Intertek Testing Services Building Products
Building T52-8, No. 1201 Gui Qiao Road,Jinqiao Development Area,
Pudong District, Shanghai, China 201206,
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Test Verification of Conformity

On the basis of the referenced test report(s), the sample(s) of the below product has been found to comply with the relevant harmonized standard(s) to the directive(s) listed on this verification at the time the tests were carried out.
The manufacturer may indicate compliance to said directive(s) by signing a DoC himself and applying the CE-marking to products identical to the tested sample(s). In addition, the manufacturer shall file and keep the documentation according to the rules of the applicable directive(s) and shall consider changes of the standard(s) if relevant. Additional requirements may be applicable such as additional directives or local laws.

Applicant Name & Address	:	Multipanel UK Ltd. Unit 6, Site 2, Oak Business Units, Thorverton Road, Matford, Exeter, Devon. EX2 8FS, UK
Product(s) Tested	:	Aluminum composite panel
Ratings and principal characteristics	:	Tensile strength, Flexural strength, Resistance to fixing, Release of dangerous substance (REACH), Durability, Reaction to fire (Class B-s1,d0), Bond strength, Artificial accelerating weathering, Density, Sound transmission, Thermal conductivity
Model(s)	:	ALUPANEL (2mm, 3mm, 4mm, 6mm) ALUPANEL LITE (2mm, 3mm, 4mm) ECOPANEL (2mm, 3mm) ALUPANEL DIGITAL SUPER 8 (8mm)
Brand name	:	ALUPANEL
Relevant Standard(s) / Specification(s) / Directive(s)	:	EN10002-1:2001, EN310:1993, EN13446:2002, EN1604:1997, EN13501-1:2002, EN319:1993, ISO4892-2:2006, EN1602:1997, ISO140-3:1995, EN 12664:2001, REACH
Verification Issuing Office Name & Address	:	Intertek Testing Services Ltd. Shanghai JinQiao Branch Building T52-8, No. 1201 Gui Qiao Road, Jinqiao Development Area, Pudong District, Shanghai, China 201206
Verification/Report Number(s)	:	AU09114039-1(R1)

NOTE 1: This verification is part of the full test report(s) and should be read in conjunction with it.

Signature

Name: Stanley Zhou

Position: Laboratory Manager

Date: March 10, 2010

TEST REPORT

Report Reference No. ..... :	AU09114039-1(R1)
Prepared by (name and signature) .. :	Jodie Zhou
Approved by (name and signature).. :	Stanley Zhou
Date of issue ..... :	2010-03-10
Contents..... :	Total test report 8 pages including: Report text: 7 pages Appendix A for product photos: 1page
Testing Laboratory name ..... :	Intertek Testing Services Building Products
Address..... :	Building T52-8, No.1201 Gui Qiao Road, Jinqiao Development Area, Pudong District, Shanghai , China
Testing location..... :	Same as above
Applicant's name ..... :	MULTIPANEL UK LTD
Address..... :	Unit 6, Site 2, Oak Business Units, Thorverton Road, Matford, Exeter, Devon. EX2 8FS, UK
Test specification:	
Standard..... :	EN10002-1:2001, EN310:1993, EN13446:2002, EN1604:1997, EN13501-1:2002, EN319:1993, ISO4892-2:2006, EN1602:1997, ISO140-3:1995, EN 12664:2001, REACH
Non-standard test method.....:	N/A
Test item description..... :	Aluminum composite panel
Trade Mark..... :	ALUPANEL (ALUPANEL DIGITAL SUPER 8 / ALUPANEL LITE / ECOPANEL)
Model and/or type reference ..... :	ALUPANEL (2mm, 3mm, 4mm, 6mm) ALUPANEL LITE (2mm, 3mm, 4mm) ECOPANEL (2mm, 3mm) ALUPANEL DIGITAL SUPER 8 (8mm)
Manufacturer ..... :	Same as above
Rating(s)..... :	—

Summary of testing:

The submitted samples were tested in accordance with specified standards, and listed the result accordingly, refer to text for detail.

Test item particulars	
Classification of installation and use ..... :	Reaction to fire Class B-s1, d0
Supply Connection..... :	—
Possible test case verdicts	
- Test case does not apply to the test object..... :	N/A
- Test object does meet the requirement..... :	P (Pass)
- Test object does not meet the requirement..... :	F (Fail)
Testing	
Date of receipt of test item..... :	2009-11-24
Date (s) of performance of tests..... :	2009-12-1 to 2010-3-4

General remarks:

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Throughout this report a comma (point) is used as the decimal separator.

When determining the test result, measurement uncertainty has been considered.

General product information:

Aluminum composite panels, size (length×width×thickness):

2440mm×1220mm×2mm,

2440mm×1220mm×3mm,

2440mm×1220mm×4mm,

2440mm×1220mm×6mm,

2440mm×1220mm×8mm,

Product Photographs were presented in Appendix A

Performance test		
Clause	Requirement - Test	Result
Density	The test was determined according to EN 1602. Measure the linear dimensions of test specimens. Calculate the volumes (V) of the test specimens from these measurements. Weigh each test specimen and record its mass (m) in kilograms. Calculate the apparent overall density (ρ) using the equation: ρ=m/V	Density range: 1046 kg/m^3 (8mm) 1100 kg/m^3 (6mm) 1242 kg/m^3 (4mm) 1143 kg/m^3 (3mm) 1384 kg/m^3 (2mm)
Tensile strength	The test was determined according to EN 10002-1. The specimen was only the aluminum sheet. Machined the specimen according to the standard. The test rate was 2MPa/s. Record the tensile strength and elongation at break.	Tensile Strength: 149MPa Elongation: 10.3%
Flexural strength	The test was determined according to EN 310. The modulus of elasticity in bending and bending strength are determined by applying a load to the centre of a test piece supported at two points. The modulus of elasticity is calculated by using the slope of the linear region of the load-deflection curve. The bending strength of each test piece is calculated by determining the ratio of the bending moment M, at the maximum load Fmax, to the moment of its full cross section. Series of both transverse and longitudinal test pieces are required.	Bending strength: Transverse: 55.1MPa Longitudinal: 52.8MPa Modulus of elasticity Transverse: 9804MPa Longitudinal: 9029MPa
Bond strength	The test was determined according to EN 319. Place the testing assembly in the grips and apply a force until rupture occurs. The load was applied at a constant rate of crosshead-movement throughout the test. Record the maximum load sustained by the test piece. The strength perpendicular to the plane of the board of was calculated according to the following formula: f=Fmax/(a×b) Fmax is the breaking load; a, b is the length and width of the test piece	Bond strength: 6.91MPa

Performance test		
Clause	Requirement - Test	Result
Resistance to fixing	The test was determined according to EN 13446. Place the test piece in the test jig, ensuring the application of the withdrawal force was along the axis of the fastener. The load was applied at a constant rate of crosshead-movement throughout the test. Measure the maximum load and record the result. The withdrawal parameter f was calculated according to the following formula: $f=Fmax/(d\times lp)$ Fmax is the maximum withdrawal load lp is the depth of penetration of fastener d is the diameter of fastener	Withdrawal capacity: Edge withdrawal: 6.60MPa Surface withdrawal: 5.10MPa
Durability	The test was determined according to EN 1604. Condition the test specimens at 23°C±2 °C, 50%±5% relative humidity. Determine the initial length, width and thickness in the same atmosphere. Expose a set of test specimen to these conditions. Low temperature: -30 °C±3 °C High humidity: 20 °C±2 °C, 90%±5% relative humidity The duration of exposure was 24 hours. Determine the final length, width and thickness of the test specimens. Calculate the dimensional changes, $\Delta\varepsilon_l$, $\Delta\varepsilon_b$ and $\Delta\varepsilon_d$ in percentage from the individual measurements.	Low temperature: $\Delta\varepsilon_l$: -0.1% $\Delta\varepsilon_b$: -0.1% $\Delta\varepsilon_d$: -1.6% High humidity: $\Delta\varepsilon_l$: 0.0% $\Delta\varepsilon_b$: 0.0% $\Delta\varepsilon_d$: -0.8%
Artificial accelerating weathering	The test was determined according to ISO 4892-2. Expose the specimens and the radiometer continuously run. The radiant flux was 60W/m2 between 300nm and 400nm (0.51W/m^2nm at 340nm). The weathering cycle consisted of a humidification period of 18 minutes and a drying period of 102 minutes at a black-standard temperature of 55℃ and 50% relative humidity. The overall weathering time was 300 hours.	No visible deterioration.

<table>
<tr><th colspan="3">Performance test</th></tr>
<tr><th>Clause</th><th>Requirement - Test</th><th>Result</th></tr>
<tr><td>Thermal Conductivity</td><td>The test was determined according to EN 12664.
By using the heat flow meter apparatus, the density of heat flow rate, heat flow rate, and the metering area that the heat flow rate crosses were measured; and the temperature difference across the specimen was measured by temperature sensors fixed at surfaces in contact with the specimens. Then thermal conductivity was calculated from measured density of heat flow rate, heat flow rate, metering area and temperature difference.</td><td>Thermal conductivity: 0.117W/mK</td></tr>
<tr><td>Reaction to fire</td><td>The test was determined according to EN 13501-1.
<table>
<tr><th colspan="2">Item</th><th>Requirement (Class B)</th><th>Result</th></tr>
<tr><td rowspan="3">SBI Test</td><td>Fire Growth rate Index 0.2MJ, W/s</td><td>≤120</td><td>104</td></tr>
<tr><td>Total Heat Release within 600s,MJ</td><td>≤7.5</td><td>3.2</td></tr>
<tr><td>Lateral Flame Spread</td><td><Edge of Specimen</td><td><Edge of Specimen</td></tr>
<tr><td rowspan="2">Smoke Production</td><td>Smoke Growth Rate s1, m^2/s^2</td><td>≤30</td><td>7</td></tr>
<tr><td>Total Smoke Production with 600s s1, m^2</td><td>≤50</td><td>50</td></tr>
<tr><td colspan="2">Flaming Droplets/ Particles d0</td><td>No flaming droplets/ particles occur within 600s</td><td>No flaming droplets/ particles occur within 600s</td></tr>
<tr><td>Ignitability Test</td><td>Exposure=30s, flame spread within 60s, mm</td><td>≤150</td><td><150</td></tr>
</table></td><td>Class B-s1, d0</td></tr>
</table>

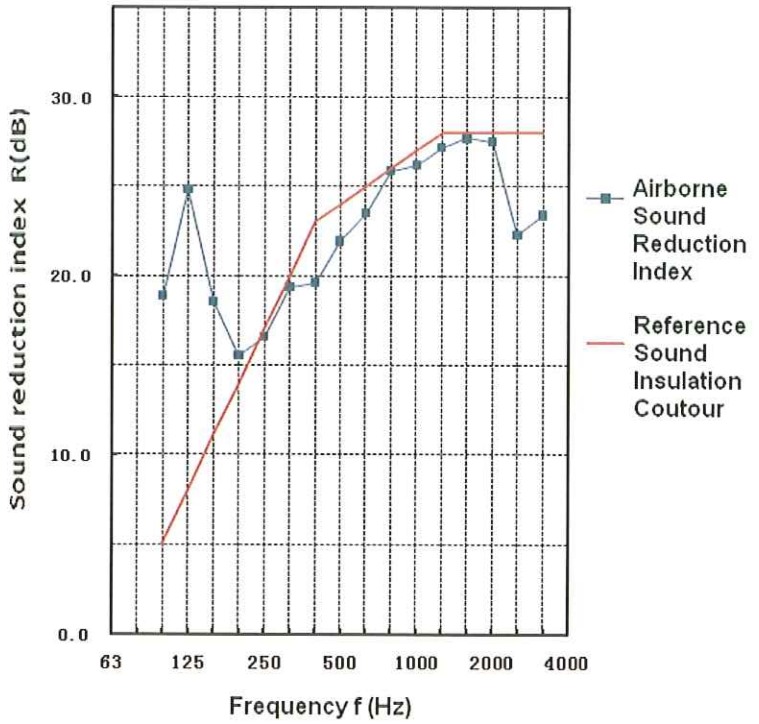
Performance test		
Clause	Requirement - Test	Result

Sound Transmission

The test was determined according to ISO 140-3.
Sound source: Pink noise;

Environment: Source room volume 62m^3. Receiving room volume 99 m^3. Air temperature 12℃. Air humidity 51%.

Parameter	Sound reduction index R(dB)					
Frequency (Hz)	100	125	160	200	250	315
Value(dB)	18.8	24.8	18.5	15.5	16.5	19.3
Frequency (Hz)	400	500	630	800	1000	1250
value (dB)	19.6	21.9	23.5	25.8	26.2	27.1
Frequency (Hz)	1600	2000	2500	3150	4000	5000
value (dB)	27.7	27.5	22.3	23.3	/	/

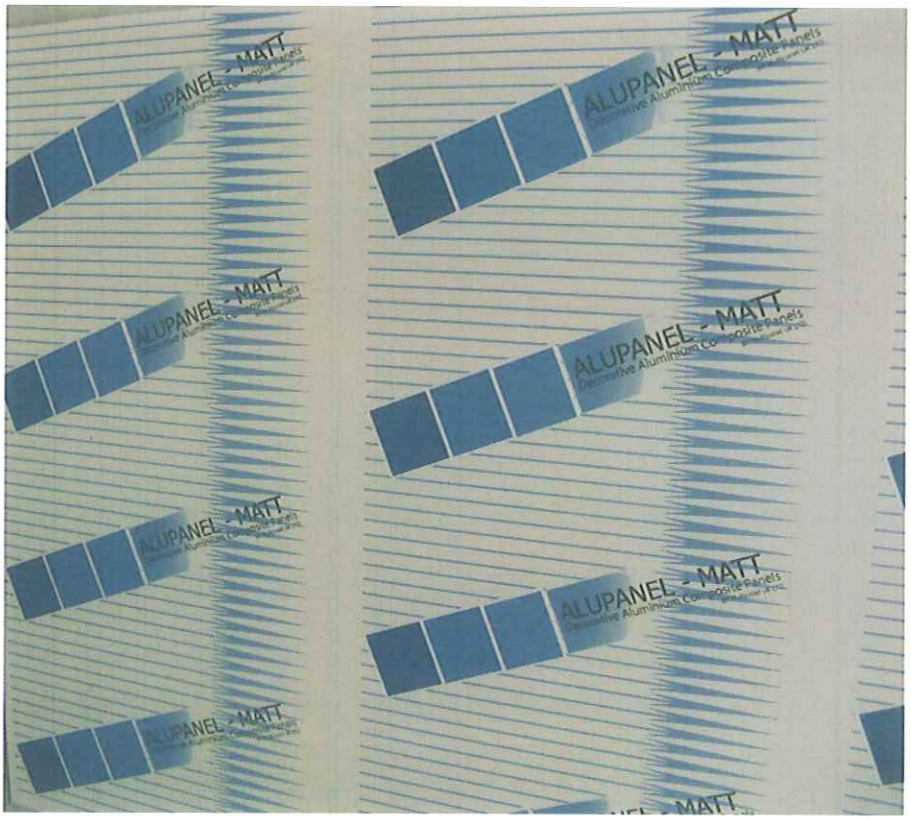


The single-number rating Rw of the test specimen in such project description is 24dB.

<table>
<tr><th colspan="3">Performance test</th></tr>
<tr><th>Clause</th><th>Requirement - Test</th><th>Result</th></tr>
<tr><td>Release of dangerous substance</td><td>The test was determined according to REACH.
By a combination of X-ray fluorescence spectroscopy, inductively coupled argon plasma spectrometry, gas chromatography- mass spectrometry, UV-VIS spectrophotometer, ion chromatography and gas chromatography- electron capture detected.
<table>
<tr><th>TESTING ITEM</th><th>RESULT (%(W/W))
PER TESTED PRODUCT</th></tr>
<tr><td>ANTHRACENE</td><td><0.1</td></tr>
<tr><td>4,4'-DIAMINODIPHENYLMETHANE</td><td><0.1</td></tr>
<tr><td>DIBUTYL PHTHALATE (DBP)</td><td><0.1</td></tr>
<tr><td>COBALT DICHLORIDE*</td><td><0.1</td></tr>
<tr><td>DIARSENIC PENTAOXIDE*</td><td><0.1</td></tr>
<tr><td>DIARSENIC TRIOXIDE*</td><td><0.1</td></tr>
<tr><td>SODIUM DICHOMATE*</td><td><0.1</td></tr>
<tr><td>5-TERT-BUTYL-2,4,5-TRINITRO-M-XYLENE (MUSK XYLENE)</td><td><0.1</td></tr>
<tr><td>BIS (2-ETHYLHEXYL) PHTHALATE (DEHP)</td><td><0.1</td></tr>
<tr><td>HEXABROMOCYCLODODECANT (HBCDD) AND ALL MAJOR DIASTEREOISOMERS IDENTIFIED:
ALPHA-HEXABROMOCYCLODODECANE
BETA- HEXABROMOCYCLODODECANE
GAMMA- HEXABROMOCYCLODODECANE</td><td><0.1</td></tr>
<tr><td>ALKANES, C10-C13, CHLORO (SHORT CHAIN CHLORINATED PARAFFINS)</td><td><0.1</td></tr>
<tr><td>BIS (TRIBUTYLTIN) OXIDE (TBTO)*</td><td><0.1</td></tr>
<tr><td>LEAD HYDROGEN ARSENATE*</td><td><0.1</td></tr>
<tr><td>TRIETHYL ARSENATE*</td><td><0.1</td></tr>
<tr><td>BENZYL BUTYL PHTHALATE (BBP)</td><td><0.1</td></tr>
</table>
Remark:
SVHC=Substance of very high concern
* =Determination was based on elemental analysis</td><td>According to specified test processes, content of all substances of very high concern (SVHC) in candidate list promulgated by European Chemicals Agency (ECHA), which are defined in article 57 of regulation (EC) No. 1907/2006 (REACH Regulation), are less than 0.1% (w/w) in submitted sample.</td></tr>
</table>

Appendix A

Product photos



**********End of Report**********