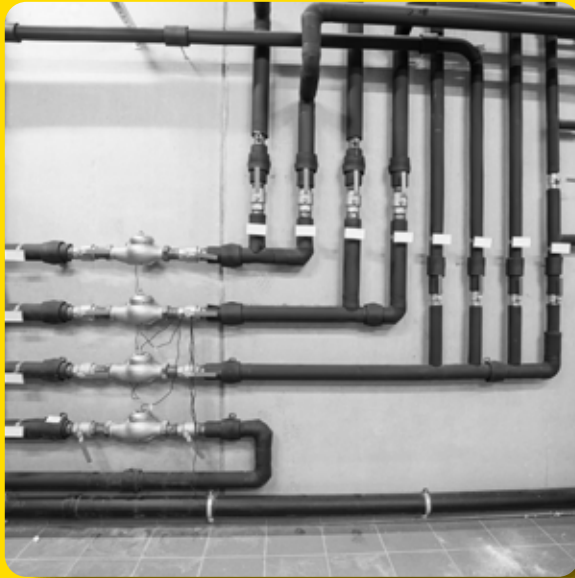


IZOCAMFLEX



Euroclass B

#izocamstandsbehind





Izocam is the leader company of the insulation sector, with half a century of experience in Turkey and the Region, designing, producing and distributing insulation materials for the creation, installation, use of industry and durable consumer goods in thermal insulation, noise control, acoustic insulation and fire safety systems.

MILESTONES

1965

Gebze

Izocam has been maintaining its leading position in the insulation sector since its establishment in 1965.

1967

Gebze

The first factory of Izocam A.Ş., the pioneer of the Turkish insulation industry, established in Gebze, started its operations in 1967 by starting glass wool production.

1982

Gebze

Izocam started to produce expanded polystyrene (EPS) under the brand name of Izopor in its facility established in Gebze in 1982.

1986

Tarsus

In 1986, the second glass wool factory was established in Tarsus, and its capacity was doubled in 1992. Thanks to the increase in the glass wool capacity of the factory in Tarsus; Stonewool production started in 1993 at the Gebze facility.

2000

Eskişehir

In 2000, the production of Izocamflex branded elastomeric rubber foam products started at the Eskişehir facility with a capacity of 500 tons/year. The current capacity of the facility is 4,500 tons/year. Izocam's Eskişehir facilities also produce Izocam Peflex branded polyethylene insulation products with a capacity of 700 tons/year.

2005

Kocaeli

In Tekiz Facilities, which was established within the body of Koç Group in 1966 and became a part of İzocam in 2005, stonewool, polyurethane and polyisocyanurate filled facade and roof panels, corrugated sheets, accessories and Cold Room Panels under the brand of İzocam Tekiz are produced in different types and shapes, as desired. In addition, production is made in the desired color and paint type.

2011

Gebze

In Gebkim Facilities, which it took into operation in 2011, Izocam gathered together the production of Foamboard (XPS), Izopor (EPS) and Izocam Tekiz Insulated Panel and Trapeze.

IZOCAM IS THERE FOR ALL insulation needs!

From houses to offices, from installations to production plants, insulation solutions suitable for every area and every need are produced at Izocam with more than 50 years of expertise.



Glasswool

Stonewool



EPS



XPS



Rubber

Polyethylene



Sandwich Panel



BASIC FEATURES THERMAL INSULATION MATERIALS NEED TO HAVE

The main features to be considered in the selection of thermal insulation materials are as follows:

- Thermal Conductivity
- Water Vapor Diffusion Resistance Factor
- Reaction to Fire
- Temperature Resistance
- Ease of Application
- Health Effects
- Dimensional Stability
- Pore Structure
- Intensity
- Resistance to atmospheric conditions and acids

FEATURES TO BE CONSIDERED IN INSTALLATION INSULATION

The installation is divided into 3 as cold, warm and hot lines according to the temperature of the fluid passing through it.

- Cold Lines: Lines with a fluid temperature lower than + 10 °C
- Warm Lines: Lines with fluid temperature between +10 °C and +100 °C
- Hot Lines: Lines with a fluid temperature higher than +100 °C

The thermal insulation materials used according to the installation type are as follows:

- Elastomeric Rubber Foam due to its high resistance to vapor diffusion in cooling and fan-coil lines,
- Although all insulation materials can be used in warm lines, Polyethylene, Glasswool and Elastomeric Rubber Foam are generally used.
- Due to its high temperature resistance, Glasswool up to 200°C and Stonewool up to 600°C can be used in hot lines.



THE BEHAVIOR OF MATERIALS USED IN INSTALLATION INSULATION AGAINST FIRE

In general, the following points should be considered in the design of heating, cooling and ventilation installations and in the selection of materials used.

- Installation systems should not cause a fire and the materials used should not contribute directly to the fire.

- The spread of the fire must be limited.

Precautions should be taken in tube and duct passages in areas such as walls, floors and ceilings

- Should not release toxic gases in case of combustion of products

What is the reaction to fire and why is it important?

The effect of a material on fire is directly related to the fire reaction class of the material. The increase in temperature in a fire causes the materials to undergo changes such as expansion, softening or melting. In order to protect buildings against fire, some structural measures must be taken at building heights, distances between buildings, exterior facades, partition walls, doors and windows, corridors, vertical spaces and roofs. The fire reaction classes of the materials used are of great importance in terms of controlling the fire and gaining the necessary time for people to get away from the fire.

How and to what extent a material contributes to a

- Fire and smoke spread from one compartment to another through a ventilation system should be prevented by using fire resistant ducts and fire dampers

Regarding the behavior of building materials against fire, common classification principles and test procedures valid in all EU countries have been established by making use of the local standards of the countries. According to the new regulations, building materials are classified according to how they affect ignition, flame propagation and smoke generation.

developing fire, its propensity to ignite, its heat and flame-carrying properties and how it contributes to the fire is of great importance in terms of controlling the fire during its development and allowing people to stay away from the fire. In order to develop and/or evaluate its product in terms of fire risk, a manufacturer may wish to have a customer or controller perform a test to see how the product it has purchased will behave in the event of a fire. In Turkey, materials are classified according to the TS EN13501-1 standard in terms of reaction to fire. There are 7 different classes such as A1, A2, B, C, D, E and F. Products in any class are considered to meet all the requirements of the subclass.

Reaction to Fire Class	Definition	Description
A1	Not Inflammable	INCOMBUSTIBLE
A2	Almost not Inflammable	
B	Very Difficult Inflammable	COMBUSTIBLE
C	Moderately Inflammable	
D	Well Inflammable	
E	Very Inflammable	
F	Extremely Inflammable	

Additional classifications include Smoke Gas Production (s) and Droplet Formation (d) classes.

Smoke Gas Production

s1: Smoke gas production is very limited.

s2: Smoke gas production is limited.

s3: The flue gas production does not meet the requirements of classes s1 and s2.

Droplet Formation

d0: No flame droplets or particles occur.

d1: Flame droplets or particles quickly extinguished.

d2: The formation of flame droplets or particles does not meet the requirements of classes d0 and d1.

WATER VAPOR DIFFUSION RESISTANCE FACTOR (μ)

Air contains some water vapor in it. Just as the heat passes from the hot side to the cold side, the water vapor also passes from the high humidity environment to the low humidity environment with partial pressure, depending on the temperature and relative humidity. While this flow is taking place, the steam encounters different resistances in different environments (Vapor

diffusion resistance). Vapor diffusion resistance is one of the factors that directly affect whether condensation will occur in the installation. If the water vapor completely passes through the material, it is expressed as $\mu=1$, if it does not pass at all, it is expressed as $\mu=\infty$. In applications where condensation control is required, the value of μ must be taken into account.

THE EFFECT OF THE CONDENSATION PROBLEM ON THE THERMAL CONDUCTIVITY COEFFICIENT λ

The temperature of the lines through which low-temperature fluid flows is generally lower than the temperature of the environment they are in. Depending on the relative humidity value of the environment, the high difference between the surface temperature of the line and the ambient temperature causes moisture accumulation on the line surface, in other words condensation.

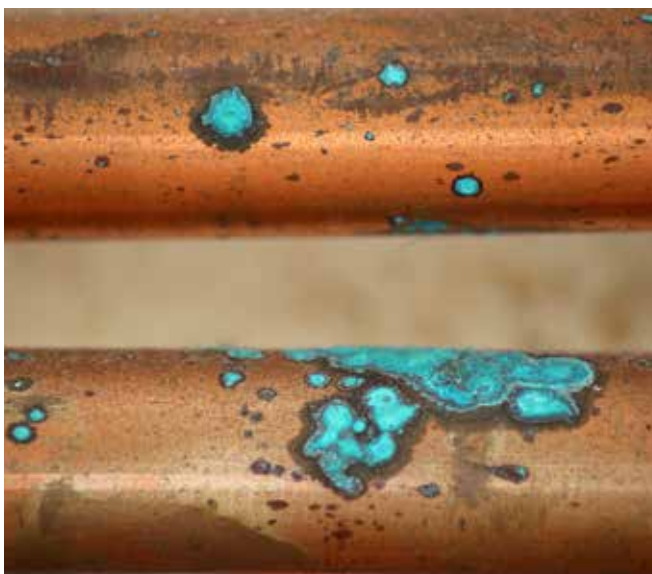
Condensation may occur on the tube surface (inner section of the insulation material) or on the outer section of the insulation material.

The reason why condensation occurs on the outer surface of the insulation material is that the temperature of this surface is lower than the dew point temperature. This indicates that the thickness of the insulation material is not chosen

correctly. This situation prevents the system from working with the required performance.

This situation is more dangerous if the condensation is in the inner section of the material. In addition to the inadequacy of the system performance, it causes the metal elements to rust and rot due to the corrosive effect. The reasons for the formation of a condensation zone in the inner section are the use of materials with low vapor diffusion resistance or the mistakes that will allow air passage in the application.

In materials with low vapor diffusion resistance, water vapor is collected over time. When the insulation material gets wet, its insulation property is damaged and the insulation material begins to fail to do its job adequately.



Pipe insulated with material with low vapor diffusion resistance



Pipe insulated with material with high vapor diffusion resistance

IZOCAMFLEX SHEET

It is an elastomeric rubber based insulation material in the form of sheet with closed cell structure. It is manufactured to be used for air conditioning, heating and cooling systems.



Application

It is used on the exterior surfaces of the ducts and large diameter pipe lines in the heating, cooling and air conditioning systems for thermal insulation and condensation control purposes. The sheets are adhered to the duct surface by using a special adhesive that Izocam suggests. Joints should be tightly sealed and they should be

covered with insulation tape afterwards if necessary. Taping should not result in thickness loss. The application should be protected against disruption and rupture. For the applications exposed to the sun, definitely a protective coat or a protective paint should be used. For the outdoor applications, the surface should be coated within 5 days.

Thickness	Width	Length	Package
mm	mm	mm	m ²
6	1000	36000	36,00
9	1000	24000	24,00
13	1000	18000	18,00
19	1000	12000	12,00
25	1000	9000	9,00

Please contact our Regional Sales Offices for products with different thicknesses.

Thickness	Width	Length	Package
mm	mm	mm	m ²
6	1200	32000	38,40
9	1200	24000	28,80
13	1200	16000	19,20
19	1200	11000	13,20
25	1200	8000	9,60

Please contact our Regional Sales Offices for products with different thicknesses.





IZOCAMFLEX SHEET TECHNICAL SPECIFICATIONS

Properties	Symbol	Unit	Description	Tolerance*	Standard												
Material	-	-	Elastomeric Rubber Foam	-	TS EN 14304												
Length	l	mm	3000 ≤ L ≤ 60000	± 1,5 %	EN 822												
Width	w	mm	1000 - 1200	± 2 %	EN 822												
Thickness	t	mm	6 ≤ t ≤ 25	<table border="1"> <tr> <td>t ≤ 6</td> <td>±1,0</td> </tr> <tr> <td>6 < t ≤ 19</td> <td>± 1,5</td> </tr> <tr> <td>t > 19</td> <td>± 2,0</td> </tr> </table>	t ≤ 6	±1,0	6 < t ≤ 19	± 1,5	t > 19	± 2,0	EN 823						
t ≤ 6	±1,0																
6 < t ≤ 19	± 1,5																
t > 19	± 2,0																
Reaction to fire	-	-	B _{s3,d0}	-	TS EN 13501-1												
Declared Thermal Conductivity	T λ _D	°C W/m.K	<table border="1"> <tr> <td>-10</td> <td>0</td> <td>20</td> <td>40</td> <td>60</td> <td>80</td> </tr> <tr> <td>0,033</td> <td>0,034</td> <td>0,036</td> <td>0,039</td> <td>0,041</td> <td>0,042</td> </tr> </table>	-10	0	20	40	60	80	0,033	0,034	0,036	0,039	0,041	0,042	-	TS EN 12667
-10	0	20	40	60	80												
0,033	0,034	0,036	0,039	0,041	0,042												
Service Temperature	-	°C	-50 / 105	-	-												
Water Vapor Diffusion Resistance Factor	μ	-	≥ 7000	-	EN 12086												
Resistance to Oils	-	-	Good	-	-												
Resistance to Weather Conditions	-	-	Good	-	-												
Flexibility	-	-	Excellent	-	-												
Fungal Growth	-	-	None	-	-												
Packaging Material	-	-	PE Film	-	-												
Leachable (water-soluble) chloride ions	-	ppm (mg/kg)	≤300	-	TS EN13468												
pH Value	-	-	7-9	-	TS EN13468												

*Tolerances comply with TS EN 14304 standard.



IZOCAMFLEX TUBE

It is an elastomeric rubber-based, closed-pore, smooth cell structure, tubular insulation material produced for use in air conditioning, heating and cooling systems.

Application

It is applied on the outer surfaces of pipelines in heating, cooling, ventilation and air conditioning systems for thermal insulation and condensation control purposes. The tube to be insulated and the rubber inner surface should be fully seated and there should be no gaps between them. Joints should be adhered to ensure impermeability. The application must be protected against puncture and tearing. In applications exposed to sunlight, a protective jacket or protective paint must be used against the UV effect. Outdoor applications must be covered within 5 days.



Inner Diameter	Copper Pipe	Steel Pipe	Thickness				
			6	9	13	19	25
mm	inch	inch					
6	1/4"		+	+	+		
8	5/16"		+	+	+		
10	3/8"	1/8"	+	+	+	+	
12	1/2"		+	+	+	+	
15	5/8"	1/4"	+	+	+	+	
18	3/4"	3/8"	+	+	+	+	+
22	7/8"	1/2"	+	+	+	+	+
28	1 1/8"	3/4"	+	+	+	+	+
35	1 3/8"	1"	+	+	+	+	+
42	1 5/8"	1 1/4"		+	+	+	+
48		1 1/2"		+	+	+	+
60	2 3/8"	2"		+	+	+	+
64	2 1/2"			+	+	+	+
70	2 5/8"			+	+	+	+
76	3"	2 1/2"		+	+	+	+
89	3 1/2"	3"		+	+	+	+
114	4 1/2"	4"		+	+	+	+

Please contact our Regional Sales Offices for products with different thicknesses.

Application



01 Pushing Izocamflex onto the tube.



02 Joining Izocamflex with its special adhesive



03 Longitudinal cutting of Izocamflex with a knife



04 Applying a very thin layer of special adhesive to the edges to be joined



05 Joining Izocamflex starting from the ends



IZOCAMFLEX TUBE TECHNICAL SPECIFICATIONS

Properties	Symbol	Unit	Description	Tolerance**	Standard
Material	-	-	Elastomeric Rubber Foam	-	TS EN 14304
Length	l	mm	$2000 \leq L \leq 500000^*$	$\pm \% 1,5$	TS EN 822
Inner Diameter	D_{ID}	mm	≤ 100 > 100	$D_{ID} + 1 \leq D_I \leq D_{ID} + 4$ $D_{ID} + 1 \leq D_I \leq D_{ID} + 6$	TS EN 13467
Thickness	t_D	mm	$6 \leq t_D \leq 25$	$t_D \leq 8$ $\pm 1,0$ $8 < t_D \leq 18$ $\pm 1,5$ $18 < t_D \leq 25$ $\pm 2,5$	TS EN 823
Reaction to fire	-	-	B, s3, d0	-	TS EN 13501-1
Declared Thermal Conductivity	τ λ_D	$^{\circ}\text{C}$ W/m.K	-10 0 25 40 60 80 0,033 0,034 0,036 0,039 0,041 0,042	-	TS EN 12667
Service Temperature	-	$^{\circ}\text{C}$	-50 / 105	-	-
Water Vapor Diffusion Resistance Factor	μ	-	≥ 7000	-	TS EN 12086
Ozone Resistance	-	-	Good	-	-
Resistance to Oils	-	-	Good	-	-
Resistance to Weather Conditions	-	-	Good	-	-
Flexibility	-	-	Excellent	-	-
Fungal Growth	-	-	None	-	-
Packaging Material	-	-	Carton Box	-	-
Leachable (water-soluble) chloride ions	-	ppm (mg/kg)	≤ 300	-	TS EN13468
pH Value	-	-	7-9	-	TS EN13468

*Standard length is 2000 mm.

**Tolerances comply with TS EN 14304 standard.





Euroclass B



μ 7000 Condensation Control



High Thermal Insulation



CFC Free



Environmental Friendly



REMINDERS ABOUT LOADING, UNLOADING, TRANSPORT AND STORAGE

- The truck bed must be dry and clean.
- Loading and unloading should be done indoors in rainy weather.
- Loading and unloading should be done by two people.
- Boxes should be placed on top of each other with care.
- Even if the shipment will be made at close range, the tarpaulin must be covered.
- The box should be carried by holding the handles.
- During transportation, boxes in tubular products should be stacked no more than 7 rows on top of each other.
- During transportation, bags in sheet products should be stacked no more than 5 rows on top of each other.
- While the products lined up on the truck bed are tied to the frame with a rope, stiff (wood, cardboard, etc.) reinforcements should be used at the corners so that the rope does not crush the product.
- Unloading should be done only by opening the rear cover.
- Unloading should be done from the back to the front.
- Storage should be done on flat ground and indoors.
- The storage floor must be dry and clean.
- Boxes should be placed in a maximum of 5 rows on top of each other as they will be kept in the warehouse for a long time.
- Bags should be placed in a maximum of 3 rows on top of each other as they will be kept in the warehouse for a long time.
- Boxes should be stacked in such a way that their corners overlap.