



Flexilok ® has been fully tested to comply with the Building Code of Australia 2005, AS4254:2012 and UL181





No. 1251906.2A

(Please quote this number in all correspondence)

CLIENT:
HVAC Depot Ltd.
PO Box 251251
Pakuranga, Auckland 2140

SAMPLE RECEIVED FROM:
HVAC Depot Ltd.

Date Received: 18.10.18

Attn.: Bo Cao

SAMPLE DESCRIPTION:
FLEXILOK® 300mm flexible ducting comprising of
three layers – core, insulation and outer sleeve:
Core – Black fire retardant LDPE
Insulation – Polyester fibre insulation
Outer Sleeve – Black fire rated LDPE

Client Order No.:

Client Reference:

1 of 2

**AS/NZS 1530.3 – 1999 Methods for Fire Tests on Building Materials, Components and Structures
Part 3: Simultaneous Determination of Ignitability, Flame Propagation,
Heat Release and Smoke Release**

Note: This test was sub-contracted (test number 18-006685).

Face Tested: Outer Sleeve of the Assembly

	Standard Error	Mean
Ignition Time	Nil	Nil min.
Flame Propagation Time	Nil	Nil sec.
Heat Release Integral	Nil	Nil kJ/m ²
Smoke Release, log d	0.0369	-1.5840
Optical Density, d		0.0265 / metre

Number of Specimens Tested

6

Regulatory Indices:

Ignitability Index	0	Range 0-20
Spread of Flame Index	0	Range 0-10
Heat Evolved Index	0	Range 0-10
Smoke Developed Index	2	Range 0-10

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L A Greer
Signatory


C Judan
Signatory

06/12/2018

New Zealand Wool Testing Authority Ltd

22 Bridge Street, PO Box 12065

Ahuriri, Napier 4144, New Zealand

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NZWTA

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These results only apply to the specimen mounted, as described in this report. The result of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

The specimens were mounted to simulate use in an unsupported or free hanging mode. The results may be significantly different when mounted to simulate a wall cladding or upholstery application.

Each test specimen was sandwiched between two layers of galvanized welded square mesh made from wire of nominal diameter 0.8mm and nominal spacing 12mm in both directions and the assembly clamped in four places.

Smoke Developed Index is reported as 0-1 due to the inability of the smoke measurement equipment to resolve an index of zero.

Ignition is initiated by a pilot flame that is held near, but does not touch the specimen. A material that does not ignite during the standard test may ignite if contacted with a pilot flame during the test.

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**No. 1246283.4R**

(Please quote this number in all correspondence)

CLIENT:
HVAC Depot Ltd.
PO Box 251251
Pakuranga, Auckland 2140

Attn.: Bo Cao

SAMPLE RECEIVED FROM:
HVAC Depot Ltd.

Date Received: 24.9.18

SAMPLE DESCRIPTION:
FLEXILOK® 300mm flexible ducting comprising of three
layers – core, insulation and outer sleeve:
Core – Black fire retarded LDPE
Insulation – Polyester fibre insulation
Outer Sleeve – Black fire rated LDPE

Client Order No.:

Client Reference:

1 of 1

UL 181.11-2013 - BURNING TEST – AIR DUCT

Note: This test was subcontracted (test no. 18-005722).

Sample Tested: Assembly

External Test	Vertical	45 Degree	Horizontal
1 st After Flame Time	0 sec.	0 sec.	0 sec.
1 st After Glow Time	0 sec.	0 sec.	0 sec.
2 nd After flame Time	0 sec.	0 sec.	0 sec.
2 nd After Glow Time	0 sec.	0 sec.	0 sec.
Did flaming or glowing travel full length of specimen?	No	No	No
Did flaming droplets ignite cotton?	N/A	No	No

Internal Test	Vertical	45 Degree	Horizontal
1 st After Flame Time	0 sec.	0 sec.	0 sec.
1 st After Glow Time	0 sec.	0 sec.	0 sec.
2 nd After flame Time	0 sec.	0 sec.	0 sec.
2 nd After Glow Time	0 sec.	0 sec.	0 sec.
Did flaming or glowing travel full length of specimen?	No	No	No

Compliance to AS 4254.1-2012, Clause 2.4.3 - Complies

Note: Test carried out as modified by AS 4254.1-2012

This report supersedes NZWTA report no. 1246283.4 dated 17/10/2018.

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18/10/2018

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No. 1251906.2BR

(Please quote this number in all correspondence)

CLIENT:
HVAC Depot Ltd.
PO Box 251251
Pakuranga, Auckland 2140

Attn.: Bo Cao

SAMPLE RECEIVED FROM:
HVAC Depot Ltd.

Date Received: 18.10.18

SAMPLE DESCRIPTION:
FLEXILOK® 300mm flexible ducting comprising of
three layers – core, insulation and outer sleeve:
Core – Black fire retardant LDPE
Insulation – Polyester fibre insulation
Outer Sleeve – Black fire rated LDPE

Client Order No.:

Client Reference:

1 of 3

UL 181.14:2013 – TEMPERATURE TEST – AIR DUCT

Note: This test was sub-contracted (test no. 18-006683)

Section 14.2 – Low Temperature Test

Sample Tested: Composite Assembly
Number of Specimens Tested: 3
Exposure: Saturated water vapour atmosphere for 48 hours then at -10±2°C for 24 hours.

Observation made during visual examination: **No Damage Observed**

Section 14.3 – High Temperature Test

Sample Tested: Composite Assembly
Number of Specimens Tested: 2
Exposure: 80°C for 7 days.

Observation made during visual examination: **No Damage Observed** (black outer layer slight discolouration)

Compliance to AS/NZS 4254.1:2012, Clause 2.4.2(b): **Complies**

Note: test carried out as modified by AS 4254.1:2012.

UL 181.15:2013 – PUNCTURE TEST – AIR DUCT

Note: This test was sub-contracted (test no. 18-006683)

Sample Tested: Composite Assembly
Diameter of Duct Tested: 300mm

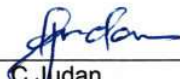
Did the plunger completely penetrate through the wall?
As Received Nil
After High Temperature Exposure Nil

Compliance to AS/NZS 4254.1:2012, Clause 2.4.2(c): **Complies**

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2 of 3

UL 181.16:2013 – STATIC LOAD TEST – AIR DUCT

Note: This test was sub-contracted (test no. 18-006683)

Sample Tested:	Composite Assembly
Diameter of Duct Tested:	300mm
Weight of Duct Tested:	2.5562 kg
Weight Used to Load Specimen:	6.3905 kg
Spacing for Supports:	1500mm
Load Applied for 24 hrs.	

Observation made during visual examination: **No Damage Observed**

Compliance to AS/NZS 4254.1:2012, Clause 2.4.2(d): **Complies**

UL 181.17:2013 – IMPACT TEST – AIR DUCT

Note: This test was sub-contracted (test no. 18-006683)

Sample Tested:	Core Tested
Diameter of Duct Tested:	300mm

Specimen:	% Reduction in Cross-Sectional Area
1	9.0%
2	7.9%
3	7.5%
Mean	8.1%

Observation **No Damage Observed**

Compliance to AS/NZS 4254.1:2012, Clause 2.4.2(e): **Complies**

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Insulation – Polyester fibre insulation
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Client Order No.:

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3 of 3

UL 181.19:2013 – PRESSURE TEST – AIR DUCT

Note: This test was sub-contracted (test no. 18-006683)

Sample Tested: Core Tested
Exposure: 1000 Pa over 1 hour.

Observation made during visual examination: **No Damage Observed**

Compliance to AS/NZS 4254.1:2012, Clause 2.4.2(f): **Complies**

UL 181.20:2013 – COLLAPSE TEST – AIR DUCT

Note: This test was sub-contracted (test no. 18-006683)

Sample Tested: Core Tested
Exposure: 200 Pa over 1 hour

% Reduction in Cross-Sectional Area

1.6%

Observation made during visual examination: **No Damage Observed**

Compliance to AS/NZS 4254.1:2012, Clause 2.4.2(g): **Complies**

UL 181.21:2013 – TENSION TEST – AIR DUCT

Note: This test was sub-contracted (test no. 18-006683)

Sample Tested: Core Tested
Weight Applied: 11.3 kg for 24 hours

Observation made during visual examination: **No Rips, Tears or Other Damage Observed**

Compliance to AS/NZS 4254.1:2012, Clause 2.4.2(h): **Complies**

Note: This report supersedes NZWTA report no. 1251906.2B dated 19/12/2018.

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No. 1251906.2C

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Attn.: Bo Cao

SAMPLE RECEIVED FROM:
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Date Received: 18.10.18

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UL 181.13-2013 – MOULD GROWTH AND HUMIDITY TEST – AIR DUCT

Mould Used: Chaetium Globosum

Three samples of each component submitted were tested.

Note: This test was sub-contracted (18-006684).

Did mould spread beyond the inoculated area?

No

Did structural material become deformed or delaminated?

No

Compliance to AS/NZS 4254.1-2012, Clause 2.4.2:

Complies

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