

TESTING LABORATORY

PROCESS 20194000180

TEST REPORT 20194000180/20en

Page 1 of 4

TYPE OF PRODUCT: Rectangular duct for HVAC

TRADE MARK: WM – CONDUTEK^{a)} **MODEL:** Rectangular duct

STANDARD: EN 1507:2006 – “Ventilation for buildings – sheet metal air ducts with rectangular section – Requirements for strength and leakage.”

TEST PERFORMED Leakage testing, section 5.2

CUSTOMER: WM Construções, Lda
Travessa da Boavista nº15/17
Distrito da Ingombota - Luanda
Angola
NIF: 5402016763

MANUFACTURER: WM Construções, Lda
Travessa da Boavista nº15/17
Distrito da Ingombota - Luanda
Angola
NIF: 5402016763

DATE OF RECEPTION OF THE PRODUCTS: 2019-01-07

DATE OF THE END OF THE TESTS: 2019-02-04

DATE OF THE REPORT: 2019-02-07

Additional customer information: a) Condustek, company brand of WM Construções.

Technician

Technical Responsible



(Ivan Pereira)



(Pedro Castro)

Note: The test results refer only to the sample tested.

Note: This report may not be reproduced unless fully authorized by the laboratory and refers exclusively to the sample tested.

1. SAMPLE DESCRIPTION

DESCRIPTION
<p>Sample of HVAC duct consisting of:</p> <ul style="list-style-type: none"> - Cap end: 250x250 mm; - Rectangular straight duct 250x250x1384 mm; - Rectangular straight duct 250x250x1352 mm; - Rectangular straight duct 250x250x1352 mm; - Rectangular straight duct 250x250x1352 mm; - Rectangular straight duct 250x250x1362 mm; - Rectangular transition: 250x250 – 200x200 mm - Rectangular straight duct 200x200x524 mm; - Elbow 90°: 200x200 mm; - Rectangular straight duct 200x200x1020 mm; - Rectangular T: 200x200 – 200x200 – 200x200 mm; - Rectangular straight duct 200x200x535 mm; - Cap end: 200x200 mm; - Rectangular straight duct 200x200x545 mm; - Cap end: 200x200 mm; <p>Surface area of the ductwork, A_j calculated: 10,2 m² Total length of joints, L, calculated: 12,4 m Ratio L / A_j: 1,2 m⁻¹</p>
ADDITIONAL INFORMATION
<ul style="list-style-type: none"> - Assembly of the sample carried out at 24/01/2019. Assembly performed by the manufacturer technician; - Assembly carried out with the use of silicone* to seal along the joint. Used bolts M8 and clamping clamps to attach the accessories to each other. <p>*Duct sealant, solvent free – Clim® CLIMA SEAL</p>


Note: Sealing and size of the sample was manufacturer`s responsibility.

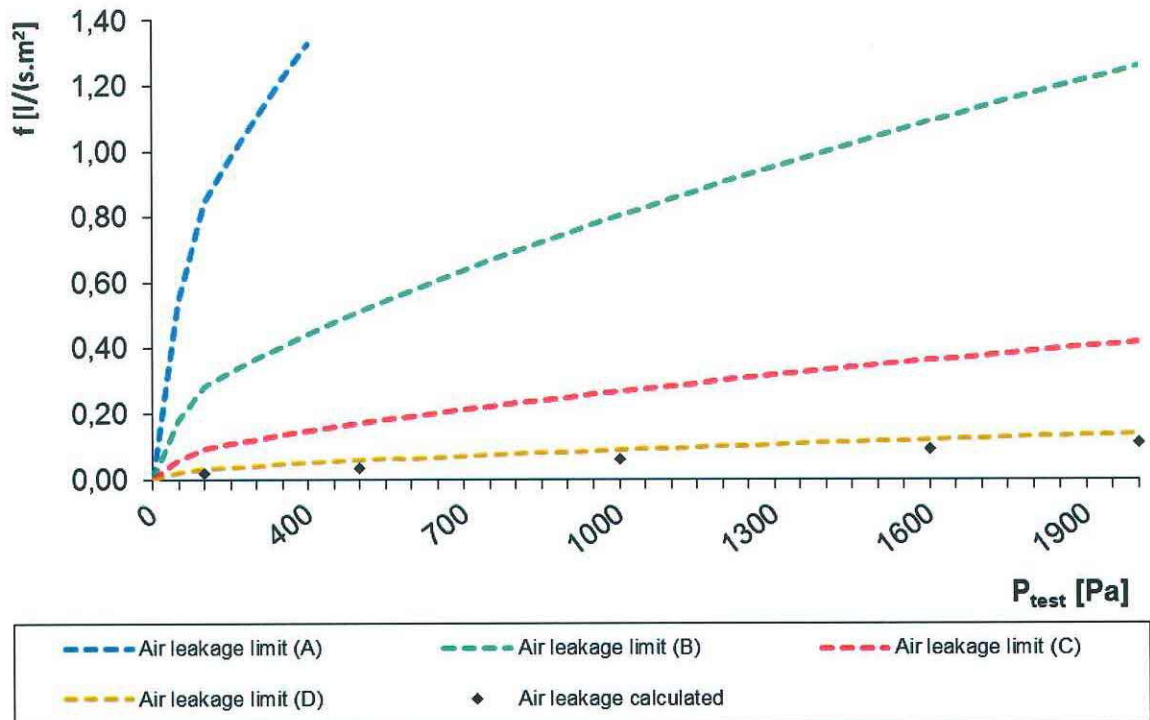
Technician :

Rubric : *Ivan Pereira*

(Ivan Pereira)

2. RESULTS

2.1 POSITIVE PRESSURES



P_{test} [Pa]	t_{test} [s]	T [°C]	P_{atm} [Pa]	$q_{v(a)}$ [l/s]	$f_{calculated}$ [l.s ⁻¹ .m ⁻²]	f_{max} Class A [l.s ⁻¹ .m ⁻²]	f_{max} Class B [l.s ⁻¹ .m ⁻²]	f_{max} Class C [l.s ⁻¹ .m ⁻²]	f_{max} Class D [l.s ⁻¹ .m ⁻²]
200	312	24,1	102000	0,187	0,018	0,85	0,28	0,09	0,02
500	325	24,1	102000	0,357	0,035	---	0,51	0,17	0,06
1000	335	24,1	102000	0,609	0,060	---	0,80	0,27	0,09
1600	392	20,7	102000	0,917	0,090	---	1,09	0,36	0,12
2000	464	20,7	102000	1,125	0,111	---	1,26	0,42	0,14

Notes: a) Corrected Leakage rate for the conditions of air temperature of 20 °C and barometric pressure of 101325 Pa;
 Results obtained considering the size and accessories included in the sample;
 Air leakage limit, f_{max} , in accordance with section 5.2, Table 1 of EN 1507:2006.

Air tightness class of the sample: D

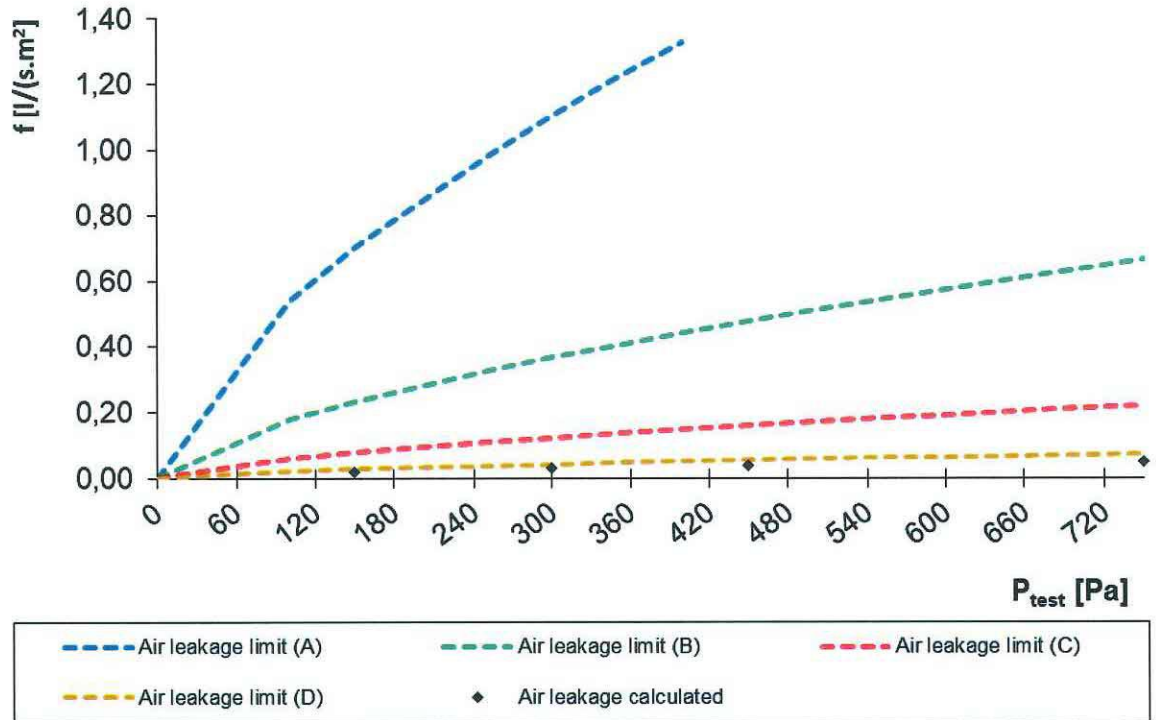
Static gauge pressure limit: 2000 Pa

Technician :

Rubric : Ivan Pereira

(Ivan Pereira)

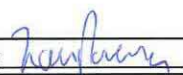
2.2 NEGATIVE PRESSURES



P_{test} [Pa]	t_{test} [s]	T [°C]	P_{atm} [Pa]	$q_{v(a)}$ [l/s]	$f_{calculated}$ [l.s ⁻¹ .m ⁻²]	f_{max} Class A [l.s ⁻¹ .m ⁻²]	f_{max} Class B [l.s ⁻¹ .m ⁻²]	f_{max} Class C [l.s ⁻¹ .m ⁻²]	f_{max} Class D [l.s ⁻¹ .m ⁻²]
150	586	18,7	102000	0,198	0,019	0,70	0,23	0,08	0,03
300	392	18,7	102000	0,298	0,029	1,10	0,37	0,12	0,04
450	339	18,1	102000	0,374	0,037	---	0,48	0,16	0,05
750	330	19,7	102000	0,483	0,047	---	0,67	0,22	0,07

Notes: a) Corrected Leakage rate for the conditions of air temperature of 20 °C and barometric pressure of 101325 Pa;
 Results obtained considering the size and accessories included in the sample;
 Air leakage limit, f_{max} , in accordance with section 5.2, Table 1 of EN 1507:2006.

Air tightness class of the sample: D
 Static gauge pressure limit: - 750 Pa

Technician : _____ Rubric :  (Ivan Pereira)