Test Report No. 7191266258-MEC21/A1-YWA
dated 29 Nov 2021

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

PSB Singapore

Add value.
Inspire trust.

SUBJECT:

Surface spread of flame test on Brand: “Delta Duct”, Model: “Delta Duct XLPE” XLPE-Polyolefin Insulation material submitted by Delta Duct Airconditioning L.L.C on 20 Oct 2021.

TESTED FOR:

Delta Duct Airconditioning L.L.C
P.O. Box:5389,Factory: 2,
Saih Shuaib 4,
Dubai Industrial City,
Dubai,UAE

DATE OF TEST:

11 Nov 2021

PURPOSE OF TEST:

To determine the tendency of the surface of a material or a combination of materials to support the spread of flame across its surface and to classify the surface according to the test given in British Standard 476 : Part 7 : 1997 “Method of test to determine the classification of the surface spread of flame of products”.

The test was conducted at TÜV SÜD PSB’s fire test laboratory located at No. 10 Tuas Avenue 10, Singapore 639134.

TÜV SÜD PSB

ilac-MRA

Accredited Laboratory SAC-SINGLAS

LA-2007-0380-A LA-2007-0386-C
LA-2007-0381-F LA-2010-0464-D
LA-2007-0382-B LA-2018-0702-B
LA-2007-0383-G LA-2018-0703-G
LA-2007-0384-G LA-2020-0747-L
LA-2007-0385-E

The results reported herein have been performed in accordance with the terms of accreditation under the Singapore Accreditation Council. Inspections/Calibrations/Tests marked "Not SAC-SINGLAS Accredited" in this Report are not included in the SAC-SINGLAS Accreditation Schedule for our inspection body/laboratory.

Laboratory:
TÜV SÜD PSB Pte. Ltd.
15 International Business Park
TÜV SÜD @ IBP
Singapore 609937

Phone : +65-6778 7777
E-mail: info.sg@tuvsud.com
https://www.tuvsud.com/en-sg
Co. Reg : 199002667R

Regional Head Office:
TÜV SÜD Asia Pacific Pte. Ltd.
15 International Business Park
TÜV SÜD @ IBP
Singapore 609937

DESCRIPTION OF SPECIMENS:

Nine pieces of specimen, said to be Brand: “Delta Duct”, Model: “Delta Duct XLPE” XLPE-Polyolefin Insulation material, each of nominal test size of 885mm x 270mm were received.The overall thickness, mass per unit area and bulk density of the whole specimen were measured to be 12mm, 0.5kg/m^2 and 42kg/m^3 respectively.

Details of the product, as provided by the sponsor of test, are as follows:

Brand	Delta Duct
Model reference	Delta Duct XLPE
Generic product name	XLPE-Polyolefin Insulation
Material composition	XLPE-Polyolefin Insulation with PET foil facing
Country of Origin	UAE
Nominal overall thickness	12mm
Nominal mass per unit area	-
Nominal bulk density	-
Fire retardant	-

Details of the product, as provided by the sponsor of test, are as follows: (Cont'd)

Exterior Face: (Fire side) Brand – Material – Country of Origin – Nominal thickness – Nominal mass per unit area – Nominal density – Color reference – Fire retardant –	 - Heat Sealing PET Foil - 39 micron - - Silver -
Core Material Brand – Material – Country of Origin – Nominal thickness – Nominal mass per unit area – Nominal density – Color reference – Fire retardant –	 - Crosslinked Polyethylene Foam - 12mm - - Grey -
Bonding Process	Heat Sealing PET Foil bonded over XLPE-Foam by Heat Lamination process

TEST PROCEDURE:

Prior to test, the specimens were prepared and conditioned in accordance with paragraphs 5.3 to 5.6 of the standard and secured to a specimen holder as described in paragraph 6.3.

Six specimens, backed with no-combustible board, were tested with the Heat Sealing PET Foil face exposed to the specified thermal radiation from the apparatus described in paragraph 6.1 of the standard. The intensity of the radiated heat incident on the specimen varies with distance from the hotter end, so that when the specified calibration panel is mounted in the place to be occupied by the specimen, the irradiance of the radiometer is as given in Table 1. The test was terminated when the flame front reached the 825mm reference line, or after 10 minutes has elapsed, whichever is the shorter.

Table 1 : Irradiance Along Horizontal Reference Line on the Calibration Board

Distance along reference line from inside edge of specimen holder	Irradiance kW/m^2		
mm	specified	min.	max.
75	32.5	32.0	33.0
225	21.0	20.5	21.5
375	14.5	14.0	15.0
525	10.0	9.5	10.5
675	7.0	6.5	7.5
825	5.0	4.5	5.5

RESULTS OF TEST:

Specimen No.	1	2	3	4	5	6
Spread of flame at first 1½ minutes (mm)	0	0	0	0	0	0
Distance (mm)	Time of spread of flame to indicated distance (minutes • seconds)					
Start of flaming	nil	nil	nil	nil	nil	nil
75 165 190 215 240 265 290 375 455 500 525 600 675 710 750 785 825 865	-	-	-	-	-	-
Time of maximum spread of flame (minutes • seconds)	-	-	-	-	-	-
Distance of maximum spread of flame (mm)	0	0	0	0	0	0
Comments	None					

Classification of Surface Spread of Flame

Classification	Spread of flame at 1.5 min.		Final spread of flame	
	Limit (mm)	Limit for one specimen in sample (mm)	Limit (mm)	Limit for one 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			

CONCLUSION:

In accordance with the class definitions specified in the Standard, the test results show that the sample tested has a Class 1 Surface Spread of Flame.

REMARKS:

1. The test results relate only to the behaviour of the test specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.
2. Photograph of specimen is shown in Plate 1.

Ye Wint Aung
Higher Associate Engineer

Chan Lung Toa
Assistant Vice President
Fire Testing
Mechanical Centre

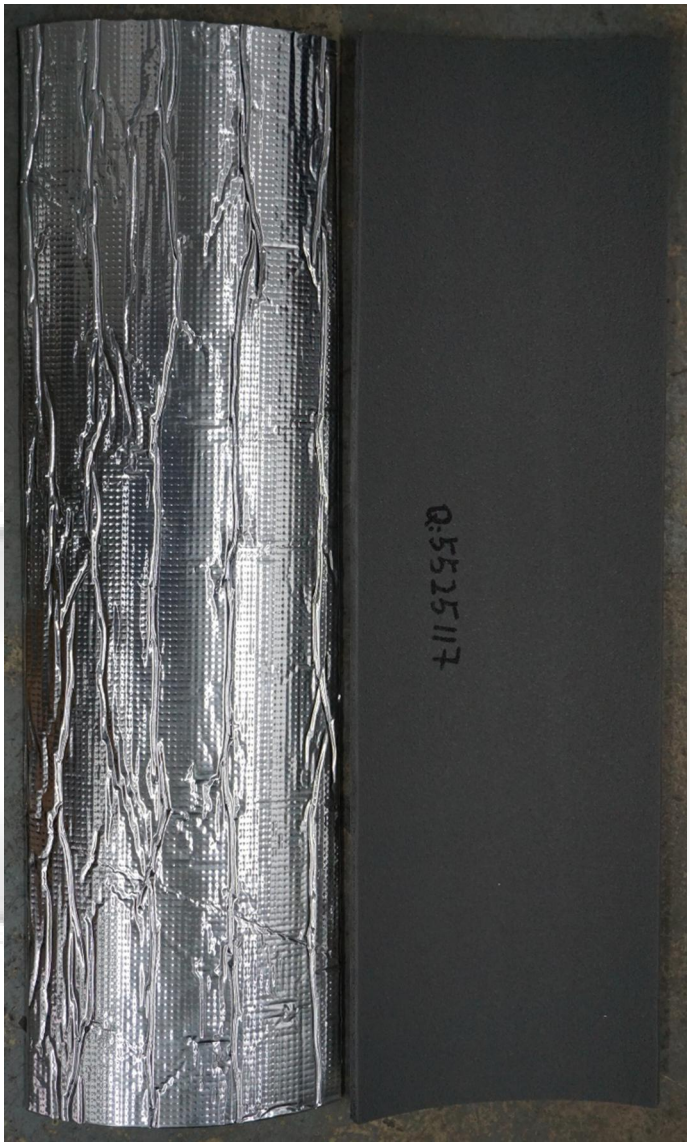

Plate 1: Photograph of specimen

PSB Singapore

Please note that this Report is issued under the following terms :

1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.

2. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.

3. Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.

4. This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.

5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, 15 International Business Park TÜV SÜD @ IBP Singapore 609937.

6. The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

Effective 26 January 2021