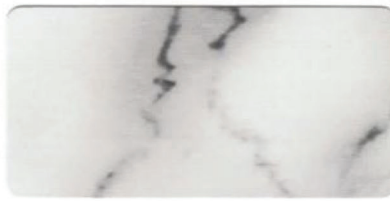
MS-5107 Cornel Tree



MS-5108 Stripe Daphine



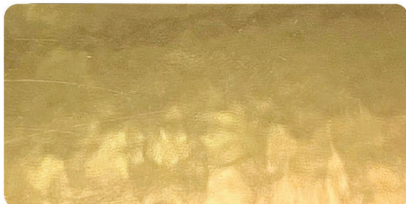
MS-3301 Marble



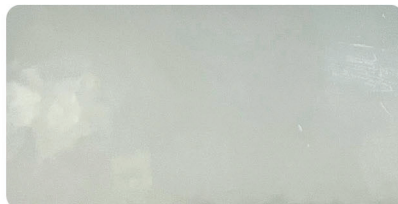
MS-3303 White Granite



MS-9102 Gold Diamond



MS-7119 Gold Mirror



MS-7118 Silver Mirror



MS-7120 Rose Mirror



MS-3194 Brush Silver



MS-3196 Brush Gold

test report of exterior						
No	test item		Standard index		test value	single item determination
			high-class	qualified class		
1	appearance quality	vestige	indistinct	indistinct	indistinct	high-class
		coating omit	not allowed	not allowed	no	high-class
		ripples	not allowed	indistinct	no	high-class
		rubblles (≤ 1 mm)	not allowed	≤ 1/m ²	no	high-class
		flaw (≤ 3 mm)	≤ 3/m ²	≤ 10/m ²	no	high-class
		abrasion	not allowed	total length ≤ 100m ²	no	high-class
		scratch	not allowed	total area ≤ 100m ²	no	high-class
		total number of abrasion and scratch	not allowed	≤ 4	no	high-class
2	dimensions deviation	aberration	indistinct	indistinct	indistinct	high-class
		length		±3mm	mm~+1.3mm	passed
		width		±2mm	mm~+1.1mm	passed
		thickness		±0.2mm	+0.04 mm ~+ 0.20 mm	passed
		squares		≤5mm	1.2mm	passed
		edge unstraightness		≤1mm/m	0.15mm/m	passed
		warpage		≤5mm/m	1.3mm/m	passed
3	coating thickness		2 coat min, ≥25μm		27μm average 28μm	passed
4	gloss tolerance		3 coat min, ≥25μm		36μm average 35μm	passed
5	pencil hardness		≤ 10g (glossy>70) ≤ 5 (glossy ≤ 70)		1.8 (golss=42.2)	passed
6	coating flexibility		≥ HB		3H	passed
7	coating adhesive		not lower than class I		class 0	passed
8	impact resistance		50Kg.cm no depainting, no crack		50Kg.cm no depainting no crack	passed
9	grinding resistance		≥ 5L / μm		12.9L/μm	passed
10	boiling water resistance		no change		no change	passed
11	pullute resistance		≤ 15%		2.5%	passed
12	acid resistance		no change		no change	passed
13	alkaline resistance		no change		no change	passed
14	oil resistance		no change		no change	passed
15	solvent resistance		no change		no change	passed
16	scrub resistance		no change when ≥ 1000 times		no change when 1000 times	passed
17	face density		specifide value+0.5Kg/m ²		5.59Kg/m ²	passed
18	bending strength		100MP		124.5MPa	passed
19	bending elastic modulus		≥ 20x104MPa		3.20x104MPa	passed
20	penetration resistance		≥ 9.0KN		9.8KN	passed
21	shearing strength		≥ 28.0MPa		29.8MPa	passed
22	180° peel strength		≥ 7.0N/mm		13.7N/mm	passed
23	temperature cycle resistance		no change		no change	passed
24	thermal expansion coefficient		≤ 4.00x10 ⁻⁵ °C ⁻¹		7.9x10 ⁻⁶ °C ⁻¹	passed
25	heat distortion temperature		≥ 105°C		105°C	passed
26	resistance salt spray		≤ grade 2		1 grade	passed
27	artificial weathering	colour differences	≤ 3.0		1.05	passed
		degradation of gloss	≤ grade 2		1 grade	passed
		others	0 grade		0 grade	passed

No.	test item		Standard index		test value	single item determination
			high-class	qualified class		
1	apperance quality	vestige	indistinct	indistinct	indistinct	high-class
		coating omit	not allowed	not allowed	no	high-class
		ripples	not allowed	indistinct	no	high-class
		rubblles(≤1mm)	not allowed	≤ 1/m ²	no	high-class
		flaw(≤3mm)	≤ 3/m ²	≤ 10/m ²	no	high-class
		abrasion	not allowed	total length 100m ²	no	high-class
		scratch	not allowed	total area 300/m ²	no	high-class
		total number of abrasion and scratch	not allowed	≤ 4	0	high-class
2	dimensions deviation	aberration	indistinct	indistinct	indistinct	high-class
		length		±3mm	0mm~+1.7mm	passed
		width		±2mm	0mm~+1.2mm	passed
		thickness		±0.2mm	+0.8mm~+0.12mm	passed
		squares		≤ 5mm	1.2mm	passed
		edge unstraightness		≤ 1mm/m	0.20mm/m	passed
		warpage		≤ 5mm/m	1.2mm/m	passed
3	coating thickness		min, ≥ 16μm		19μm average 20μm	passed
4	gloss tolerance		≤ 10g (glossy>70)		1.8 (golss=42.2)	passed
5	pencil hardness		≥ HB		3H	passed
6	coating flexibility		≥ 3T		1T	passed
7	coating adhesive		not lower than class I		class 0	passed
8	impact resistance		50Kg.cm no depainting, no crack		50Kg.cm no depainting no crack	passed
9	boiling water resistance		no change		no change	passed
10	acid resistance		no change		no change	passed
11	alkaline resistance		no change		no change	passed
12	oil resistance		no change		no change	passed
13	solvent resistance		no change		no change	passed
14	scrub resistance		no change when 10000 times		no change when 10000 times	passed
15	face density		specifide value ± 0.5 Kg/m ²		3.61kg / m ²	passed
16	bending strength		≥ 60MPa		68.3MPa	passed
17	bending elastic modulus		≥ 1.5 x 104MPa		2.01x104MPa	passed
18	penetration resistance		≥5KN		5.0KN	passed
19	shearing strength		>20.0MPa		20.4MPa	passed
20	180° peel strength		≥ 5.0N / mm		6.3N/mm	passed
21	temperature cycle resistance		no change		no change	passed
22	thermal expansion coefficient		≤ 4.00x10 ⁻⁶ °C ⁻¹		5.7x10 ⁻⁶ °C ⁻¹	passed
23	heat distortion temperature		≥ 95 °C		99 °C	passed

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TEST REPORT

Customer Name: JIANGSU METCOPLUS INDUSTRY INTL CO., LTD.
Address: 201000 Jiangsu Province, China
Product Name: 6118 Aluminum Composite Panel
Order Number: 20100000000000000000
Date of Report: 2010-10-20
Testing Date: 2010-10-20
Testing Site: 2010-10-20
Inspector: 2010-10-20
Total Value: 2010-10-20
Address: 2010-10-20

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Product Application Project



UPPPD Kalideres & Kembangan - Jakarta Barat



Tunas Muda School - Jakarta Barat



Ruko Ginza Jababeka Bekasi - Jawa Barat



Pertamina Research & Training Center - Jakarta Barat



Universitas Muhammadiyah Tangerang



Binus University Bandung - Jawa Barat



STMGK - Tangerang Selatan



Mako Damkar Kota Bekasi - Jawa Barat

Product Application Project



Noya x 80 Proof PIK 2 - Kab. Tangerang



Padel Club Coffe Alam Sutera - Tangerang



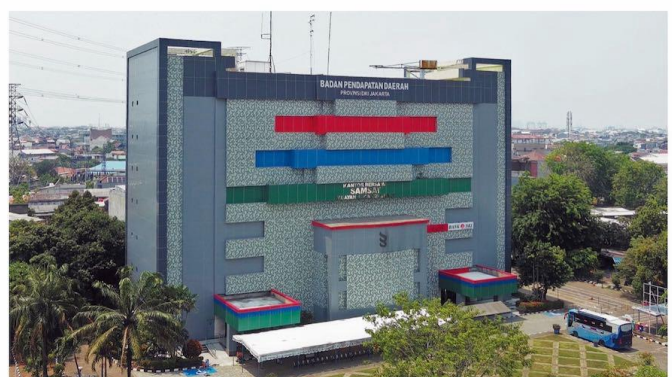
Highfield Secondary School - Depok



Binus University Bekasi - Jawa Barat



RS Kanker Dharmais - Jakarta Barat



Kantor Samsat - Jakarta Barat

HEAD OFFICE : MARKS BUILDING

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Kec. Serpong Utara, Kota Tangerang Selatan,
Banten 15325



Universitas Parahyangan Bandung - Jawa Barat