

Received:03/05/2019 **Completed:**05/08/2019 **Letter:** P **XU** **P.O.#:** 0031826 **Test Report #:** 3-31142-0-

Client's Identification Style: 2.5 inch Sound Attenuator duct. Composition: Nylon and wire helical inner core, fiberglass insulation, aluminized polyester film. (see continuation)

Tested For: Adam White **Key Test:** BS 476 Part 6 1835
 Unico, Inc. **Tel:** 1-(314)-481-9000 **Ext:**
 1120 Intagliata Drive **Fax:** 1-()- -
 Arnold, MO 63010

CLIENT'S IDENTIFICATION (continuation):

Product End Use: Air supply duct from main plenum duct to conditioned space.

APPROXIMATE THICKNESS & MASS PER UNIT AREA (as measured by SGS Govmark): 26.17 mm;
 0.55 kg/m²

TEST PERFORMED: BS 476 Part 6 - Fire Tests on Building Materials and Structures
 Part 6 - Method of Test for Fire Propagation for Products

BRIEF DESCRIPTION OF TEST: A standard calcium silicate board is subjected to a regimen of open flame and electrically heated heat sources as follows.
 Open flame ignition is activated at point zero.
 At 2 minutes 45 seconds, 1800 watts is introduced to the electrical heaters.
 At 5 minutes the wattage is reduced to 1500 watts.
 The total test time is 20 minutes.
 Similar runs are made using the material under test.

The raw data of the material under test is compared to the raw data of the non combustible board.

Sub indices values are reported in three incremental periods:
 Period 1 is the first 3 minutes of the test.
 Period 2 is the subsequent 7 minutes interval.
 Period 3 is the final 10 minutes interval.

The propagation index is the total of the three sub indices values.
 SPECIMEN PREPARATION: The material under test was bonded to calcium silicate board using a clay based wallcovering adhesive.

RESULTS:

Sub Indices	
1	6.1
2	1.8
3	0.3

Total (Propagation Index):	8.2

REMARKS: None.

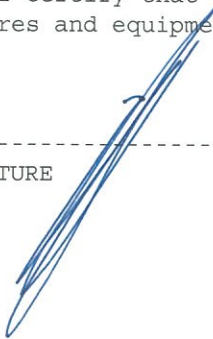
ACCEPTANCE CRITERIA: None cited.

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Tested For: Adam White	Unico, Inc. 1120 Intagliata Drive Arnold, MO 63010			Key Test: BS 476 Part 6	1835
				Tel: 1-(314)-481-9000	Ext:
				Fax: 1-()- -	

CONCLUSION: Not applicable.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by BS 476 Part 6 .

 AUTHORIZED SIGNATURE
 SGS GOVMARK
 EXWF /jab /gb



(Page 2 of 2)

MAY 13 2019

Bobby Brown

Received:03/05/2019 **Completed:**05/08/2019 **Letter:** P1 **XU** **P.O.#:** 0031826 **Test Report #:** 3-31142-1-

Client's Identification Style: 2.5 inch Sound Attenuator duct. Composition: Nylon and wire helical inner core, fiberglass insulation, aluminized polyester film. (see continuation)

Tested For: **Adam White** **Key Test:** BS 476 Part 7 **2000**
 Unico, Inc.
 1120 Intagliata Drive **Tel:** 1-(314)-481-9000 **Ext:**
 Arnold, MO 63010 **Fax:** 1-()- -

CLIENT'S IDENTIFICATION (continuation):

Product End Use: Air supply duct from main plenum duct to conditioned space.

LE 1997; V 9/15 PC: ME DL/jd

APPROXIMATE THICKNESS & MASS PER UNIT AREA (as measured by SGS Govmark): 26.17 mm;
 0.55 kg/m²

TEST PERFORMED: BS 476 Part 7 - Fire Tests on Building Materials and Structures
 Part 7 - Method of test to determine the classification of the surface spread of flame of products

BRIEF DESCRIPTION OF TEST: This test is intended to measure the lateral spread of flame along the surface of a specimen oriented in the vertical position. A classification system based on the rate and extent of spread of flame constitutes the class rating given to the material.

SPECIMEN: 885 mm by 270 mm Other _____

RESULTS:

Flame Spread

Specimen #	@ 90 seconds (mm)	Final (mm)
1	290	290
2	180	180
3	150	150
4	150	150
5	180	180
6	370	370

OBSERVATIONS: Material softening observed.

REMARKS: None.

Received: 03/05/2019	Completed: 05/08/2019	Letter: P1	XU	P.O.#: 0031826	Test Report #: 3-31142-1-
Client's Identification	Style: 2.5 inch Sound Attenuator duct. Composition: Nylon and wire helical inner core, fiberglass insulation, aluminized polyester film. (see continuation)				
Tested For: Adam White	Key Test: BS 476 Part 7			2000	
Unico, Inc. 1120 Intagliata Drive Arnold, MO 63010	Tel: 1-(314)-481-9000		Ext:		
	Fax: 1-()- -				

CLASSIFICATION CRITERIA: As cited by Table 2 (page 15) of BS 476: Part 7: --

Classification	Spread of Flame @ 1.5 min		Final Spread of Flame	
	Avg Limit (mm)	Limit for 1 Specimen in Sample (mm)	Avg Limit (mm)	Limit for 1 Specimen in Sample (mm)
Class 1:	165	165 + 25	165	165 + 25
Class 2:	215	215 + 25	455	455 + 45
Class 3:	265	265 + 25	710	710 + 75
Class 4:	Exceeding the limits for class 3			

Notes: A prefix "D" is added to the classification of any product which has been tested in a modified form (e.g. class D3).

A suffix "R" is added to the classification if more than 6 specimens are required in order to obtain 6 valid test results (e.g. class 2R).

A suffix "Y" is added to the classification in those cases specified by the standard (i.e. delamination, distortion).

If 4 or more invalid test results are achieved from 1 sample, then the product shall be classified as "not suitable for assessment by this test method."

CONCLUSION: Based on the above Results and Classification Criteria, the item tested is Classified as:

- D Class 1 R Y
- D Class 2 R Y
- D Class 3 R Y
- D Class 4 R Y
- Not suitable for assessment by this method

Proviso: The test results relate only to the behaviour of the test specimens of the product under the particular condition of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by BS 476 Part 7.

Bobby Brown

 AUTHORIZED SIGNATURE
 SGS GOVMARK
 EXWF /jab /gb

MAY 13 2019