

FOSHAN HUA HONG COPPER TUBE CO., LTD
 SONG XIA INDUSTRY SCOPE, SONG GANG TOWN, FOSHAN CITY

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

Sample Description : PE PIPE INSULATION
 Style / Item No. : 36*6MM INSULATION
 Manufacturer : FOSHAN HUA HONG COPPER TUBE CO., LTD
 Buyer : DAIKIN PANASONIC CHUO BUSSAN ETC.
 Supplier : FOSHAN HUA HONG COPPER TUBE CO., LTD; CHUO BUSSAN CO., LTD
 Country of Destination : CHINA JAPAN EU USA
 Sample Receiving Date : Mar.28, 2016
 Test Performing Date : Mar.28, 2016 to Apr.08, 2016

Test Result Summary

Test(s) Requested	Result(s)
EN 13501-1:2007+A1:2009	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.



Kevin Pan
 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, Class B_L. And the test methods as following:

1. EN 13823:2010 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 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):

The test specimens are attached to the steel tube at a distance of 25mm from the backing board, There is distance of 25mm between each test specimen outside.

Test Results:

Test method	Parameter	Number of tests	Results
EN 13823	FIGRA _{0,2MJ} (W/s)	3	113.0
	THR _{600s} (MJ)		5.5
	SMOGRA (m ² /s ²)		5.6
	TSP _{600s} (m ²)		31.2
	LFS < edge of specimen		Yes
	Flaming particles or droplets		No
EN ISO 11925-2 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]



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Classification and direct field of application:

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

Classification:

The product, "PE PIPE INSULATION", classification is as following,

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

Reaction to fire classification: B_L—s1, d0

Remark:

The classes with their corresponding fire performance are given in annex A.

Reaction to fire classification is based on the 7-step scale of A_{1L} to F_L, where A_{1L} 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.

Annex A

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

Class	Test method(s)	Classification criteria	Additional classification
A _{1L}	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	-
A _{2L}	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



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B _L	EN 13823 and	FIGRA≤270W/s and LFS<edge of specimen and THR _{600s} ≤7.5MJ	Smoke production ^e and Flaming droplets/particles ^f
	EN ISO 11925-2 ^h Exposure =30s	F _s ≤150mm within 60 s	
C _L	EN 13823 and	FIGRA≤460W/s and LFS<edge of specimen and THR _{600s} ≤15MJ	Smoke production ^e and Flaming droplets/particles ^f
	EN ISO 11925-2 ^h Exposure=30s	F _s ≤150mm within 60 s	
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.



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SAMPLE INFORMATION AND PICTURES



Before Test (EN 13823)



After Test (EN 13823)

End of Report



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