

# SEVENHR<sup>TM</sup>

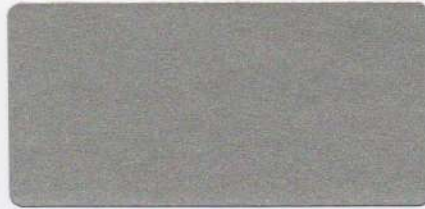
ALUMINIUM COMPOSITE PANEL



WIN-WIN COOPERATION AND INNOVATION



MS-3101 Bright Silver



MS-3102 Sub Silver



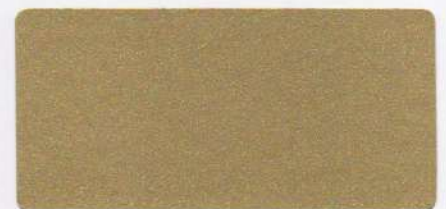
MS-3104 Iron Grey



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



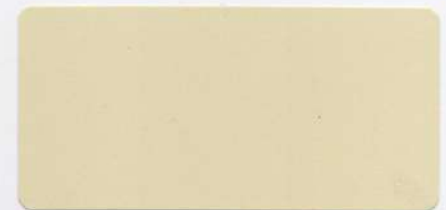
MS-3115 China Grey



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-3181 Green Lime



MS-3126 Blue



MS-3110 Yellow



MS-3238 Signal Orange



MS-3109 Sea Blue



MS-3130 Black



MS-3135 Orange



MS-3176 White Glossy



MS-3177 Red Glossy



MS-3231 Yellow Glossy



MS-4218 Green Glossy



MS-3003 Ruby Red Glossy



MS-3383 Light Green Glossy



MS-3175 Brilliant Orange Glossy



MS-3178 Brown Glossy



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-3358 Sparkling white



MS-3182 Metallic Grey



MS-3179 Metallic Black



MS-3319 Metallic Blue



MS-3036 Sparkling Autumn



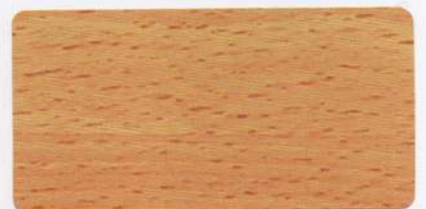
MS-3306 Travertine Marble



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-9115 Golden Beige



MS-7119 Gold Mirror



MS-7118 Silver Mirror



MS-3197 Brush Bronze



MS-3194 Brush Silver



MS-3196 Brush Gold



MS-9106 Terracotta



MS-9107 Matcha Green



MS-9118 Deep Blue Glossy



MS-9105 Dark Green Metallic



MS-9101 Deep Blue



MS-9116 Satin Grey



MS-9114 Leaf Green



MS-9117 Natural Wood



MS-9108 Terrazzo



MS-9111 Satin Brown



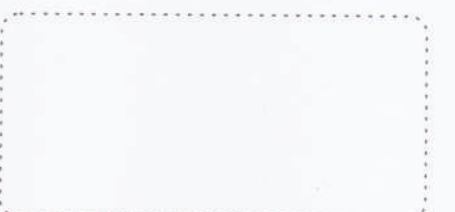
MS-9113 Gold Cooper



MS-9112 Brown Ral



MS-9110 Spark Gold Metallic





**Akzo Nobel Paint**



**Valspar Paint Supplier Certificate**



**Henkel**



**PPG Paint Supplier Certificate**



**CE Europe**



**ICC-ES**



**USA UI Certificate**



**WCA Certificate**



**Green Building Materials**



**ISO45001**



**ISO 14001**



**ISO 9001**



**Intertek**



**Intertek**



**Intertek**



**SGS**

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 <sup>2</sup>	no	high-class
		flaw (≤ 3 mm)	≤ 3/m <sup>2</sup>	≤ 10/m <sup>2</sup>	no	high-class
		abrasion	not allowed	total length ≤ 100m <sup>2</sup>	no	high-class
		scratch	not allowed	total area ≤ 100m <sup>2</sup>	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
		squaresness		≤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	
			3 coat min, ≥25μm	36μm average 35μm	passed	
4	gloss tolerance		≤ 10g(glossy>70) ≤ 5(glossy ≤ 70)	1.8(golss=42.2)	passed	
5	pencil hardness		≥ HB	3H	passed	
6	coating flexibility		≤ 2T	OT	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 <sup>2</sup>	5.59Kg/m <sup>2</sup>	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 <sup>-5</sup> °C <sup>-1</sup>	7.9X10 <sup>-6</sup> °C <sup>-1</sup>	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	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(<1mm)	not allowed	≤ 1/m <sup>2</sup>	no	high-class
		flaw(≤3mm)	≤ 3/m <sup>2</sup>	≤ 10/m <sup>2</sup>	no	high-class
		abrasion	not allowed	total length 100m <sup>2</sup>	no	high-class
		scratch	not allowed	total area 300/m <sup>2</sup>	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
		squaresness		≤ 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 <sup>2</sup>	3, 61kg / m <sup>2</sup>	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 <sup>-6</sup> °C <sup>-1</sup>	5.7x10 <sup>-6</sup> °C <sup>-1</sup>	passed	
23	heat distortion temperature		≥ 95 °C	99 °C	passed	

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



STMKG - 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