

Certificate

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Certificate No: 51579/3

Issue No: 1

Date of issue: 27 March 2008

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 : 2002 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	QEF Ltd Commercial Centre Dublin Road Kilkenny Republic of Ireland
Product	QEF 50 Curved Blade
Test location	BSRIA Old Bracknell West Bracknell Berkshire RG12 7AH
Date of test	6 to 22 February 2008
Expiry date	27 March 2011
Test engineer	M Roper
Quality approved	Phil Stonard Principal Engineer 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.

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TEST ITEM INFORMATION

Contract	51579	
Date	06/02/2008	
Manufacturer	QEF Ltd	
Louvre Model	QEF 50 Curved Blade	
Material	Aluminium	
Painted	No	
Blade Height	978	mm
Blade Width	997	mm
Blade Depth	45	mm
Frame Depth	50	mm
No.of Blades	19	
Blade Pitch	50	mm
Blade Angle	45	deg
No.of Banks	1	
Guard Type	Insect	
Guard Spacing	40	mm
Side Channels	Yes	
Water Drip Tray	Yes	
Blade Orientation	Horizontal	



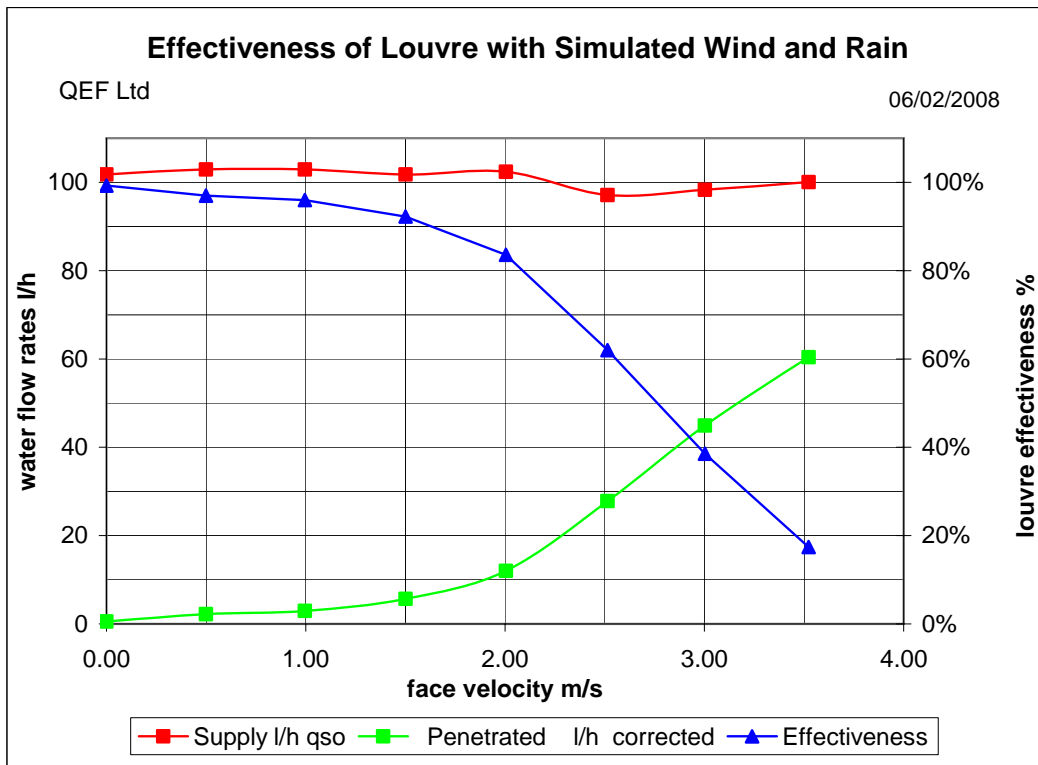
WATER PENETRATION Certification test

MANUFACTURER QEF Ltd
 MODEL QEF 50 Curved Blade

Date 06/02/2008
 Contract 51579

Simulated rainfall 75 mm/hr
 Wind speed 13.0 m/s
 louvre height 978 mm
 louvre width 997 mm
 louvre area 0.975 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	101.8	0.5	99.3%	A
0.49	0.50	103.0	2.2	97.0%	B
0.97	1.00	103.0	2.9	96.0%	B
1.46	1.50	101.8	5.7	92.3%	C
1.95	2.00	102.4	12.0	83.6%	C
2.45	2.51	97.1	27.8	62.0%	D
2.93	3.00	98.3	44.9	38.6%	D
3.44	3.52	100.1	60.4	17.4%	D



ENTRY LOSS COEFFICIENT

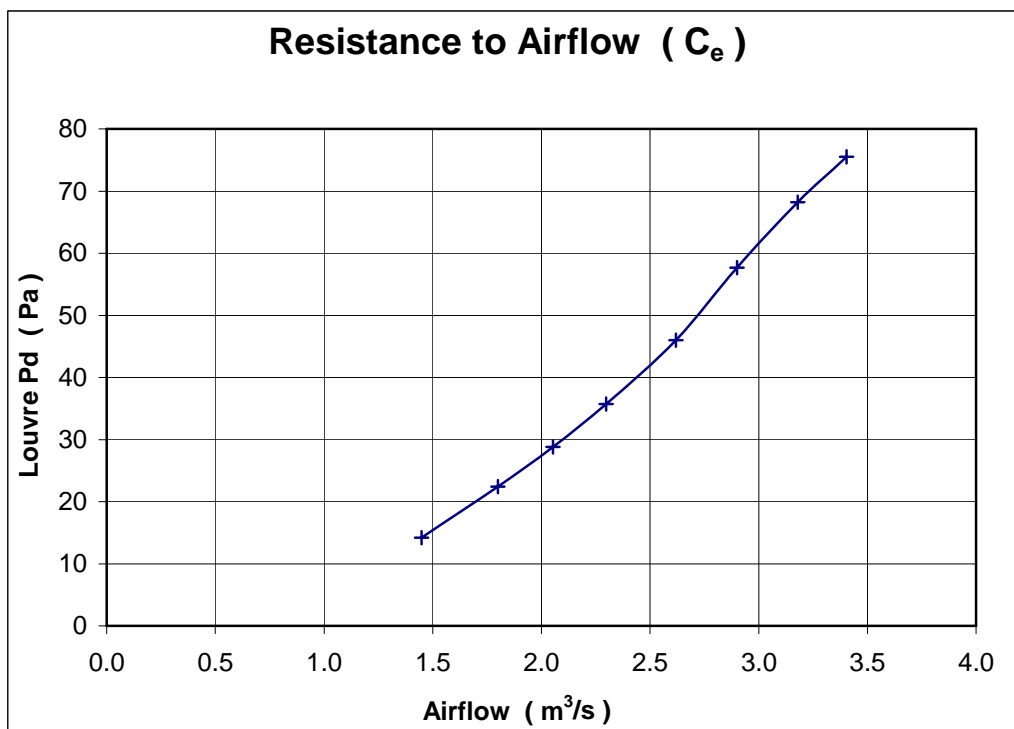
Certification test

MANUFACTURER QEF Ltd
 MODEL QEF 50 Curved Blade

Date 22/02/2008
 Contract 51579

air temperature 12.78 °C louvre height 978 mm
 barometer 1015 mbar louvre width 997 mm
 air density 1.232 kg/m³ louvre area 0.975 m²

louvre pd Pascals	louvre face velocity		air flow rate		coefficient C _e
	m/s		test m ³ /s	theoretical m ³ /s	
14.2	1.49	1.449	4.681	0.309	
22.4	1.85	1.800	5.879	0.306	
28.8	2.11	2.054	6.667	0.308	
35.7	2.36	2.298	7.422	0.310	
46.0	2.69	2.619	8.425	0.311	
57.7	2.97	2.900	9.436	0.307	
68.2	3.26	3.179	10.259	0.310	
75.5	3.49	3.405	10.794	0.315	
mean C _e				0.310	
Class				2	



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 effectiveness is determined in accordance with section 7.1.7.c 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 7.2.4 of EN 13030:2001.

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)