

Test Report

No. SDHL1811026845FB

Date: Dec.06, 2018

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FOSHAN XINLIANG BAODI HARDWARE CO.,LTD
18,XINGTOU INDUSTRIAL, NANZHUANG TOWN,CHANCHENG DISTRICT,FOSHAN CITY,
GUANGDONG PROVINCE,CHINA

The following sample(s) was / were submitted and identified on behalf of the client as:

Sample Description : PE INSULATION PIPE
SGS Ref. No. : GZIN1811061153SC
Sample Receiving Date : Nov.26, 2018
Test Performing Date : Nov.26, 2018 to Dec.06, 2018

Test Result Summary

Test(s) Requested	Result(s)
EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements-Part 1: Classification using data from reaction to fire tests	Classification: B _L -s1, d0
Summary:	
1. For further details, please refer to the following page(s).	

Signed for and on behalf of
Shunde Branch
SGS-CSTC Co., Ltd.

Irvette Zhang
Approved signatory



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TESTS AND RESULTS

Test Conducted:

This test is conducted as per EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements-Part 1: Classification using data from reaction to fire tests. And the test methods as following:

1. EN 13823:2010+A1:2014 Reaction to fire tests for building products-Building products excluding floorings exposed to the thermal attack by a single burning item.
2. EN ISO 11925-2:2010+AC:2011 Reaction to fire tests-Ignitability of building products subjected to direct impingement of flame-Part 2: Single-flame source test.

Mounting and fixing (For EN 13823:2010+A1:2014):

The test specimen, pipe insulation was mounted on steel pipe with outside diameter of 21.3mm and wall thickness 2.5-2.6mm.

The pipe assembly was mounted in such away that there is a gap of 25mm between the outside pipe insulation surfaces of adjacent pipe and between the outside insulation surface and backing board.

Test Results:

Test method	Parameter	Number of tests	Results
EN 13823:2010+A1:2014	FIGRA _{0.2MJ} (W/s)	3	210.1
	THR _{600s} (MJ)		3.0
	SMOGRA (m ² /s ²)		5.5
	TSP _{600s} (m ²)		11.4
	LFS < edge of specimen		Yes
	Flaming particles or droplets		No
EN ISO 11925-2:2010+AC:2011 Exposure = 30 s	F _s ≤ 150 mm	6	Yes
	Ignition of the filter paper		No

Remark:

FIGRA-Fire growth rate index used for classification purposes [W/s]

For the classes A_{2L} and B_L, FIGRA_{0.2MJ}

For the classes C_L and D_L, FIGRA_{0.4MJ}

LFS-Lateral flame spread [m]

THR_{600s}-Total heat release within 600 s [MJ]

SMOGRA-Smoke growth rate [m²/s²]

TSP_{600s}-Total smoke production within 600 s [m²]

Classification and direct field of application:

This classification has been carried out in accordance with **EN 13501-1:2007+A1:2009**.

Classification:

Fire behaviour		Smoke production			Flaming droplets	
B _L	—	s	1	,	d	0



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Remark:

The classes with their corresponding fire performance are given in table 3.

Reaction to fire classification is based on the 7-step scale of A1_L to F_L, where A1_L is good and F_L is bad

Statement:

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

Warning:

This classification report does not represent type approval or certification of the product.

The test laboratory has, therefore, play no part in sampling the product for the test, although it holds appropriate references to the manufacturer's factory production control that is aimed to be relevant to the samples tested and that will provide for their traceability.

Table 3 — Classes of reaction to fire performance for linear pipe thermal insulation products

Class	Test method(s)	Classification criteria	Additional classification
A1 _L	EN ISO 1182 ^a and	$\Delta T \leq 30^\circ\text{C}$, and $\Delta m \leq 50\%$, and $t_f = 0$ (i.e. no sustained flaming)	-
	EN ISO 1716	$PCS \leq 2.0\text{MJ/kg}$ ^a and $PCS \leq 2.0\text{MJ/kg}$ ^b and $PCS \leq 1.4\text{MJ/m}^2$ ^c and $PCS \leq 2.0\text{MJ/kg}$ ^d	-
A2 _L	EN ISO 1182 ^a or	and $\Delta T \leq 50^\circ\text{C}$, and $\Delta m \leq 50\%$, and $t_f \leq 20\text{ s}$	-
	EN ISO 1716		-
	EN 13823	$FIGRA \leq 270\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7.5\text{MJ}$	Smoke production ^e and Flaming droplets/particles ^f
B _L	EN 13823 and	$FIGRA \leq 270\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7.5\text{MJ}$	Smoke production ^e and Flaming droplets/particles ^f
	EN ISO 11925-2 ^h Exposure =30s	$F_s \leq 150\text{mm}$ within 60 s	
C _L	EN 13823 and	$FIGRA \leq 460\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 15\text{MJ}$	Smoke production ^e and Flaming droplets/particles ^f
	EN ISO 11925-2 ^h Exposure=30s	$F_s \leq 150\text{mm}$ within 60 s	



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D _L	EN 13823 and	FIGRA ≤ 2100W/s	Smoke production ^e and Flaming droplets/particles ^f
	EN ISO 11925-2 ^h Exposure=30s	F _s ≤ 150mm within 60 s	
E _L	EN ISO 11925-2 ^h Exposure =15s	F _s ≤ 150mm within 20 s	flaming droplets/particles ^h
F _L	No performance determined		

^a For homogeneous products and substantial components of non-homogeneous products.

^b For any external non-substantial component of non-homogeneous products.

^c For any internal non-substantial component of non-homogeneous products.

^d For the product as a whole.

^e s1 = SMOGRA ≤ 105m²/s² and TSP_{600s} ≤ 250m²; s2 = SMOGRA ≤ 580m²/s² and TSP_{600s} ≤ 1600m²; s3 = not s1 or s2

^f d0 = No flaming droplets/ particles in EN 13823 within 600 s;

d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s;

d2 = not d0 or d1.

Ignition of the paper in EN ISO 11925-2 results in a d2 classification.

^g Pass = no ignition of the paper (no classification);

Fail = ignition of the paper (d2 classification).

^h Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.

SAMPLE INFORMATION AND PICTURES

Inner diameter of the sample: About 24mm
 Outside diameter of the sample: About 39mm
 Thickness of the sample: About 9mm



Before Test (EN 13823)



After Test (EN 13823)

End of Report



SGS-CSTC (Shunde) Technical Services Co., Ltd.
 Shunde Branch Harqines

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11F, 1st Building, European Industrial Park, No.1 Shunhe South Road, Wusha Section, Daliang Town, Shunde, Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn
 中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号楼首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 e sgs.china@sgs.com