

National Inspection Report (Aluminium Composite Panel)

Test Report of National Research Center of Testing Techniques for Building Materials

Serial Number : [2004] Naterional Construction Sampling Number 1052

TESTITEM		STANDARY INDEX		TEST VALUE	SINGLE ITEM DETERMINATION
		HIGH-CLASS	QUALIFIED CLASS		
appearance quality	vestige	indistinct	indistinct	indistinct	high-class
	coating omit	not allowed	not allowed	no	high-class
	ripples	not allowed	indistinct	no	high-class
	bubbles($\leq 10\text{mm}$)	not allowed	≤ 1 bubble/m ²	no	high-class
	flaw($\leq 3\text{mm}$)	≤ 3 points/m ²	≤ 10 points/m ²	no	high-class
	abrasion	not allowed	total length $\leq 100\text{mm}$ /m ²	no	high-class
	scratch	not allowed	total area $\leq 300\text{mm}$ /m ²	no	high-class
	total number of abrasion and scratch	not allowed	≤ 4	0	high-class
	aberration	indistinct	indistinct	indistinct	high-class
dimensions deviation	length	$\pm 3\text{mm}$		0mm ~+ 1mm	passed
	width	$\pm 2\text{mm}$		0mm ~+ 1mm	passed
	thickness	$\pm 0.2\text{mm}$		-0.02mm ~ + 0.04mm	passed
	squareness	$\leq 5\text{mm}$		1mm	passed
	edge unstraightness	$\leq 1\text{mm} /\text{m}$		0.2mm /m	passed
	warpage	$\leq 5\text{mm} /\text{m}$		1.5mm /m	passed
coating thickness		Min. $\geq 25\mu\text{m}$		31 μm Average 32 μm	passed
gloss tolerance		10 \leq (gloss < 70) 5 \leq (gloss \geq 70)		3.5(gloss=35.9)	passed
pencil hardness		$\geq \text{HB}$		3H	passed
coating flexibility		$\leq 2\text{T}$		2T	passed
coating adhesive		not lower than class 1		class 1	passed
impact resistance		50kg .cm no depainting no crack		50kg .cm no depainting no crack	passed
grinding resistance		$\geq 5\text{L} /\mu\text{m}$		16.6L / μm	passed

boiling water resistance	no change	no change	passed
pulute resistance	$\leq 15\%$	2%	passed
acid resistance	no change	no change	passed
alkaline resistance	no change	no change	passed
oil resistance	no change	no change	passed
solvent resistance	no change	no change	passed
scrub resistance	no change when ≥ 10000 times	no change when 10000 times	passed
bending strength	$\geq 100\text{MPa}$	102MPa	passed
bending elastic modulus	$\geq 2.0 * 10000 \text{ MPa}$	2.86* 10000 MPa	passed
penetrating resistance	$\geq 9.0\text{kN}$	10.4kN	passed
shearing strength	$\geq 28.0\text{MPa}$	29.9MPa	passed
180° peel strength	$\geq 7.0\text{N/mm}$	16.1N/mm	passed
temperature cycle resistance	no change	no change	passed
thermal expansion coefficient	$\leq 4.00 * 1 / 100000^{\circ}\text{C}^{-1}$	0.91*1/ 100000 $^{\circ}\text{C}^{-1}$	passed
heat distortion temperature	$\geq 105^{\circ}\text{C}$	109 $^{\circ}\text{C}$	passed
other item			is carrying on