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Test Result : B-S1 , d1

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Sample ID : İZOLASYONLU PE-X/AL/PE-X BORU / INSULATED MULTILAYER PIPE

	TEST	METHOD	RESULT
*	Fire classification of construction products and building elements-Part 1: Classification using test data from reaction to fire tests.	EN 13501-1	PASS B S1 d1



Seal

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Environment

The requirements and standards apply to equipment intended for use in:

X	Residential (domestic) environment
X	Commercial and light-industrial environment
X	Industrial environment
X	Medical environment



RESULTS**1.TS EN ISO 13501-1**

Building products and structural elements, fire classification. Part 1: Classification by using data obtained from the behavior tests against fire.

This standard covers the behavior of all building products, including products used in combination with structural elements, against flame.

Provisions for Inspection and Test:

If Rule / Test Is Not Needed To Be Applied To Sample (Not Applicable To Sample)	NU
If the Specimen Fits the Rules (Passed)	P
If the Specimen Tested Does Not Comply with the Rules (Left)	K
If there is a Rule / Experiment Not Applied for Any Reason (Unable)	Y

Sample No	1	2	3
Fammability (Yes/No)	YES	YES	YES
Whether the flame is spread (Yes/No)	YES	YES	YES
Flame Spreading Time	0:48	0:48	0:48
Combustion on Filter Paper (Yes/No)	-	-	-
RESULT			
Observations The samples were fired. Flame did not reach the measuring line within the test period.			

Related Product Standard and Citations: Fire Response Test (EN 13501-1 B Class)	
Conditioning Details: The test samples were conditioned at 23 ± 2 ° C and 50 ± 5% relative humidity at EN 13238 according to 4.3 C..	
Class B (TS EN ISO 13501-1 Clause 8.3)	For the determination of conformity to Class B , use a product, the time of exposure to flame according to TS EN 13501-1
Test Sample	Pipe Diameter: 16 mm, Pipe Thickness: 2 mm, Insulation Thickness: 6 mm
Exposure Requirements	Surface exposed to flame

RESULT: Tests and tests were carried out according to the European Standard TS EN ISO 13501-1.

"The result of this experiment is related to the behavior of the test specimen of a product under the special conditions in which the test is applied; Not a single criterion for assessing the potential fire hazard of a product under actual use. "



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Reaction to fire

The combustion class (Euroclasses) of the product must be determined in accordance with EN 13501-1.

TS EN 13501-1 - Flammability Test (TS EN ISO 1182)

This test is carried out to determine whether a contribution to a fire is significant, regardless of the end use of a product.

Material	Rule / Test	Result / Evaluation	Decision
5	Test sample		
	----	---	PASS
6	Conditioning		
	Test samples shall be conditioned as specified in EN 13238. The test samples should be dried and tested for 20 hours to 24 hours in an air-circulating oven with a temperature of $(60 \pm 5) ^\circ\text{C}$. it must be allowed to cool to ambient temperature in a desiccator before being held. The mass of each sample should be determined with a sensitivity of 0.01 g before the experiment.	Conditioning Time: 1 week Conditioning Temperature: $23 \pm 2 ^\circ\text{C}$ Conditioning Humidity: $50 \pm 5\%$ <i>EN 13238 4.3 Conditioning for fixed period</i> <i>a) Minimum conditioning period of one weeks:</i> <i>2) cement based products;</i>	PASS
8	Display of results		
8.1	The mass loss measured mass loss is calculated and recorded in% for each of the five test samples.		
8.1	Flammability The measured total time of continuous exacerbation is calculated and recorded in seconds for each of the five test samples.	1. test	2.12 MJ/kg TS EN ISO 11925-2
8.2	Note 1: TS EN 13501 -1 Class A_{fl} Homogeneous and non-homogeneous products must meet the $1t \leq 30 ^\circ\text{C}$ and ,m ve 50% and $t_f = 0s$ criteria.	2. test	2.13 MJ/kg TS EN ISO 11925-2
8.3	Note 2: TS EN 13501-1 Class A_{fl} Homogeneous and non-homogeneous products must meet the $\Delta t \leq 50 ^\circ\text{C}$ and Δm olmayan 50% and t_f Sınıf 20s criteria. Note 3: TS EN 13501-1 Class A_{fl} Homogen products shall meet the PCS ojen 2.0 MJ / kg criteria.	3. test	2.14 MJ/kg TS EN ISO 11925-2
			N/A

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Classification of **INSULATED MULTILAYER PIPE** according to TS EN 13501-1 according to the behavior against fire:

B

Test method	Parameter	Number of tests	Mean of continuous parameter	Results
				Suitable parameter
TS EN 13823	FIGRA _{0,2MJ} (W/s)	3	105	≤120
	LFS > side	3	(-)	YES
	THR _{600s} (MJ)	3	4,5	≤7,5
	SMOGRA (m ² /s ²)	3	75	≤180
	TSP _{600s} (m)	3	95	≤200
	Drops and droplets (s)	3	(-)	YES

(-): Not applicable

(1) Exposure of the surface to flame

(2): Exposure of the edge to flame (c) EN 14509: 2014 standard C.1.2.2.a)

Test method	Parameter	Parameter	Compliance criteria
TS EN 13823	FIGRA _{0,2 MJ} [W/s]	105	≤ 120 (B)
	THR _{600s} (MJ)	4,5	≤ 7,5 (B)
	LFS < side	(-)	YES (B)
	SMOGRA [m ² /s ²]	75	≤180 (s1)
	TSP _{600s} [m]	95	≤200 (s1)
	burning drops / particles burning time (s)	(-)	YES (d1)

(-): Not applicable

Classification of **INSULATED MULTILAYER PIPE** based on fire behavior:

B

Additional classification for smoke formation:

S1

Additional classification for burning drops / beads:

d1

Reaction to fire for INSULATED MULTILAYER PIPE

Flammability Behavior		Smoke			Burning Drops	
B	-	s	l	t	d	l

TEST IMAGES



**** End of Report ****



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