

Summary Report

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Summary Report 53355/1

Issue No: 1

Date of issue: 10 October 2018

This Summary Report confirms that BSRIA Ltd 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 to 5. For further details of the test item see Page 2 of this Summary Report.

Manufacturer/Agent	N.V. Renson Projects IZ 2 Vijverdam Maalbeekstraat 6 B-8790 Waregem
Product	491
Test location	BSRIA Old Bracknell West Bracknell Berkshire RG12 7AH
Date of test	14 August to 17 September 2009
Date of issue	9 October 2018
Test engineer	A Freeth
Quality approved	Mark Roper Principal Test Engineer

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This summary report supersedes certificate 53355/1. This up-date was carried out under BSRIA contract reference 61223.

TEST INFORMATION

Contract	53355A
Date	14/08/2009
Manufacturer	Renson
Louvre Model	491
Material	Aluminium
Painted	No
Blade Height	1000 mm
Blade Width	1000 mm
Blade Depth	22 mm
Frame Depth	35 mm
No.of Blades	29
Blade Pitch	33 mm
Blade Angle	30 Degrees
No.of Banks	1
Guard Type	Bird
Guard Spacing	8mm
Side Channels	No
Water Drip Tray	Yes (17mm Deep)
Blade Orientation	Horizontal

Front view of louvre

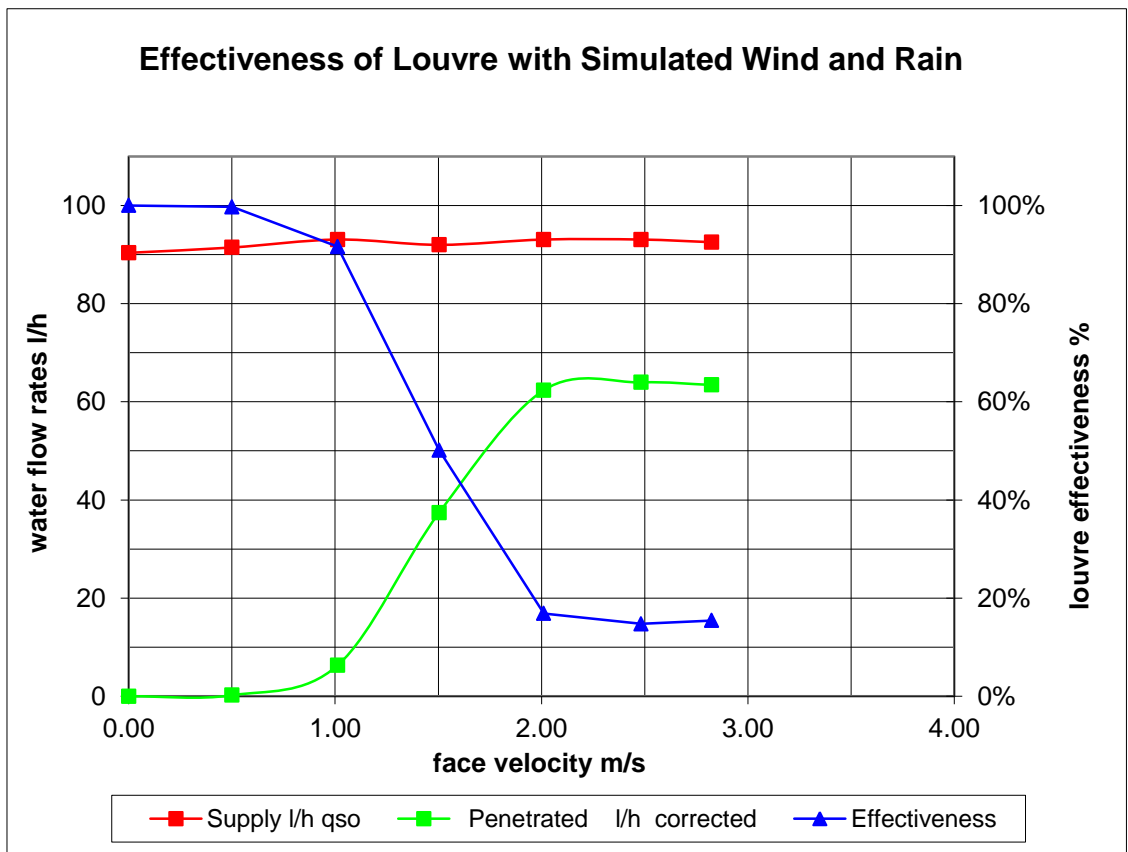
RAINWATER PENETRATION

MANUFACTURER Renson
 MODEL 491

Date 14/08/2009
 Contract 53355A

Simulated rainfall 75 mm/hr
 Wind speed 13.0 m/s
 louvre height 1000 mm
 louvre width 1000 mm
 louvre area 1.000 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	90.3	0.0	100.0%	A
0.50	0.50	91.4	0.2	99.7%	A
1.01	1.01	93.0	6.3	91.6%	C
1.50	1.50	92.0	37.4	50.1%	D
2.01	2.01	93.0	62.3	16.9%	D
2.48	2.48	93.0	63.9	14.7%	D
2.82	2.82	92.5	63.4	15.4%	D



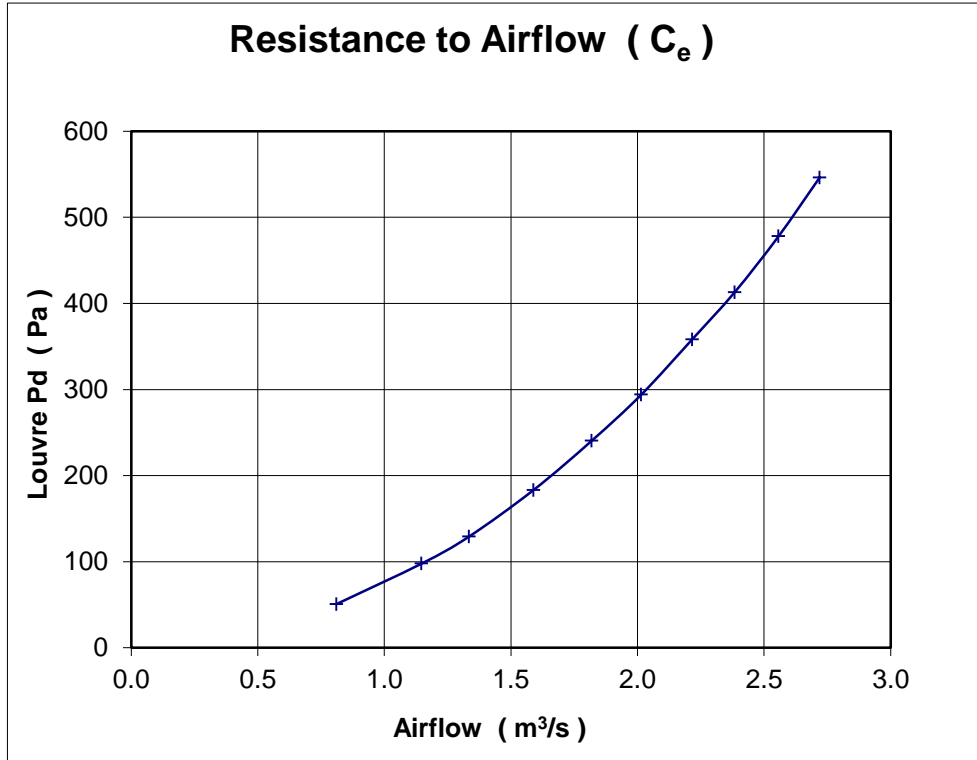
COEFFICIENT OF ENTRY

MANUFACTURER Renson
 MODEL 491

Date 26/08/2009
 Contract 53355A

air temperature 19.6 °C louvre height 1000 mm
 barometer 1002 mbar louvre width 1000 mm
 air density 1.188 kg/m³ louvre area 1.000 m²

louvre pd Pascals	louvre face velocity	air flow rate		coefficient C _e
	m/s	test m ³ /s	theoretical m ³ /s	
50.8	0.81	0.811	9.249	0.088
97.8	1.15	1.147	12.834	0.089
129.2	1.33	1.334	14.751	0.090
183.3	1.59	1.589	17.570	0.090
240.5	1.82	1.819	20.125	0.090
294.1	2.02	2.015	22.255	0.091
358.2	2.22	2.216	24.561	0.090
413.0	2.38	2.384	26.373	0.090
477.9	2.56	2.557	28.369	0.090
546.0	2.72	2.719	30.323	0.090
mean C _e				0.090
Class				4



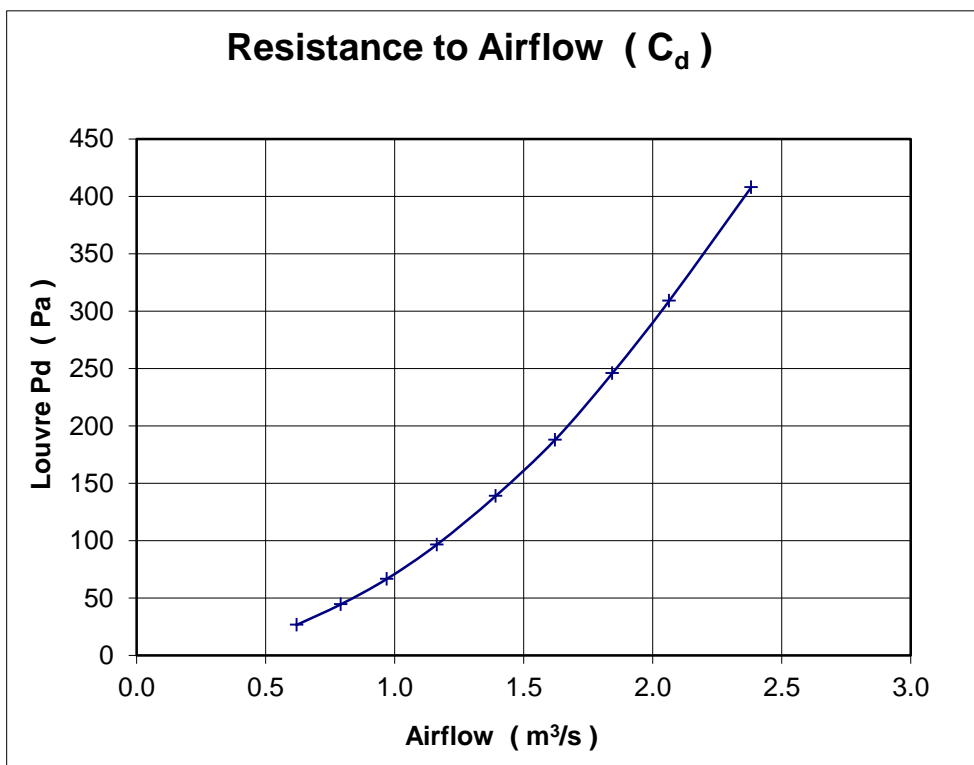
COEFFICIENT OF DISCHARGE

MANUFACTURER Renson
 MODEL 491

Date 17/09/2009
 Contract 53355A

air temperature 18.9 °C louvre height 1000 mm
 barometer 1014 mbar louvre width 1000 mm
 air density 1.205 kg/m³ louvre area 1.000 m²

louvre pd Pascals	louvre face velocity	air flow rate		coefficient C _e
	m/s	test m ³ /s	theoretical m ³ /s	
26.8	0.62	0.621	6.670	0.093
44.7	0.79	0.792	8.614	0.092
66.8	0.97	0.970	10.531	0.092
96.7	1.16	1.164	12.670	0.092
139.0	1.39	1.391	15.191	0.092
188.0	1.62	1.622	17.667	0.092
246.0	1.84	1.844	20.209	0.091
309.0	2.06	2.064	22.649	0.091
408.0	2.38	2.382	26.026	0.092
mean C _e				0.092
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 8.2 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	1,00 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 and Entry Loss Coefficient

The discharge and entry loss coefficient given in Table 2, shall be determined in accordance with section 8.3 of test standard EN13030:2001.

Table 2 Discharge and Entry loss coefficient classification

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