

# Certificate

**Certificate No: 52921/2**

**Issue No: 1**

**Date of issue: 23 July 2009**

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

<b>Manufacturer/Agent</b>	Beijing JangHo Curtain wall Co.,Ltd No. 5, Niuhui North 5th Street Shunyi District Beijing, Prc
<b>Product</b>	JH-STL-02
<b>Test location</b>	BSRIA Old Bracknell West Bracknell Berkshire RG12 7AH
<b>Date of test</b>	2 July 2009
<b>Expiry date</b>	23 July 2012
<b>Test engineer</b>	A Coulson
<b>Quality approved</b>	Phil Stonard Laboratory Manager MicroClimate & Test

This certificate must not be reproduced except in full without the written approval of an executive director of BSRIA. It is only intended to be used within the context described in the text.

**BSRIA Limited**

Old Bracknell Lane West, Bracknell, Berkshire RG12 7AH UK

T: +44 (0)1344 426511 F: +44 (0)1344 487575

**TEST ITEM INFORMATION**

**Contract** 52921A  
**Date** 02/07/2009  
**Manufacturer** Beijing JangHo Curtain wall Co.,Ltd  
**Louvre Model** JH-STL-02  
**Material** Aluminium  
**Painted** No  
**Blade Height** 1000 mm  
**Blade Width** 1033 mm  
**Blade Depth** 175 mm  
**Frame Depth** 175 mm  
**No. of blade types** 3

<b>Blade position</b>	Front
<b>Blade Orientation</b>	Horizontal
<b>No.of Blades</b>	13
<b>Blade Pitch</b>	73 mm
<b>Blade Angle</b>	45 Degrees
<b>Blade position</b>	Middle
<b>Blade Orientation</b>	Vertical
<b>No.of Blades</b>	6
<b>Blade Pitch</b>	67.5 mm
<b>Blade Angle</b>	N/A Degrees
<b>Blade position</b>	Rear
<b>Blade Orientation</b>	Vertical
<b>No.of Blades</b>	7
<b>Blade Pitch</b>	67.5
<b>Blade Angle</b>	N/A Degrees

**Distance between middle and rear blades** 40 mm

**Guard Type** None  
**Guard Spacing** N/A  
**Side Channels** No  
**Water Drip Tray** Yes



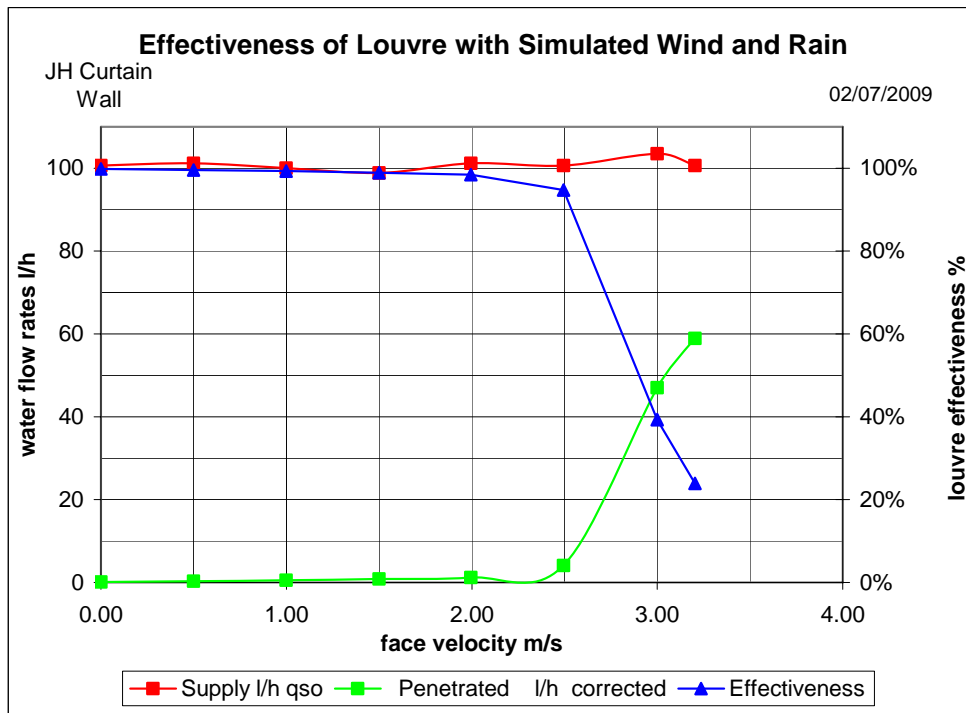
WATER PENETRATION Certification test

MANUFACTURER JH Curtain Wall  
 MODEL JH-STL-02

Date 02/07/2009  
 Contract 52921A2AC

Simulated rainfall 75 mm/hr  
 Wind speed 13.0 m/s  
 louvre height 1000 mm  
 louvre width 1033 mm  
 louvre area 1.033 m<sup>2</sup>

VENTILATION RATE		WATER FLOW RATES		Effectiveness	Class
Volume m <sup>3</sup> /s	Velocity m/s	Supply l/h	Penetrated l/h		
0.00	0.00	100.6	0.1	99.8%	A
0.52	0.50	101.2	0.3	99.6%	A
1.03	1.00	100.1	0.5	99.3%	A
1.55	1.50	98.9	0.8	98.9%	B
2.06	1.99	101.2	1.2	98.5%	B
2.58	2.49	100.6	4.1	94.7%	C
3.10	3.00	103.5	47.0	39.3%	D
3.31	3.20	100.6	58.9	23.9%	D



ENTRY LOSS COEFFICIENT

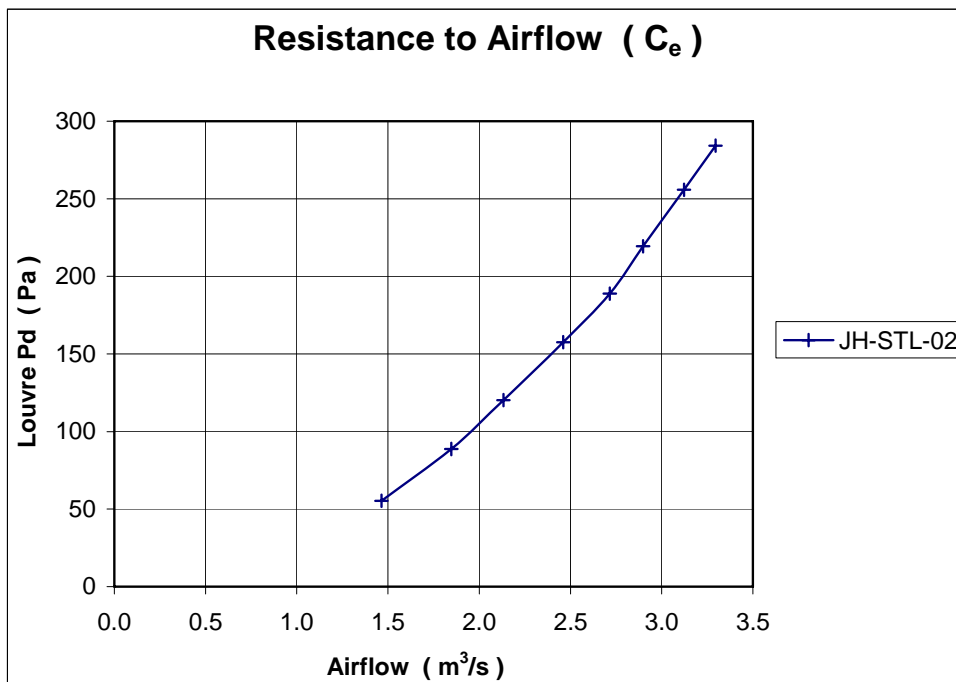
Certification test

MANUFACTURER JH Curtain Wall  
 MODEL JH-STL-02

Date 02/07/2009  
 Contract 52921A2AC

air temperature	29.1 °C	louvre height	1000 mm
barometer	1011 mbar	louvre width	1033 mm
air density	1.161 kg/m <sup>3</sup>	louvre area	1.033 m <sup>2</sup>

louvre pd Pascals	louvre face velocity	air flow rate		coefficient C <sub>e</sub>
	m/s	test m <sup>3</sup> /s	theoretical m <sup>3</sup> /s	
55.3	1.42	1.464	10.088	0.145
88.7	1.79	1.847	12.773	0.145
120.3	2.07	2.133	14.873	0.143
157.6	2.38	2.460	17.022	0.144
188.9	2.63	2.716	18.637	0.146
219.4	2.80	2.897	20.086	0.144
255.8	3.02	3.123	21.688	0.144
284.3	3.19	3.295	22.865	0.144
mean C <sub>e</sub>				0.144
Class				4



## CLASSIFICATION OF WEATHER LOUVRES

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

### Penetration Classification

Table 1 shows difference 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  $13 \text{ ms}^{-1}$  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)