

Certificate

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Certificate No: 54650/1

Issue No: 1

Date of issue: 20 October 2010

This is to certify that

BSRIA Limited

Has tested a sample of the product described below in accordance with the test methods contained within EN 13030 : 2001 and have determined the item met the detailed classification shown on pages 3 and 4 of this certificate. For further details of the test item see page 2 of this certificate

Manufacturer/Agent Advanced Air (UK) Ltd

Burrell Way
PO BOX 153
Thetford
Norfolk, IP24 3WB

Product Pent House Louvre

Test location BSRIA
Old Bracknell Lane West
Bracknell
Berkshire RG12 7AH

Date of test 6 October to 7 October 2010

Expiry date 20 October 2013

Test engineer M Roper / A Freeth

Quality approved Phil Stonard
Laboratory Manager
MicroClimate & Test

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TEST ITEM INFORMATION

Contract	54650
Date	06/10/2010
Manufacturer	Advanced Air
Louvre Model	Pent House Louvre
Material	Aluminium
Painted	Yes
Blade Height	979 mm
Blade Width	983 mm
Blade Depth	80 mm
Frame Depth	100 mm
No. of Blades	6
Blade Pitch	149 mm
Blade Angle	N/A
No. of Banks	3 (Equivalent - see drawing)
Guard Type	None
Guard Spacing	N/A
Side Channels	No
Water Drip Tray	Yes
Blade Orientation	Vertical



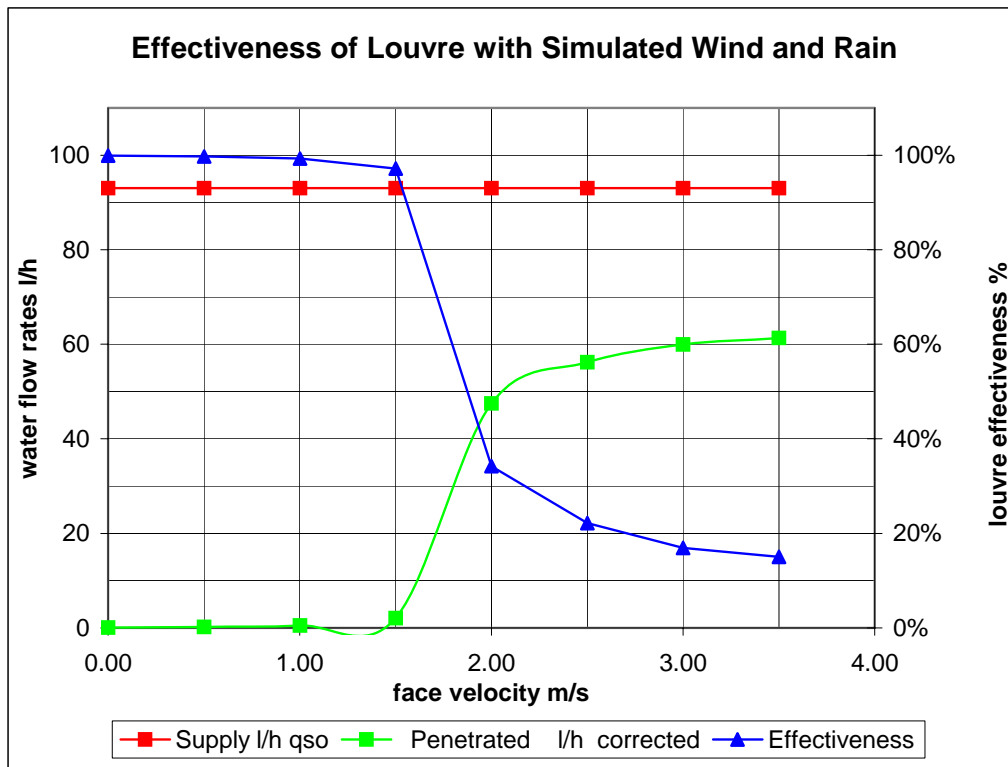
WATER PENETRATION

MANUFACTURER Advanced Air
 MODEL Pent House Louvre

Date 06/10/2010
 Contract 54650

Simulated rainfall 75 mm/hr
 Wind speed 13.0 m/s
 louvre height 979 mm
 louvre width 983 mm
 louvre area 0.962 m²

VENTILATION RATE		WATER FLOW RATES		Effectiveness	Class
Volume m ³ /s	Velocity m/s	Supply l/h	Penetrated l/h		
0.00	0.00	93.0	0.1	99.9%	A
0.48	0.50	93.0	0.2	99.7%	A
0.96	1.00	93.0	0.5	99.3%	A
1.44	1.50	93.0	2.1	97.2%	B
1.92	2.00	93.0	47.5	34.2%	D
2.41	2.50	93.0	56.2	22.2%	D
2.89	3.00	93.0	60.0	16.9%	D
3.37	3.50	93.0	61.3	15.0%	D



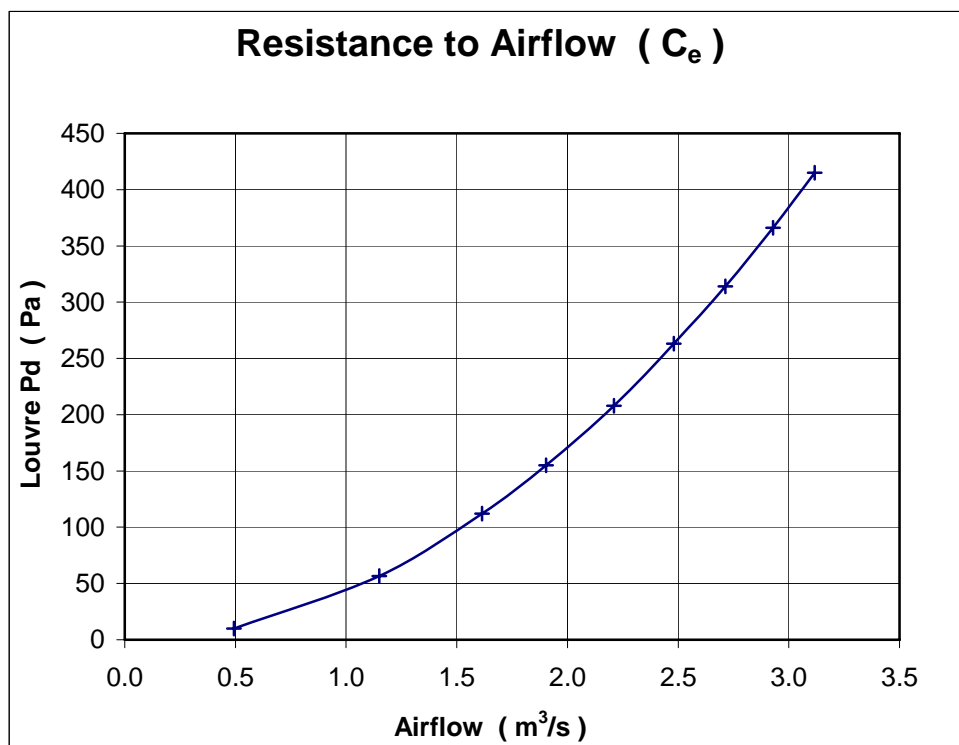
ENTRY LOSS COEFFICIENT

MANUFACTURER Advanced Air
 MODEL Pent House Louvre

Date 06/10/2010
 Contract 54650

air temperature 18 °C louvre height 979 mm
 barometer 1011 mbar louvre width 983 mm
 air density 1.205 kg/m³ louvre area 0.962 m²

louvre pd Pascals	louvre face velocity	air flow rate		coefficient C _e
	m/s	test m ³ /s	theoretical m ³ /s	
415.0	3.24	3.117	25.258	0.123
366.0	3.04	2.929	23.720	0.123
314.0	2.82	2.714	21.971	0.124
263.0	2.58	2.480	20.108	0.123
208.0	2.30	2.211	17.882	0.124
155.0	1.98	1.904	15.436	0.123
112.0	1.68	1.614	13.122	0.123
56.5	1.20	1.150	9.320	0.123
10.0	0.51	0.493	3.921	0.126
mean C _e				0.124
Class				4



CLASSIFICATION OF WEATHER LOUVRES

Weather louvres shall be classified by their ability to reject simulated rain.

Penetration Classification

Table 1 shows the different classifications based on the maximum simulated rain penetration per square metre of louvre. The classification is determined in accordance with section 8 of EN 13030:2001.

Water penetration rating at a given louvre face velocity is determined by the water penetration while the louvre is subjected to a 13 ms^{-1} simulated wind velocity and a simulated rain fall at the nominal rate.

Table 1 Penetration classification

Class	Effectiveness	Maximum allowed penetration of simulated rain $\text{l.h}^{-1}.\text{m}^{-2}$
A	1 TO 0,99	0,75
B	0,989 TO 0,95	3,75
C	0,949 TO 0,80	15,0
D	Below 0,8	Greater than 15,0

These classifications apply to various core velocities.

Discharge Loss Coefficient

The discharge loss coefficient given in Table 2, shall be determined in accordance with section 7.2 of test standard EN13030:2001.

Table 2 Discharge loss coefficient classification

Class	Discharge Loss Coefficient
1	0,4 and above
2	0,3 to 0,399
3	0,2 to 0,299
4	0,199 and below

(Note: The above also applies to entry loss coefficient)