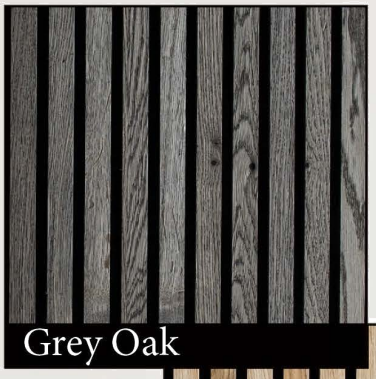
AkoustiPane

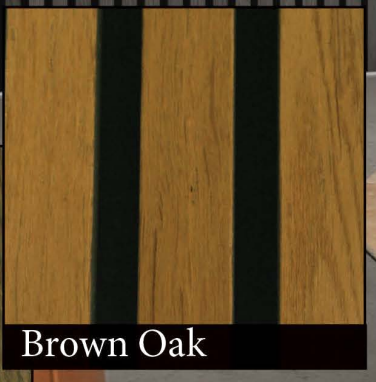
ACOUSTIC WALL PANELS + CEILING TILES

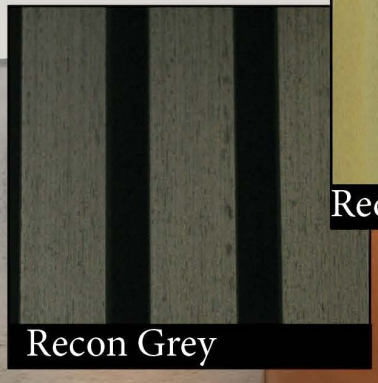

Grey Oak


Natural Oak


Walnut


Recon Maple


Brown Oak


Recon Grey


Smoked Oak

Integrating contemporary practicality with modern style.....

AkoustiPane is the optimal solution for efficient sound absorption and lowering the reverberation time in the area. This beautiful panel has acoustical strips and a wood veneer, laminate, or metallic face to get your desired look.

Available in 7 standard colors: Gray Oak, Natural Oak, Smoked Oak, Brown Oak, Walnut, Recon Gray & Recon Maple.

Also available in any Lab Designs high pressure laminate as well as phenolic backed metal from Specified Metals.

Material: PET Polyester Fiber, MDF, Wood Veneer

Size: 23. 5/8" x 94 1/2"

Thickness: 25/32"

ARCHITECTURAL Bling®

" Architectural Decorative Elements "

Dallas Design Community
4020 N MacArthur Blvd
122-270
Irving, TX 75038

214.613.2285 | ArchitecturalBling.com

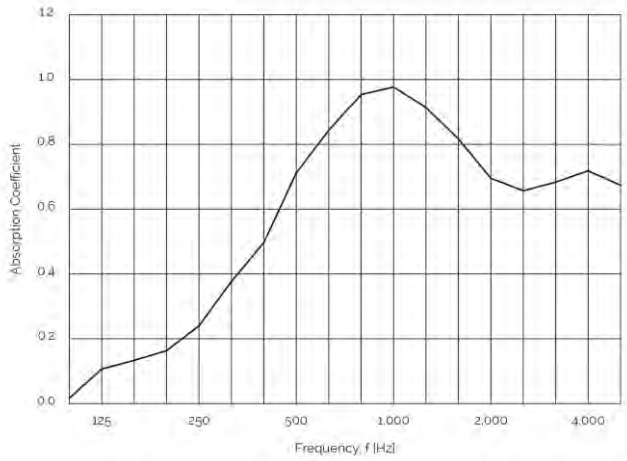
Specifying *AkoustiPane*

Division 6 (6400 Architectural Millwork)

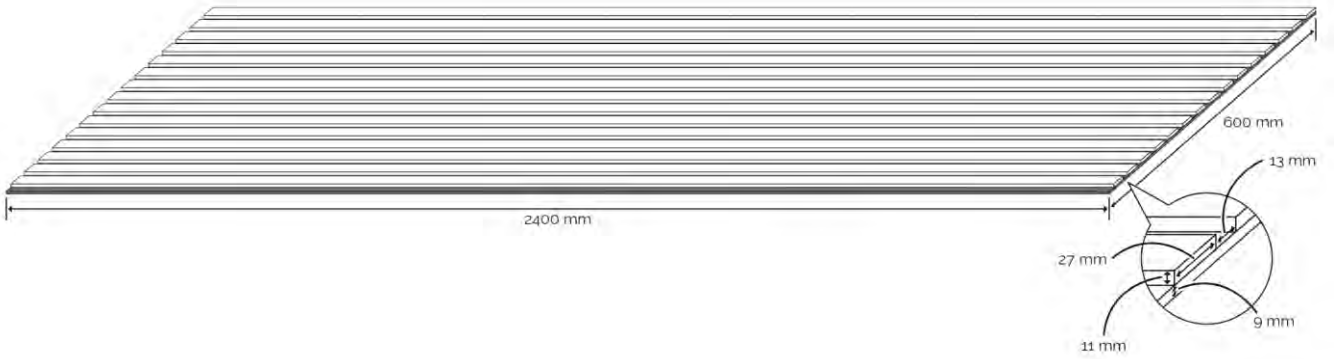
Veneer faced *AkoustiPane* are a stock item for Architectural Bling. Lead time for in stock panels is 2-4 business days to pack and prepare for shipping. Non stock panels generally have a 1-4 week lead time depending on quantity or availability of raw materials. Lead times are determined upon receipt of payment and current inventory, which are based on a “first-come, first-served” basis and are dependent upon our current work load and inventory. Architectural Bling does not charge nor accept additional charges to rush orders. All orders are processed as quickly as possible in the order they are received.

General Description:

The *AkoustiPane* product offers customers the beauty of natural wood veneer or the option of decorative HPL with the added benefit of superior sound absorption and lowering noise reverberation time. As shown in the graph below, the panel obtains a Noise Reduction Coefficient of 0.97 at a frequency of 1,000 Hz.



AkoustiPane is composed of Black PET Polyester Fiber, Black through colored MDF that can be faced with either real wood veneer or HPL (high pressure laminate). Nominal panel sizes are 600mm x 2400mm x 20mm (23 5/8” x 94 ½” x 13/16”). Each strip is 11mm thick and 27mm wide with a 13mm gap in between. They are attached to 9mm thick black PET Polyester Fiber material using staples from the backside. Each panel weighs approximately 35lbs.



Core Materials Flame Spread and Smoke Developed Index:

The PET backer has a Flame Spread Index of 0 and a Smoke Developed Index of 350.
The black thru colored MDF has a Flame Spread Index of 15 and a Smoke Developed Index of 5.
Class A classification has Flame Spread Index of 0-25 with Smoke Developed Index of 0-450.

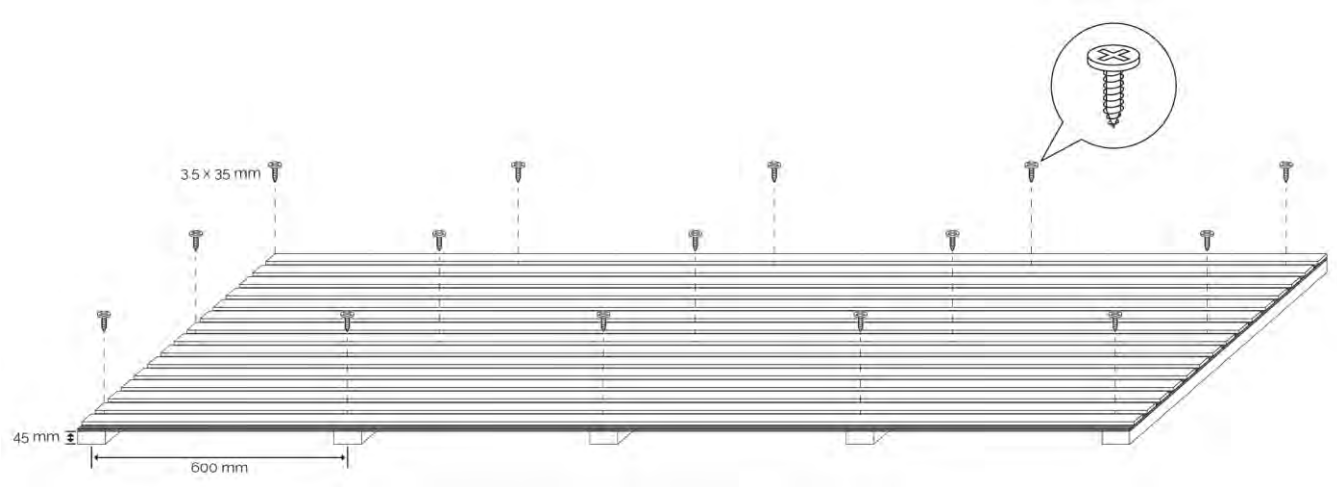
Color Consistency of Natural Wood Veneers:

Common characteristics of natural wood veneers include variations in color, grain, texture and figure. “End to end” alignment and matching of the veneer cannot be guaranteed from panel to panel. The incorporation of framework, reveals, etc. should be considered to achieve the desired effect.

Decorative HPL (high pressure laminate) may be used for more consistent colors, grains, textures etc.

AkoustiPane Installation:

AkoustiPane can be installed on walls and ceilings. For direct application, furring strips installed directly to the wall or ceiling on 600mm (24") centers perpendicular to the *AkoustiPane* are recommended. *AkoustiPane* can then be attached to the furring strips by using screws between the strips through the PET fiber backing into the studs. A minimum of 15 screws per panel is recommended. Using a black-anodized screw will achieve the best appearance. In addition to the screws a small bead of construction adhesive applied to the furring strips may also be used if desired.



Along with using furring strips, ceiling installations may also be achieved by cutting the *AkoustiPane* to fit into a suspended ceiling grid system similar to what is used for typical drop ceilings. *AkoustiPane* may also be suspended from the ceiling in full panel lengths as well. This is best achieved by attaching furring strips to the back of the panel. Threaded eyebolts can then be attached to the furring strips and then suspended at the preferred height using steel cables. To achieve a fixed mount, solid rods would need to be attached to the furring strips and then mounted to existing ceiling structure. Options will vary, and the assistance of a local structural engineer may be required to evaluate and make recommendations for individual jobsites. In all cases of using the *AkoustiPane* as suspended panels, the ceiling structure must be deemed acceptable to carry the weight load of the *AkoustiPane*. Local building codes and requirements should be checked and followed.

FURTHER QUESTIONS SHOULD BE DIRECTED TO: **info@ArchitecturalBling.com**

Prüfbericht-Nr.: *Test Report No.:*	**21223031-001**	**Auftrags-Nr.:** *Order No.:*	3118987	Seite 1 von 8 *Page 1 of 8*
Kunden-Referenz-Nr.: *Client Reference No.:*	-	**Auftragsdatum:** *Order date:*	17.07.2014	
Auftraggeber: *Client:*	Akou Holdings LTD, Sanli industrial park, no 59, Song shan road, Suzhou, jiangsu, China, 215000			
Prüfgegenstand: *Test item:*	Absorberplatten *absorber panel*			
Bezeichnung / Typ-Nr.: mm *Identification / Type No.:*	AkoustiPane 9			
Auftrags-Inhalt: *Order content:*	Bestimmung der Schallabsorption *determination of sound absorption*			
Prüfgrundlage: *Test specification:*	DIN EN ISO 354:2003-12 Akustik - Messung der Schallabsorption in Hallräumen Acoustics - Measurement of sound absorption in a reverberation room			

Wareneingangsdatum: *Date of receipt:*	22.07.2014
Prüfmuster-Nr.: *Test sample No.:*	A000062618-001
Prüfzeitraum: *Testing period:*	22.07.2014
Ort der Prüfung: *Place of testing:*	Nürnberg
Prüflaboratorium: *Testing laboratory:*	Labor Akustik
Prüfergebnis*: *Test result*:*	Siehe Sonstiges / See Other

Detaillierte Fotodokumentation
siehe Anlage zu diesem Bericht

Detailed photo documentation
see appendix to this report

geprüft von / *tested by:*			**kontrolliert von** / *reviewed by:*		
17.09.2014	Dipl.-Ing. Sebastian Rieger		17.09.2014	M.Sc. troph. **Susanne Schäfer**	
Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*	**Datum** *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

Sonstiges / *Other:* keine Bewertung möglich

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged*

* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar	5 = mangelhaft N/T = nicht getestet
Legend:	*1 = very good* *P(ass) = passed a.m. test specification(s)*	*2 = good*	*3 = satisfactory* *F(ail) = failed a.m. test specification(s)*	*4 = sufficient* *N/A = not applicable*	*5 = poor* *N/T = not tested*

Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel *Test equipment*	**Prüfmittel-Nr. / ID-Nr.** *Equipment No. / ID-No.*	**Nächste Kalibrierung** *Next calibration*
Multi-Analyzer System B&K 3560C	03538	08/2014
Multi-Analyzer System B&K 3560C	03539	08/2014
½" Diffusfeld Mikrofon Vorverstärker *½" free-field microphone with preamplifier* B&K 4943-C-001 serial no. 2517061	06348	08/2015
½" Diffusfeld Mikrofon Vorverstärker *½" free-field microphone with preamplifier* B&K 4943-C-001 serial no. 2517062	06349	08/2015
½" Diffusfeld Mikrofon Vorverstärker *½" free-field microphone with preamplifier* B&K 4943-C-001 serial no. 2517063	06350	08/2015
½" Diffusfeld Mikrofon Vorverstärker *½" free-field microphone with preamplifier* B&K 4943-C-001 serial no. 2517064	06351	08/2015
½" Diffusfeld Mikrofon Vorverstärker *½" free-field microphone with preamplifier* B&K 4943-C-001 serial no. 2517065	06352	08/2015
½" Diffusfeld Mikrofon Vorverstärker *½" free-field microphone with preamplifier* B&K 4943-C-001 serial no. 2517066	06353	08/2015
Dodekaeder Lautsprecher *dodecahedral loudspeaker* Norsonic K100/12 serial no. 25		
Dodekaeder Lautsprecher *dodecahedral loudspeaker* Norsonic K100/12 serial no. 26		
Dodekaeder Lautsprecher *dodecahedral loudspeaker* Norsonic K100/12 serial no. 27		
Luftdruck-, Feuchte-, Temperaturtransmitter *pressure, humidity and temperature transmitter* Vaisala PTU303	06308	2/2016

DIN EN ISO 354:2003-12	Messergebnisse - Bemerkungen
Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*

1. Prüfgrundlagen
test procedure

Die Absorptionsmessungen wurden entsprechend der folgenden Norm durchgeführt.
The measurements were carried out according to following standards.

- DIN EN ISO 354:2003 „Akustik - Messung der Schallabsorption in Hallräumen"
  ISO:2003 „Acoustics - Measurement of sound absorption in a reverberation room"
- DIN EN ISO 11654:1997 „Akustik - Schallabsorber für die Anwendung in Gebäuden - Bewertung der Schallabsorption"
  ISO 11654:1997 „Acoustics - Sound absorbers for use in buildings - Rating of sound absorption"
- ASTM C 423a-09:2009 „Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method"
  ASTM C 423a-09:2009 „Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method"

2. Messumgebung
conditions

Messort *location*	Hallraum, nicht rechtwinklig, entsprechend ISO 3741 *reverberation room, not rectangular, acc. to ISO 3741*
Raumvolumen *volume*	391,6 m³
Raumoberfläche *surface*	322,2 m²
Temperatur *temperature*	siehe Anlagen *see appendix*
Luftdruck *barometric pressure*	siehe Anlagen *see appendix*
Relative Luftfeuchtigkeit *relative humidity*	siehe Anlagen *see appendix*
Diffusoren *diffusors*	9 Stück, Fläche je 2 m² einseitig *9 pieces, surface each 2 m² onesided*
Position Mikrophone *position of microphones*	6 Positionen im Raum, fest installiert *6 positions in the room, fixed installed*
Position Lautsprecher *position of loudspeakers*	3 Positionen im Raum, fest installiert *3 positions in the room, fixed installed*
Anzahl der Abklingvorgänge *number of decay curves*	180

DIN EN ISO 354:2003-12	Messergebnisse - Bemerkungen
Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*

3. Messaufbau
setup

Details siehe Anlagen
details see appendix

4. Prüfobjekt
test item

Beschreibung siehe Anlagen
description see appendix

5. Messergebnisse
measurement results

siehe Anlagen
see appendix

DIN EN ISO 354:2003-12	Anlage 1 / *annex 1*
Anforderungen - Prüfungen / *Requirements - Tests*	

customer: Akou Holdings LTD, Sanli industrial park, no 59, Song shan road, Suzhou, jiangsu, China, 215000

test specimen: AkoustiPane (9 mm Acoustic Panel)
100% Polyester Fibre: Virgin Polyester (30-55%), posted Industrial Polyester (70-55%)
Nominal Surface Density (1750 ± 100) g/m²

dimension: 4 panels, each 2400 mm x 1220 mm x 9 mm

mounting: on the floor, with frame, for details see annex 2

test conditions:

	empty	test
reverberation room condition:		
temperature [°C]:	23,1	23,0
relative humidity [%]:	69,4	70,4
barometric pressure [kPa]:	97,7	97,7
area of test specimen [m²]:		13,3
excitation:	Broad-band noise	
number of source positions:		3
number of microphone positions:		6
number of decay curves per position:		10

test date: 22.07.2014

instrumentation:
2 x multi-analyzer system B&K 3560C
- 4/2-ch. input/output module 3109, S/N 2204157
- 6/1-ch. input/output module 3032A, S/N 231841
- data acquisition unit 2827, S/N 2353314, 2215816
- LAN interface module 7533, S/N 2351314, 2208396
- 6 x 1/2"-microphon B&K 4943-C-001, S/N 2517061, 2517062, 2517063, 2517064, 2517065, 2517066

3 x dodecahedron type K100/12

reverberation room:

volume [m³]:	391,6
total surface area [m²]:	322,2
number of diffusers:	9
longest straight line [m]:	13,4

test results

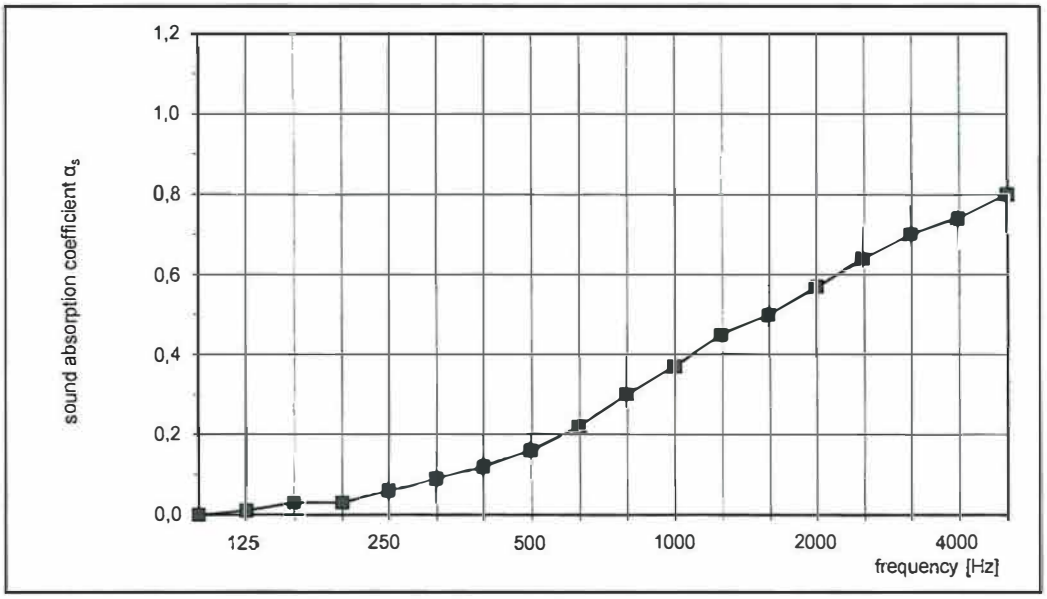
1/3-octave centre frequency [Hz]	50	63	80	100	125	160	200	250	315	400	500
RT, empty room [s]	22,67	28,33	16,19	18,32	17,96	12,65	11,86	11,22	10,78	9,95	9,35
relative standard deviation [%]	4,64	3,70	4,34	3,65	3,30	3,47	3,21	2,95	2,68	2,48	2,28
RT, room containing test specim [s]	22,07	27,16	15,81	18,12	17,41	11,57	11,01	9,91	8,91	7,96	7,12
relative standard deviation [%]	4,70	3,78	4,39	3,67	3,35	3,63	3,33	3,14	2,95	2,77	2,62
sound absorption coefficient α_s	(0,01)	(0,01)	(0,01)	(0,00)	(0,01)	(0,03)	(0,03)	(0,06)	0,09	0,12	0,16

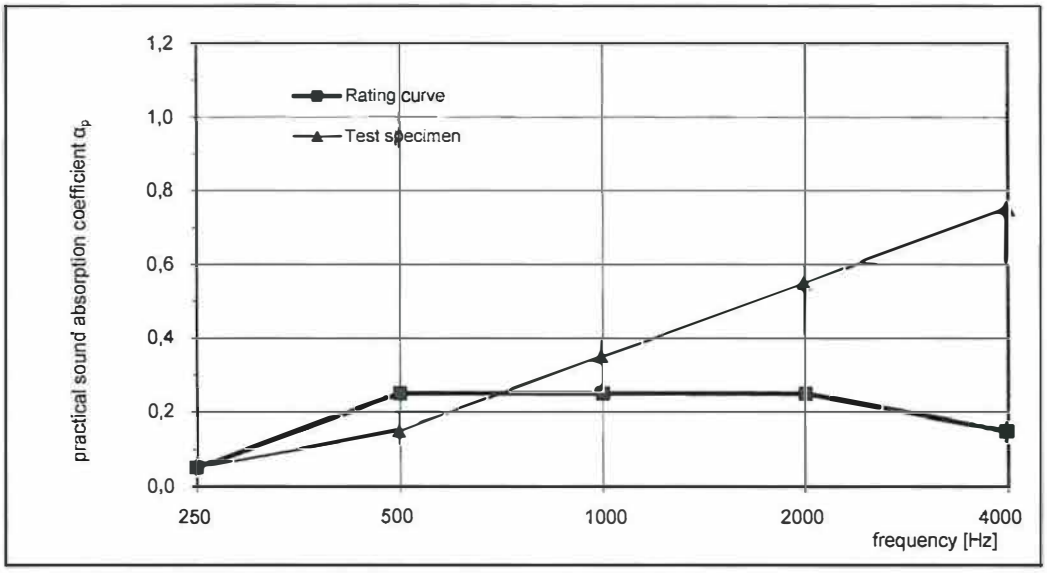
1/3-octave centre frequency [Hz]	630	800	1,00 k	1,25 k	1,60 k	2,00 k	2,50 k	3,15 k	4,00 k	5,00 k
RT, empty room [s]	8,65	8,74	8,00	7,06	6,49	5,89	5,42	4,61	3,98	3,17
relative standard deviation [%]	2,12	1,87	1,75	1,66	1,53	1,44	1,34	1,30	1,24	1,24
RT, room containing test specim [s]	6,16	5,63	4,89	4,23	3,86	3,43	3,13	2,74	2,45	2,07
relative standard deviation [%]	2,51	2,33	2,23	2,15	1,99	1,88	1,77	1,68	1,58	1,54
sound absorption coefficient α_s	0,22	0,30	0,37	0,45	0,50	0,57	0,64	0,70	0,74	0,80

octave centre frequency [Hz]	125	250	500	1,00 k	2,00 k	4,00 k
shifted rating curve		0,05	0,25	0,25	0,25	0,15
practical sound absorption coefficient α_p	0,00	0,05	0,15	0,35	0,55	0,75

Results in brackets indicate that the precision of the results may be less than the decimal places might imply.

Prüfbericht-Nr.: 21223031-001 *Test Report No.:*	Seite 6 von 8 *Page 6 of 8*
DIN EN ISO 354:2003-12	Anlage 1 / *annex 1*
Anforderungen - Prüfungen / *Requirements - Tests*	





weighted sound absorption coefficient α_w = 0,25 (H)
sound absorption class E
It is strongly recommanded to use the weighted sound absorption coefficient only in conjunction with the complete curve of the sound absorption coefficient.
single number rating according to ASTM C 423: SAA = 0,29
classification according to ASTM E 1264 NRC = 0,30

DIN EN ISO 354:2003-12	Anlage 2 / *annex 3*
Anforderungen - Prüfungen / *Requirements - Tests*	test setup

Prüfaufbau:
test setup:

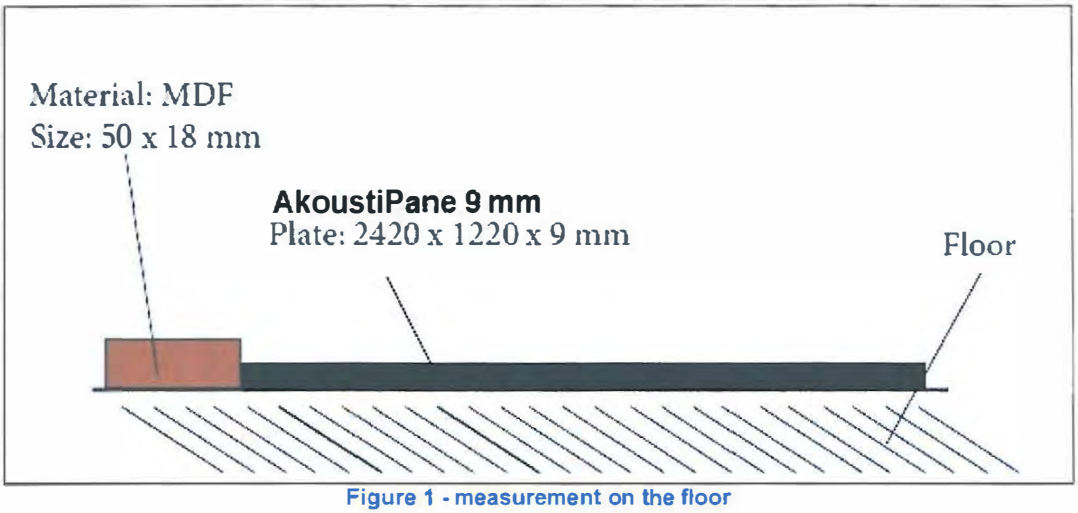
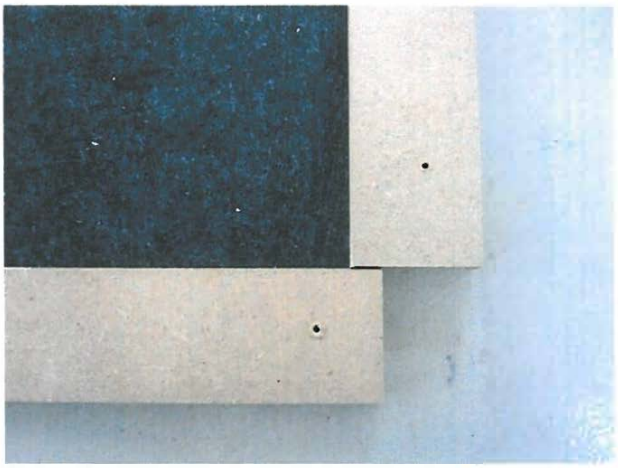


Figure 1 - measurement on the floor

DIN EN ISO 354:2003-12	Anlage 3 / *annex 3*
Anforderungen - Prüfungen / *Requirements - Tests*	photo documentation

test setup



test setup

February 26, 2018

Glynn H Murray
Architectural Bling, Inc.
1410 G Avenue
Plano, TX 75074

Our Reference: SV31116/4788343212

Subject: Report Of Surface Burning Characteristics Tests On Samples As Submitted By Architectural Bling, Inc.

Dear Mrs. Murray

This is a Report summarizing the results of a test conducted under a preliminary investigation identified as Assignment No. 4788343212.

GENERAL:

Preliminary investigations are initiated to obtain information with respect to a product or products prior to submittal to UL LLC (UL) for Investigation, Classification and Follow-Up Service. This Report does not constitute evidence of such a submittal to UL. The results relate only to items tested.

METHOD:

Each test was conducted in accordance with Standard ANSI/UL723, Tenth Edition, dated September 10, 2008 with revisions through August 12, 2013, "Test for Surface Burning Characteristics of Building Materials", (ASTM E84).

The test determines the Surface Burning Characteristics of the material, specifically the flame spread and smoke developed indices when exposed to fire.

The maximum distance the flame travels along the length of the sample from the end of the igniting flame is determined by observation. The Flame Spread Index of the material is derived by plotting the progression of the flame front on a time-distance basis, ignoring any flame front recession, and using the equations described below:

A. $CFS = 0.515\ A_T$ when A_T is less than or equal to 97.5 minute-foot.

B. $CFS = 4900/(195-A_T)$ when A_T is greater than 97.5 minute-foot.

Where A_T = total area under the time distance curve expressed in minute-foot.

The Smoke Developed Index (SDI) is determined by rounding the Calculated Smoke Developed (CSD) as described in UL 723. The CSD is determined by the output of photoelectric equipment operating across the furnace flue pipe. A curve is developed by plotting the values of light absorption (decrease in cell output) against time. The CSD is derived by expressing the net area under the curve for the material tested as a percentage of the area under the curve for untreated red oak.

The CSD is expressed as:

$CSD = (A_m/A_{ro}) \times 100$

Where:

CSD = Calculated Smoke Developed
A_m = The area under the curve for the test material.
A_{ro} = The area under the curve for untreated red oak.

SAMPLES:

The samples utilized in this investigation were neither prepared nor selected by a Laboratories' representative such that no verification of composition can be provided.

Sample Description

Test No.	
1	PET Acoustical Panel

Each test sample consisted of a length 24 ft long by 24 in. wide of the finished product.

Each test sample consisted of three 8 by 2 ft wide boards butted end-to-end to form the required 24 ft. long surface.

Due to the rigidity of the test samples, supplementary means of support was not required.

RESULTS:

The results are tabulated below are considered applicable only to the specific samples tested.

Data sheets and graphical plots of flame travel versus time and smoke developed versus time are also enclosed.

Table 1: Flame Spread Summary

Test No.	Test Code	Sample Description	CFS Calculated Flame Spread (Ceiling)	FSI Flame Spread Index (Ceiling)+	CFS Calculated Flame Spread (Floor)	FSI Flame Spread Index (Floor)++
1	02221810	PET Acoustical Panel	2.43	0	17.91	20

+ - Flame Spread Index while material remained in the original test position.

++ - Ignition of molted residue on the furnace floor resulted in flame travel equivalent to calculated Flame Spread Index indicated.

Table 2: Smoke Developed Summary

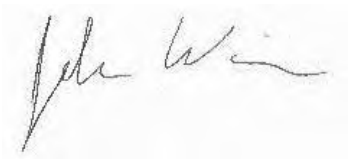
Test No.	Test Code	Sample Description	CSD Calculated Smoke Developed (Prior to Floor Ignition)	SDI Smoke Developed Index (Prior to Floor Ignition)	CSD Calculated Smoke Developed (Entire Test Duration)	SDI Smoke Developed Index (Entire Test Duration)
1	02221810	PET Acoustical Panel	119.5	120	354.1	350

The Classification Marking of UL on the product is the only method provided by UL to identify products which have been produced under its Classification and Follow-Up Service. No use of a Classification Marking has been authorized as a result of this investigation.

Since the anticipated work has been completed, we have instructed our Accounting Department to terminate the investigation and invoice you for the charges incurred to date.

Should you have any questions, please contact the undersigned.

Very truly yours,



John Wiesner
Associate Project Engineer
Fire Protection Division

Reviewed by,

James F Smith
Staff Engineering Assoc
Fire Protection Division

Project:	4788343212	File:	SV31116	TestCode:	02221810
Tested by:	ABRAN GARCIA	Engineer:	JOHN WIESNER	Date:	2018-02-22

TEST METHOD: The test was conducted in accordance with UL 723, Tenth Edition.

Client Name:	Architectural Bling, Inc.				
Test Duration	10 minutes	Test No.:	1	Hot Test:	Yes
Mounting:	Rods and Wire	Test Type:	Calibration	Burn-Out Required:	Yes

Test Sample: PET Acoustical Panel

FLAME SPREAD RESULTS

Ceiling Flame Spread Data

Distance (Feet)		Time (Sec)
Ignition		0
0.5		49

Floor Flame Spread Data

Distance (Feet)		Time (Sec)		Distance (Feet)		Time (Sec)
Ignition		454		11		498
1		466		12		503
2		468		13		506
3		470		14		511
4		472		15		515
5		474		16		520
6		476		17		524
7		478		18		528
8		480		19		532
9		481		19.5		535
10		484				

Calculated Flame Spread (CFS):	2.43
Flame Spread Index (FSI):	0
Time to Ignition (sec):	0
Maximum Flame Spread (ft):	0.5
Area Under the Flame Spread Curve (ft.-min):	4.7
Time to Floor Ignition (sec):	454
Maximum Floor Flame Spread (ft):	19.5
Calculated Floor Flame Spread:	17.91

SMOKE RESULTS

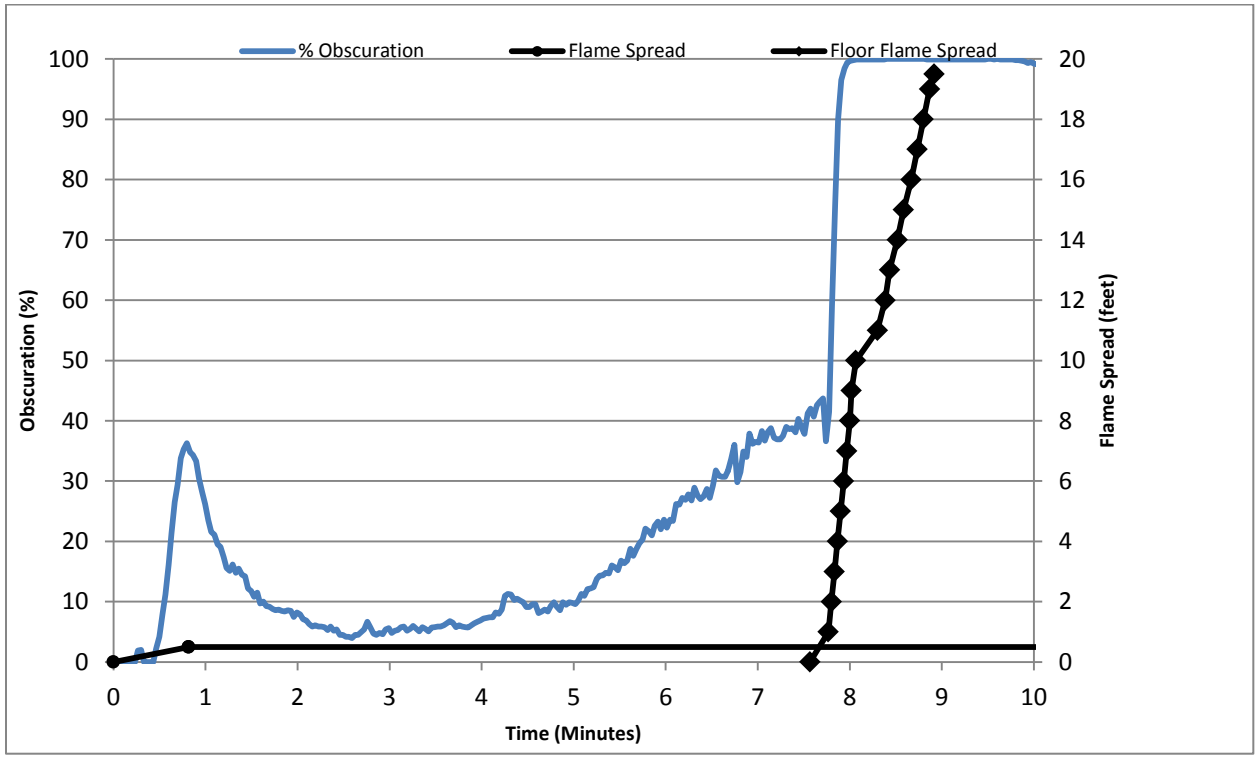
Calculated Smoke Developed (CSD):	354.1
Smoke Developed Index (SDI):	350
Area Under the Smoke Curve (Obs-min.):	343.73
Area Under Red Oak Curve (Obs-min.):	97.07
Area Under the Smoke Curve Before Floor Ignition (Obs-min.):	115.97
Smoke Developed Prior to Floor Ignition:	119.5

Post-Test Observations

Char (Feet From Burner):	24

Flame Spread / Smoke Results

Architectural Bling
PET Acoustical Panel



Test Num.: 1
SV31116 / 4788343212
02221810

Flame Spread Index: 0
Smoke Developed Index: 350
Max. Flame Spread (ft.): 0.5