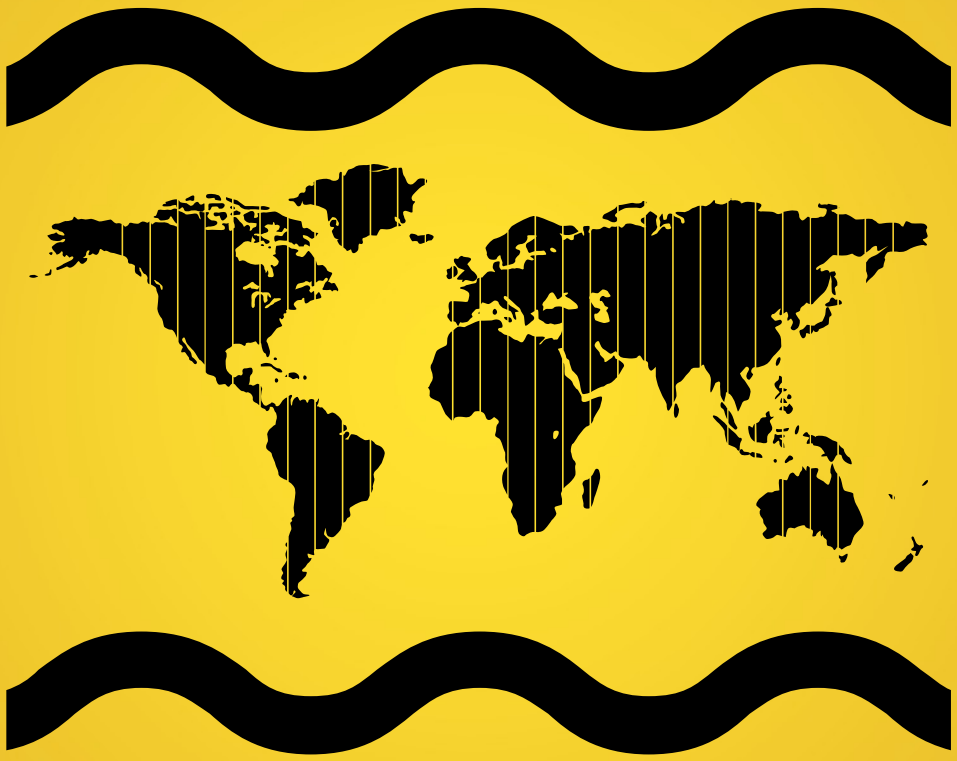
BN Trade

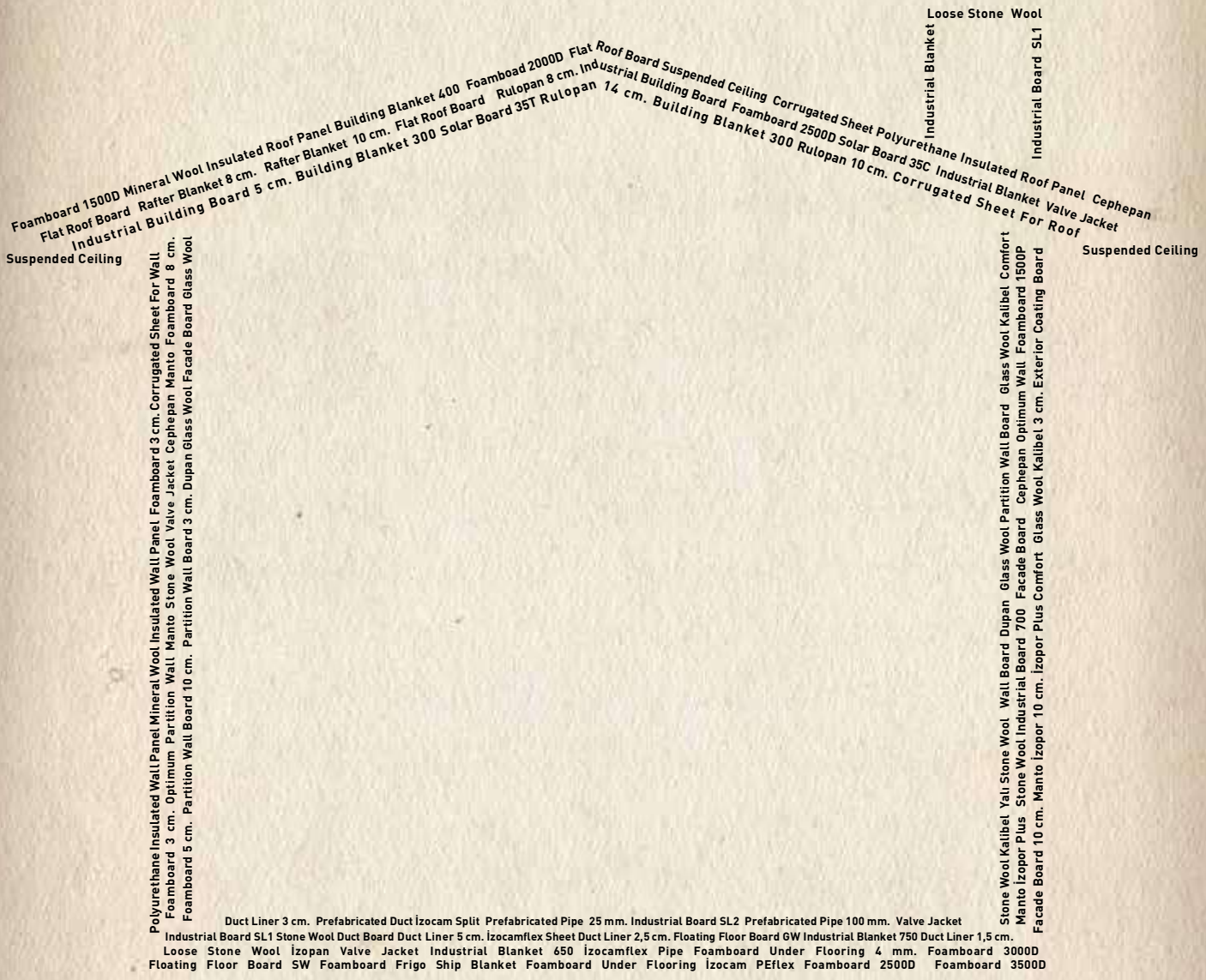
Insulation of the world...



World of insulation...

IZOCAM

Look closer...



...discover the expertise.

BN Trade

iZOCAM®

CONTENTS

STONE WOOL

Stone wool is made from, an inorganic raw material, which is obtained domestically. It is produced through heating row material at 1350˚C - 1400˚C and transforming it into fibres. It can be manufactured in the forms of blanket, board, pipe or loose in different size and with different technical properties, with different facing materials according to the intented use and the place of use. It is used for thermal insulation, sound insulation, acoustic comfort as well as fire safety.

Izocam Stone Wool Production

- It is manufactured with the licence of Saint Gobain Isover, Grünzweig + Hartmann, Germany.
- It is produced in the plants that hold the ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO 50001 Energy Management System, OHSAS 18001 Occupational Health and Safety Management System certificates provided by Bureau Veritas.
- Izocam Stone Wool products that are subject to TS EN 13162 and TS EN 14303 hold the CE mark according to the Construction Products Directive (305/2011/EEC).
- Izocam Stone Wool Products certified by EPD and EUCEB.

General Information

- Its declared thermal conductivity is $0{,}035 \leq \lambda \leq 0{,}040$ W/mK. (at 10˚C)
- Depending on the declared thermal conductivity values, Izocam Stone Wool products are in the thermal conductivity groups of 035 and 040.
- Water vapour diffusion resistance factor $\mu = 1$.
- Depending on the product type, the temperature of use is between -50/+650˚C. Melting temperature > 1000˚C.
- Even if it is subjected to heat and humidity it stays dimensionally stable.
- It is rot proof and resistant to aging. It does not corrode, decompose or allow mold formation. They are resistant against insects and microorganisms.
- It is not hygroscopic and capillary.
- Unfaced stone wool products are classfied as “A1” group noncombustible materials with respect to TS EN 13501-1.

Thermal Insulation

Sound Insulation

Fire Safety

iZOCAM®

EXTRUDED POLYSTYRENE

Extruded polystyrene is produced from polystyrene, by extrusion. It can be manufactured in the form of board in different size, edge and surface shape and with different compressive strength, according to the intented use and the place of use. It is used for thermal insulation.

Izocam Foamboard Production

- It is produced in the plants that hold the ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO 50001 Energy Management System, OHSAS 18001 Occupational Health and Safety Management System certificates provided by Bureau Veritas.
- Izocam Foamboard products that are subject to TS EN 13164, hold the CE mark according to the Construction Products Directive (305/2011/EEC).

General Information

- Its declared thermal conductivity is $0{,}030 \leq \lambda \leq 0{,}035$ W/mK. (at 10˚C)
- Depending on the declared thermal conductivity values, Izocam Foamboard products are in the thermal conductivity group of 030 and 035.
- Water vapour diffusion resistance factor $\mu = 80 - 100$.
- The temperature of use is between -50/+75˚C.
- It has 100% closed porous cell structure that keeps the water out.
- It does not have a capillary absorbency.
- It has high compressive strength.
- Even though it is resistant to acidic and basic chemicals, it is sensitive to chimney gases, methane group gases and chemicals of gasoline group, eter, esther and amine group.
- It is sensitive to ultra violet (UV) rays of the sun. It should be protected from direct sun light.
- It is classfied as “E” with respect to TS EN 13501-1.

Thermal Insulation

Water Resistance

iZOCAM®

EXPANDED POLYSTYRENE

Expanded polystyrene is made from the raw material of polystyrene. It is produced by using the pentane gas as blowing agent so that the granules expands and stick to each other. It can be manufactured in the forms of board in different size and with different technical properties according to the intented use and the place of use. It is used for thermal insulation.

Izocam Izopor Production

- It is produced in the plants that hold the ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO 45001 Occupational Health and Safety Management System certificates provided by BSI.
- Izocam Izopor products that are subject to TS EN 13163, hold the CE mark according to the Construction Products Directive (305/2011/EEC).

General Information

- Its declared thermal conductivity is $0{,}032 \leq \lambda \leq 0{,}040$ W/mK. (at 10˚C)
- Depending on the declared thermal conductivity values, Izocam Izopor products are in the thermal conductivity groups of 035 and 040.
- Water vapour diffusion resistance factor $\mu = 20 - 100$.
- The temperature of use is between -50/+75˚C.
- It does not have a capillary absorbency.
- Even though it is resistant to acidic and basic chemicals, it is sensitive to chimney gases, methane group gases and chemicals of gasoline group, eter, esther and amine group.
- It is sensitive to ultra violet (UV) rays of the sun. It should be protected from direct sun light.
- It is classfied as “E” with respect to TS EN 13501-1.

Thermal Insulation

iZOCAM®

ELASTOMERIC RUBBER

Elastomeric Rubber is elastomeric rubber based thermal insulation material that has closed porosity and even cell structure. It can be manufactured in the forms of sheet and pipe in different size and with different technical properties and varied facing materials according to the intented use and the place of use. It is used for thermal insulation and condensation control.

İzocam Elastomeric Rubber Production

- ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO45001 Occupational Health and Safety Management System certificates provided by BSI.
- Izocamflex products that are subject to TS EN 14304, hold the CE mark according to the Construction Products Directive (305/2011/EEC).

General Information

- Its declared thermal conductivity is $\lambda \leq 0{,}034$ W/mK. (at 0˚C)
- Water vapour diffusion resistance factor $5000 \geq \mu \geq 7000$.
- The temperature of use is -50/+105˚C.
- It is very flexible. It does not lead to any fungus and mold growth.

Thermal Insulation

Condensation Control

İZOCAM®

POLYETHYLENE

Polyethylene is a flexible thermal insulation material that has closed porosity and even cell structure. It can be manufactured in the forms of sheet, pipe and cord in different size and with different technical properties and varied facing materials according to the intented use and the place of use. It is used for thermal insulation and condensation control.

Izocam PEflex Production

- It is produced in the plants that hold the ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO 50001 Energy Management System, OHSAS 18001 Occupational Health and Safety Management System certificates provided by Bureau Veritas.
- Izocam PEflex products that are subject to TS EN 14313, hold the CE mark according to the Construction Products Directive (305/2011/EEC).

General Information

- Its declared thermal conductivity is $\lambda \leq 0{,}053$ W/mK. (at 0˚C)
- Water vapour diffusion resistance factor $\mu \geq 3000$.
- The temperature of use is between -45/+80˚C.
- It is classfied as “E” with respect to TS EN 13501-1.

Thermal Insulation

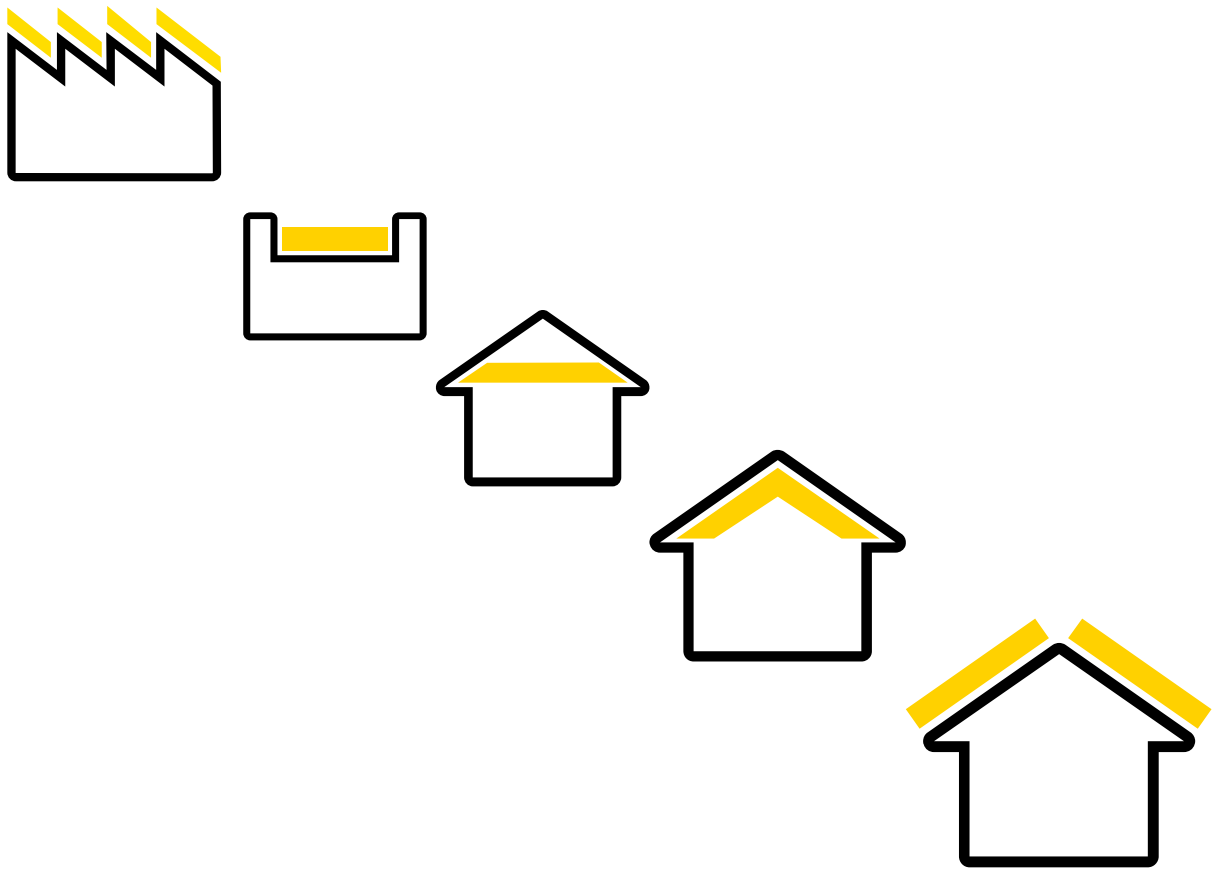
Condensation Control

iZOCAM®

BN Trade

iZOCAM®

ROOF INSULATION



BUILDING BLANKET and BUILDING BLANKET+

Glass wool building blanket is manufactured in three different types as 300, 350 and 400. It is used on the slabs of non utilized attics, between the rafters of utilized attics, for horizontal applications where no load is applied, for metal and sandwich roofs.

Application

Building blankets are rolled out on the slab when they are used for the insulation of non utilized attics. Since glass wool building blanket is lightweight, it is easy to take it up to the roof and to cut to be applied. Owing to the characteristics of glass wool, it doesn't get ripped during application. If can be applied easily with no waste pieces and each piece can be utilized. It can be adjusted to any type of roof. In order to reduce the condensation risk in winter and to discharge the overheated air in the attic, upper part of the insulation should be kept ventilated. The rolls should not be covered over by nylon or similar type of covers. Aluminium foil faced building blankets should be rolled on in the manner that the foiled face will be on the warm inner side.

	Thickness (cm)	Width x Length (cm)	Package (m^2)
Building Blanket 300 300+	8	120 x 750	9,00
	10	120 x 600	7,20
	12	120 x 600	7,20
	14	120 x 600	7,20
	16	120 x 500	6,00
Building Blanket 350 350+	**Thickness (cm)**	**Width x Length (cm)**	**Package (m^2)**
	8	120 x 1000	12,00
	10	120 x 800	9,60
	12	120 x 600	7,20
	14	120 x 600	7,20
	16	120 x 500	6,00
Building Blanket 400	**Thickness (cm)**	**Width x Length (cm)**	**Package (m^2)**
	10	120 x 800	9,60
	12	120 x 600	7,20
	14	120 x 600	7,20

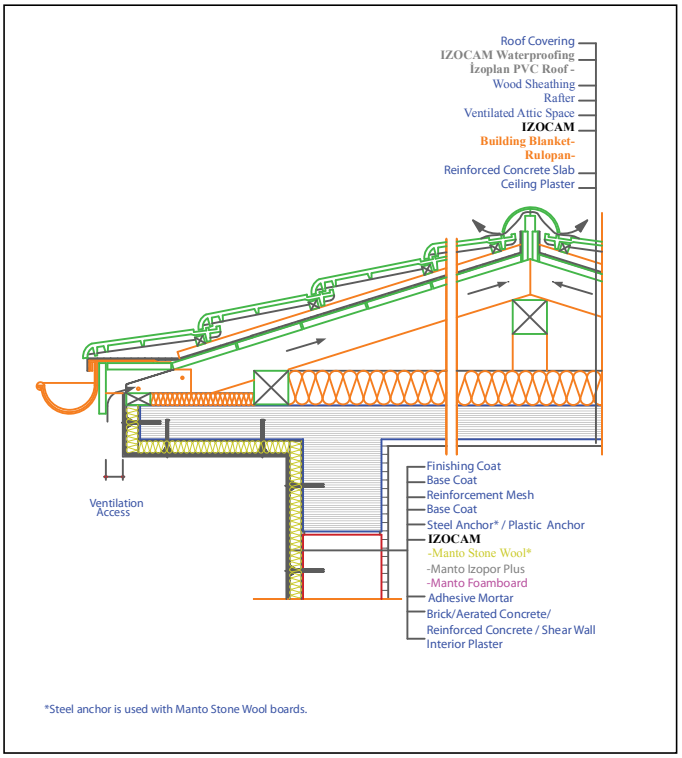
- *Thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to install*
- *Available in different sizes*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Building Blanket

Properties		Symbol	Unit	Description					Tolerance	Standard
Material Type		-	-	400 *	350	350+	300	300+		
Material		-	-	Glass Wool					-	TS EN 13162
Declared Thermal Conductivity (10 °C)		λ_D	W/m.K	0,044	0,040	0,037	0,036	0,035	-	TS EN 12667/12939
Width		w	mm	1200					+/-1,5%	TS EN 822
Thickness		t	mm	80	100	120	140	160	T1 **	TS EN 823
Thermal Resistance	400	R_D	m^2.K/W	-	2,25	2,70	3,15	-	-	TS EN 13162
	350			2,00	2,50	3,00	3,50	4,00		
	350+			2,15	2,70	3,20	3,75	4,30		
	300			2,20	2,75	3,30	3,85	4,40		
	300+			2,25	2,85	3,40	4,00	4,55		
Maximum Service Temperature		-	°C	250					-	-
Specific Heat ***		c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Dynamic Elasticity ***		Edyn	kN/m^2	0,8					-	DIN 52214
Water Vapor Diffusion Resistance Coefficient ***		μ	-	1		NPD			-	TS EN 12086
Facing		-	-	Unfaced, Glass Tissue		Al-foil			-	-
Reaction to fire		-	-	A1		C-s1,d0			-	TS EN 13501-1
Packaging Material		-	-	PE Film					-	-
Other Information		Maximum service temperature on the side faced with aluminium foil is 90 °C, on the side faced with glass tissue is 200 °C.								

* 80 mm thickness blanket for type 400, is not available.
** T1: -5% or -5 mm, the biggest value is chosen at minus tolerance.
**** Declaration of licensor for equivalent products of İzocam.



Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

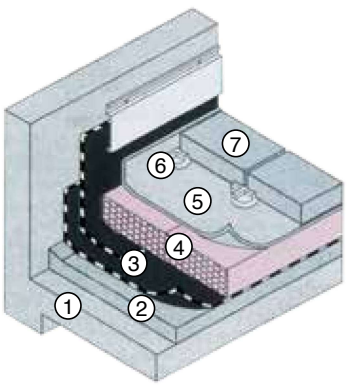
FOAMBOARD R+

Foamboard R+ is an extruded polystyrene boards with skin surface. They are used on water proofing membrane for the thermal insulation of flat roofs.

Application

The membrane (bituminous, pvc, tpo, etc.) forming water and vapour proofing is rolled out on existing levelling concrete. Foamboard boards of R+ are laid together without applying adhesive so that the joints are adjusted. Filter element and cover that serves as seperator felt are laid on the boards. For the inaccessible flat roofs, a layer of washed round light-coloured gravel is placed on top of the separator cover in order to put weight and to reflect sun rays. For the accessible flat roofs, precast tiles (concrete, wood, etc.) are placed resting on plastic wedges. If desired, floor coverings applied with sand or grout can be used as well. For the garden flat roofs, the layers including gravel are applied like the inaccessible flat roof. Filter element and plant soil are laid out on the gravel to finish off the process.

Thickness (cm)	Width x Length (cm)	Package (m^2)	Package (m^3)
4	60 x 120	7,20	0,2880
5	60 x 120	5,76	0,2880
6	60 x 120	5,04	0,3024
7	60 x 120	4,32	0,3024



Reinforced concrete slab ①
Levelling concrete ②
Waterproofing ③
Foamboard R+ ④
Filter element ⑤
Plastic wedge ⑥
Floor covering ⑦

- *High compressive strength*
- *High thermal insulation*
- *Water impermeable*

TECHNICAL DATA SHEET

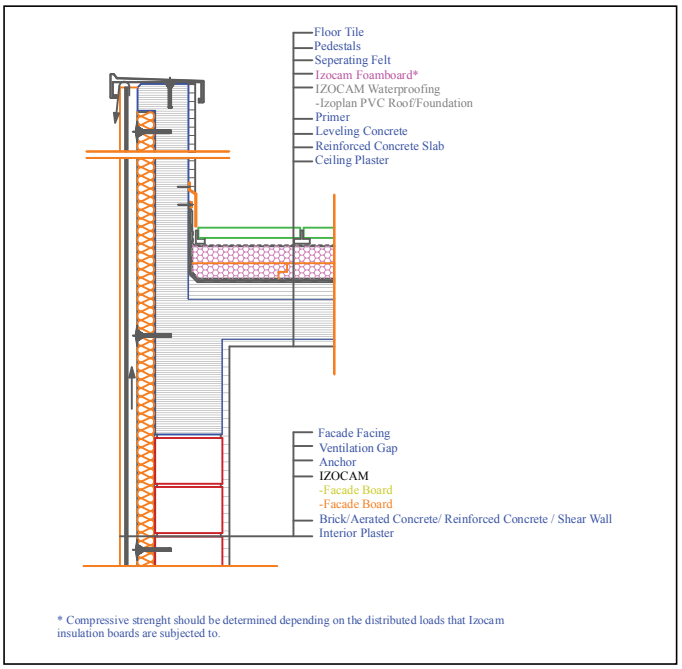
İzocam Foamboard

Properties	Symbol	Unit	Description				Tolerance	Standard
Material	-	-	Extruded Polystyrene				-	TS EN 13164
Edge Profile	-	-	Square, Ship-lap				-	-
Surface Shape	-	-	Skin				-	-
Density	ρ	kg/m^3	min.32					-
Width	w	mm	600				± 8 mm	TS EN 822
Length	l	mm	1200				± 8 mm	TS EN 822
Squareness	S_b	mm/m	max.5				-	TS EN 824
Flatness	S_{max}	mm/m	max.6				-	TS EN 825
Thickness	t	mm	40	50	60	70	T1 *	TS EN 823
Reaction to fire	-	-	E				-	TS EN 13501-1
Thermal Resistance	R_D	m^2.K/W	1,30	1,65	2,00	2,30		TS EN 13164
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,030				-	TS EN 13164
Water Vapor Diffusion Resistance Coefficient	MU	-	100				MU100	TS EN 12086
Tensile Strength Perpendicular to Faces	TR	kPa	min. 200				TR200	TS EN 1607
Dimensional Stability Under Specified Thermal and Humidity Conditions	$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5 **				DS (70,90)	TS EN 1604
Dimensional Stability Under Specified Thermal and Compressive Load Conditions	ε_t	%	max. 5 ***				DLT(1)5 DLT(2)5	TS EN 1605
Compressive Strength	σ_{10}	kPa	min. 200 (10 % Deformation)				CS(10/Y) 200	TS EN 826
Freeze Thaw Resistance	FTCD	%	max. 1				$FTCD_1$	TS EN 12091
Long Term Water Absorption with Total Immersion	W_{lt}	%	max. 0,7				WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion	W_{dV}	%	max. 3				WD(V)3	TS EN ISO 16536
Packaging Material	-	-	PE Film				-	-

* T1 : For < 50 mm +2; for 50 - 70 mm -2,+3
** TS EN 13164 / Item 4.3.2
*** TS EN 13164 / Item 4.3.3

Safety Reminders for Loading, Unloading, Shipping and Storing

- Loading and unloading should be done by (at least) two people.
- The packages should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- Products should not be stepped on.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Storing can be carried out by superposing the products with or without pallets.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.



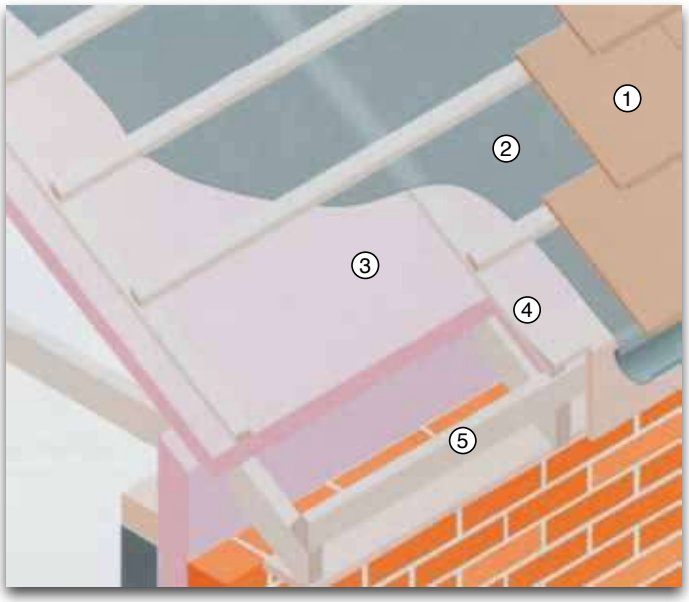
FOAMBOARD
1500 D

These are extruded polystyrene boards with skin surface. They are used for the thermal insulation of inclined roofs with utilized attics.

Application

Foamboard 1500 D thermal insulation boards are applied on rafters. Every type of roof cladding can be utilized in this application which is carried out without using any roof board. End strip and thermal insulation board to be used should have the same thickness. End strip is fastened to the edges of the rafters with nails along the eave. The boards are laid over the rafters at right angle starting from the end strip to the roof ridge. Care should be taken to adjust the edges properly. Then cover strips are nailed to the boards that sit on the rafters. Consequently, a vapour permeable water proofing membrane is laid over from the eave to the ridge with overlaps. Tile fastening strip which are placed vertical to the cover strips, are nailed on to the cover strips. The application is completed by fixing roofing tiles to the tile fastening strips.

Thickness (cm)	Width x Length (cm)	Package (m^2)	Package (m^3)
2,5	60 x 120	11,52	0,2880
3	60 x 120	10,08	0,3024
4	60 x 120	7,20	0,2880
5	60 x 120	5,76	0,2880



① Roof cladding (roofing tiles, shingles, atc.)
② Vapour permeable water proofing membrane
③ İzocam Foamboard 1500 D
④ Cover strip
⑤ End strip

- *High compressive strength*
- *High thermal insulation*
- *Easy to install*
- *Available in different sizes*
- *Lightweight*
- *Water impermeable*

TECHNICAL DATA SHEET

İzocam Foamboard 1500 D

Properties	Symbol	Unit	Description				Tolerance	Standard
Material	-	-	Extruded Polystyrene				-	TS EN 13164
Edge Profile	-	-	Square, Ship-lap				-	-
Surface Shape	-	-	Skin				-	-
Density	ρ	kg/m³	min. 24	min. 22			-	-
Width	w	mm	600				± 8 mm	TS EN 822
Length	t	mm	1200				± 8 mm	TS EN 822
Squareness	S_b	mm/m	max.5				-	TS EN 824
Flatness	S_{max}	mm/m	max.6				-	TS EN 825
Thickness	d	mm	25	30	40	50	T1 *	TS EN 823
Reaction to fire	-	-	E				-	TS EN 13501-1
Thermal Resistance	R_D	m².K/W	0,70	0,85	1,10	1,40		TS EN 13164
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,035				-	TS EN 13164
Water Vapor Diffusion Resistance Coefficient	MU	-	100				MU100	TS EN 12086
Tensile Strength Perpendicular to Faces	TR	kPa	min. 200				TR200	TS EN 1607
Dimensional Stability Under Specified Thermal and Humidity Conditions	$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5 **				DS (70,90)	TS EN 1604
Dimensional Stability Under Specified Thermal and Compressive Load Conditions	ε_t	%	max. 5 ***				DLT(1)5 DLT(2)5	TS EN 1605
Compressive Strength	σ_{10}	kPa	min. 150 (10% deformation)				CS(10/Y)150	TS EN 826
Compressive Creep	σ_c	kPa	10				CC(2/1,5/10)10	TS EN 1606
Freeze Thaw Resistance	FTCD	%	max. 1				$FTCD_1$	TS EN 12091
Long Term Water Absorption with Total Immersion	W_{lt}	%	max. 0,7				WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion	W_{dV}	%	max. 3				WD(V)3	TS EN ISO 16536
Packaging Material	-	-	PE Film				-	-

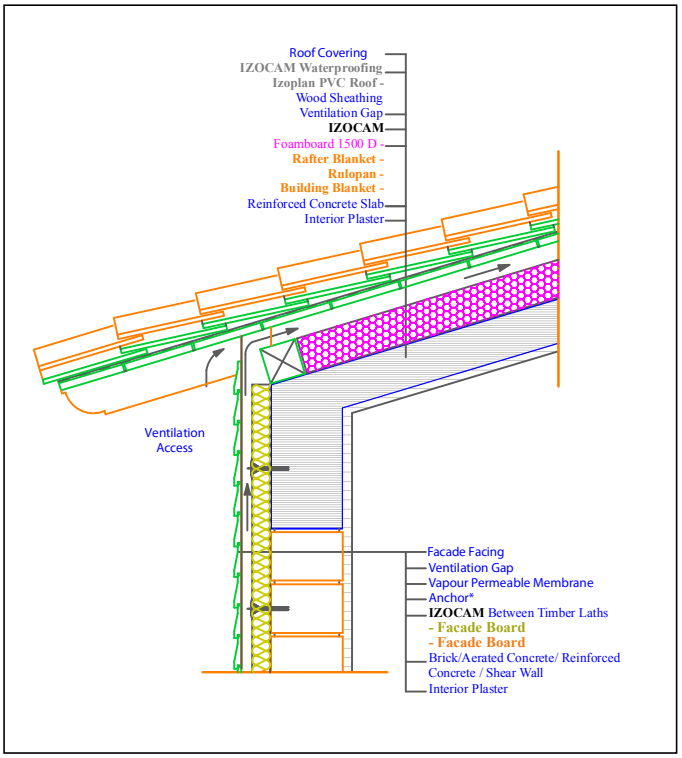
* T1 : +2 for < 50 mm; -2,+3 for 50 - 120 mm; -2,+3 for > 120 mm
According to customer demands can be product in T2 or T3 thickness class.

** TS EN 13164 / Item 4.3.2

*** TS EN 13164 / Item 4.3.3

Safety Reminders for Loading, Unloading, Shipping and Storing

- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- The products should not be stepped on.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Products can be stored with or without pallets by superposing the packages.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.



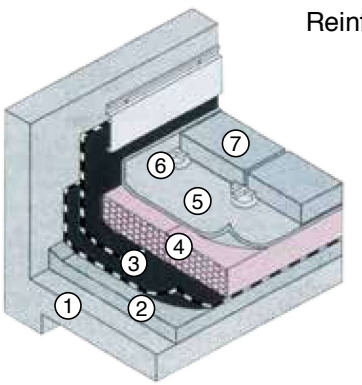
FOAMBOARD
2000 D - 2500 D - 3000 D - 3500 D

Foamboard 2000 D – 2500 D – 3000 D – 3500 D is an extruded polystyrene boards with skin surface. They are used on water proofing membrane for the thermal insulation of flat roofs.

Application

The membrane (bituminous, pvc, tpo, etc.) forming water and vapour proofing is rolled out on existing levelling concrete. Foamboard boards of 2000 D – 2500 D – 3000 D – 3500 D are laid together without applying adhesive so that the joints are adjusted. Filter element and cover that serves as seperator felt are laid on the boards. For the inaccessible flat roofs, a layer of washed round light-coloured gravel is placed on top of the separator cover in order to put weight and to reflect sun rays. For the accessible flat roofs, precast tiles (concrete, wood, etc.) are placed resting on plastic wedges. If desired, floor coverings applied with sand or grout can be used as well. For the garden flat roofs, the layers including gravel are applied like the inaccessible flat roof. Filter element and plant soil are laid out on the gravel to finish off the process.

Thickness (cm)	Width x Length (cm)	Package (m^2)	Package (m^3)
2	60 x 120	14,40	0,2880
2,5	60 x 120	11,52	0,2880
3	60 x 120	10,08	0,3024
4	60 x 120	7,20	0,2880
5	60 x 120	5,76	0,2880
6	60 x 120	5,04	0,3024
7	60 x 120	4,32	0,3024
8	60 x 120	3,60	0,2880
9	60 x 120	2,88	0,2592
10	60 x 120	2,88	0,2880
12	60 x 120	2,16	0,2592
15	60 x 120	2,16	1,4400



Reinforced concrete slab ①
Levelling concrete ②
Waterproofing ③
Foamboard ④
Filter element ⑤
Plastic wedge ⑥
Floor covering ⑦

- *High compressive strength*
- *High thermal insulation*
- *Water impermeable*

TECHNICAL DATA SHEET

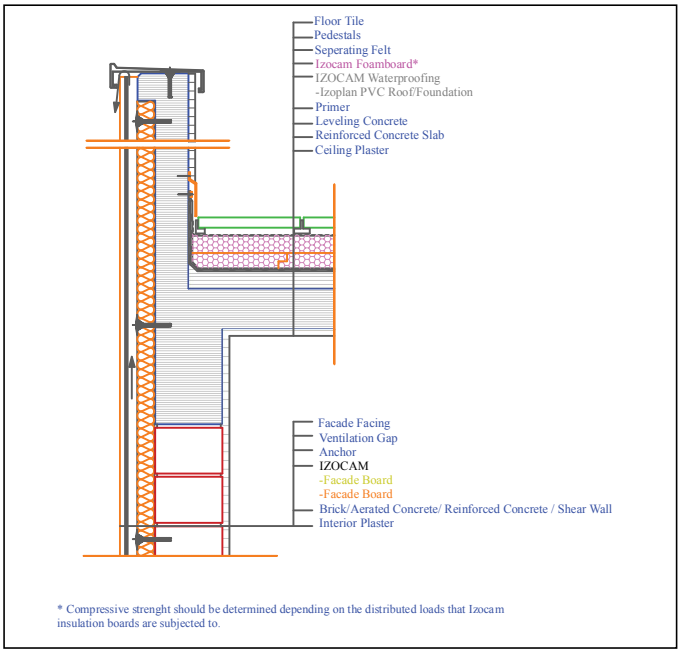
İzocam Foamboard 2000 D - 3000 D - 3500 D

Properties		Symbol	Unit	Description	Tolerance	Standard
Material		-	-	Extruded Polystyrene	-	TS EN 13164
Edge Profile		-	-	Square, Ship-lap	-	-
Surface Shape		-	-	Skin	-	-
Density	2000 D	ρ	kg/m³	min. 25 | min. 26 | min. 27 | min. 30 | -	-	-
	3000 D			min. 28 | min. 32 | min. 29 | min. 30 | -		
	3500 D			min. 28 | min. 30		
Width		w	mm	600	± 8 mm	TS EN 822
Length		l	mm	1200	± 8 mm	TS EN 822
Thickness		t	mm	20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 120 | 150	T1 *	TS EN 823
Reaction to fire		-	-	E	-	TS EN 13501-1
Thermal Resistance		R_D	m².K/W	0,55 | 0,70 | 0,85 | 1,10 | 1,40 | 1,70 | 2,00 | 2,25 | 2,55 | 2,85 | 3,40 | 4,25		TS EN 13164
Declared Thermal Conductivity (10 °C)		λ_D	W/m.K	0,035 | 0,036	-	TS EN 13164
Maxsimum Service Tempature		-	°C	-50 / +75	-	-
Water Vapor Diffusion Resistance Coefficient		MU	-	100	MU100	TS EN 12086
Material Type		-	-	2000 D | 3000 D | 3500 D	-	-
Tensile Strength Perpendicular to Faces		TR	kPa	min. 200 | min. 400 | min. 600	TR200 - TR400 TR600	TS EN 1607
Compressive Strength (10 % Deformation)		σ_{10}	kPa	min. 200 | min. 300 | min. 350	CS(10/Y) 200 / 300 / 350	TS EN 826
Dimensional Stability Under Specified Thermal and Humidity Conditions		$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5 **	DS (70,90)	TS EN 1604
Dimensional Stability Under Specified Thermal and Compressive Load Conditions		ε_t	%	max. 5 ***	DLT(1)5 DLT(2)5	TS EN 1605
Freeze Thaw Resistance		FTCD	%	max. 1	$FTCD_1$	TS EN 12091
Long Term Water Absorption with Total Immersion		W_{lt}	%	max. 0,7	WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion		W_{dV}	%	max. 3	WD(V)3	TS EN ISO 16536
Packaging Material		-	-	PE Film	-	-
Other Information		There is no ship-lap in 20 mm thickness. 120 mm and 150 mm thicknisses only produce type 3500 production.				

* T1 : +2 for < 50 mm; -2,+3 for 50 - 120 mm; -2,+3 for > 120 mm; -2, +8. According to customer demands can be product in T2 or T3 thickness class.

** TS EN 13164 / Item 4.3.2

*** TS EN 13164 / Item 4.3.3



Safety Reminders for Loading, Unloading, Shipping and Storing

- Loading and unloading should be done by (at least) two people.
- The packages should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- Products should not be stepped on.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Storing can be carried out by superposing the products with or without pallets.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.

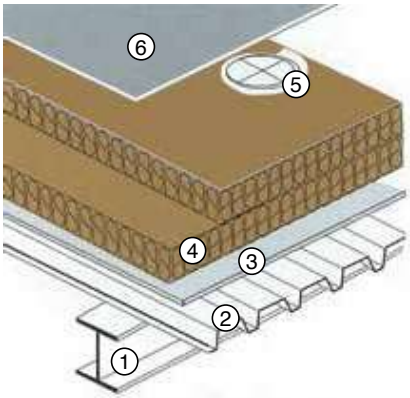
FLAT ROOF BOARD

Flat Roof Board is an unfaced stone wool board, that is utilized for the thermal insulation, sound insulation and fire safety of all kinds of flat roofs.

Application

İzocam Stone Wool Flat Roof Boards are used for thermal insulation, sound insulation and fire safety purposes under waterproofing. One layer of nylon cover is laid on corrugated metal roofing sheet as a vapour barrier. It is overlapped at the seams by 10 cm. and adhered to the surface. According to thermal insulation thickness, one or two layers of İzocam Stone Wool Flat Roof Board are laid on vapour barrier layer by fastening to the corrugated metal cover with anchors which have large washers. It is recommended to alternate board seams when two layer application is preferred. On top of that, waterproofing membrane (bituminous membrane, pvc, tpo, etc.) is applied.

Thickness (cm)	Width x Length (cm)	Package (m^2)
3	60 x 120	5,76
4	60 x 120	4,32
5	60 x 120	3,60
6	60 x 120	2,88
8	60 x 120	2,16
10	60 x 120	1,44
12	60 x 120	1,44



Structural System ①
İzocam Tekiz ②
Corrugated Sheet
Vapour Barrier ③
Flat Roof Board ④
Fastening Element ⑤
Waterproofing ⑥

- *Thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*
- *Available in different sizes*

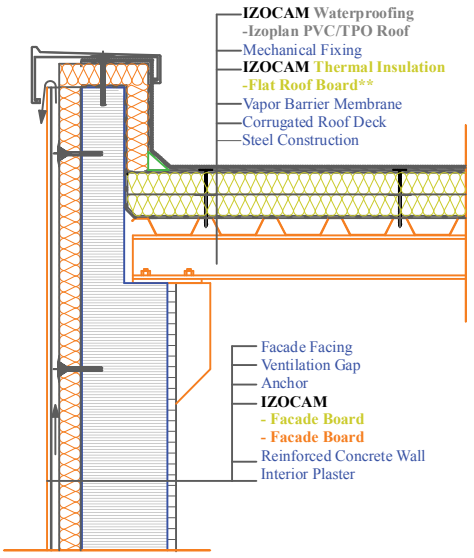
TECHNICAL DATA SHEET

İzocam Flat Roof Board

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Stone Wool	-	TS EN 13162
Density	ρ	kg/m³	150	+/-10%	-
Width	w	mm	600	+/-1,5%	TS EN 822
Length	l	mm	1200	+/-2%	TS EN 822
Facing	-	-	Unfaced	-	-
Thickness Unfaced	t	mm	30 / 40 / 50 / 60 / 80 / 100 / 120	T4 *	TS EN 823
Reaction to fire	-	-	A1	-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	λ_D	W/mK	0,039	-	TS EN 12667 / 12939
Thermal Resistance	R_D	m².K/W	0,75 / 1,00 / 1,25 / 1,50 / 2,05 / 2,55 / 3,05	-	TS EN 13162
Water Vapor Diffusion Resistance Coefficient **	μ	-	1	-	TS EN 12086
Compressive Strength	σ_{10}	kPa	25 / 40 / 55 / 65 / 75 / 85 / 100	-	TS EN 826
Short Term Water Absorption	W_p	kg/m²	max. 1	-	TS TS EN ISO 29767
Long Term Water Absorption	W_{lp}	kg/m²	max. 3	-	TS TS EN ISO 16535
Packaging Material	-	-	PE Film	-	-
Other Information	Yellow/black glass tissue and aluminium foil faced are available.				

* T4: -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

** Literature value.



* Compressive strenght should be determined depending on the distributed loads that Izocam insulation boards are subjected to.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

INDUSTRIAL BUILDING BOARD and R+

It is used for thermal insulation purpose between two metals on roofs and sidewalls of metal buildings which are installed on-site. Natural characteristics of mineral wools contribute to sound insulation. It provides fire safety with its class A1 non combustible property. It has a silicon additive, so it does not include water to its structure.

Application

By spreading a coat of nylon cover on corrugated metal sheet of the roof as a vapor barrier, its joints are overlapped 10 cm and glued. Industrial Building Board is placed on vapor barrier layer. The application is completed with metal cladding. Industrial Building Boards are properly placed in the cassette systems at facade applications. The application is completed by facade cladding. It is recommended to apply either acoustic band or insulation board on joints where the metals touch each other for preventing sound and thermal bridges.

Thickness (cm)		Width x Length (cm)	Package (m^2)	
EBL	EBL R+		EBL	EBL R+
	4	60 x 120		12,96
5	5	60 x 120	11,52	10,08
6	6	60 x 120	8,64	8,64
8	8	60 x 120	7,20	6,48
10	10	60 x 120	5,76	5,04
12	12	60 x 120	4,32	4,32

- High thermal insulation
- Fire Safety
- Sound Insulation
- Easy to Install
- Lightweight

TECHNICAL DATA SHEET

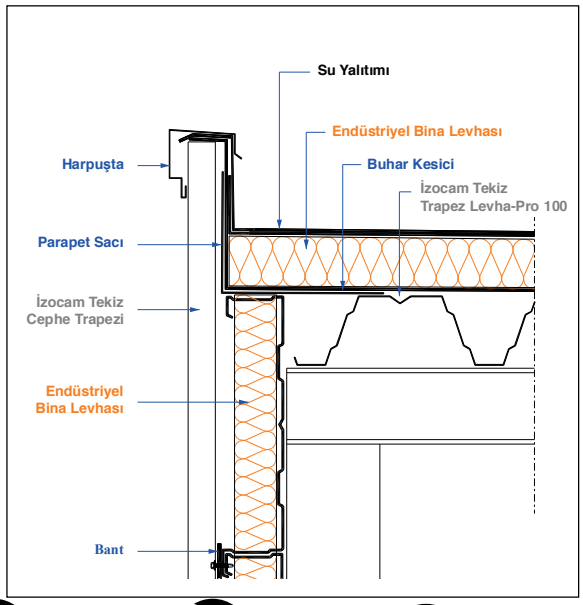
INDUSTRIAL BUILDING BOARD - INDUSTRIAL BUILDING BOARD R+

Properties		Symbol	Unit	Description						Tolerance	Standard
Material		-	-	Material Wool						-	TS EN 13162
Material Type		-	-	IBB			IBB R+				
Width		b	mm	600						+/-1,5%	TS EN 822
Length		l	mm	1200						+/-2%	TS EN 822
Thickness	IBB	d	mm		50	60	80	100	120	T3(**)	TS EN 823
	IBB R+			40	50	60	80	100	120		
Facing		-	-	Uncoated						-	-
Reaction to fire		-	-	A1						-	TS EN 13501-1
Squareness		S_b	mm/m	max.5						-	TS EN 824
Flatness		S_{max}	mm	max.6						-	TS EN 825
Dimensional Stability		Δ_{ed}	%	max.1						-	TS EN 1604
Thermal Conductivity (10 °C)		λ_D	W/m.K	0,037			0,035			-	TS EN 12667/12939
Thermal Resistance	IBB	R_D	m^2.K/W		1,35	1,60	2,15	2,70	3,20	-	TS EN 13162
	IBB R+			1,10	1,40	1,70	2,25	2,85	3,40		
Maximum Service Temperature		-	°C	250						-	-
Specific Heat (*)		c	kJ/(kg.K)	0,84						-	TS EN ISO 10456
Short Term Water Absorption by Partial Immersion		W_p	kg/m^2	≤ 1						-	TS EN ISO 29767
Long Term Water Absorption by Partial Immersion		W_{lp}	kg/m^2	≤ 3						-	TS EN ISO 16535
Water Vapor Diffusion Resistance (*)		μ	-	1						-	TS EN 12086
Dynamic Elasticity (*)		Edyn	kN/m^2	0,8						-	DIN 52214
Packaging Material		-	-	PE Film+PE Sleeve						-	-
Application Area		It is used for thermal insulation in the roofs and sidewalls of metal buildings which are installed on-site.									
Remarks		The products are water- repellent and contain silicon.									

(*) Literature Value (**)T3: -3% or -3mm ; +10% or 10mm.
The biggest value is choosed at minus tolerance, The smallest value is choosed at + tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing;

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



Zero GLOBAL WARMING EFFECT Zero OZONE DEPLETION EFFECT EUCEB CE

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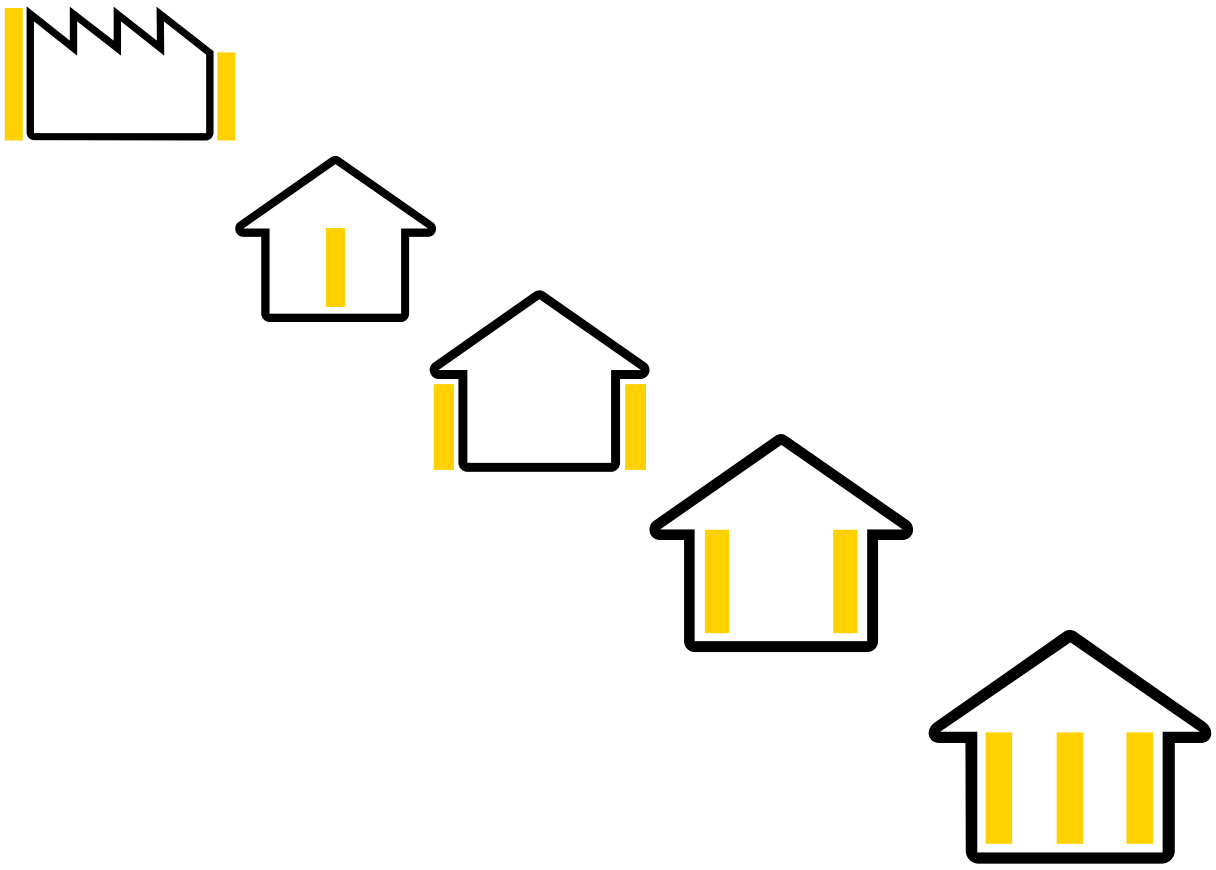
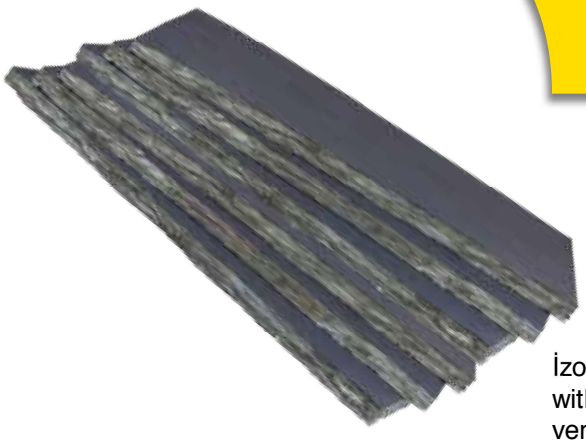
WALL INSULATION



FACADE BOARD



İzocam Facade Board is a water repellent glass wool board manufactured with silicone spread and faced with black glass tissue. It is utilized at ventilated facades, under the glass, granite, marble and aluminium wall cladding for thermal insulation, sound insulation and fire safety purposes.

Application

The boards can be placed in between the structural profiles fastened to the concrete surface by anchor members or they can also be installed to the facade wall by means of pins. For prefabricated systems first, the boards are placed in to the panels with the facade cladding on, at the plant and then they are installed to the concrete surfaces as ready-to-use elements at the construction site. For ventilated facades, since the gap formed between the cladding material and the structural system acts as a chimney in case of fire, it is extremely important in terms of fire safety to choose the insulation material that belongs to Class A “noncombustible materials.”

Thickness (cm)	Width x Length (cm)	Package (m^2)
4	60 x 120	12,96
5	60 x 120	10,08
6	60 x 120	8,64
8	60 x 120	6,48
10	60 x 120	5,04
12	60 x 120	4,32

- *High thermal insulation*
- *Fire safety*
- *High sound insulation*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*

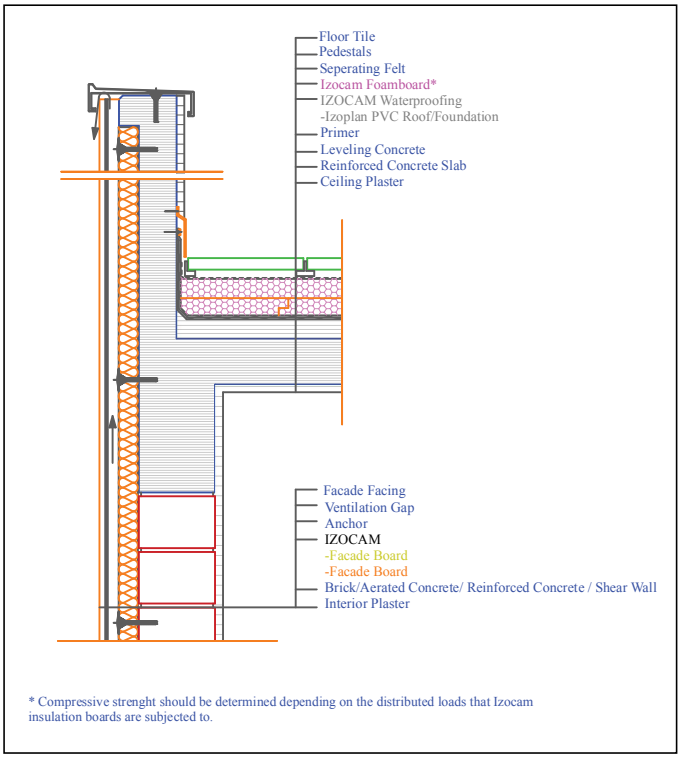
TECHNICAL DATA SHEET

İzocam Facade Board

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Glass Wool	-	TS EN 13162
Density	ρ	kg/m³	40	+/-10%	-
Width	w	mm	600	+/-1,5%	TS EN 822
Length	l	mm	1200	+/-2%	TS EN 822
Thickness	t	mm	40 / 50 / 60 / 80 / 100 / 120	T3 **	TS EN 823
Facing	-	-	Black glass tissue	-	-
Reaction to fire	-	-	A1	-	TS EN 13501-1
Squareness	S_b	mm/m	max.5	-	TS EN 824
Flatness	S_{max}	mm	max.6	-	TS EN 825
Dimensional Stability	$\Delta\varepsilon_d$	%	max.1	-	TS EN 1604
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,035	-	TS EN 12667/12939
Thermal Resistance	R_D	m².K/W	1,10 / 1,40 / 1,70 / 2,25 / 2,85 / 3,40	-	TS EN 13162
Short Term Water Absorption	W_p	kg/m²	max. 1	-	TS TS EN ISO 29767
Long Term Water Absorption	W_{lp}	kg/m²	max. 3	-	TS EN ISO 16535
Specific Heat *	c	kJ/(kg.K)	0,84	-	TS EN ISO 10456
Dynamic Elasticity *	Edyn	kN/m²	0,8	-	DIN 52214
Packaging Material	-	-	PE Film	-	-
Other Information	Maximum service temperature on the side faced with glass tissue is 200 °C. The products are water- repellent and contain silicon.				

* Literature value.

** T3: -3% or -3 mm; +10% or +10 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.



Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

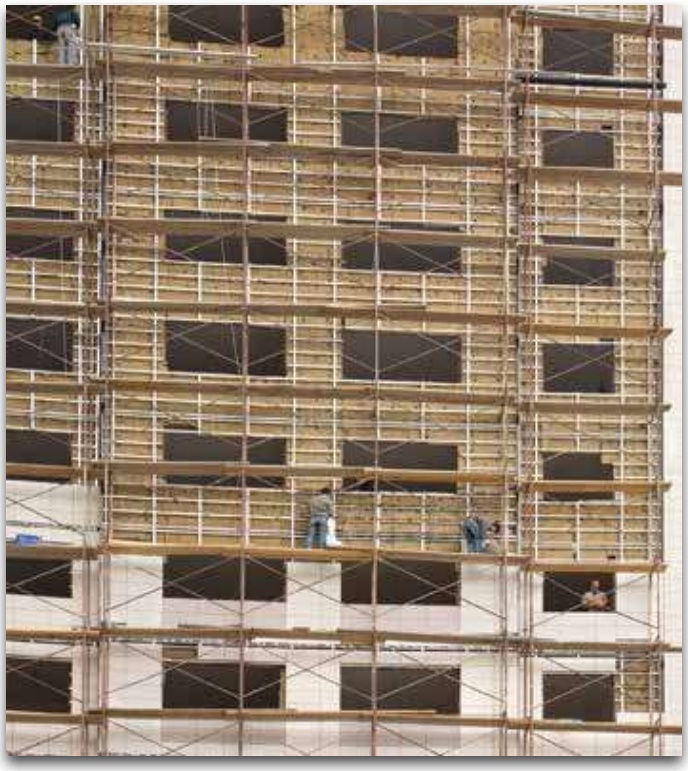
FACADE BOARD

İzocam Facade Board is a stone wool board either unfaced or with only one side faced with aluminium foil or black glass tissue. It is utilized at ventilated facades, under the glass, granite, marble and aluminium wall cladding for thermal insulation, sound insulation and fire safety purposes.

Application

The boards can be placed in between the structural profiles fastened to the concrete surface by anchor members or they can also be installed to the facade wall by means of anchors. For prefabricated panel as well, the boards are placed in to the panels at the plant and then they are installed to the concrete surfaces as ready-to-use elements at the construction site. For ventilated facades, since the gap formed between the cladding material and the structural system acts as a chimney in case of fire, it is extremely important in terms of fire safety to choose the insulation material that belongs to Class A “noncombustible materials.”

Thickness (cm)	Width x Length (cm)	Package (m^2)	
		DCL 52	DCL 90
3	60 x 120	17,28	8,64
4	60 x 120	12,96	7,20
5	60 x 120	10,08	5,76
6	60 x 120	8,64	5,04
8	60 x 120	6,48	3,60
10	60 x 120	5,04	2,88
12	60 x 120	4,32	2,16



- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Facade Board

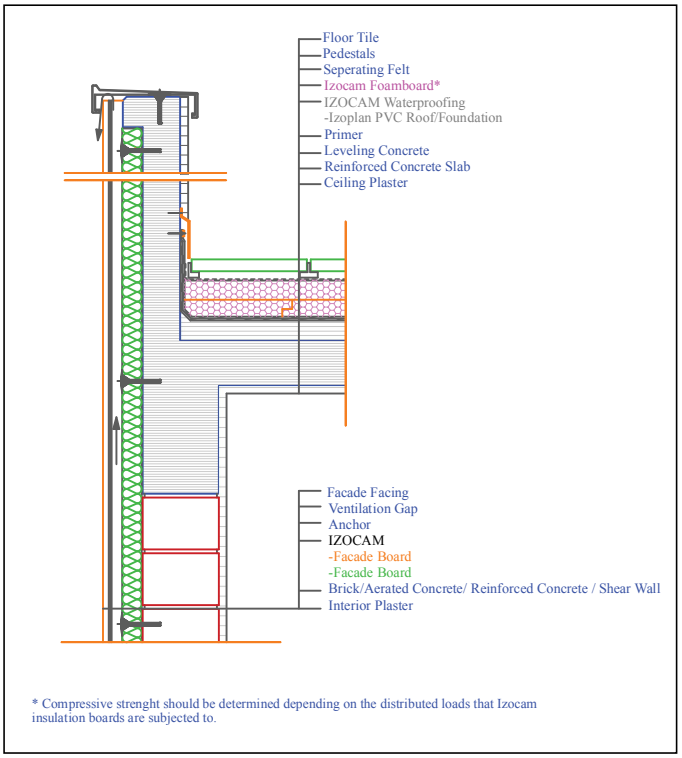
Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Stone Wool	-	TS EN 13162
Density	ρ	kg/m³	52 - 90	+/-10%	-
Width	w	mm	600	+/-1,5%	TS EN 822
Length	l	mm	1200	+/-2%	TS EN 822
Thickness	t	mm	30 / 40 / 50 / 60 / 80 / 100 / 120	T4 *	TS EN 823
Facing	-	-	Unfaced	-	-
Reaction to fire	-	-	A1	-	TS EN 13501-1
Squareness	S_b	mm/m	max.5	-	TS EN 824
Flatness	S_{max}	mm	max.6	-	TS EN 825
Dimensional Stability	$\Delta\varepsilon_d$	%	max.1	-	TS EN 1604
Declared Thermal Conductivity (10 °C)	λ_D	mW/mK	0,035	-	TS EN 12667/12939
Thermal Resistance	R_D	m².K/W	0,85 / 1,10 / 1,40 / 1,70 / 2,25 / 2,85 / 3,40	-	TS EN 13162
Water Vapor Diffusion Resistance Coefficient **	μ	-	1	-	TS EN 12086
Short Term Water Absorption	W_p	kg/m²	max. 1	-	TS TS EN ISO 29767
Long Term Water Absorption	W_{lp}	kg/m²	max.3	-	TS TS EN ISO 16535
Packaging Material	-	-	PE Film	-	-
Other Information	Boards can be coated with yellow/black glass tissue and aluminium foil. Maximum service temperature on the side faced with glass tissue is 200 °C and on the side faced with aluminium foil is 90°C.				

* T4: -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

** Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



* Compressive strenght should be determined depending on the distributed loads that Izocam insulation boards are subjected to.

MANTO STONE WOOL and R+

It is an unfaced stone wool boards that is produced specially with respect to TS EN 13500 standards. It is utilized at external thermal insulation composite systems for thermal insulation, sound insulation and fire safety purposes.

Application

First of all, the surface to be used in the application should be checked to ensure that it is smooth and dry. If the surface is rough and with scrapes it should be cleaned by brushing. Unevenness, major defects and cracks should be repaired by means of plaster. The boards can be adhered to the surface using cement based fixing mortar by different methods. The boards should be laid down without any gap side by side on the wall surface shortly after spreading fixing mortar over the boards. The adhesive should not be spread near the edges of the board in order to prevent the adhesive getting into the joints. The boards are laid down in an alternating pattern at the facades and the corners. When the fixing mortar is completely dry (approximately after 24 hours) the anchoring process can be started. Special insulation fastening anchors are used which are chosen with respect to the wall properties. Tiled surfaces or surfaces with old plaster are not suitable for anchoring. After anchoring process, reinforced layer is formed. Cement based undercoat plaster is applied to the surface by trowel. Afterwards, an alkali resistant, glass fiber based reinforcement mesh is placed on top by trowel in such a manner that the edges are overlapped by 10 cm. Consequently, second coat plaster is applied on the mesh and the reinforced layer comes to an end. When the reinforced layer is completely dry; permeable, solvent-free decorative cladding material with the desired texture is applied to the reinforced layer using a trowel or roller and the process is completed. Exterior cladding thickness and the quantity to be applied depend on the plaster type. Different surface forms can be achieved on the finishing plaster by different polishing methods. This application is correct in terms of that it removes thermal bridges by insulating wall surfaces as well as it protects the building from atmospheric conditions and prevents physical changes which occur in building components such as expansion or contraction due to temperature change. For the insulation applications of exterior walls from the exterior, using Manto Stone Wool boards provides sound insulation and fire safety as well as thermal insulation.

Thickness (cm)	Width x Length (cm)	Package (m^2)
3	60 x 120	3,60
4	60 x 120	2,88
5	60 x 120	2,16
6	60 x 120	1,44
8	60 x 120	1,44
10	60 x 120	1,44
12	60 x 120	0,72

- *Thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*

TECHNICAL DATA SHEET

İzocam Manto Stone Wool and Manto Stone Wool R+

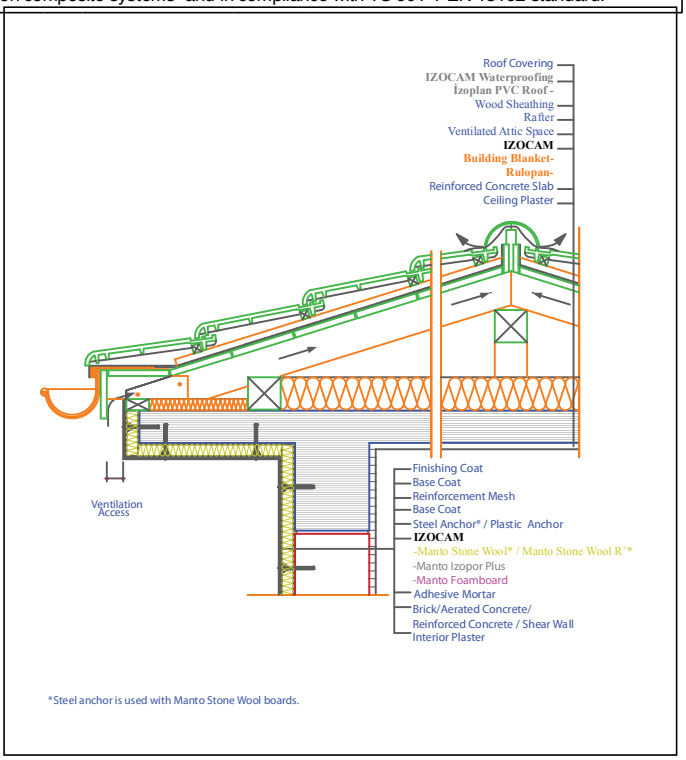
Properties		Symbol	Unit	Description							Tolerance	Standard
Material		-	-	Stone Wool							-	TS EN 13162
Material Type		-	-	Manto Stone Wool				Manto Stone Wool R+			-	-
Density		ρ	kg/m³	150				130			+/- % 7	-
Width		w	mm	600							+/-1,5%	TS EN 822
Length		l	-	1200							+/-2%	TS EN 822
Thickness		t	mm	30	40	50	60	80	100	120	T5 *	TS EN 823
Facing		-	-	Unfaced							-	-
Reaction to fire		-	-	A1							-	TS EN 13501-1
Squareness		Sb	mm/m	max.5							-	TS EN 824
Flatness		S_{max}	mm	max.6							-	TS EN 825
Dimensional Stability		$\Delta\varepsilon_d$	%	max.1							-	TS EN 1604
Declared Thermal Conductivity (10°C)		λ_D	W/mK	0,039				0,037			-	TS EN 12667/12939
Thermal Resistance	MT	R_D	m²K/W	0,75	1,00	1,25	1,50	2,05	2,55	3,05	-	TS EN 13162
	MT R+			0,80	1,05	1,35	1,60	2,15	2,70	3,20		
Water Vapor Diffusion Resistance Coefficient **		μ	-	1							-	TS EN 12086
Pulling Strength		σ_{mt}	kPa	min. 7,5	min. 15			min. 7,5			-	TS EN 1607
Compressive Strength	MT	σ_{10}	kPa	min. 25	min. 30							TS EN 826
	MT R+			min. 10	min. 20							
Long Term Water Absorption		W_{lp}	kg/m²	max. 3							-	TS TS EN ISO 16535
Short Term Water Absorption		W_p	kg/m²	max. 1							-	TS TS EN ISO 29767
Packaging Material		-	-	PE Film							-	-
Other Information		Manto Stone Wool insulation boards are manufactured regarding to the technical specifications of insulation boards stated in TS EN 13500 for "Mineral wool (stone wool) based external thermal insulation composite systems" and in compliance with TS 901-1 EN 13162 standard.										

* T5: -1% or -1 mm; +3 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

** Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



MANTO IZOPOR PLUS

Manto Izopor Plus is a carbon reinforced expanded polystyrene board that is produced specially with respect to TS EN 13499 standards for external thermal insulation composite systems. It should not be stored in direct sunlight even for a short period due to its dark colour.

Application

First of all, the surface to be used in the application should be checked to ensure that it is smooth and dry. If the surface is rough and with scrapes, it should be cleaned by brushing. Unevenness, major defects and cracks should be repaired by means of plaster. For wood surfaces acrylic based mortar, for the other surfaces cement based fixing mortar is used. Shortly after spreading fixing mortar over the boards, they are adhered to the wall surface so that there is no gap left between the seams. The boards are laid down in an alternating pattern at the facades and the corners. When the fixing mortar is completely dry (approximately after 24 hours) the anchoring process can be started. Special insulation fastening anchors are used which are chosen with respect to the wall properties. Tiled surfaces or surfaces with old plaster are not suitable for anchoring. After anchoring process reinforced layer is formed. Cement based undercoat plaster is applied to the surface by trowel. Afterwards, an alkali resistant, glass fiber based reinforcement mesh is placed on top by trowel in such a manner that the edges are overlapped by 10 cm. Consequently, second coat plaster is applied on the mesh and the reinforced layer comes to an end. When the reinforced layer is completely dry; permeable, solvent-free decorative cladding material with the desired texture is applied to the reinforced layer using a trowel or roller and the process is completed. Exterior cladding thickness and the quantity to be applied depend on the plaster type. Different surface forms can be achieved on the finishing plaster by different polishing methods.

Thickness (cm)	Width x Length (cm)	Package (m^2)
3	50 x 100	8,00
4	50 x 100	6,00
5	50 x 100	5,00
6	50 x 100	4,00
7	50 x 100	3,50
8	50 x 100	3,00
10	50 x 100	2,50
12	50 x 100	2,00
14	50 x 100	1,50

- *High thermal insulation*
- *Easy to apply*
- *Lightweight*

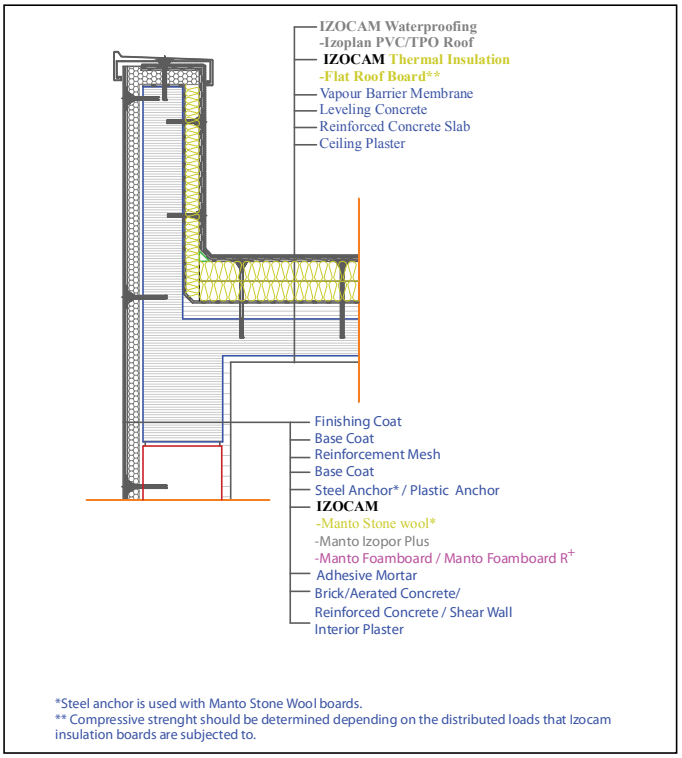
TECHNICAL DATA SHEET

İzocam Manto Izopor Plus

Properties	Symbol	Unit	Description	Tolerance	Standard
Material			Expanded Polystyrene (Carbon reinforced)		TS EN 13163
Density	ρ	kg/m³	16	-1	-
Width	w	mm	500	± 2 mm (W2)	TS EN 822
Length	l	mm	1000	± 2 mm (L2)	TS EN 822
Thickness	t	mm	30 / 40 / 50 / 60 / 70 / 80 / 100 / 120 / 140	± 1 mm (T1)	TS EN 823
Reaction to fire	-	-	E	-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,032	-	TS EN 13163
Thermal Resistance	R_D	m².K/W	0,90 / 1,25 / 1,55 / 1,85 / 2,15 / 2,50 / 3,10 / 3,75 / 4,35	-	TS EN 13163
Squareness	S_b	mm/m	S2	+2	TS EN 824
Flatness	S_{max}	mm	P5	5	TS EN 825
Dimensional Stability	-	%	DS(N)2	± % 0,2	TS EN 1605
Bending Strength	-	kPa	BS 100	-	TS EN 12089
Compressive Strength	σ_{10}	kPa	CS(10)60	-	TS EN 826
Water Absorbtion by Total Immersion	W_{lt}	%	WL(T)3	≤ % 3	TS EN 12097
Dimentional Stability Under Specified Temp. and Humidity Conditions	$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	DS(70,90)1	< %1,0	TS EN 1604
Tensile Strength Perpendicular to Faces (min.)	σ_{mt}	kPa	TR150	-	TS EN 1607
Packaging Material	-	-	PE Film	-	-
Other Information	Manto Izopor Plus insulation boards are produced regarding to the technical specifications of insulation boards stated in TS EN 13499 standards for “Expanded polystyrene based external thermal insulation composite systems” and in compliance with TS 7316-1 EN 13163 standard.				

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The packages should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- The products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Products can be stored with or without pallets by superposing the packages.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Precautions should be taken against sun, rain and exposed flame.
- When the packages piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- Products should be stored in their packages until the application.
- The packages should not be stacked too close to each other by force in order to gain space.



*Steel anchor is used with Manto Stone Wool boards.
** Compressive strenght should be determined depending on the distributed loads that Izocam insulation boards are subjected to.

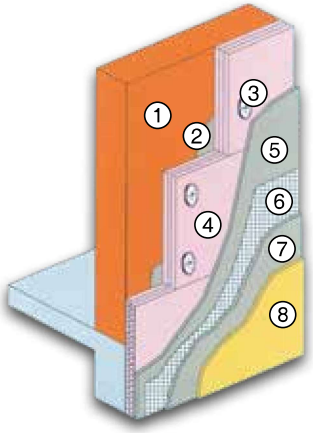
MANTO FOAMBOARD and R+

Manto Foamboard R+ is an extruded polystyrene board that is produced specially in order to use for external thermal insulation composite systems. It has high insulation property and vapour diffusion resistance.

Application

Fist of all, the surface to be used in the application should be checked to ensure that it is smooth and dry. If the surface is rough and with scrapes, it should be cleaned by brushing. Unevenness, major defects and cracks should be repaired by means of plaster. For wood surfaces acrylic based mortar, for the other surfaces cement based fixing mortar is used. Shortly after spreading fixing mortar over the boards, they are adhered to the wall surface so that there is no gap left between the seams. The boards are laid down in an alternating pattern at the facades and the corners. When the fixing mortar is completely dry (approximately after 24 hours) the anchoring process can be started. Special insulation fastening anchors are used which are chosen with respect to the wall properties. Tiled surfaces or surfaces with old plaster are not suitable for anchoring. After anchoring process reinforced layer is formed. Cement based undercoat plaster is applied to the surface by trowel. Afterwards, an alkali resistant, glass fiber based reinforcement mesh is placed on top by trowel in such a manner that the edges are overlapped by 10 cm. Consequently, second coat plaster is applied on the mesh and the reinforced layer comes to an end. When the reinforced layer is completely dry; permeable, solvent-free decorative cladding material with the desired texture is applied to the reinforced layer using a trowel or roller and the process is completed. Exterior cladding thickness and the quantity to be applied depend on the plaster type. Different surface forms can be achieved on the finishing plaster by different polishing methods.

Thickness (cm)		Width x Length (cm)	Package (m^2)
	R+		
3		60 x 120	10,08
4	4	60 x 120	7,20
5	5	60 x 120	5,76
6	6	60 x 120	5,04
7	7	60 x 120	4,32
8		60 x 120	3,60
10		60 x 120	2,88
12		60 x 120	2,16



Exterior wall ①
Fixing mortar ②
Plastic anchor ③
Manto Foamboard ④
Manto Foamboard R+
Undercoat plaster ⑤
Plaster loading mesh ⑥
Undercoat plaster ⑦
Top coat ready-to-use ⑧ plaster

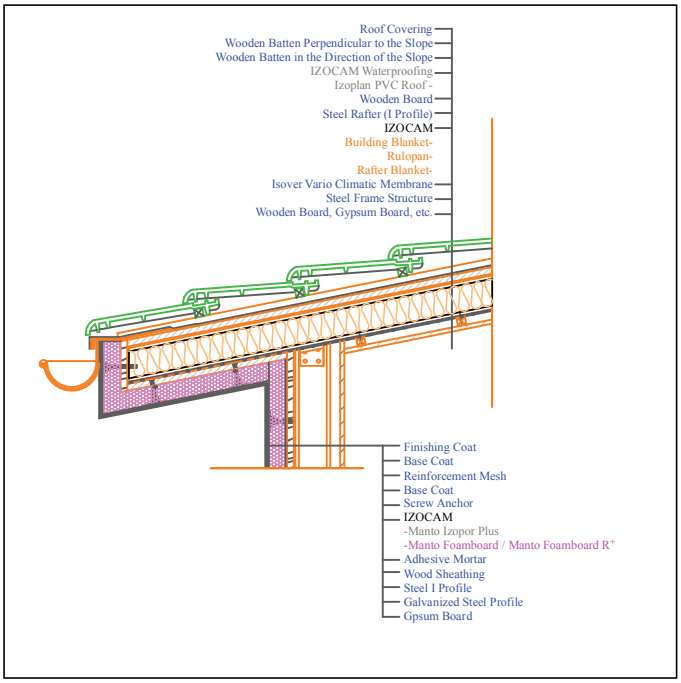
- *High thermal insulation*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*
- *Water impermeable*

TECHNICAL DATA SHEET

İzocam Manto Foamboard R+

Properties		Symbol	Unit	Description								Tolerance	Standard
Material		-	-	Extruded Polystyrene								-	TS EN 13164
Material Type		-	-	Manto Foamboard				Manto Foamboard R+				-	-
Edge Profile		-	-	Square								-	-
Surface Shape		-	-	Rough								-	-
Density		ρ	kg/m³	min. 28						min. 30	min. 32	-	-
Width		w	mm	600								± 8 mm	TS EN 822
Length		l		1200								± 8 mm	TS EN 822
Squareness		S_b	mm/m	max. 5								-	TS EN 824
Thickness	Foamboard	t	mm	30	40	50	60	70	80	100	120	T1 *	TS EN 823
	Foamboard R+				40	50	60	70					
Reaction to fire		-	-	E								-	TS EN 13501-1
Thermal Resistance	Foamboard	R_D	m².K/W	0,85	1,10	1,40	1,70	2,00	2,25	2,85	3,40		TS EN 13164
	Foamboard R+				1,30	1,65	2,00	2,30					
Declared Thermal Conductivity (10 °C)		λ_D	W/m.K	0,035				0,030				-	TS EN 13164
Water Vapor Diffusion Resistance Coefficient		MU	-	80				100				MU80 - MU100	TS EN 12086
Tensile Strength Perpendicular to Faces		TR	kPa	min. 200								TR200	TS EN 1607
Flatness		S_{max}	mm/m	max. 6								-	TS EN 825
Dimensional Stability Under Specified Thermal and Compressive Load Conditions		ε_t	%	max. 5 **								DLT(1)5 DLT(2)5	TS EN 1605
Dimensional Stability Under Specified Thermal and Humidity Conditions		$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5 ***								DS (70,90)	TS EN 1604
Compressive Strength		σ_{10}	kPa	min. 200								CS(10/Y)200	TS EN 826
Freeze Thaw Resistance		FTCD	%	max. 2								$FTCD_2$	TS EN 12091
Long Term Water Absorption with Total Immersion		W_{lt}	%	max. 0,7								WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion		W_{dV}	%	max. 5								WD(V)5	TS EN ISO 16536
Packaging Material		-	-	PE Film								-	-

* T1 : For < 50 mm +2; for 50 - 70 mm -2,+3
** TS EN 13164 / Item 4.3.3
*** TS EN 13164 / Item 4.3.2



Safety Reminders for Loading, Unloading, Shipping and Storing

- Loading and unloading should be done by (at least) two people.
- The packages should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- Products should not be stepped on.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Storing can be carried out by superposing the products with or without pallets.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.

INDUSTRIAL BUILDING BOARD and R+

It is used for thermal insulation purpose between two metals on roofs and sidewalls of metal buildings which are installed on-site. Natural characteristics of mineral wools contribute to sound insulation. It provides fire safety with its class A1 non combustible property. It has a silicon additive, so it does not include water to its structure.

Application

By spreading a coat of nylon cover on corrugated metal sheet of the roof as a vapor barrier, its joints are overlapped 10 cm and glued. Industrial Building Board is placed on vapor barrier layer. The application is completed with metal cladding. Industrial Building Boards are properly placed in the cassette systems at facade applications. The application is completed by facade cladding. It is recommended to apply either acoustic band or insulation board on joints where the metals touch each other for preventing sound and thermal bridges.

Thickness (cm)		Width x Length (cm)	Package (m^2)	
EBL	EBL R+		EBL	EBL R+
	4	60 x 120		12,96
5	5	60 x 120	11,52	10,08
6	6	60 x 120	8,64	8,64
8	8	60 x 120	7,20	6,48
10	10	60 x 120	5,76	5,04
12	12	60 x 120	4,32	4,32

- High thermal insulation
- Fire Safety
- Sound Insulation
- Easy to Install
- Lightweight

TECHNICAL DATA SHEET

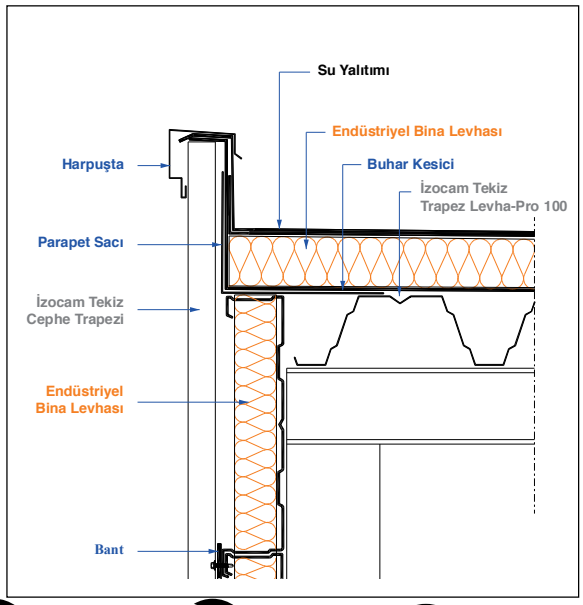
INDUSTRIAL BUILDING BOARD - INDUSTRIAL BUILDING BOARD R+

Properties		Symbol	Unit	Description						Tolerance	Standard
Material		-	-	Material Wool						-	TS EN 13162
Material Type		-	-	IBB			IBB R+				
Width		b	mm	600						+/-1,5%	TS EN 822
Length		l	mm	1200						+/-2%	TS EN 822
Thickness	IBB	d	mm		50	60	80	100	120	T3(**)	TS EN 823
	IBB R+			40	50	60	80	100	120		
Facing		-	-	Uncoated						-	-
Reaction to fire		-	-	A1						-	TS EN 13501-1
Squareness		S_b	mm/m	max.5						-	TS EN 824
Flatness		S_{max}	mm	max.6						-	TS EN 825
Dimensional Stability		Δ_{ed}	%	max.1						-	TS EN 1604
Thermal Conductivity (10 °C)		λ_D	W/m.K	0,037			0,035			-	TS EN 12667/12939
Thermal Resistance	IBB	R_D	m^2.K/W		1,35	1,60	2,15	2,70	3,20	-	TS EN 13162
	IBB R+			1,10	1,40	1,70	2,25	2,85	3,40		
Maximum Service Temperature		-	°C	250						-	-
Specific Heat (*)		c	kJ/(kg.K)	0,84						-	TS EN ISO 10456
Short Term Water Absorption by Partial Immersion		W_p	kg/m^2	≤ 1						-	TS EN ISO 29767
Long Term Water Absorption by Partial Immersion		W_{lp}	kg/m^2	≤ 3						-	TS EN ISO 16535
Water Vapor Diffusion Resistance (*)		μ	-	1						-	TS EN 12086
Dynamic Elasticity (*)		Edyn	kN/m^2	0,8						-	DIN 52214
Packaging Material		-	-	PE Film+PE Sleeve						-	-
Application Area		It is used for thermal insulation in the roofs and sidewalls of metal buildings which are installed on-site.									
Remarks		The products are water- repellent and contain silicon.									

(*) Literature Value (**)T3: -3% or -3mm ; +10% or 10mm.
The biggest value is choosed at minus tolerance, The smallest value is choosed at + tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing;

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



Zero GLOBAL WARMING EFFECT Zero OZONE DEPLETION EFFECT EUCEB CE

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WALL BOARD

Wall board is a glass wool board which has water repellent properties owing to the fact that it contains silicone. It is used in cavity walls, at double layer sandwich wall panels for fire safe, thermal and sound insulation purposes.

Application

Wall Board is applied loose in between two wall components such as bricks, AAC blocks, concrete blocks at the facades. In this application, known as cavity wall or sandwich wall insulation, two wall components should be connected to each other with special fasteners at certain intervals. Owing to their water repellent properties, the boards do not allow any water leakage which might occur as a result of any damage on the facade cladding of the building. By this way, they remain dry and keep their insulation properties. Additionally, even in the case of condensation they allow insulation properties to be maintained by throwing the condensed water out quickly.

Thickness (cm)	Width x Length (cm)	Package (m^2)
3	60 x 120	14,40
4	60 x 120	10,80
5	60 x 120	8,64
6	60 x 120	7,20
8	60 x 120	5,76
10	60 x 120	4,32

- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*
- *Lightweight*

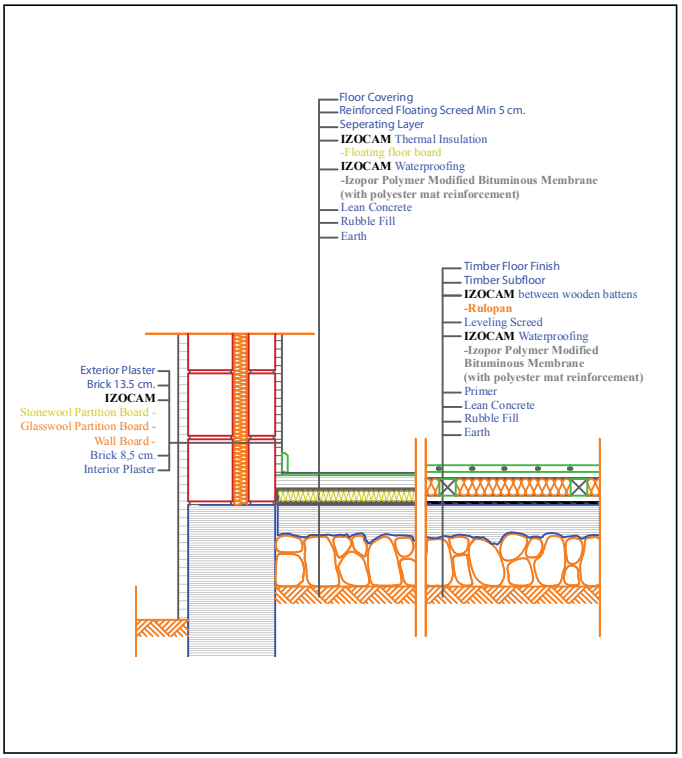
TECHNICAL DATA SHEET

İzocam Wall Board

Properties	Symbol	Unit	Description						Tolerance	Standard
Material	-	-	Glass Wool						-	TS EN 13162
Density	ρ	kg/m³	22						+/-10%	-
Width	w	mm	600						+/-1,5%	TS EN 822
Length	l	mm	1200						+/-2%	TS EN 822
Thickness	t	mm	30	40	50	60	80	100	T3 **	TS EN 823
Facing	-	-	Unfaced						-	-
Reaction to fire	-	-	A1						-	TS EN 13501-1
Squareness	S_b	mm/m	max. 5						-	TS EN 824
Flatness	S_{max}	mm	max. 6						-	TS EN 825
Dimensional Stability	$\Delta\varepsilon_d$	%	max. 1						-	TS EN 1604
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,035						-	TS EN 12667/12939
Thermal Resistance	R_D	m².K/W	0,85	1,10	1,40	1,70	2,25	2,85	-	-
Short Term Water Absorption	W_p	kg/m²	max 1						-	TS TS EN ISO 29767
Specific Heat *	c	kJ/(kg.K)	0,84						-	TS EN ISO 10456
Water Vapor Diffusion Resistance Coefficient *	μ	-	1						-	TS EN 12086
Dynamic Elasticity *	Edyn	kN/m²	0,8						-	DIN 52214
Packaging Material	-	-	PE Film						-	-
Other Information	The products are water- repellent and contain silicon.									

* Literature value.

** T3: -3% or -3 mm; +10% or +10 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.



Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

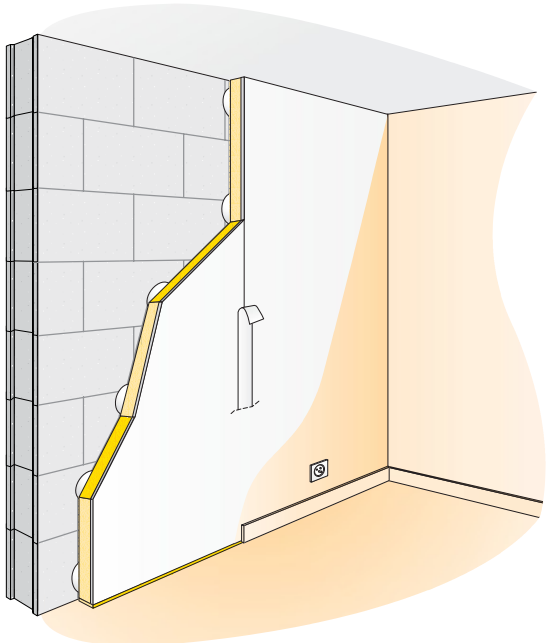
KALIBEL
GLASS WOOL

Kalibel is a composite product with gypsum board facing one side and aluminium foil in between. It is used on the inner surfaces of exterior walls, adjacent walls, internal walls of the buildings, periphery walls of staircases and elevator shafts and as internal wall lining timber framed buildings for fire safe, thermal and sound insulation purposes.

Application

Wall surface to be insulated is cleaned and prepared for the application. Boards are cut according to the wall size so that there is 1 cm. gap off the floor and 0.5 cm off the ceiling is left. Special gypsum fixing mortar is put on the glass wool side of the board, so that 3-5 kg (8-9 chunks) per square meter is applied. Kalibel boards are placed on to the wedges of 10 mm which were put in beforehand. After the boards are leaned against the wall, a rubber hammer and a gauge are used for levelling. The boards are supported until the adhesive sets. The joints are filled with a special net and paste. The application is completed with top coat paint. Since the walls with Kalibel application work with mass-spring-mass principle, they offer better sound insulation and do not impose load on the building than the one layered and heavy walls which only work with mass principle. Aluminium foil between glass wool board and gypsum board prevents the risk of condensation.

Thickness (cm)		Width x Length (cm)	Package (m^2)
Glass Wool	Gypsum Board		
1,5	1,25	120 x 270	155,52
3	1,25	120 x 270	103,68
5	1,25	120 x 270	71,28



- *High thermal insulation*
- *Fire safety*
- *High sound insulation*
- *Easy to apply*
- *Lightweight*

TECHNICAL DATA SHEET

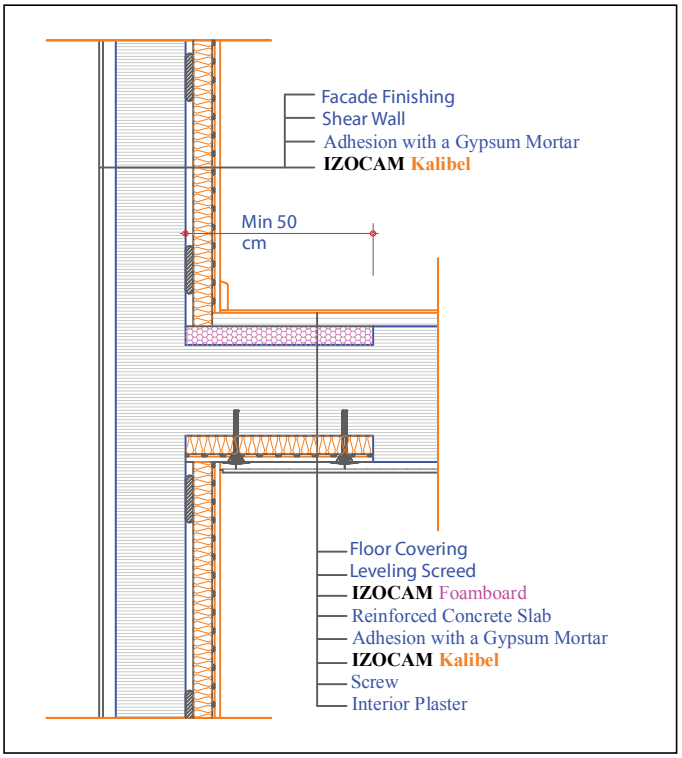
İzocam Kalibel Glass Wool

Properties	Symbol	Unit	Description			Tolerance	Standard
Material	-	-	Glass Wool			-	-
Density	ρ	kg/m^3	75			+/-10%	-
Width	w	mm	1200			+/-1,5%	TS EN 822
Length	l	mm	2700			+/-2%	TS EN 822
Thickness	t	mm	15 ***	30	50	**	TS EN 823
Facing	-	-	Gypsum Board			-	-
Squareness	S_b	mm/m	max. 5			-	TS EN 824
Flatness	S_{max}	mm	max. 6			-	TS EN 825
Dimensional Stability	$\Delta\varepsilon_d$	%	max. 1			-	TS EN 1604
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,031			-	TS EN 12667/12939
Thermal Resistance	R_D	m^2.K/W	0,45	0,95	1,60	-	-
Specific Heat *	c	kJ/(kg.K)	0,84			-	TS EN ISO 10456
Dynamic Elasticity *	Edyn	kN/m^2	0,8			-	DIN 52214
Packaging Material	-	-	Palette			-	-
Other Information	Kalibel is a composite board, formed with glass wool board, aluminium foil and gypsum board.						

* Literature value.
** -3% or -3 mm; +10% or 10 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.
*** Formed non al-foil.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- The products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should be stored on the pallets. Damaged or defective pallets should not be used.
- Products should not be stepped on and should not be used as steps.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- Storage area should be flat and non-slippery.
- Loading and unloading should be done by forklift or overhead crane.
- The boards should be carried to the application site one at a time by two people with extra care.



FOAMBOARD

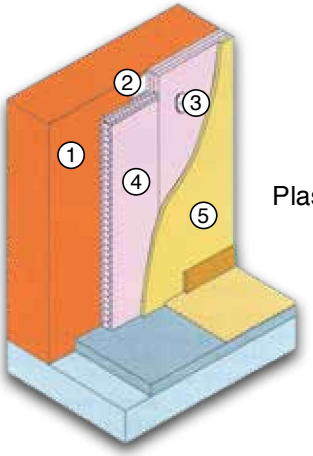
1500 P - 2000 P - 2500 P - 3000 P - 3500 P

Foamboard thermal insulation board is extruded polystyrene board with rough surface. It is used for the internal insulation of the exterior walls owing to its high insulation property and vapour diffusion resistance.

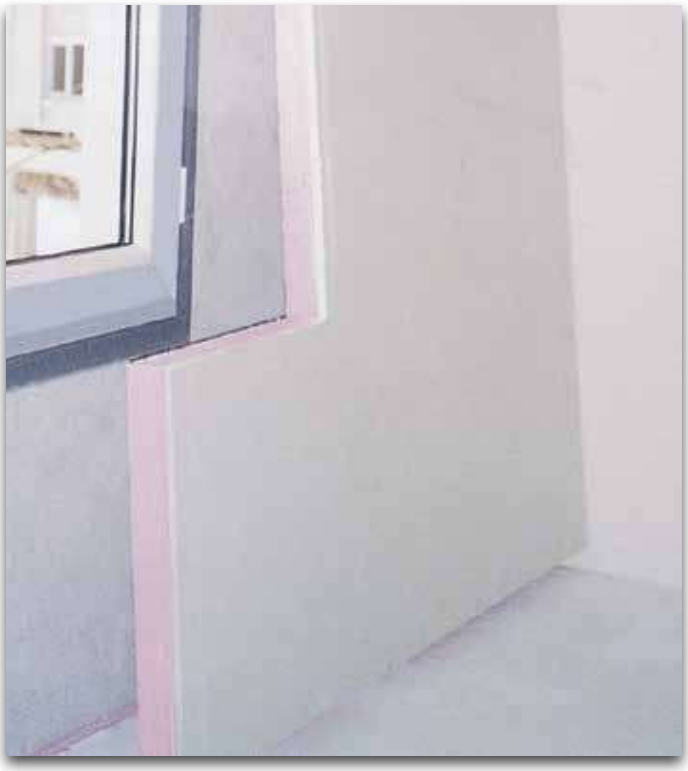
Application

There are two different methods used for the internal insulation of exterior walls: Plaster method and dry plaster method. For plaster method, the boards are adhered by cement based fixing mortar to the inner wall surface in a manner that the joints are aligned. The application is completed by adhering waste strip to the joint. For dry plaster method, the boards faced with 1,25 cm gypsum board on one side, are adhered to the wall by cement based fixing mortar. Before the adhering application, roughness of the wall surface should be minimized.
After the boards are adhered, the application is completed by standard connection and finish techniques. For the internal insulation of the exterior walls, it is important to take precautions to avoid thermal bridges at where the slabs, columns, beams and curtains connect to the exterior wall.

Thickness (cm)	Width x Length (cm)	Package (m^2)	Package (m^3)
2,5	60 x 120	11,52	0,2880
3	60 x 120	10,08	0,3024
4	60 x 120	7,20	0,2880
5	60 x 120	5,76	0,2880
6	60 x 120	5,04	0,3024
7	60 x 120	4,32	0,3024
8	60 x 120	3,60	0,2880
9	60 x 120	2,88	0,2592
10	60 x 120	2,88	0,2880
12	60 x 120	2,16	0,2592



Exterior wall ①
Fixing mortar ②
Plastic anchor ③
Foamboard ④
Plaster or gypsum board ⑤



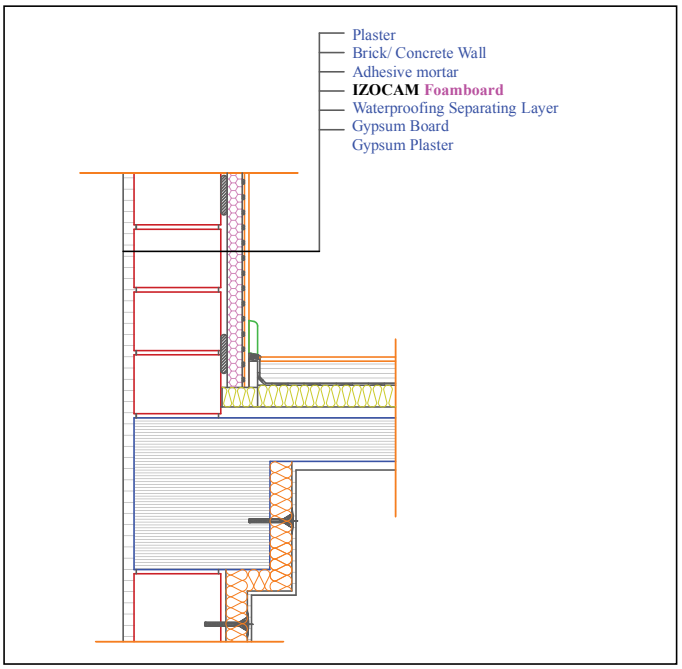
- *High thermal insulation*
- *Easy to apply*
- *Available in different sizes*
- *Water impermeable*

TECHNICAL DATA SHEET

İzocam Foamboard 1500 P - 2000 P - 2500 P - 3000 P - 3500 P

Properties	Symbol	Unit	Description									Tolerance	Standard
Material	-	-	Extruded Polystyrene									-	TS EN 13164
Edge Profile	-	-	Square, Ship-lap									-	-
Surface Shape	-	-	Rough									-	-
Material Type	-	-	1500 P		2000 P		2500 P		3000 P		3500 P	-	-
Compressive Strength (10 % deformation)	σ_{10}	kPa	min. 150		min. 200		min. 250		min. 300		min. 350	CS(10/Y) 150 200 - 250 - 300	TS EN 826
Density	ρ	kg/m³	min. 20-21		min. 24-30		min. 26-30		min. 27-30		min. 28-32	-	-
Tensile Strength Perpendicular to Faces	TR	kPa	min. 200		min. 200		min. 400		min. 400		min. 600	TR200 - TR400 TR 600	TS EN 1607
Water Vapor Diffusion Resistance Coefficient	MU	-	80		80		100		100		100	MU80 - MU100	TS EN 12086
Width	w	mm	600									± 8 mm	TS EN 822
Length	l	mm	1200									± 8 mm	TS EN 822
Squareness	S_b	mm/m	max. 5									-	TS EN 824
Flatness	S_{max}	mm/m	max. 6									-	TS EN 825
Thickness 1500 P	t	mm	25	30	40	50	-	-	-	-	-	T1 *	TS EN 823
Thickness 2000 P	t	mm	-	-	40	50	60	70	80	90	-	T1 *	TS EN 823
Thickness 2500 P	t	mm	-	-	40	50	60	70	80	90	-	T1 *	TS EN 823
Thickness 3000 P	t	mm	-	-	40	50	60	70	80	90	-	T1 *	TS EN 823
Thickness 3500 P	t	mm	-	-	40	50	60	70	80	90	120	T1 *	TS EN 823
Reaction to fire	-	-	E									-	TS EN 13501-1
Thermal Resistance	R_D	m².K/W	0,70	0,85	1,10	1,40	1,70	2,00	2,25	2,55	3,40		TS EN 13164
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,035									-	TS EN 13164
Freeze Thaw Resistance	FTCD	%	max. 2									$FTCD_2$	TS EN 12091
Dimensional Stability Under Specified Thermal and Humidity Conditions	$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5 **									DS (70,90)	TS EN 1604
Dimensional Stability Under Specified Thermal and Compressive Load conditions	ε_t	%	max. 5 ***									DLT(1)5 DLT(2)5	TS EN 1605
Long Term Water Absorption with Total Immersion	W_{lt}	%	max. 0,7									WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion	W_{dV}	%	max. 5									WD(V)5	TS EN ISO 16536
Packaging Material	-	-	PE Film									-	-
Other Information	Densities change according to thickness for detailed information contact with Izocam.												

* T1 : +2 for < 50 mm; -2,+3 for 50 - 120 mm; -2,+3 for > 120 mm. According to customer demands can be produced in T2 or T3 thickness class.
** TS EN 13164 / Item 4.3.2
*** TS EN 13164 / Item 4.3.3



Safety Reminders for Loading, Unloading, Shipping and Storing

- Loading and unloading should be done by (at least) two people.
- The packages should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- Products should not be stepped on.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Storing can be carried out by superposing the products with or without pallets.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.

GLASS WOOL PARTITION WALL BOARD and R+

Hafif ara bölme duvarlarda, dış duvarların içten yalıtım uygulamalarında, merdiven ve asansör boşluklarında, komşu duvarlarda ısı ve ses yalıtımı amacıyla kullanılır.

Uygulama

Ara bölme U profili, uygulama yapılacak döşeme ve tavana şakülünde yerleştirilip 60-80 cm'de bir vidalanır. Ses köprüsünü engellemek amacıyla büyük U profilin döşeme ve tavana monte edileceği yüzeye kauçuk bant (İzocamtape) yapıştırılır. Ara bölme C profilleri U profillerin içine monte edilerek ara bölme duvarım çerçevesi oluşturulur. Yalıtım malzemesinin içine yerleştirileceği C profil sırt sırta gelecek şekilde 60 cm mesafe ile monte edilir. Ara bölme duvarın taşıyıcı konstrüksiyonu tamamlandıktan sonra ses köprüsünü engellemek amacıyla profillere kauçuk bant (İzocamtape) yapıştırılır. Akabinde bir yüzeye alçı levhalar monte edilir. 60 cm enindeki "İzocam Ara Bölme Levhası" profiller arasına yerleştirildikten sonra diğer yüzeye de alçı levhalar monte edilir. Alçı levhaların birleşim yerlerine kendinden yapışkanlı alçı filesi çekilir. Tüm yüzeylere alçı çekildikten sonra istenilen şekilde boyanır.

Thickness (cm)		Width x Length (cm)	Package (m^2)	
ABL	ABL R+		ABL	ABL R+
	4	60 x 120		12,96
5	5	60 x 120	11,52	10,08
6	6	60 x 120	8,64	8,64
8	8	60 x 120	7,20	6,48
10	10	60 x 120	5,76	5,04

- *High sound insulation*
- *Fire safety*
- *High thermal insulation*
- *Easy to apply*
- *Lightweight*

TECHNICAL DATA SHEET

Partition Wall Board - Partition Wall Board R+

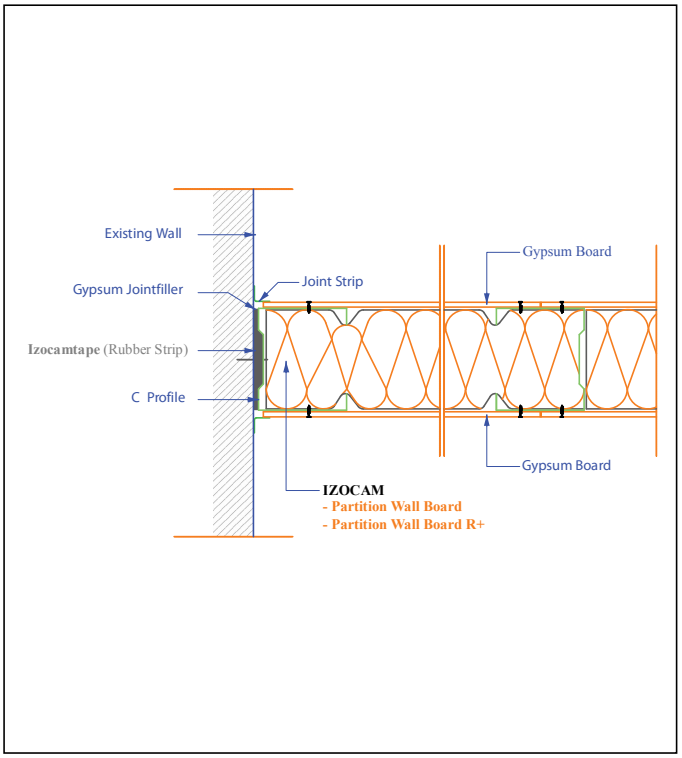
Properties		Symbol	Unit	Description					Tolerance	Standard
Material		-	-	Glass Wool					-	TS EN 13162
Material Type		-	-	PWB			PWB R+		-	-
Density		ρ	kg/m³	20					+/-10%	-
Width		w	mm	600					+/-1,5%	TS EN 822
Length		l	mm	1200					+/-2%	TS EN 822
Thickness	PWB	t	mm		50	60	80	100	T3 **	TS EN 823
	PWB R+			40	50	60	80	100		
Reaction to fire		-	-	A1					-	EN 13501-1
Squareness		S_b	mm/m	max. 5					-	TS EN 824
Flatness		S_{max}	mm	max. 6					-	TS EN 825
Dimensional Stability		$\Delta\varepsilon_d$	%	max. 1					-	TS EN 1604
Declared Thermal Conductivity (10 °C)		λ_D	W/m.K	0,037			0,035		-	TS EN 12667/12939
Thermal Resistance	PWB	R_D	m².K/W		1,35	1,60	2,15	2,70	-	-
	PWB R+			1,10	1,40	1,70	2,25	2,85		
Water Vapor Diffusion Resistance Coefficient *		μ	-	1					-	TS EN 12086
Specific Heat *		c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Dynamic Elasticity *		Edyn	kN/m²	0,8					-	DIN 52214
Packaging Material		-	-	PE Film					-	-

* Literature value.

** T3: -3% or -3 mm; +10% or 10 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



STONE WOOL PARTITION WALL BOARD

It is a stone wool board used for fire safe thermal and sound insulation of lightweight partition walls, stairwells and elevator shafts, adjacent walls, inner surfaces of exterior walls.

Application

İzocam Stone Wool Partition Wall Board is placed into the timber or metal construction. It is used for thermal and sound insulation and fire safety especially when it is applied at the partition walls of the office buildings. Depending on the application space, gypsum boards are fastened on the side facing the interior or on both sides by profiles. It is recommended to apply rubber tapes (İzocamtape) to the construction especially for the sound insulation applications in order to avoid sound bridges.

Thickness (cm)	Width x Length (cm)	Package (m^2)
3	60 x 120	17,28
4	60 x 120	12,96
5	60 x 120	10,08
6	60 x 120	8,64
8	60 x 120	6,48
10	60 x 120	5,04
12	60 x 120	4,32

- *Thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*

TECHNICAL DATA SHEET

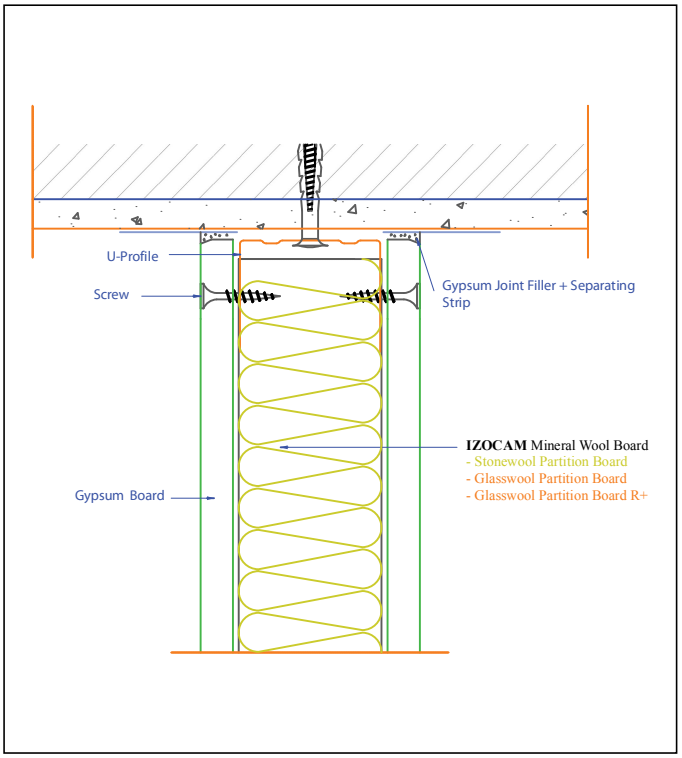
İzocam Stone Wool Partition Wall Board

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Stone Wool	-	TS EN 13162
Density	ρ	kg/m³	52	+/-10%	-
Width	w	mm	600	+/-1,5%	TS EN 822
Length	l	mm	1200	+/-2%	TS EN 822
Thickness	t	mm	30 / 40 / 50 / 60 / 80 / 100 / 120	T4 *	TS EN 823
Facing	-	-	Unfaced	-	-
Reaction to fire	-	-	A1	-	TS EN 13501-1
Squareness	S_b	mm/m	max. 5	-	TS EN 824
Flatness	S_{max}	mm	max. 6	-	TS EN 825
Dimensional Stability	$\Delta\varepsilon_d$	%	max. 1	-	TS EN 1604
Declared Thermal Conductivity (10 °C)	λ_D	W/mK	0,035	-	TS EN 12667/12939
Thermal Resistance	R_D	m².K/W	0,85 / 1,10 / 1,40 / 1,70 / 2,25 / 2,85 / 3,40	-	TS EN 13162
Water Vapor Diffusion Resistance Coefficient	μ	-	1	-	TS EN 12086
Short Term Water Absorption	W_p	kg/m²	max. 1	-	TS TS EN ISO 29767
Long Term Water Absorption with Diffusion	W_{lp}	kg/m²	max. 3	-	TS TS EN ISO 16535
Packaging Material	-	-	PE Film	-	-
Other Information	Boards could be coated with yellow/black glass tissue and aluminium foil.				

* T4: -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

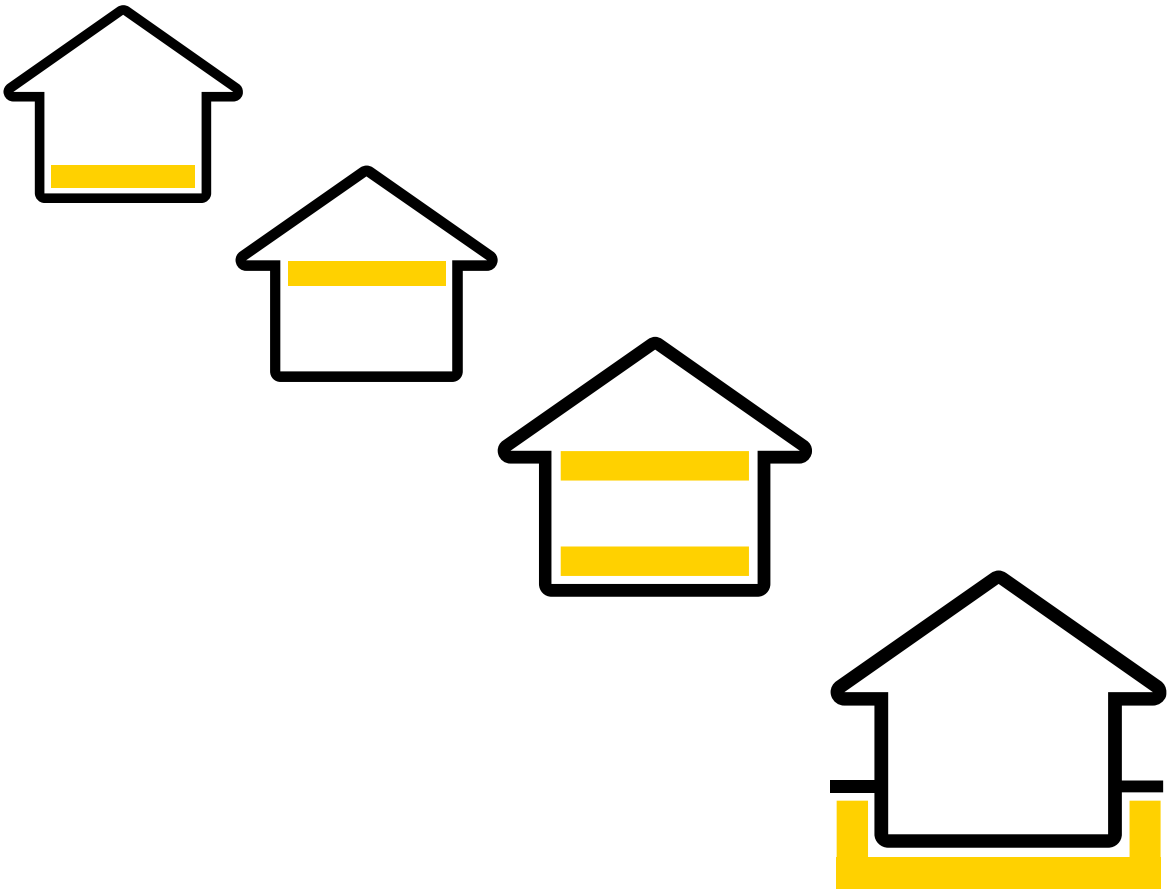
- These operations should be done indoors if the weather is rainy.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



BN Trade

iZOCAM®

FLOOR INSULATION



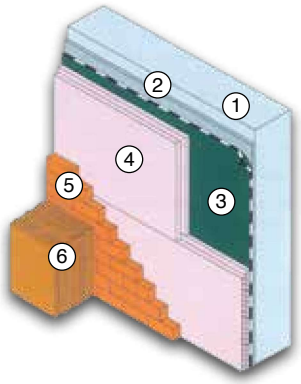
FOAMBOARD
2000 D - 2500 D - 3000 D - 3500 D

It is an extruded polystyrene board used for thermal insulation of below grade exterior walls of basements, on-grade floors of buildings.

Application

For the thermal insulation of below grade perimeter walls Foamboard products are used with waterproofing membranes. First a plaster is spread over the wall in order to smoothen the surface and then waterproofing membrane is applied. Consequently, İzocam Foamboard is applied loose on waterproofing membrane. There is no need to adhere the boards if the application is carried out together with the erection of protection wall and earth fill. There is another method in which İzocam Foambard is adhered to the bituminous water proofing membrane at intervals by cold bitumen. Anchoring is not used in below grade perimeter wall application in order not to drill through water proofing.

Thickness (cm)	Width x Length (cm)	Package (m^2)	Package (m^3)
2	60 x 120	14,40	0,2880
2,5	60 x 120	11,52	0,2880
3	60 x 120	10,08	0,3024
4	60 x 120	7,20	0,2880
5	60 x 120	5,76	0,2880
6	60 x 120	5,04	0,3024
7	60 x 120	4,32	0,3024
8	60 x 120	3,60	0,2880
9	60 x 120	2,88	0,2592
10	60 x 120	2,88	0,2880
12	60 x 120	2,16	0,2592
15	60 x 120	2,16	1,4400



Basement wall ①
Levelling plaster ②
İzoplan waterproofing membrane ③
Foambard ④
Protection wall ⑤
Earth fill ⑥

- *High compressive strength*
- *High thermal insulation*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*
- *Water impermeable*

TECHNICAL DATA SHEET

İzocam Foamboard 2000 D - 2500 D - 3000 D - 3500 D

Properties		Symbol	Unit	Description	Tolerance	Standard
Material		-	-	Extruded Polystyrene	-	TS EN 13164
Edge Profile		-	-	Square, Ship-lap	-	-
Surface Shape		-	-	Skin	-	-
Density	2000 D	ρ	kg/m³	min. 25 | min. 26 | min. 27 | min. 30 | -	-	-
	2500 D			min. 25 | min. 28 | min. 30 | -		
	3000 D			min. 28 | min. 32 | min. 29 | min. 30 | -		
	3500 D			min. 28 | min. 30		
Width		w	mm	600	± 8 mm	TS EN 822
Length		l	mm	1200	± 8 mm	TS EN 822
Thickness		t	mm	20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 120 | 150	T1 *	TS EN 823
Reaction to fire		-	-	E	-	TS EN 13501-1
Thermal Resistance		R_D	m².K/W	0,55 | 0,70 | 0,85 | 1,10 | 1,40 | 1,70 | 2,00 | 2,25 | 2,55 | 2,85 | 3,40 | 4,25		TS EN 13164
Declared Thermal Conductivity (10 °C)		λ_D	W/m.K	0,035	-	TS EN 13164
Water Vapor Diffusion Resistance Coefficient		MU	-	100	MU100	TS EN 12086
Material Type		-	-	2000 D | 2500 D | 3000 D | 3500 D	-	-
Tensile Strength Perpendicular to Faces		TR	kPa	min. 200 | min. 400 | min. 400 | min. 600	TR200 - TR400 TR600	TS EN 1607
Compressive Strength (10 % Deformation)		σ_{10}	kPa	min. 200 | min. 250 | min. 300 | min. 350	CS(10/Y) 200 | 250 | 300 | 350	TS EN 826
Dimensional Stability Under Specified Thermal and Humidity Conditions		$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5 **	DS (70,90)	TS EN 1604
Dimensional Stability Under Specified Thermal and Compressive Load Conditions		ε_t	%	max. 5 ***	DLT(1)5 DLT(2)5	TS EN 1605
Freeze Thaw Resistance		FTCD	%	max. 1	$FTCD_1$	TS EN 12091
Long Term Water Absorption with Total Immersion		W_{lt}	%	max. 0,7	WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion		W_{dV}	%	max. 3	WD(V)3	TS EN ISO 16536
Packaging Material		-	-	PE Film	-	-
Other Information		There is no ship-lap in 20 mm thickness.				

* T1 : +2 for < 50 mm; -2,+3 for 50 - 120 mm; -2,+3 for > 120 mm. According to customer demands can be produced in T2 or T3 thickness class.

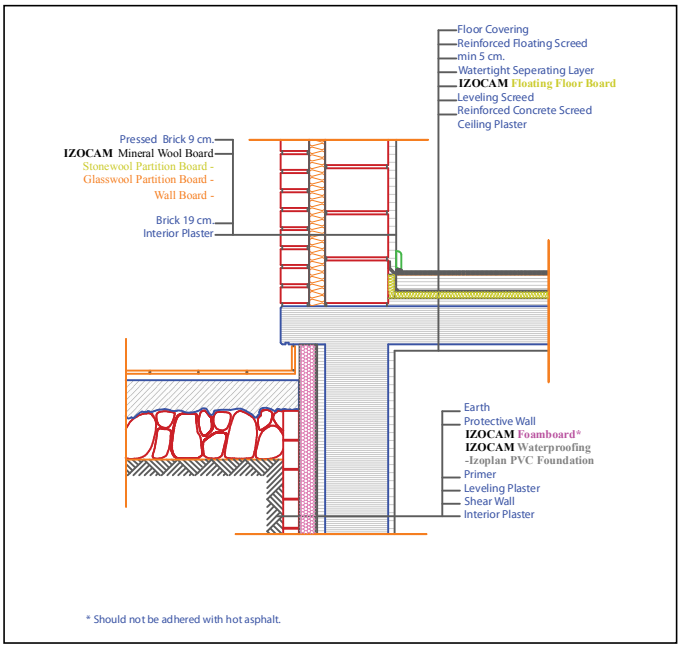
** TS EN 13164 / Item 4.3.2

*** TS EN 13164 / Item 4.3.3

Safety Reminders for Loading, Unloading, Shipping and Storing

- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Storing can be carried out by superposing the products with or without pallets.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.

Izocam is not responsible for any problem because of misprinting. Izocam, the manufacturer, reserves the right to alter product specifications without prior notice. Izocam also manufactures special products upon request. For your requirements, you are requested to contact our Export Department.



FLOATING FLOOR BOARD

It is a stone wool board that is used for thermal, sound and vibration insulation of the floors on the grade, for the floors in between flats, under all kinds of the vibrating equipments.

Application

İzocam Floating Floor Board that is manufactured to be used under floating screeding. High compressive strength make them suitable to be used for thermal, sound and vibration insulation of floors under all types of live loads. Before the concrete floor on grade is laid, waterproofing against ground water and damp is applied for the floor above ground. Then floating floor boards are loosely laid over. Consequently, in order to prevent the spreading of vibrations caused by impacts on the floor covering through the walls, the strips cut from the boards with a thickness determined by the finished flooring height, are placed along the floor. A water impermeable membrane is laid over the boards before pouring the screed. Reinforced screed of 5 cm with minimum dosage (500) is applied on and then the application is completed with the desired floor covering.

Thickness (cm)	Width x Length (cm)	Package (m^2)
2,5 (2)*	60 x 120	7,20
3 (2,5)*	60 x 120	5,76
3,5 (3)*	60 x 120	5,04

* Values in parenthesis are showing the thickness of the insulation board which exposed to load of reinforced lever.

- *High thermal insulation*
- *Fire safety*
- *Sound and vibration insulation*
- *Easy to apply*
- *Available in different sizes*

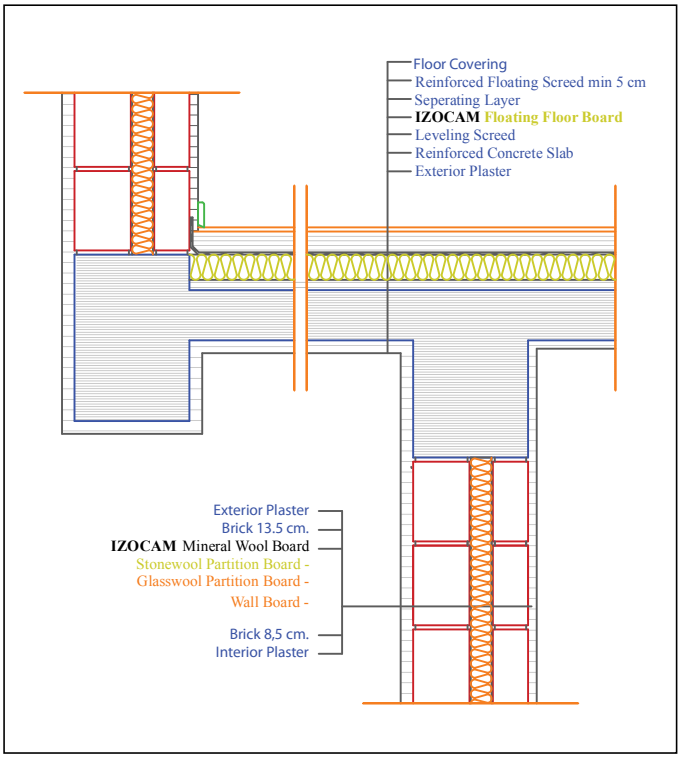
TECHNICAL DATA SHEET

İzocam Floating Floor Board

Properties	Symbol	Unit	Description			Tolerance	Standard
Material	-	-	Stone Wool			-	TS EN 13162
Density	ρ	kg/m^3	110			+/-10%	-
Width	w	mm	600			+/-1,5%	TS EN 822
Length	l	mm	1200			+/-2%	TS EN 822
Thickness	t	mm	25	30	35	T4 *	TS EN 823
Facing	-	-	Unfaced			-	-
Reaction to fire	-	-	A1			-	TS EN 13501-1
Squareness	S_b	mm/m	max.5			-	TS EN 824
Flatness	S_{max}	mm	max.6			-	TS EN 825
Dimensional Stability	$\Delta\varepsilon_d$	%	max.1			-	TS EN 1604
Declared Thermal Conductivity (10 °C)	λ_D	W/mK	0,035			-	TS EN 12667/12939
Thermal Resistance	R_D	m^2.K/W	0,70	0,85	1,00	-	TS EN 13162
Water Vapor Diffusion Resistance Coefficient	μ	-	1			-	TS EN 12086
Compressive Strength	σ_{10}	kPa	5			-	TS EN 826
Short Term Water Absorption	W_p	kg/m^2	max. 1			-	TS TS EN ISO 29767
Long Term Water Absorption with Diffusion	W_{lp}	kg/m^2	max. 3			-	TS TS EN ISO 16535
Packaging Material	-	-	PE Film			-	-

* T4: -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

** Literature value.



Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

SUSPENDED CEILING BOARD

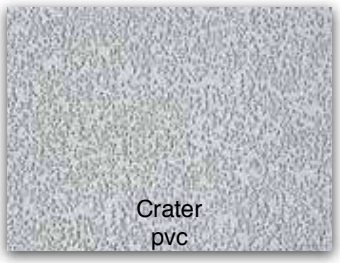
Sound Insulation · Fire Safety · Thermal Insulation

Suspended Ceiling Boards are made of glass wool boards faced with decorative glass tissue or PVC on one side. They are used for space acoustics, thermal insulation of under the floors and roofs, for aesthetical purposes to conceal HVAC installations and ducts from view or they are just used for decorative purposes.

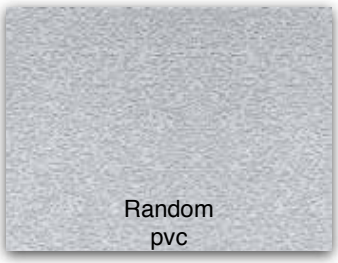
Application

The fact that suspended ceiling boards are lightweight makes the application easier to proceed. It is recommended to prepare a ceiling tile plan before the application. Since the width of the board is 60 cm, the width of the application area is divided into multiples of 60. Taking the longitidunal axis of symmetry as the beginning offers a better aesthetic solution. Afterwards, the same process is carried out for the other axis for the board length of 120 cm or for a square of 60 x 60 cm. when the board is divided into two. Type and quantity of the lighting fixtures should be determined by the needs and should be designed and shown on the ceiling tile plan.

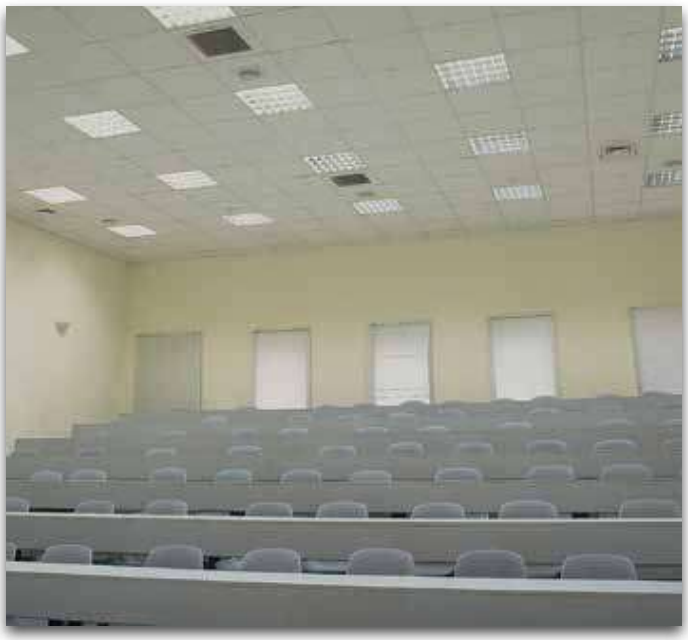

White glass tissue


Crater pvc


Labyrinth pvc


Random pvc

Thickness (cm)	Width x Length (cm)	Package (m^2)
2	60x60-120	7,2
2,5	60x60-120	5,76



- *High thermal insulation*
- *Acoustic control*
- *Easy to apply*
- *Lightweight*

TECHNICAL DATA SHEET

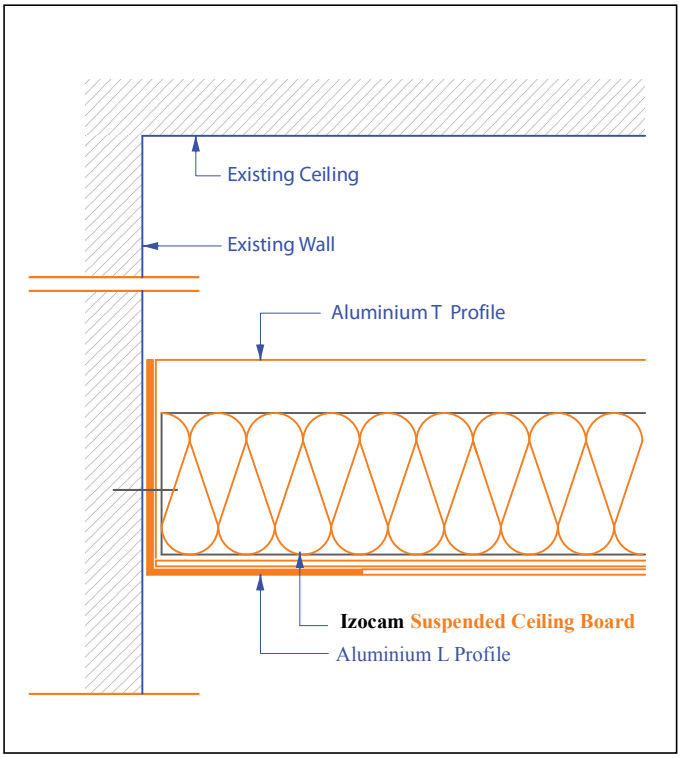
İzocam Suspended Ceiling Board

Properties	Symbol	Unit	Description		Tolerance	Standard
Material	-	-	Glass Wool		-	TS EN 13964
Density	ρ	kg/m^3	50		+/-10%	-
Width	w	mm	600		+/-1,5%	TS EN 822
Length	l	mm	1200		+/-2%	TS EN 822
Thickness	t	mm	20	25	-1, +5	TS EN 823
Facing	-	-	Glass Tissue	PVC	-	-
Reaction to fire	-	-	NPD		-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,031		-	TS EN 12667/12939
Thermal Resistance	R_D	m^2.K/W	0,60	0,80	-	-
Sound Absorption	-	α_w	0,4	0,5	-	TS EN ISO 354
Specific Heat *	c	kJ/(kg.K)	0,84		-	TS EN ISO 10456
Dynamic Elasticity *	Edyn	kN/m^2	0,8		-	DIN 52214
Packaging Material	-	-	Carton Box		-	-

* Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- The instructions on the packages should be followed.



FOAMBOARD
UNDER FLOORING

It is an extruded polystyrene board with skin surface that is used under flooring in order to level the surface.

Application

The boards are laid properly on the floor to be covered. If the roughness of the surface is significant, application with two layers can be carried out around this region. If the roughness is too much to be removed, the surface should be levelled again.

Thickness (mm)	Width x Length (cm)	Package (m^2)
10	60 x 120	28,80

- *High compression strength*
- *Thermal insulation*
- *Affordable*
- *Fast and easy installation*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Foamboard - Under Flooring

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Extruded Polystyrene	-	-
Edge Profile	-	-	Square, Ship-lap	-	-
Density	ρ	kg/m³	min. 25	-	-
Width	w	mm	600	± 8 mm	TS EN 822
Length	l		1200	± 8 mm	TS EN 822
Thickness	t	mm	10	± 1,5 mm	TS EN 823
Reaction to fire	-	-	E	-	TS EN 13501-1
Water Vapor Diffusion Resistance Coefficient	MU	-	100	MU100	TS EN 12086
Tensile Strength Perpendicular to Faces	TR	kPa	min. 200	TR200	TS EN 1607
Dimensional Stability Under Specified Thermal and Compressive Load conditions	ε_t	%	max. 5	DLT (1)5 DLT (2)5	TS EN 1605
Dimensional Stability Under Specified Thermal and Humidity Conditions	$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5	DS (70,90)	TS EN 1604
Compressive Strength	σ_{10}	kPa	min. 200 (10 % deformation)	CS(10/Y)200	TS EN 826
Long Term Water Absorption with Total Immersion	W_{lt}	%	max. 0,7	WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion	W_{dV}	%	max. 3	WD(V)3	TS EN ISO 16536
Packaging Material	-	-	PE Film	-	-

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- Board packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Products can be stored with or without pallets by superposing the packages.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.

PEFLEX FLOORING

İzocam Peflex Flooring is a polyethylene foam board that is laid under flooring. It is used as a surface levelling and as a seperator layer. It protects the flooring materials against damp coming from the concrete and lower floors owing to its properties.

Application

İzocam Peflex Flooring is laid properly on the floor that is to be covered. If the roughness of the surface is significant, application with two layers can be carried out around this region. If the roughness is too much to be removed, the surface should be levelled again.

Thickness (mm)	Width x Length (m)	Package (m^2)
1	1 x 300	300
2	1 x 150	150
3	1 x 100	100
4	1 x 75	75
5	1 x 60	60

- *Highly flexible*
- *Thermal insulation*
- *Long life*
- *Water and vapour resistance*
- *CFC free*

TECHNICAL DATA SHEET

İzocam PEflex Flooring

Properties	Symbol	Unit	Description					Tolerance	Standard
Material	-	-	Polyethylene Foam					-	-
Length	l	m	300	150	100	75	60	± 1,5 %	-
Width	w	mm	1000					± 2%	-
Thickness	t	mm	1	2				+/- 0,5 mm	-
					3	4	5	+/- 1 mm	
Max. Service Temperature	-	°C	-45 / 80					-	-
Water Vapor Diffusion Resistance Factor	μ	-	≥ 3000					-	TS EN 12086
Water Absorption	-	%	0,25					-	ASTM D 1056
UV Resistance	-	-	Good					-	-
Flexibility	-	-	Excellent					-	-
Fungal Growth	-	-	None					-	-
Packaging Material	-	-	PE Bag					-	-

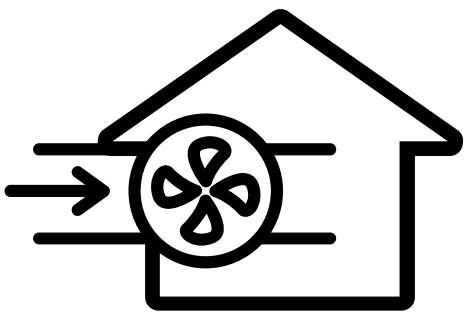
Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should definitely be wrapped by a waterproof cover during shipping.
- When the packages piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- Only backshutter of the truck body should be opened during unloading.
- Storaging should be done indoors and the packages should be put over flat floor.
- Maximum 4 packages should be superposed.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck. Packages should be treated gently and put carefully on the ground.
- The truck should not be moved without wrapping and binding the boxes..
- The products should not be exposed to sun.
- Storage area should not be slippery.
- Storage area should be ventilated if the room temperature exceeds 35˚C.
- If the truck needs to stop for a long time, it should stay in the shade.
- The products should be at a minimum distance of 3 m from the lighting armatures.

BN Trade

IZOCAM®

HVAC INSULATION



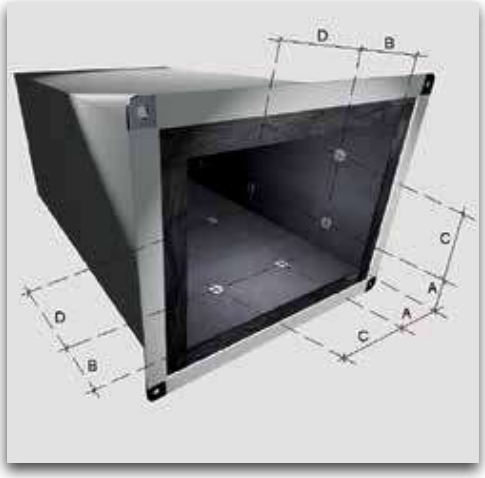
DUCTLINER

It is a black glass wool blanket faced with acrylen on one side. It is used for the sound insulation, thermal insulation and fire safety of ventilating and air conditioning ducts.

Application

Before İzocam Ductliner is applied, duct surfaces to be used are cleaned to make sure the surface is free from dust and grease. The duct to be insulated should be measured inside to inside. Attention should be paid to the insulation thickness and İzocam Ductliner should be cut in accordance with the measurement. Self adhesive fixing pins are placed into the duct according to the air flow velocity. Special adhesive is spread over the duct surface by the help of a brush and the boards cut to be used are laid over. All transverse and longitudinal joints should be sealed to ensure they fit properly and no gap is left. Lock washers should be put over pins. Lenght of pins should assure minimum 10 % compression of insulation thickness. Excess ends of the pins should be snipped off.

Thickness (cm)	Width x Length (cm)	Package (m^2)
1,5	122 x 2000	24,40
2,5	122 x 1600	19,52



Pin Distances

Airflow Velocity (m/s) (feet/min.)	0 - 12,7 (0 - 2500)
A	102 mm (4”)
B	76 mm (3”)
C	305 mm (12”)
D	457 mm (18”)

- *High sound insulation*
- *High thermal insulation*
- *Fire safety*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Ductliner

Properties		Symbol	Unit	Description					Tolerance	Standard
Material		-	-	Glass Wool (Black Painted)					-	TS EN 14303
Density		ρ	kg/m³	24		32			+/-10%	-
Width		w	mm	1220					+/-10	TS EN 822
Length		l	mm	16000		20000			+∞ ; -0	TS EN 822
Thickness		t	mm	25		15			T3 **	TS EN 823
Facing		-	-	Black Glass Tissue		Acrylene			-	-
Reaction to fire		-	-	A1		A2-s3,d0			-	TS EN 13501-1
Declared Thermal Conduc-tivity		T	°C	10	25	50	75	100	-	TS EN 12667/12939
	24 kg/m³	λ_D	W/m.K	0,035	0,036	0,041	0,044	0,048		
	32 kg/m³			0,033	0,036	0,041	0,044	0,048		
Specific Heat *		c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Dynamic Elasticity *		Edyn	kN/m²	0,8					-	DIN 52214
Packaging Material		-	-	PE Film					-	-
Other Information		Product is packaged on rigid bobbin. Maximum service temperature is 200 °C on glass tissue faced side. Maximum service temperature is 150 °C on acrylene faced side.								

* Literature value.

** T3: -3% or -3 mm; +10% or 10 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

DUCT BOARD

It is a glass wool board faced with aluminium foil or black glass tissue on one side used for external thermal insulation, internal sound insulation of air conditioning and ventilation ducts.

Application

According to the purpose of the application, it is decided which duct board is going to be used. One type of board is chosen among unfaced board, board faced with aluminium foil and board faced with glass tissue. Before the boards are applied, duct surfaces to be used are cleaned to make sure the surface is free from dust and grease. If cold air insulation is going to be applied for the external thermal insulation, definitely the boards faced with aluminium foil should be used against condensation risk. The boards are installed into the pins (5- 6 pins per m^2) fastened to the outside of the duct with foiled side facing the exterior. Board joints are sealed with self adhesive aluminium foil tape with great care to ensure that joints are water impermeable. When both thermal insulation and sound insulation are required for the ducts, duct board faced with glass tissue on the inside should be preferred. In that case, boards are installed to the pins which were fastened to the ducts from the inside so that the side with glass tissue faces inside.

Thickness (cm)	Width x Length (cm)	Package (m^2)
2	60 x 120	14,40
2,5	60 x 120	11,52
3	60 x 120	10,08
4	60 x 120	7,20
5	60 x 120	5,76

- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*
- *Lightweight*

TECHNICAL DATA SHEET

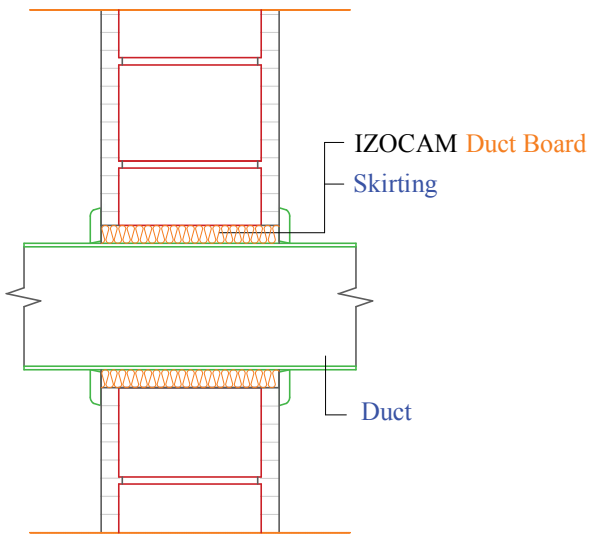
İzocam Duct Board

Properties	Symbol	Unit	Description					Tolerance	Standard
Material	-	-	Glass Wool					-	TS EN 14303
Density	ρ	kg/m³	50					+/-10%	-
Width	w	mm	600					+/-1,5%	TS EN 822
Length	l	mm	1200					+/-2%	TS EN 822
Thickness	t	mm	20	25	30	40	50	T3 **	TS EN 823
Facing	-	-	Unfaced, Glass tissue, Glass cloth				Al-foil***	-	-
Reaction to fire	-	-	A1				C-s1,d0	-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	T	°C	10	25	50	75	100	-	TS EN 12667/12939 13787
	λ_D	W/m.K	0,031	0,034	0,037	0,041	0,046		
Specific Heat *	c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Dynamic Elasticity *	Edyn	kN/m²	0,8					-	DIN 52214
Packaging Material	-	-	PE Film					-	-
Other Information	Maximum service temperature on the side faced with aluminium foil is 90 °C.								

* Literature value.
** T3: -3% or -3 mm; +10% or 10 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.
*** Non combustible Al-foil faced boards classified as A2-s1,d0.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



VIBRATION AND THERMAL INSULATION AT DUCT- WALL TRANSITION

STONE WOOL DUCT BOARD

Sound Insulation | Fire Safety | Thermal Insulation

It is a stone wool board faced with aluminium foil on one side used for external thermal insulation, internal sound insulation of air conditioning and ventilation ducts.

Application

Before the boards are applied, duct surfaces to be used are cleaned to make sure the surface is free from dust and grease. If cold air insulation is going to be applied for the external thermal insulation, definitely the boards faced with aluminium foil should be used against condensation risk. The boards are installed into the pins (5- 6 pins per m^2) fastened to the outside of the duct with foiled side facing the exterior. Board joints are sealed with self adhesive aluminium foil tape with great care to ensure that joints are water impermeable.

Thickness (cm)	Width x Length (cm)	Package (m^2)
2,5	60 x 120	11,52
3	60 x 120	10,08
4	60 x 120	7,20
5	60 x 120	5,76

- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*

TECHNICAL DATA SHEET

İzocam Stone Wool Duct Board

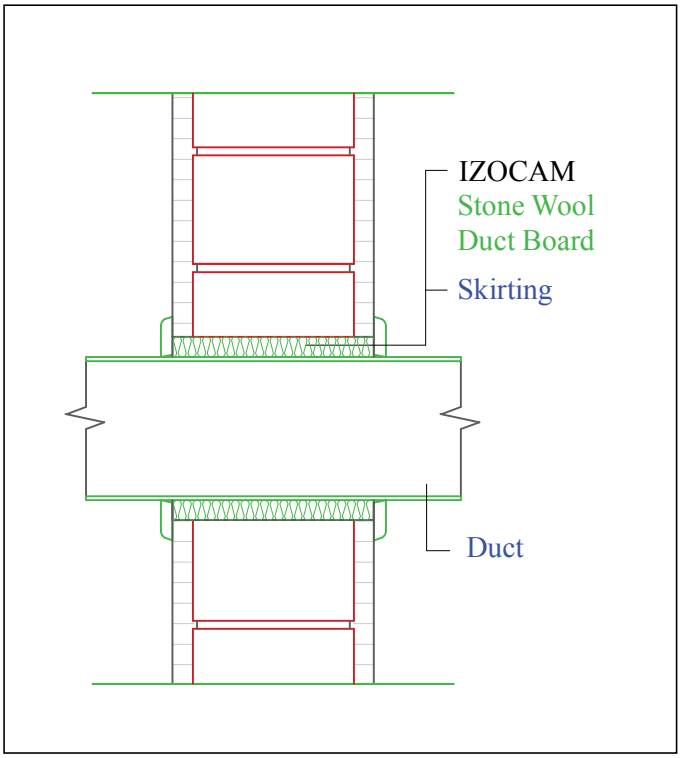
Properties	Symbol	Unit	Description							Tolerance	Standard
Material	-	-	Stone Wool							-	TS EN 14303
Density	ρ	kg/m^3	70							+/-10%	-
Width	w	mm	600							+/-1,5%	TS EN 822
Length	l	mm	1200							+/-2%	TS EN 822
Thickness	t	mm	25	30	40	50				T4 *	TS EN 823
Facing	-	-	Al-foil							-	-
Reaction to fire	-	-	A1							-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	T_{ort}	°C	50	100	150	200	250	300	350	-	TS EN 12667/12939 13787
	λ	W/m.K	0,039	0,048	0,059	0,072	0,087	0,103	0,122		
Specific Heat **	c	kJ/(kg.K)	0,84							-	TS EN ISO 10456
Squareness	S_b	mm/m	max. 5							-	TS EN 824
Packaging Material	-	-	PE Film							-	-
Other Information	Maximum service temperature on the side faced with aluminium foil is 90 °C.										

* T4: -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

** Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



DUCT BLANKET

It is a glass wool blanket faced with aluminium foil on one side with 5 cm flaps along the edges. It is used for the external thermal insulation of ventilating and air conditioning ducts.

Application

Before the boards are applied, duct surfaces to be used are cleaned to make sure the surface is free from dust and grease. Special self adhesive fixing pins offer fast and easy application. How the blankets are cut depends on the shape of the duct. For the rectangular shaped duct system the blanket length to be cut should be determined as follows: The external perimeter of the duct + (8 x blanket thickness) + 5 cm. For the cylindrical shaped duct system the blanket length to be cut should determined as follows: The external perimeter of the duct + (2 x blanket thickness) + 5 cm. The 5 cm flap provides the cover of the longitudinal joints after the glass wool is removed from aluminium foil. After the blankets are cut, special self adhesive pins are (5-6 pins per m^2) fixed on the duct system. Then the blankets are impaled over the pins. Blankets are held in position by retaining washers. The flap on the materials is then fixed by adhering, stapling or self adhesive aluminium foil tape.

Thickness (cm)	Width x Length (cm)	Package (m^2)
2,5	110 x 2000	22,00
5	110 x 1000	11,00

- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Duct Blanket

Properties	Symbol	Unit	Description					Tolerance	Standard
Material	-	-	Glass Wool					-	TS EN 14303
Density	ρ	kg/m^3	24					+/-10%	-
Width	w	mm	1100					+/-10	TS EN 822
Length	l	mm	20000			10000		- 0 ; + ∞	TS EN 822
Thickness	t	mm	25			50		T1 **	TS EN 823
Facing	-	-	Al-foil					-	-
Reaction to fire	-	-	C-s1,d0 ***					-	TS EN 13501-1
Declared Thermal Conductivity	T_{ort}	°C	10	25	50	75	100	-	TS EN 12667/12939 13787
	λ	W/m.K	0,035	0,038	0,041	0,044	0,049		
Specific Heat *	c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Dynamic Elasticity *	Edyn	kN/m^2	0,8					-	DIN 52214
Packaging Material	-	-	PE Film					-	-
Other Information	Maximum service temperature on the side faced with aluminium foil is 90 °C.								

* Literature value.
** T1: -5% or -5 mm; +∞. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.
*** Non combustible Alu-foil faced blankets classified as A1.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

PREFABRICATED DUCT

It is a glass wool board faced with aluminium foil on one side and black glass tissue on the other side or faced with aluminium foil on both sides. It is used for all the buildings that need ventilating and air conditioning ducts. Owing to its vibration absorbing performance, it is used for the buildings in which it is preferred that HVAC equipments run quietly. The duct is also used for multi storey buildings regarding to fire safety since it is noncombustible.

Application

Prefabricated Duct is easily assembled at the construction site. The boards are marked to be cut according to the sizes of the edges. Folding grooves are formed by cutting with special tools following the markings. The board is folded into a duct from the grooves. After the joints are stapled they are sealed with a tape. Each duct is joined to each other on the floor. The holes are opened and with the help of a member it is hung where it needed to be. It is possible to use all kinds of hanging methods and accessories for the installation. İzocam Prefabricated Duct should not be used in a place where the relative humidity exceeds 95 %. The boards should be used in the systems where maximum air velocity is 12 m/sn, maximum internal pressure is 51 mmSS, maximum edge length is 2,4 m.

Thickness (cm)	Width x Length (cm)	Package (m^2)
2,5	122 x 290	21,228

- *High thermal insulation*
- *High sound insulation*
- *Fire safety*
- *Lightweight*
- *Fast and easy installation*

TECHNICAL DATA SHEET

İzocam Prefabricated Duct

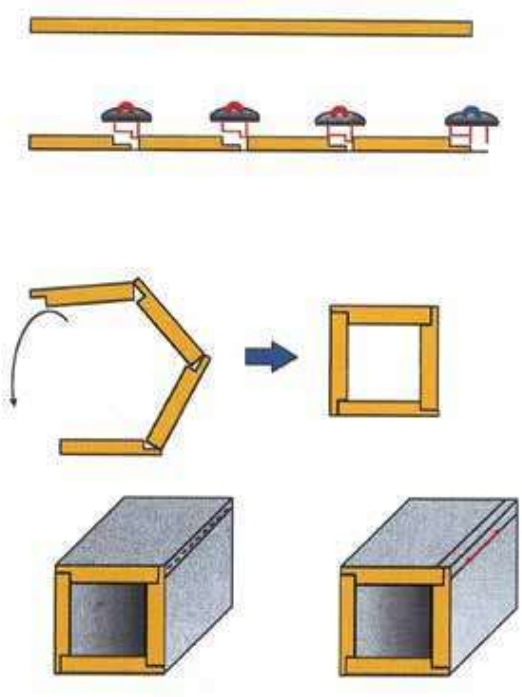
Properties	Symbol	Unit	Description					Tolerance	Standard
Material	-	-	Glass Wool					-	TS EN 14303
Density	ρ	kg/m^3	72					± 10%	-
Width	w	mm	1220					± 1,5%	TS EN 822
Length	l	mm	2900					± 2%	TS EN 822
Thickness	t	mm	25					T5 **	TS EN 823
Facing	-	-	Outer side faced with al-foil, Inner side with black glass tissue					-	-
Reaction to fire	-	-	C-s1,d0					-	TS EN 13501-1
Declared Thermal Conductivity	T	°C	10	25	50	75	100	-	TS EN 12667/12939 13787
	λ_D	W/m.K	0,031	0,033	0,036	0,039	0,042		
Maximum Service Tempereture	-	°C	Duct Outside: 65 Duct Inside: 100					-	-
Specific Heat *	c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Dynamic Elasticity *	Edyn	kN/m^2	0,8					-	DIN 52214
Packaging Material	-	-	Carton Box					-	-
Application Area	Production can use ventilation air conditioning ducts it used for vibration, noise absorbtion features.								
Other Information	In systems where prefabricated air conditioner is used max. air speed is 12 m/s. Max. inside pressure 51 mm/SS. Max. duct side lenght must be 2.4 m. Tapes must be suitable for UL-181 standard.								

* Literature value.

** T5: -1% or -1 mm; +3 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- The instructions on the packages should be followed.



İZOCAMFLEX 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 İzocam suggested. Joints should be tightly sealed and they should be covered with insulation tape afterwards if necessary. Taping should not result in thickness loss. For the application of self adhesive sheets there is no need to use any adhesive. The application should be protected against distruption 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 (mm)	Width x Length (mm)	Package (m^2)
6	1000 x 36000	36
9	1000 x 24000	24
13	1000 x 18000	18
19	1000 x 12000	12
25	1000 x 9000	9

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

- *High thermal insulation*
- *High condensation control*
- *CFC free*
- *Environment friendly*
- *Highly flexible*

TECHNICAL DATA SHEET

İzocamflex Sheet

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	1200			1000			± 2 %		EN 822
Thickness	d_D	mm	6 ≤ d_D ≤ 25			6 < d_D ≤ 25			d_D ≤ 6 6<d_D≤19 d_D > 19	±1,0 ±1,5 ±2,0	EN 823
Facing	-	-	Unfaced						-		-
Reaction to fire	-	-	B-s3,d0						-		TS EN 13501-1
Declared Thermal Conductivity	T	°C	-10	0	20	40	60	80	-		TS EN 12667
	λ_D	W/m.K	0,033	0,034	0,036	0,039	0,041	0,042			
Max. Service Temperature	-	°C	-50 / 105						-		-
Water Vapor Diffusion Resistance Factor	μ	-	≥ 7000						-		EN 12086
Packaging Material	-	-	PE Bag						-		-

* Standard product dimensions are dDxl (mm): 6x36000, 9x24000, 13x18000, 19x12000, 25x9000

** Tolerances comply with TS EN 14304 standard.

İzocam Elastomeric Rubber Foam Products are manufactured in İZOCAM Eskişehir Plant having ISO 9001, ISO 14001 and ISO 45001 Management System Certificates.

Please contact İzocam Sales Department for different sizes, special facings and detailed technical properties.

Product and its specifications discussed herein are subject to change by İZOCAM without notice.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should be wrapped by a waterproof cover during shipping.
- Boxes should be carried by their handles.
- When the boxes piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- The corners should be aligned when the boxes are superposed.
- Only backshutter of the truck body should be opened during unloading.
- Storaging should be done indoors and the boxes should be put over flat floor.
- Maximum 6 packages of the sheets should be superposed.
- Boxes should not be put into upright position.
- Boxes should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck.
- The truck should not be moved without wrapping and binding the boxes.
- The products should not be exposed to sun.
- Storage area should not be wet.

OPTIFLEX SHEET
AL / KY / AL-KY

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. It can be faced with aluminium foil and can be self-adhesive.

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. For the spaces where there is heat transfer by radiation, using products faced with aluminium foil is recommended. The sheets are adhered to the duct surface by using a special adhesive that İzocam suggests. Joints should be tightly sealed and they should be covered with insulation tape afterwards if necessary. Taping should not result in thickness loss. For the application of self adhesive sheets there is no need to use any adhesive. The application should be protected against distruption and rupture. For the applications exposed to the sun, definitely a protective coat or a protective paint should be used. For indoor spaces getting day lighting, the products faced with aluminium foil can be used without requiring any coating against UV affect. For the outdoor applications, the surface should be coated within 5 days.

Thickness (mm)	Width x Length (mm)	Package (m^2)
6	1000 x 36000	36
9	1000 x 24000	24
13	1000 x 18000	18
19	1000 x 12000	12
25	1000 x 9000	9
32	1000 x 7000	7
40	1000 x 6000	6
50	1000 x 5000	5

Thickness (mm)	Width x Length (mm)	Package (m^2)
6	1200 x 32000	38,40
9	1200 x 24000	28,80
13	1200 x 16000	19,20
19	1200 x 11000	13,20
25	1200 x 8000	9,60
32	1200 x 6000	7,20

- *Thermal insulation*
- *Condensation control*
- *CFC free*
- *Environment friendly*
- *Highly flexible*

TECHNICAL DATA SHEET

Optiflex Sheet

Properties	Symbol	Unit	Description						Tolerance		Standard
Material	-	-	Elastomeric Rubber Foam						-		TS EN 14303
Material Type	-	-	Optiflex Sheet	Optiflex AL	Optiflex KY	Optiflex AL-KY			-		-
Facing	-	-	Unfaced	Al-foil (18μ, reinforced, non-combustible)	Self adhesive film	Al-foil, Self adhesive film			-		-
Reaction to fire	-	-	E						-		TS EN 13501-1
Max. Service Temperature	-	°C	-50 / 105		-50 / 85				-		-
Length	l	mm	3000 ≤ L ≤ 60000						± 1,5 %		EN 822
Width	w	mm	1000 - 1200						± 2 %		EN 822
Thickness	t	mm	6 ≤ d_D ≤ 32		6 < d_D ≤ 50 *				d_D ≤ 6 6<d_D≤19 d_D > 19	±1,0 ±1,5 ±2,0	EN 823
Declared Thermal Conductivity	T	°C	-20	0	20	40	60	80	-		TS EN 12667
	λ_D	W/m.K	0,031	0,034	0,036	0,037	0,038	0,043			
Water Vapor Diffusion Resistance Factor	μ	-	≥ 5000						-		EN 12086
Resistance to Oils	-	-	Good						-		-
Resistance to Weather Conditions	-	-	Good						-		-
Flexibility	-	-	Excellent						-		-
Fungal Growth	-	-	None						-		-
Packaging Material	-	-	PE Film						-		-
Other Information	It is appropriate to DIN 1988/7 relating to corrosion. Product contains less than 0,2 % ammonium and less than 0,05 % chlorine ion that dissoluted in water.										

* Standard product dimensions $d_D$xl (mm):
6x36000, 9x24000, 13x8000, 19x12000, 25x9000, 32x7000, 40x6000, 50x5000; b (mm):1000

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should be wrapped by a waterproof cover during shipping.
- When the packages piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- Only backshutter of the truck body should be opened during unloading.
- Storage should be done indoors and the packages should be put over flat floor.
- Maximum 4 packages of the sheets should be superposed.
- Packages should not be put into upright position.
- Packages should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck.
- The truck should not be moved without wrapping and binding the packages.
- The products should not be exposed to sun.
- Storage area should not be wet.

PEFLEX SHEET

İzocam Peflex is a polyethylene foam material that has closed cell structure. It is manufactured to be used for air conditioning, cooling, thermal insulation and condensation control in solar energy systems.

Application

It is used in cold water systems; solar energy systems; fittings, air conditioning and cooling members of the large diameter pipes; systems functioning with dual temperatures; ducts and tanks; at the exterior surfaces of the ducts and large diameter pipe lines, for thermal insulation and condensation control purposes. For the spaces where there is heat transfer by radiation, using products faced with aluminium foil is recommended. The boards are adhered to the duct surface by using a special adhesive that İzocam suggested. 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 distruption 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. For the application of self adhesive boards there is no need to use any adhesive. Aluminium foil coating increases the vapour resistance and impact resistance of the material. Since it prevents the sun rays it protects the material against UV and prolongs its life. There is no need to use protective coating or painting for indoor spaces getting natural sun. Metallized film coating is a polyethylene material with high density that is preferred since it is shiny and has a similar appearance with aluminium foil. For the application of self adhesive sheets there is no need to use any adhesive. It should not be exposed to direct sun light and it should be preferred for indoor spaces.

Thickness (mm)	Width x Length (m)	Package (m^2)
6	1 x 60	60
8	1 x 50	50
10	1 x 40	40
15	1 x 24	24
20	1 x 18	18
30	1 x 12	12
40	1 x 9	9

- *Highly flexible*
- *Thermal insulation*
- *Condensation control*
- *CFC free*

TECHNICAL DATA SHEET

İzocam PEflex Sheet

Properties	Symbol	Unit	Description							Tolerance	Standard
Material	-	-	Polyethylene Foam							-	TS EN 14313
Length	l	m	60			50			40	± 1,5 %	TS EN 822
Width	w	mm	1000							± 1 %	TS EN 822
Thickness	t	mm	6	8	10	15	20	30	40	± 1,5	TS EN 823
Facing	-	-	Unfaced Self		Adhesive Film		Metalized Film		Aluminium Foil	-	-
Reaction to fire	-	-	E							-	TS EN 13501-1
Declared Thermal Conductivity	T_{ort}	°C	-20	0	20	40	60			-	TS EN 12667
	λ	W/m.K	0,044	0,053	0,057	0,065	0,080				
Max. Service Temperature	-	°C	-45 / 80							-	-
Water Vapor Diffusion Resistance Factor	μ	-	< 10 mm; ≥ 3000							-	TS EN 12086
			≥ 10 mm; ≥ 5000								
UV Resistance	-	-	Good							-	-
Flexibility	-	-	Excellent							-	-
Fungal Growth	-	-	None							-	-
Packaging Material	-	-	PE Bag							-	-

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should be wrapped by a waterproof cover during shipping.
- When the packages piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- Only backshutter of the truck body should be opened during unloading.
- Storing should be done indoors and the boxes should be put over flat floor.
- Maximum 4 packages should be superposed.
- Packages should not be put into upright position.
- Packages should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck.
- The truck should not be moved without wrapping and binding the packages.
- The products should not be exposed to sun.
- Storage area should not be slippery.
- Storage area should be ventilated if the room temperature exceeds 35˚C.
- If the truck needs to stop for a long time, it should stay in the shade.
- The products should be at a minimum distance of 3 m from the lighting armatures.

GLASS WOOL PREFABRICATED PIPE

These are the pipes either unfaced or faced with aluminium foil manufactured from glass wool of high unit weight. They are used for the thermal insulation of industrial pipes, central heating and solar energy installations, for the insulation against freezing and condensation of the pipes and for vibration and sound insulation of the pressure water pipes as well.

Application

Appropriate Glass Wool Prefabricated Pipe according to nominal diameter of the pipe line to be used is chosen. It is placed by parting cut line. The application is completed so that no gap is left between the joints. Unfaced pipes are coated with bituminous emulsion or bituminous membranes, galvanized or aluminium jacket. Coating joints are fastened by adhering, clamping, riveting or screwing. For the pipes coated with aluminium foil that are used for the insulation of cold lines, adhesive tape on overlap allowance and vapour barrier foil coating make the installation process notably easy. In this application, the joint of the two pipes should definitely be sealed with an adhesive aluminium foil tape with 7,5 mm width and vapour passage should totally be prevented. If a double layer application for the pipe insulation is carried out, care should be taken to line up the joint of second layer with the bottom of the pipe and to ensure the joints are staggered.

Pipe Diameter		Thickness (mm)						
inch	mm	25	30	40	50	60	80	100
1/4	13	+	+	+	+	+		
1/2	21	+	+	+	+	+		
3/4	27	+	+	+	+	+		
1	33	+	+	+	+	+		
1 1/4	42	+	+	+	+	+		
1 1/2	48	+	+	+	+	+		
*	57	+	+	+	+	+		
2	60	+	+	+	+	+	+	
*	63	+	+	+	+	+	+	
*	70	+	+	+	+	+	+	
2 1/2	76	+	+	+	+	+	+	+
*	83	+	+	+	+	+	+	+
3	89	+	+	+	+	+	+	+
*	102	+	+	+	+	+	+	+
*	108	+	+	+	+	+	+	+
4	114		+	+	+	+	+	+
*	127		+	+	+	+	+	+
*	133		+	+	+	+	+	+
5	140		+	+	+	+	+	+
*	159		+	+	+	+	+	+
6	169		+	+	+	+	+	+
*	193		+	+	+	+	+	+
8	219		+	+	+	+	+	+
*	244		+	+	+	+	+	+
10	273		+	+	+	+	+	
12	324		+	+	+	+	+	
14	356		+	+	+	+		

Thermal conductivity related with temperature			
Thermal Conductivity (W/mk)	Avarage Temperature (°C)	25	0,033
		50	0,035
		75	0,040
		100	0,045
		125	0,050
		150	0,055

- *High thermal insulation*
- *Fire safety*
- *Fast and easy installation*
- *Sound and vibration insulation*

TECHNICAL DATA SHEET

İzocam Glass Wool Prefabricated Pipe

Properties	Symbol	Unit	Description						Tolerance	Standard
Material	-	-	Glass Wool						-	TS EN 14303
Density	-	kg/m³	See Table						± 15 %	-
Wall Thickness	-	mm	See Table						D_0 < 150 mm - T8 * D_0 ≥ 150 mm - T9 **	TS EN 823
Length	-	mm	1200						± 5 mm	TS EN 822
Inner Diameter	-	mm	See Table						***	TS EN 13467
Declared Thermal Conductivity	T_m	°C	25	50	75	100	125	150	-	TS EN 12667
	λ	W/m.K	0,033	0,035	0,040	0,045	0,050	0,055		
Facing	-	-	Unfaced		Al-foil		Al-foil (Craft)		-	-
Reaction to fire	-	-	$A1_L$		$A2_L$-s1,d0		C_L-s1,d0		-	TS EN 13501-1
Max. Service Temperature	-	°C	250						max. 250	TS EN 14707
Water Absorption	-	kg/m²	max. 1						max. 1	TS EN 13472
Package	-	-	PE Bag						-	-

Diameter		Pipe Thickness (mm)															
inch	mm	20 mm		25 mm		30 mm		40 mm		50 mm		60 mm		80 mm		100 mm	
		kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs
1/4	15	95	251	80	301	80	407	80	664	80	980	80	1357	-	-	-	-
1/2	21	90	288	75	336	75	445	75	707	75	1025	70	1306	-	-	-	-
3/4	27	90	326	75	375	75	492	75	769	75	1103	70	1393	-	-	-	-
1	33	80	332	75	424	75	551	75	848	70	1122	70	1504	-	-	-	-
1 1/4	42	80	383	75	484	70	582	70	881	70	1234	60	1405	-	-	-	-
1 1/2	48	80	419	75	527	70	629	70	945	70	1313	60	1487	-	-	-	-
2	60	80	492	75	612	70	725	60	919	60	1261	60	1649	60	2561	-	-
2 1/2	76	-	-	75	725	70	851	60	1064	60	1442	60	1866	60	2851	60	4015
3	89	-	-	75	817	70	954	60	1181	60	1589	60	2042	60	3085	60	4309
4	114	-	-	75	997	70	1156	60	1412	60	1877	60	2389	60	3547	60	4886
5	140	-	-	80	1247	80	1542	60	1632	60	2153	60	2720	60	3988	60	5438
6	169	-	-	80	1464	80	1801	60	1892	60	2478	60	3110	60	4508	60	6087
8	219	-	-	-	-	80	2253	70	2734	60	3042	60	3787	60	5411	60	7216
10	273	-	-	-	-	80	2741	70	3304	60	3653	60	4520	60	6388	60	8437
12	324	-	-	-	-	60	2402	60	3293	60	4230	60	5212	60	7307	-	-
14	356	-	-	-	-	60	2619	60	3583	60	4592	60	5485	-	-	-	-

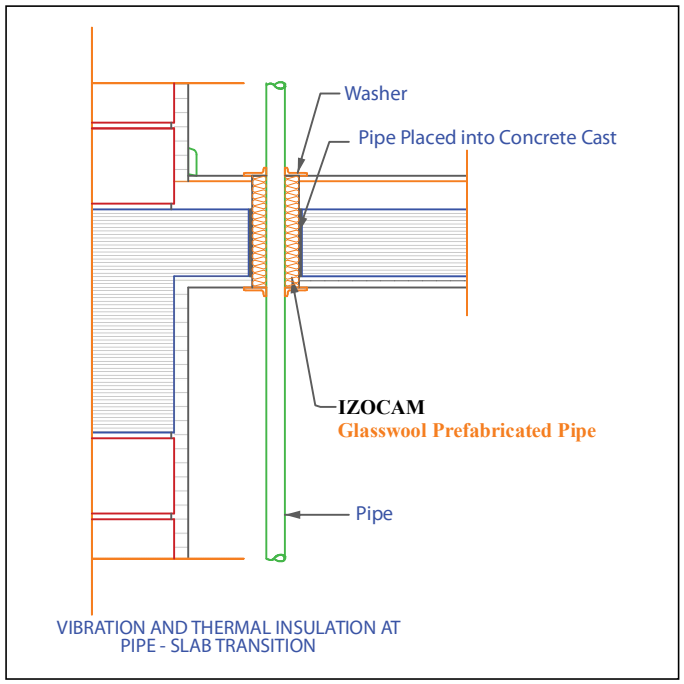
* T8: -5% or -3 mm; +%5 or +3 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

** T9: -6% or -5 mm: +%6 or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

*** If D_0 < 150 mm, -0; +4 mm - If D_0 ≥ 150 mm, -0; +5 mm or %2. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- During shipping maximum 8 boxes, during storing maximum 5 boxes should be superposed.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out on pallets.
- Boxes should be carried by their handles.
- Boxes should not be stepped on and should not be used as steps.
- Boxes should not be unloaded by pushing or throwing from the truck.



VIBRATION AND THERMAL INSUTATION AT PIPE - SLAB TRANSITION

ZERO GLOBAL WARMING POTENTIAL

ZERO OZONE DEPLETION POTENTIAL

İZOCAMFLEX PIPE

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

Application

It is used at the exterior surfaces of the ducts in the heating, cooling, ventilating and air conditioning systems for thermal insulation and condensation control purposes. The pipe to be insulated and the rubber surface should fit properly and no gap should be left in between. Joints should be tightly sealed. The application should be protected against distruption and rupture. For the applications exposed to sun, a protective coat or a protective paint should be used against UV affect. For the outdoor applications, the surface should be coated within 5 days.

Inner Diameter	Copper Pipe	Steel Pipe	Thickness (mm)				
mm	inch	inch	6	9	13	19	25
6	1/4”		+	+	+		
8	5/16”		+	+	+		
10	3/8”	1/8”	+	+	+	+	
12	1/2”		+	+	+	+	
15	5/8”	1/4”	+	+	+	+	
18	3/4”	3/8”	+	+	+	+	+
20			+				
22	7/8”	1/2”	+	+	+	+	+
25	1”		+	+	+	+	+
28	1 1/8”	3/4”	+	+	+	+	+
35	1 3/8”	1”	+	+	+	+	+
42	1 5/8”	1 1/4”		+	+	+	+
48		1 1/2”		+	+	+	+
54	2 1/8”			+	+	+	+
60	2 3/8”	2”		+	+	+	+
64	2 1/2”			+	+	+	+
70	2 5/8”			+	+	+	+
76	3”	2 1/2”		+	+	+	+
80	3 1/8”			+	+	+	+
89	3 1/2”	3”		+	+	+	+
102		3 1/2”		+	+	+	+
108	4 1/4”			+	+	+	+
114	4 1/2”	4”		+	+	+	+

- *High thermal insulation*
- *High condensation control*
- *CFC free*
- *Environment friendly*
- *Highly flexible*

TECHNICAL DATA SHEET

İzocamflex Pipe

Properties	Symbol	Unit	Description						Tolerance**		Standard
Material	-	-	Elastomeric Rubber Foam Tube						-		TS EN 14304
Length	l	mm	2000 ≤ L ≤ 50000 *						± 1,5 %		TS EN 822
Inner Diameter	$D_{i,D}$	mm	≤ 100						$D_{i,D} + 1 \le D_i \le D_{i,D} + 4$		TS EN 13467
			> 100						$D_{i,D} + 1 \le D_i \le D_{i,D} + 6$		
Thickness	t	mm	6 ≤ d ≤ 25						$d_D \le 8$	±1,0	TS EN 823
									$8<d_D\le18$	±1,5	
									$18<d_D\le25$	±2,5	
Facing	-	-	Unfaced						-		-
Reaction to fire	-	-	B_L-s3,d0						-		TS EN 13501-1
Declared Thermal Conductivity	T	°C	-10	0	25	40	60	80	-		TS EN 12667
	λ_D	W/m.K	0,033	0,034	0,036	0,039	0,041	0,042			
Max. Service Temperature	-	°C	-50 / 105						-		-
Water Vapor Diffusion Resistance Factor	μ	-	≥ 7000						-		TS EN 12086
Packaging Material	-	-	Carton Box						-		-

* Standard product length is 2m.

** Tolerances comply with TS EN 14304 standard.
İzocam Elastomeric Rubber Foam Products are manufactured in İZOCAM Eskişehir Plant having ISO 9001, ISO 14001 and ISO 45001 Management System Certificates.
Please contact İzocam Sales Department for different sizes, special facings and detailed technical properties.
Product and its specifications discussed herein are subject to change by İZOCAM without notice.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should be wrapped by a waterproof cover during shipping.
- Boxes should be carried by their handles.
- When the boxes piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- The corners should be aligned when the boxes are superposed.
- Only backshutter of the truck body should be opened during unloading.
- Storing should be done indoors and the boxes should be put over flat floor.
- Maximum 5 boxes should be superposed.
- Boxes should not be put into upright position.
- Boxes should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck.
- The truck should not be moved without wrapping and binding the packages.
- The products should not be exposed to sun.
- Storage area should not be wet.

OPTIFLEX PIPE

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

Application

It is used at the exterior surfaces of the pipes in the heating, cooling, ventilating and air conditioning systems for thermal insulation and condensation control purposes. The pipe to be insulated and the rubber surface should fit properly and no gap should be left in between. Joints should be tightly sealed. The application should be protected against distruption and rupture. For the applications exposed to sun, a protective coat or a protective paint should be used against UV affect. For the outdoor applications, the surface should be coated within 5 days.

Inner Diameter	Copper Pipe	Steel Pipe	Thickness (mm)					
mm	inch	inch	6	9	13	19	25	32
6	1/4”		+	+	+			
8	5/16”		+	+	+			
10	3/8”	1/8”	+	+	+	+		
12	1/2”		+	+	+	+		
15	5/8”	1/4”	+	+	+	+		
18	3/4”	3/8”	+	+	+	+	+	+
20			+					
22	7/8”	1/2”	+	+	+	+	+	+
25	1”		+	+	+	+	+	+
28	1 1/8”	3/4”	+	+	+	+	+	+
35	1 3/8”	1”	+	+	+	+	+	+
42	1 5/8”	1 1/4”		+	+	+	+	+
48		1 1/2”		+	+	+	+	+
54	2 1/8”			+	+	+	+	+
60	2 3/8”	2”		+	+	+	+	+
64	2 1/2”			+	+	+	+	+
70	2 5/8”			+	+	+	+	+
76	3”	2 1/2”		+	+	+	+	+
80	3 1/8”			+	+	+	+	+
89	3 1/2”	3”		+	+	+	+	+
102		3 1/2”		+	+	+	+	+
108	4 1/4”			+	+	+	+	+
114	4 1/2”	4”		+	+	+	+	+

- *Thermal insulation*
- *Condensation control*
- *CFC free*
- *Environment friendly*
- *Highly flexible*

TECHNICAL DATA SHEET

Optiflex Pipe

Properties	Symbol	Unit	Description						Tolerance		Standard
Material	-	-	Closed Cell Synthetic Rubber						-		TS EN 14303
Length	l	mm	2000 ≤ L ≤ 50000 *						± 1,5 %		TS EN 822
Inner Diameter	$D_{i,D}$	mm	≤ 100						$D_{i,D} + 1 \le D_i \le D_{i,D} + 4$		TS EN 13467
			> 100						$D_{i,D} + 1 \le D_i \le D_{i,D} + 6$		
Thickness	t	mm	6 ≤ d ≤ 32						$d_D \le 8$	±1,0	TS EN 823
									$8 < d_D \le 18$	±1,5	
									$18 < d_D \le 31$	±2,5	
									$d_D > 32$	±3,0	
Reaction to fire	-	-	E						-		TS EN 13501-1
Declared Thermal Conductivity	T	°C	-20	0	25	40	60	80	-		TS EN 12667
	λ_D	W/m.K	0,031	0,034	0,036	0,041	0,042	0,043			
Max. Service Temperature	-	°C	-50 / 105						-		-
Water Vapor Diffusion Resistance Factor	μ	-	≥ 5000						-		TS EN 12086
UV Resistance	-	-	Good						-		-
Resistance to Oils	-	-	Good						-		-
Resistance to Weather Conditions	-	-	Good						-		-
Flexibility	-	-	Excellent						-		-
Fungal Growth	-	-	None						-		-
Packaging Material	-	-	Carton Box						-		-

* Standard length is 2000 mm.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should be wrapped by a waterproof cover during shipping.
- Boxes should be carried by their handles.
- When the boxes piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- The corners should be aligned when the boxes are superposed.
- Only backshutter of the truck body should be opened during unloading.
- Storage should be done indoors and the boxes should be put over flat floor.
- Maximum 6 boxes should be superposed.
- Boxes should not be put into upright position.
- Boxes should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck.
- The truck should not be moved without wrapping and binding the packages.
- The products should not be exposed to sun.
- Storage area should not be wet.

PEFLEX PIPE

İzocam Peflex is a polyethylene foam material in the form of pipe that has closed cell structure. It is manufactured to be used for thermal insulation and condensation control in solar energy systems, air conditioning, and cooling.

Application

It is used in cold water systems; solar energy systems; systems functioning with dual temperatures; for thermal insulation and condensation control purposes. The pipe to be insulated and the polyethylene pipe should fit properly and no gap should be left in between. Joints should be tightly sealed. The application should be protected against distruption 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. Aluminium foil coating increases the vapour resistance and impact resistance of the material. Since it prevents the sun rays, it protects the material against UV and prolongs its life. There is no need to use protective coating or painting for indoor spaces getting natural sun. Metallized film coating is a polyethylene material with high density that is preferred since it is shiny and has a similar apperance with aluminium foil. It should not be exposed to direct sun light and it should be preferred for indoor spaces.

Inner Diameter (mm) *	Package (m)			
	Thickness (mm)			
	10	15	20	30
22	230	160	108	90
28	180	140	96	70
35	140	110	80	60
42	108	90	60	50
48	90	80	60	40
60	70	60	40	32
76	48	40	30	
89	40	30	24	
114	30	24		

* Standard length is 2000 mm.

- *Highly flexible*
- *Thermal insulation*
- *Condensation control*
- *CFC free*

TECHNICAL DATA SHEET

İzocam PEflex Pipe

Properties	Symbol	Unit	Description					Tolerance		Standard
Material	-	-	Polyethylene Foam					-		-
Length	l	mm	2000					- 1,5 %, + 2,5 %		TS EN 13467
Inner Diameter	$D_{i,D}$	mm	$D_{i,D} \leq 35$					+1 / +4		TS EN 13467
			$35 < D_{i,D} \leq 100$					+2 / +6		
			$D_{i,D} \geq 100$					+3 / +8		
Thickness	t	mm	10, 15, 20, 30					$d_D = 10$	±1,5	TS EN 13467
								$d_D = 15$	±2,0	
								$15 < d_D \leq 30$	±2,5	
Facing	-	-	Unfaced			Aluminium Foil		-		-
Reaction to fire	-	-	E					-		TS EN 13501-1
Declared Thermal Conductivity	T	°C	-20	0	25	40	60	-		TS EN 12667
	λ_D	W/m.K	0,044	0,053	0,055	0,057	0,061			
Max. Service Temperature	-	°C	-45 / 80					-		-
Water Vapor Diffusion Resistance Factor	μ	-	≥ 3000					-		TS EN 12086
UV Resistance	-	-	Good					-		-
Flexibility	-	-	Excellent					-		-
Fungal Growth	-	-	None					-		-
Packaging Material	-	-	PE Bag					-		-

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The products should be wrapped by a waterproof cover during shipping.
- When the packages piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- Only backshutter of the truck body should be opened during unloading.
- Storing should be done indoors and the boxes should be put over flat floor.
- Maximum 4 packages should be superposed.
- Packages should not be put into upright position.
- Packages should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck.
- The truck should not be moved without wrapping and binding the packages.
- The products should not be exposed to sun.
- Storage area should not be slippery.
- Storage area should be ventilated if the room temperature exceed 35˚C.
- If the truck needs to stop for a long time, it should stay in the shade.
- The products should be at a minimum distance of 3 m from the lighting armatures.

VALVE JACKET

İzocam Valve Jacket is an insulation jacket specially manufactured for valves. It is manufactured from noncohesive white glass wool blanket or stone wool industrial blanket, with silicone on the outer side and faced with silicone-free glass tissue which is resistant to 500 ˚C on the inside. İzocam Valve Jackets are used for thermal insulation of all kinds of valves (piston valve, globe valve, butterfly valve, etc.) which are manufactured according to DIN, ANSI and API standards and strainers at indoor and outdoor spaces.

Application

A valve jacket is chosen according to the valve to be insulated or it is customly made. Valve jacket is wrapped around the valve and the hooks are tightly attached to each other by the help of the string. It is controlled if there is any vapour leak before the installation. If a leak is inspected, the installation takes place after the leak is fixed. Valve and flanges should be insulated totally and valve jacket should be mounted on the insulated pipe to which the valve is connected, minimum 50 mm beginning from the flanges.

Thermal camera view of the uninsulated valve

Thermal camera view of the insulated valve after İzocam Valve Jacket application

Valve Diameter	Thickness (mm)	Width x Length (m^2)
DN15	50	0,19
DN20	50	0,22
DN25	50	0,25
DN32	50	0,32
DN40	50	0,37
DN50	50	0,50
DN65	50	0,63
DN80	50	0,72
DN100	50	0,84
DN125	50	1,03
DN150	50	1,43
DN200	50	1,81
DN250	50	3,10

- *High thermal insulation*
- *Fire safety*
- *Ease of application*
- *Flexibility*
- *Size variety*
- *Usability at outdoor spaces*

TECHNICAL DATA SHEET

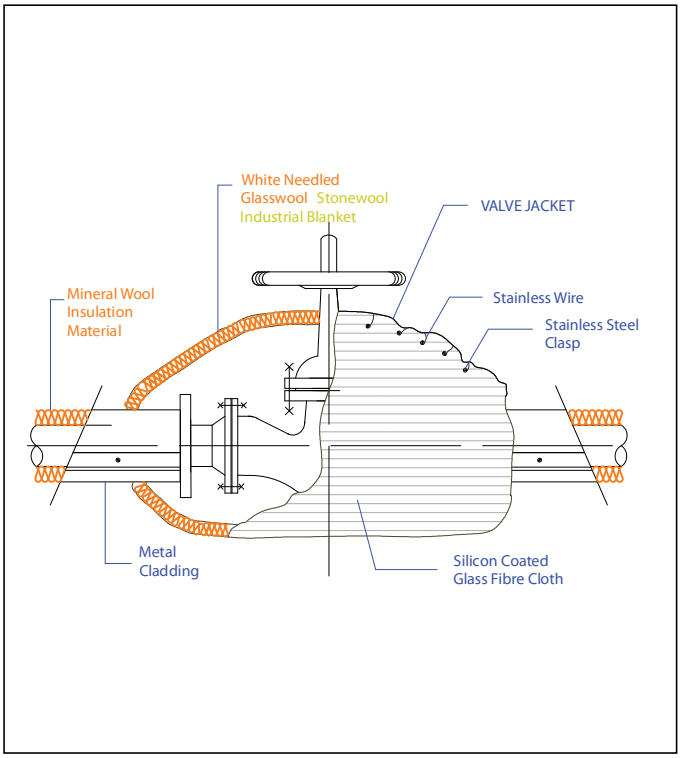
İzocam Valve Jacket

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Needled Glass Wool Blanket / Stone Wool Blanket	-	-
Density	ρ	kg/m^3	60	-	-
Thickness	t	mm	50	-1, +5	EN 823
Facing	-	-	Unfaced	-	-
Reaction to fire	-	-	A1	-	DIN 4102
Declared Thermal Conductivity (10°C)	λ_D	W/m.K	0,031	-	ISO 8302
Declared Thermal Conductivity (100°C)	λ	W/m.K	0,043	-	ISO 8302
Declared Thermal Conductivity (200°C)	λ	W/m.K	0,061	-	ISO 8302
Declared Thermal Conductivity (300°C)	λ	W/m.K	0,085	-	ISO 8302
Declared Thermal Conductivity (400°C)	λ	W/m.K	0,116	-	ISO 8302
Declared Thermal Conductivity (500°C)	λ	W/m.K	0,155	-	ISO 8302
Max. Service Temperature (permanent)	-	°C	500	-	-
Specific Heat *	c	kJ/(kg.K)	0,84	-	-
Dynamic Elasticity *	Edyn	kN/m^2	0,8	-	-

* Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- Truck body must be dry and clean.
- Products should be put on top of each other with extra care.
- Products should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing, pouring or throwing from the truck.
- The ropes should be tied without causing any damage on the products.
- The floor should be flat and unslippery.
- The products should be wrapped by a waterproof cover even the shipping distance is short in order to prevent them from falling or getting wet.
- For the partial shipments, the load below should not pierce or cut the product above.



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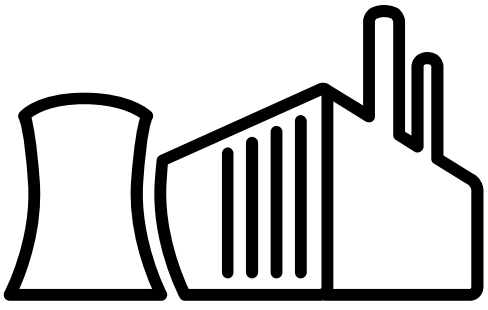
INDUSTRIAL INSULATION



INDUSTRIAL BOARD

It is a stone wool board that is used for thermal insulation and fire safety of industrial plants, process equipments, steel construction buildings.

Application

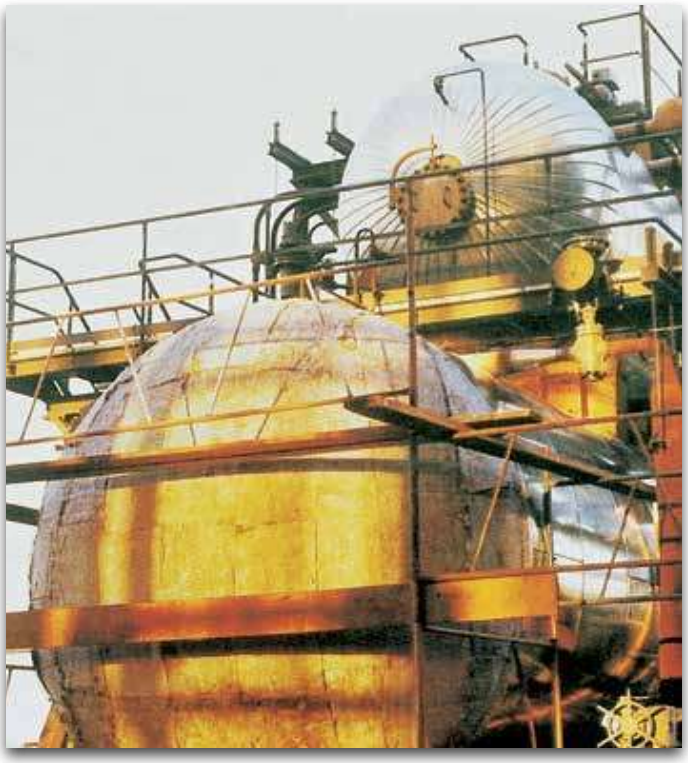
Noncombustibility of Stone Wool Industrial Boards enables them to be used for thermal, sound and fire insulation of high temperatures. The boards are fastened to the smooth application surfaces by fastening rods. Then they are either covered with sheet metal cladding or they are laid in the structural frame formed on the surface. The boards can be used in prefabricated panel applications as well.

There are two different types of industrial boards available as SL1 and SL2 with different technical properties.

	Thickness (cm)	Width x Length (cm)	Package (m^2)
SL 1	2,5	60 x 120	11,52
	4	60 x 120	7,20
	5	60 x 120	5,76
	6	60 x 120	5,04
	8	60 x 120	3,60
	10	60 x 120	2,88
	12	60 x 120	2,88

	Thickness (cm)	Width x Length (cm)	Package (m^2)
SL 2	2,5	60 x 120	7,20
	4	60 x 120	4,32
	5	60 x 120	3,60
	6	60 x 120	2,88
	8	60 x 120	2,16
	10	60 x 120	2,16
	12	60 x 120	2,16

Type			SL 1	SL 2
Density (kg/m^3)			70	110
Declared Thermal Conductivity (W/mk)	Avarage Temperature (°C)	50	0,039	0,037
		100	0,048	0,045
		150	0,059	0,053
		200	0,072	0,062
		250	0,087	0,073
		300	0,103	0,085
		350	0,122	0,097



- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*

TECHNICAL DATA SHEET

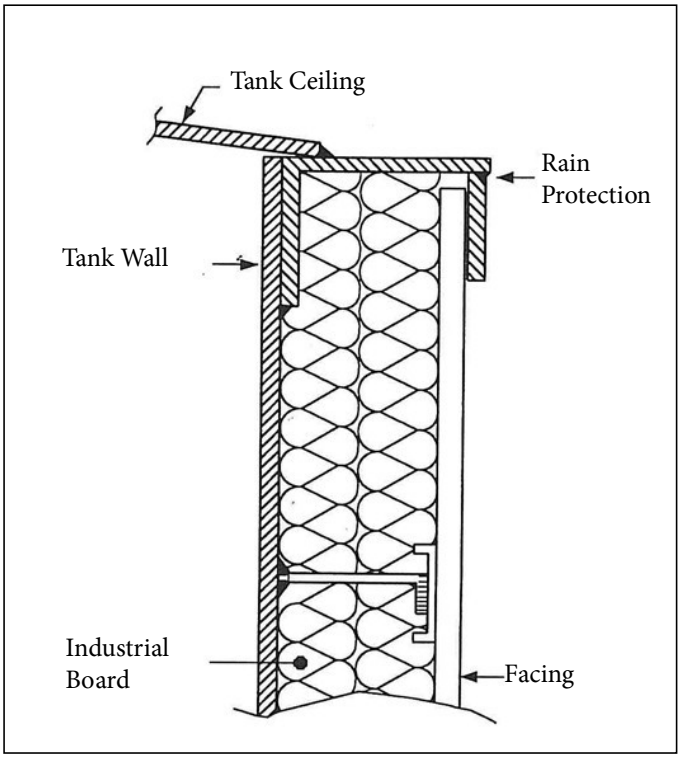
İzocam Industrial Board

Properties	Symbol	Unit	Description							Tolerance	Standard
Material	-	-	Stone Wool							-	TS EN 14303
Material Type	-	-	SL1				SL2			-	-
Density	ρ	kg/m³	70				110			+/-10%	-
Width	w	mm	600							+/-1,5%	TS EN 822
Length	l	mm	1200							+/-2%	TS EN 822
Thickness	t	mm	25	40	50	60	80	100	120	T4 *	TS EN 823
Facing	-	-	Unfaced							-	-
Reaction to fire	-	-	A1							-	TS EN 13501-1
Declared Thermal Conductivity	T	°C	50	100	150	200	250	300	350	-	TS EN 12667/12939 13787
SL1	λ_D	W/m.K	0,039	0,048	0,059	0,072	0,087	0,103	0,122		
SL2			0,037	0,045	0,053	0,062	0,073	0,085	0,097		
Squareness	S_b	mm/m	max. 5							-	TS EN 824
Water Vapor Diffusion Resistance Coefficient	μ	-	1							-	TS EN 12086
Packaging Material	-	-	PE Film							-	-
Other Information	Yellow/black glass tissue and alu-foil faced types are also available.										

* T4: -3% or -3 mm; +5% or +5 mm. the biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



INDUSTRIAL BLANKET

It is a stone wool blanket that is used for thermal insulation and fire safety of industrial plants, process equipments, large diameter pipes.

Application

Noncombustibility of Stone Wool Industrial Blankets enables them to be used for thermal, sound and fire insulation of very high temperatures. The blankets are cut to size and wrapped around the surface to be insulated. The joints are laced with galvanized wire by passing it through the eyes of the wiremesh. Care should be taken to ensure that the joints fit properly and no gap is left at the joints. During the application on large surfaces, the blankets should be impaled over welded pins of 5-6 in number per square meter. The blankets are held in position by placing retaining washers over the pins. These pins also work as spacers for the insulation between the sheet metal cover and the insulated surface.

There are three different types of industrial blankets available as 650, 700 and 750 with different technical properties.

	Thickness (cm)	Width x Length (cm)	Package (m^2)
650 - 700	3	100 x 800	8
	4	100 x 800	8
	5	100 x 500	5
	6	100 x 500	5
	8	100 x 300	3
	10	100 x 300	3
	12	100 x 300	3

	Thickness (cm)	Width x Length (cm)	Package (m^2)
750	3	100 x 800	8
	4	100 x 600	6
	5	100 x 500	5
	6	100 x 400	4
	8	100 x 300	3
	10	100 x 300	3

Type		650	700	750
Density (kg/m^3)		80	100	125
Declared Thermal Conductivity (W/mk)	Avarage Temperature (°C) 50	0,038	0,038	0,037
	100	0,047	0,046	0,044
	150	0,058	0,057	0,052
	200	0,069	0,066	0,061
	250	0,083	0,079	0,071
	300	0,098	0,093	0,082
	350	0,115	0,108	0,094

- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Easy to apply*

TECHNICAL DATA SHEET

İzocam Industrial Blanket

Properties		Symbol	Unit	Description							Tolerance	Standard
Material Type				650			700			750	-	-
Material		-	-	Stone Wool							-	TS EN 14303
Density		ρ	kg/m³	80			100			125	+/-10%	-
Width		b	mm	1000							+/-10	TS EN 822
Length	650 -700	l	mm	8000		5000		3000			-0, +∞	TS EN 822
	750			8000	6000	5000	4000	3000				
Thickness		d	mm	30	40	50	60	80	100	120 *	T2 **	TS EN 823
Facing		-	-	Stitched with Galvanized Wire							-	-
Reaction to fire		-	-	A1							-	TS EN 13501-1
Declared Thermal Conductivity		T	°C	50	100	150	200	250	300	350	-	TS EN 12667/12939 13787
	Type 650	λ_D	W/m.K	0,038	0,047	0,058	0,069	0,083	0,098	0,115		
	Type 700			0,038	0,046	0,057	0,066	0,079	0,093	0,108		
	Type 750			0,037	0,044	0,052	0,061	0,071	0,082	0,094		
Max. Service Temperature		-	°C	650							-	TS EN 14706
Water Vapor Diffusion Resistance Coefficient ***		μ	-	1							-	TS EN 12086
Packaging Material		-	-	PE Film							-	-

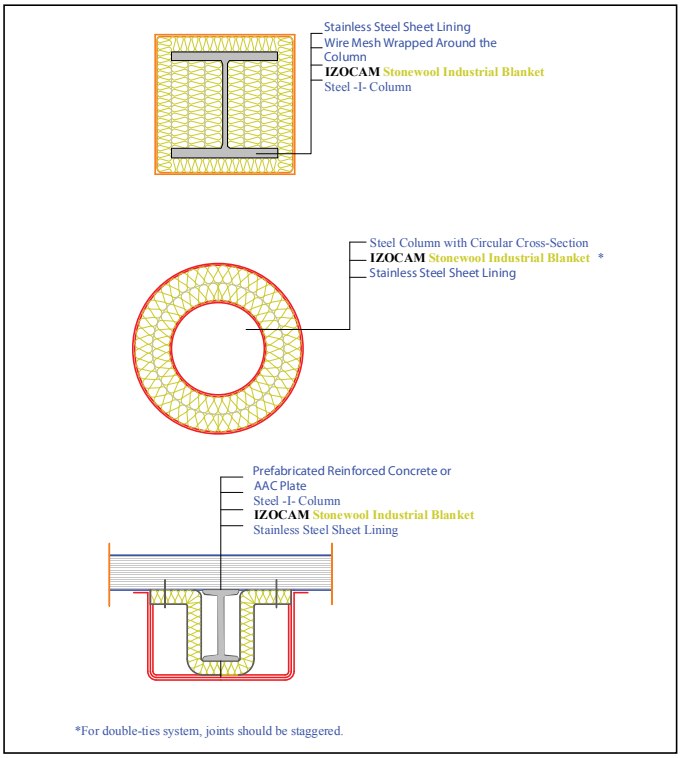
- Type 750 blankets can be manufactured up to 10 cm thickness.

** T2: -5% or +5 mm; +15% or +15 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

*** Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.



STONE WOOL PREFABRICATED PIPE

It is a pipe unfaced or faced with aluminium foil and manufactured out of stone wool with high unit weight. It is used for the thermal insulation of industrial pipes of temparatures over 250 ˚C, for vibration and sound insulation of pressurized pipes and against frost in pipes.

Application

Appropriate Stone Wool Prefabricated Pipe according to nominal diameter of the pipe line to be used is chosen. It is placed by parting cut line. The application is completed so that no gap is left between the joints. Unfaced pipes are coated with bituminous emulsion or bituminous membranes, galvanized or aluminium jacket. Coating joints are fastened by adhering, clamping, riveting or screwing. For the pipes coated with aluminium foil that are used for the insulation of cold lines, adhesive tape on overlap allowance and vapour barrier foil coating make the installation process notably easy. In this application, the joint of the two pipes should definitely be sealed with an adhesive aluminium foil tape with 7,5 mm width and vapour passage should totally be prevented. If a double layer application for the pipe insulation is carried out, care should be taken to line up the joint of second layer with the bottom of the pipe and to ensure the joints are staggered.

Pipe Line Diameter		Insulation Thickness (mm)						
inch	mm	25	30	40	50	60	80	100
1/4	13	+	+	+	+			
1/2	21	+	+	+	+	+		
3/4	27	+	+	+	+	+		
1	33	+	+	+	+	+		
1 1/4	42	+	+	+	+	+		
1 1/2	48	+	+	+	+	+		
2	60	+	+	+	+	+	+	
2 1/2	76	+	+	+	+	+	+	+
3	89	+	+	+	+	+	+	+
4	114	+	+	+	+	+	+	+
5	140		+	+	+	+	+	+
6	169		+	+	+	+	+	+
8	219		+	+	+	+	+	+
10	273		+	+	+	+	+	
12	325		+	+	+	+		
14	356		+	+	+			

Density (kg/m³)			(100)
Declared Thermal Conductivity (W/mk)	Avarage Temperature (°C)	50	0,037
		100	0,045
		150	0,054
		200	0,063
		250	0,075
		300	0,088
		350	0,101

- *High thermal insulation*
- *Fire safety*
- *Fast and easy installation*
- *Sound and vibration insulation*

TECHNICAL DATA SHEET

İzocam Stone Wool Prefabricated Pipe

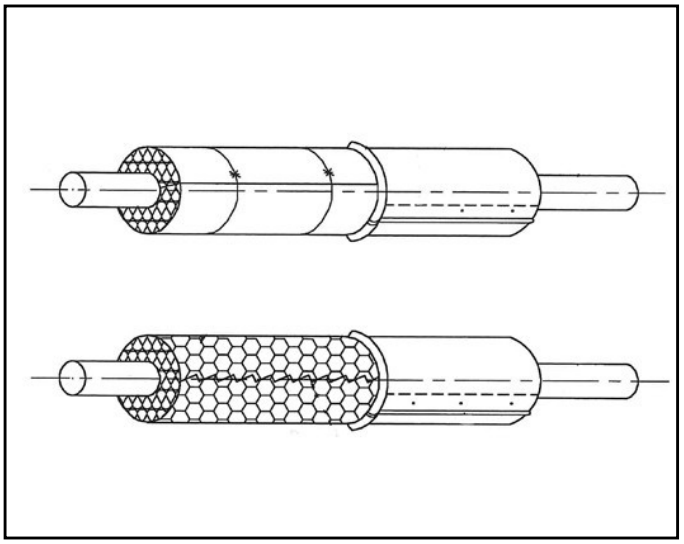
Properties		Symbol	Unit	Description							Tolerance	Standard
Material		-	-	Stone Wool							-	TS EN 14303
Density		-	kg/m³	see the table							± 15 mm	TS EN 14303
Thickness		t	mm	see the table							T8 *	TS EN 823 (< 150 mm)
											T9 **	TS EN 823 (≥ 150 mm)
Length		L	mm	1200							± 5 mm	TS EN 822
Inner Diameter		Ø	mm	see the table							-0; +4	TS EN 13467 (< 150 mm)
											-0; +5 or +2%	TS EN 13467 (≥ 150 mm)
Declared Thermal Conductivity		T_m	°C	50	100	150	200	250	300	350	-	TS EN 12667 TS EN 12939 TS EN 13787
	100	λ_D	mW/m.K	37	45	54	63	75	88	101		
	>100			37	44	52	61	71	82	94		
Max. Service Temperature		-	°C	600							-	TS EN 14707
Water Absorption		-	kg/m²	≤ 1							-	TS EN 13472
Facing		-	-	Unfaced				Al-foil			-	-
Reaction to fire		-	-	$A1_L$				$A2_L$-s1,d0			-	TS EN 13501-1
Packaging Material		-	-	PE Bag - Carton Box							-	-

Diameter		Insulation Thickness (mm)													
inch	mm	25 mm		30 mm		40 mm		50 mm		60 mm		80 mm		100 mm	
		kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs	kg/m³	gr/pcs
1/4	15	145	547	135	687	125	1037	100	1225	-	-	-	-	-	-
1/2	21	140	627	130	772	120	1131	100	1367	100	1866	-	-	-	-
3/4	27	140	699	130	853	120	1230	100	1470	100	1991	-	-	-	-
1	33	140	792	130	956	120	1357	100	1602	100	2149	-	-	-	-
1 1/4	42	140	904	125	1039	110	1385	100	1762	100	2341	-	-	-	-
1 1/2	48	140	983	125	1124	110	1485	100	1876	100	2477	-	-	-	-
2	60	130	1060	110	1138	100	1531	100	2102	100	2748	100	4268	-	-
2 1/2	76	120	1159	100	1216	100	1772	100	2403	100	3110	100	4750	100	6692
3	89	120	1306	100	1363	100	1968	100	2648	100	3404	100	5142	100	7182
4	114	105	1395	100	1651	100	2352	100	3129	100	3981	100	5911	100	8143
5	140	-	-	100	1927	100	2720	100	3589	100	4533	100	6647	100	9063
6	169	-	-	100	2252	100	3153	100	4130	100	5182	100	7513	100	10145
8	219	-	-	100	2816	100	3906	100	5071	100	6311	100	9018	100	12026
10	273	-	-	100	3427	100	4720	100	6088	100	7532	100	10646	-	-
12	324	-	-	100	4015	100	5504	100	7069	100	8708	-	-	-	-
14	356	-	-	100	4366	100	5972	100	7653	-	-	-	-	-	-

* -5% or -3mm; +5% or +3mm
** -6% or -5mm; +6% or +5mm

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- During shipping maximum 8 boxes, during storing maximum 5 boxes should be superposed.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out on pallets.
- Boxes should be carried by their handles.
- Boxes should not be stepped on and should not be used as steps.
- Boxes should not be unloaded by pushing or throwing from the truck.



Izocam is not responsible for any problem because of misprinting. Izocam, the manufacturer, reserves the right to alter product specifications without prior notice. Izocam also manufactures special products upon request. For your requirements, you are requested to contact our Export Department.

İZOCAM

ZERO GLOBAL WARMING POTENTIAL

ZERO OZONE DEPLETION POTENTIAL

EUCEB

TSE

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LOOSE STONE WOOL

İzocam Loose Stone Wool is manufactured from stone fibers which are free from binders and other impurities. It is used for thermal and sound insulation of amorphous surfaces with high temperatures, double-walled cups, laboratory equipments and household electric appliances.

Application

It is applied to the amorphous spaces where stone wool industrial blankets and boards cannot be used, by method of stuffing. It prevents thermal losses resulting from the gaps which couldn't be filled with other insulation materials. It can be used for fire insulation purpose of the electrical cables and installments as well. The surface to be insulated should be filled completely and stuffed intensity of the material should be approximately 80 kg/m^3. They are available in 20 kg bags.

- *Thermal insulation*
- *Sound insulation*
- *Fire safety*
- *Applicable to amorphous spaces by stuffing*

TECHNICAL DATA SHEET

İzocam Loose Stone Wool

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Stone Wool	-	-
Weight	-	kg	20	-1, +2 kg	-
Width	b	mm	-	-	-
Length	l	mm	-	-	-
Thickness	d	mm	-	-	-
Facing	-	-	-	-	-
Reaction to fire	-	-	A1	-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,040	-	TS EN 12667/12939
Max. Service Temperature	-	°C	350	-	TS EN 14706
Water Vapor Diffusion Resistance Coefficient	μ	-	N.A.	-	DIN 18165
Compressive Strength	σ	kPa	N.A.	-	-
Packaging Material	-	-	PE Bag	-	-
Other Information	Formaldehyde is not used in loose wool production process.				

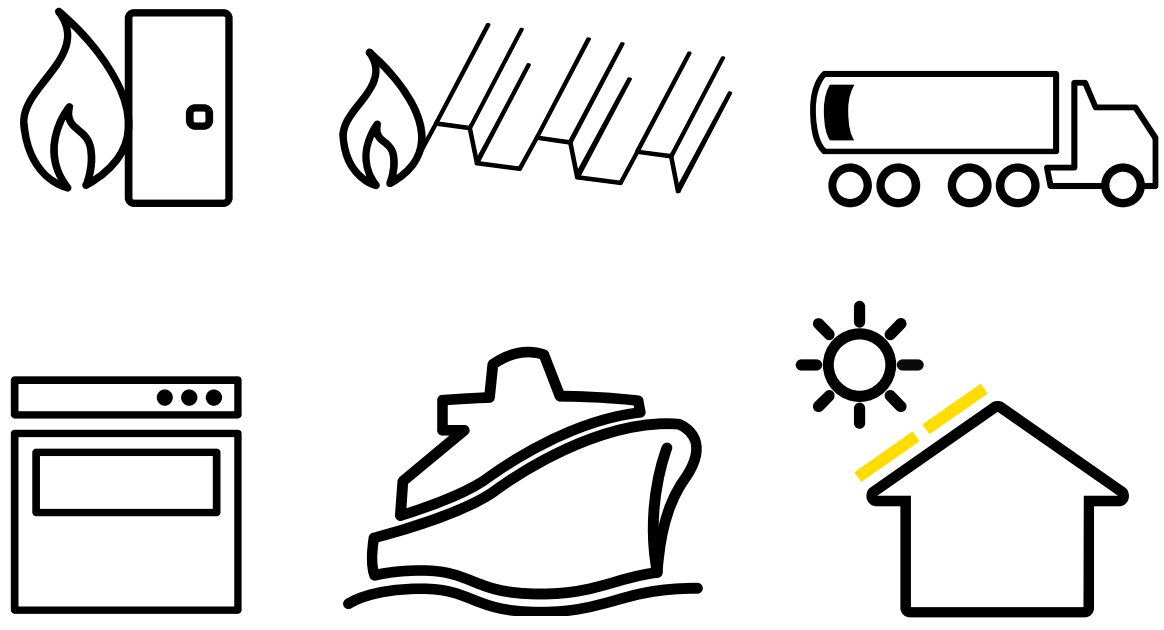
Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- During shipping maximum 10 packages, during storing maximum 6 packages should be superposed.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out on pallets.
- Products should not be pulled by their package.
- Packages should not be stepped on and should not be used as steps.
- Packages should not be unloaded by pushing or throwing from the truck.

BN Trade

iZOCAM®

TECHNICAL INSULATION



SHIP BOARD

It is a stone wool board used in ship and sea construction, cofferdam walls, fire partitions, fire doors and ship interior installations for sound insulation and fire safety purposes.

Application

Noncombustibility of Stone Wool Ship Boards enables them to be used for thermal, sound and fire insulation of very high temperatures. The boards are fastened to the smooth application surfaces by fastening rods. Then they are either covered with sheet metal cladding or they are laid in the structural frame formed on the surface.

There are 4 different board types available as Marine Firebatts 45 (MF 45), Marine Firebatts 110 (MF 110), Marine Firebatts 140 (MF 140), Marine Slab 150 (MS 150). MF 45 is used in ship interior installations, MF 110 and MF 140 are used in bulkhead applications, MS 150 is used in floating floor applications of ships.

	Thickness (cm)	Width x Length (cm)	Package (m^2)
MF 45	3	60 x 120	11,52
	4	60 x 120	7,20
	5	60 x 120	5,76
	6	60 x 120	5,04
MF 110	3	60 x 120	7,20
	4	60 x 120	4,32
	5	60 x 120	3,60
	6	60 x 120	2,88
MF 140	3	60 x 100	4,80
MS 150	3	60 x 120	5,76
	4	60 x 120	4,32
	5	60 x 120	3,60
	6	60 x 120	3,60

Type		MF 45	MF 110	MF 140	MS 150
Density (kg/m^3)		45	110	140	150
Declared Thermal Conductivity (W/mk)	Avarage Temperature (°C) 50	0,043	0,037	0,037	0,037
	100	0,055	0,045	0,044	0,044
	150	0,070	0,053	0,051	0,051
	200	0,090	0,062	0,059	0,059
	250	0,113	0,073	0,068	0,068
	300	0,141	0,085	0,077	0,077
	350	-	0,097	0,087	0,087

- *High thermal insulation*
- *Fire safety*
- *Sound insulation*
- *Tested according to IMO 754 A18.*

TECHNICAL DATA SHEET

İzocam Ship Board

Properties		Symbol	Unit	Description							Tolerance	Standard
Material		-	-	Stone Wool							-	-
Material Type		-	-	MF 45		MF 110		MF 140		MS 150	-	-
Density		ρ	kg/m³	45		110		140		150	+/- 10%	-
Width x Length		W x L	mm	600 x 1200							+/- 1,5%	TS EN 822
Thickness		t	mm	30		40		50		60	-3% or -3 mm +5% or +5 mm	TS EN 823
Facing		-	-	Unfaced, Al-foil							-	-
Reaction to fire		-	-	A1							-	TS EN 13501-1
Declared Thermal Conductivity		T_m	°C	50	100	150	200	250	300	350	-	TS EN 12667 TS EN 12939
	MF 45	λ	m W/m.K	43	55	70	90	113	141	-		
	MF 110			37	45	53	62	73	85	97		
	MF 140			37	44	51	59	68	77	87		
	MS 150			37	44	51	59	68	77	87		
Max. Service Temperature		-	°C	450		650					-	TS EN 14706
Water Vapor Diffusion Resistance Coefficient		μ	-	1							-	DIN 52615
Water Absorption		-	(v/v) %	1,5		2		2,5		3	-	ASTM C 272
Packaging Material		-	-	PE Film							-	-
Other Information		MF 140 is manufactured in 30 mm thickness. Ship board products have “EC Type Non-Combustible Material” certification.										

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position during shipping and storing.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

SHIP BLANKET

Sound Insulation · Fire Safety · Thermal Insulation

It is a stone wool blanket used in ship and sea construction, cofferdam walls, fire partitions, fire doors and ship interior installations for sound insulation and fire safety purposes.

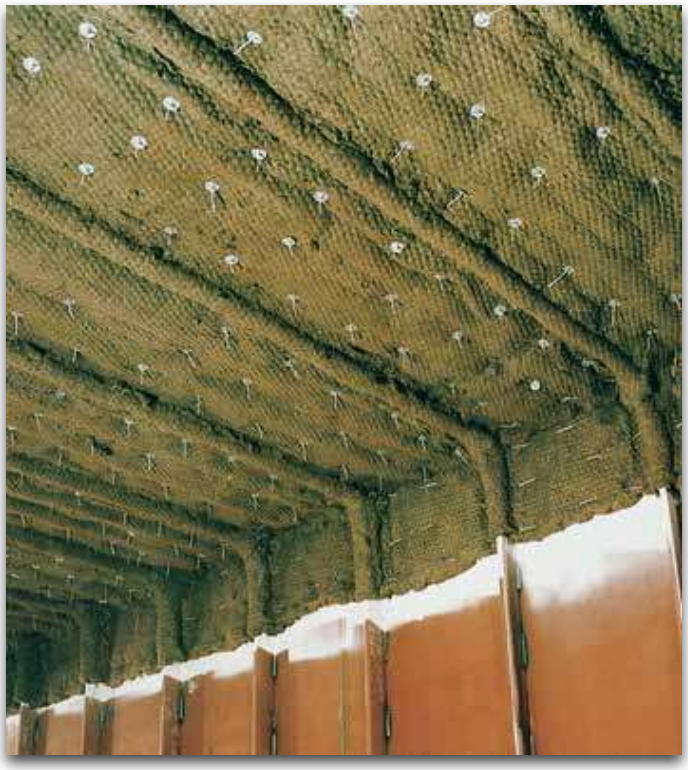
Application

Noncombustibility of Stone Wool Ship Blankets enables them to be used for thermal, sound and fire insulation of very high temperatures. The blankets are cut to size and wrapped around the surface to be insulated. The joints are laced with galvanized wire by passing it through the eyes of the wiremesh. Care should be taken to ensure that the joints fit properly and no gap is left at the joints. During the application on large surfaces, the blankets should be impaled over welded pins of 5-6 in number per square meter. The blankets are held in position by placing retaining washers over the pins. These pins also work as spacers for the insulation between the sheet metal cover and the insulated surface.

There are 2 different blanket types available as Marine Firebatts 32 (MF 32), Marine Wired Mat 80 (MWM 80).

	Thickness (cm)	Width x Length (cm)	Package (m^2)
MF 32	5	120 x 500	6,00
	6	120 x 500	6,00
	8	120 x 500	3,60
	10	120 x 500	3,60
MWM 80	3	100 x 800	8,00
	4	100 x 800	8,00
	5	100 x 500	5,00
	6	100 x 500	5,00
	8	100 x 300	3,00
	10	100 x 300	3,00

Type			MF 32	MWM 80
Density (kg/m^3)			32	80
Declared Thermal Conductivity (W/mk)	Avarage Temperature (°C)	50	0,055	0,038
		100	0,073	0,047
		150	0,098	0,058
		200	0,123	0,069
		250	-	0,083
		300	-	0,098
		350	-	0,115



- *High thermal insulation*
- *Tested according to IMO 754 A18*
- *Fire safety*

iZOCAM

TECHNICAL DATA SHEET

İzocam Ship Blanket

Properties		Symbol	Unit	Description							Tolerance	Standard
Material		-	-	Stone Wool							-	-
Material Type		-	-	MF32			MWM80				-	-
Density		ρ	kg/m^3	32			80				+/-10%	-
Facing		-	-	Al-foil / Galvanized Wire							-	-
Width		W	mm	1200			1000				+/-10	TS EN 822
Length		L	mm	3000 - 5000 - 8000							-0, +∞	TS EN 822
Thickness		t	mm	30	40	50	60	80	100		-5% or -5 mm +15% or 15 mm	TS EN 823
Reaction to fire		-	-	A1							-	TS EN 13501-1
Declared Thermal Conductivity		T_m	°C	50	100	150	200	250	300	350	-	TS EN 12667 TS EN 12939
	MF 32	λ	mW/m.K	55	73	98	123	-	-	-		
	MWM 80			38	47	58	69	83	98	115		
Max. Service Temperature		-	°C	350				650			-	TS EN 14706
Water Vapor Diffusion Resistance Coefficient		μ	-	1							-	DIN 52615
Compressive Strength		σ	kPa	N.A.							-	-
Water Absorption		-	(v/v) %	1,50	2,00	2,50	3,00	4,00	5,00		-	ASTM C 272
Packaging Material		-	-	PE Film							-	-
Other Information		Aluminium foil faced blankets can be manufactured, if required. MF 32 and MWM 80 ship blankets have “EC Type Non-Combustible Materials” certificate.										

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

SOLAR BLANKETS
35C - 35C BLACK

It is an unfaced glass wool blanket, specially coloured and manufactured in two different types as Solar 35C and Solar 35C Black which are certified by SPF for outgassing. It is used for thermal insulation of solar collectors.

Application

Solar blankets are used for the thermal insulation of solar collectors. If the case height is suitable, the product is placed between absorbing surface and the soffit insulation by leaving a 10 – 20 mm gap. In order to ventilate the collectors, 2-3 mm diameter holes should be drilled where rain water cannot reach. Otherwise, it may cause condensation of water vapor on window panes at nights and that may affect the efficiency of the collector. When Solar 35C and Solar 35C Black products are used no stain appears on the collector panes even if there is condensation.

Thickness (cm)	Width x Length (cm)	Package (m^2)
4	108 x 2100	22,68

- *High thermal insulation*
- *SPF certified*
- *Fire safety*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Solar Blankets 35C - 35C Black

Properties		Symbol	Unit	Description					Tolerance	Standard
Material		-	-	Glass Wool					-	TS EN 14303
Density		ρ	kg/m³	24		18			+/-10%	-
Width		w	mm	1080					+/-1,5%	TS EN 822
Length		l	mm	21000					+/-2%	TS EN 822
Thickness		t	mm	40					T1 **	TS EN 823
Facing		-	-	Unfaced					-	-
Reaction to fire		-	-	A1					-	TS EN 13501-1
Declared Thermal Conductivity		T	°C	10	25	50	75	100	-	TS EN 12667/12939 13787
	24 kg/m³	λ_D	W/m.K	0,035	0,038	0,041	0,044	0,049		
	18 kg/m³			0,035	0,039	0,047	0,051	0,055		
Thermal Resistance		-	°C	250					-	-
Water Vapor Diffusion Resistance Coefficient *		μ	-	1					-	TS EN 12086
Specific Heat *		c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Packaging Material		-	-	PE Film					-	-
Other Information		SPF (Solartechnik Prüfung Forschung) certified product that pass the outgassing test for condensation of the inner glass surface. 35 C Black is black painted product.								

* Literature value.
** T1: -5 mm or -5%. The biggest value is chosen at minus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- The packages should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- The products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But the products should not be superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

SOLAR BOARDS
35T

It is an unfaced stone wool board, manufactured in two different types as Solar 35T and Solar 40T which are certified by SPF for outgassing. It is used for the thermal insulation of solar collectors.

Application

Solar boards are used for the thermal insulation of solar collectors. If the case height is suitable, the product is placed between absorbing surface and the soffit insulation by leaving a 10 – 20 mm gap. In order to ventilate the collectors, 2-3 mm diameter holes should be drilled where rain water cannot reach. Otherwise, it may cause condensation of water vapor on window panes at nights and that may affect the efficiency of the collector. When Solar 35T and Solar 40T products are used no stain appears on the collector panes even if there is condensation.

Thickness (cm)	Width x Length (cm)	Package (m^2)
3	110 x 170	14,96
4	110 x 170	11,22
5	110 x 170	9,35

- *High thermal insulation*
- *SPF certified*
- *Fire safety*
- *Easy to apply*
- *Available in different sizes*

TECHNICAL DATA SHEET

İzocam Solar Boards 35T - 40T

Properties	Symbol	Unit	Description						Tolerance	Standard
Material	-	-	Stone Wool						-	TS EN 14303
Material Type	-	-	35T						-	-
Density	ρ	kg/m³	60						-0 / +%10	-
Width	w	mm	1100						+/-1,5%	TS EN 822
Length	l	mm	1700						+/-2%	TS EN 822
Thickness	t	mm	30		40		50		T4 **	TS EN 823
Facing	-	-	Unfaced						-	-
Reaction to fire	-	-	A1						-	TS EN 13501-1
Declared Thermal Conductivity	T	°C	50	100	150	200	250	300	-	TS EN 12667/12939 13787
60 kg/m³	λ_D	W/m.K	0,041	0,051	0,065	0,082	0,101	0,124		
Max. Service Temperature	-	°C	600						-	TS EN 14706
Water Vapor Diffusion Resistance Coefficient *	*μ*	-	1						-	TS EN 12086
Packaging Material	-	-	PE Film						-	-
Other Information	SPF (Solartechnik Prüfung Forschung) certified product that pass the outgassing test for condensation of the inner glass surface.									

* Literature value.

** T4: -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

ENTYSOL2018/11

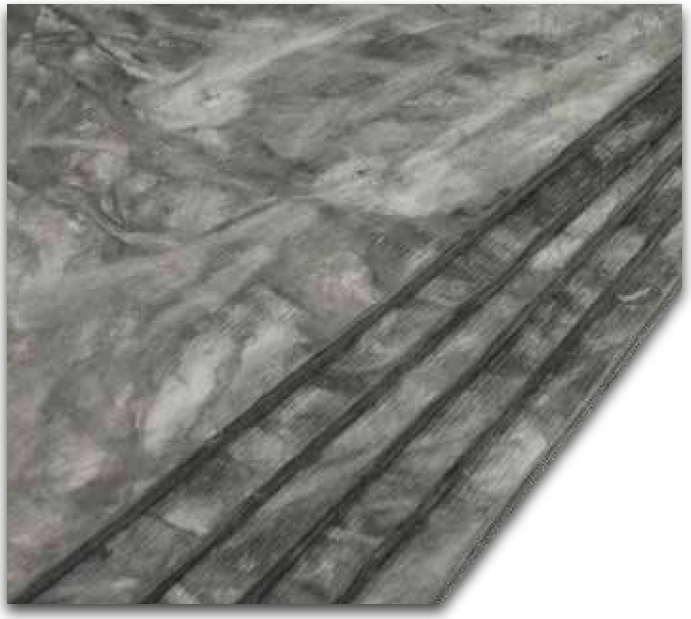
COLLECTOR BOARD

It is a glass wool board manufactured with black color in special sizes. It is used for thermal insulation of solar collectors and tanks.

Application

For the thermal insulation applications of solar collectors, collector blankets and boards are used together. It is also possible to use glass wool boards faced with aluminium foil in order to prevent heat losses from absorptive surface to the inside body due to the radiation and in order to reflect that to the selective surface. If the case height is suitable, the product is placed between the absorbing surface and the soffit insulation by leaving a 10 – 20 mm gap. In order to ventilate the collectors, 2-3 mm diameter holes should be drilled where rain water cannot reach. Otherwise, it may cause condensation of water vapor on window panes at nights and that may affect the efficiency of the collector.

Thickness (cm)	Width x Length (cm)	Package (m^2)
2	60 x 90	10,80



- *High thermal insulation*
- *Fire safety*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Collector Board

Properties	Symbol	Unit	Description					Tolerance	Standard
Material	-	-	Glass Wool					-	TS EN 14303
Density	ρ	kg/m^3	50					+/-10%	-
Width	w	mm	600					+/-1,5%	TS EN 822
Length	l	mm	900					+/-2%	TS EN 822
Thickness	t	mm	20					T3 **	TS EN 823
Facing	-	-	Unfaced, Black Glass Tissue					-	-
Reaction to fire	-	-	A1					-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	T	°C	10	25	50	75	100	-	TS EN 12667/12939 13787
	λ_D	W/m.K	0,031	0,034	0,037	0,041	0,046		
Max. Service Temperature	-	°C	250					-	-
Water Vapor Diffusion Resistance Coefficient *	μ	-	1					-	TS EN 12086
Specific Heat *	c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Packaging Material	-	-	PE Film					-	-
Other Information	Colour of the product is grey. Maximum service temperature on the side faced with glass tissue is 200 °C.								

* Literature value.

** T3: -3% or -3 mm; +10% or +10 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.

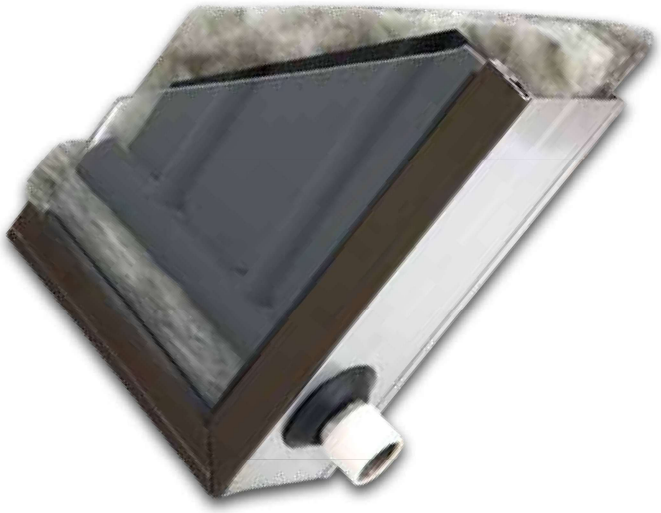
COLLECTOR BLANKET

It is a glass wool blanket manufactured with black color in special sizes. It is used for thermal insulation of solar collectors.

Application

For the thermal insulation applications of solar collectors, collector blankets and boards are used together. It is also possible to use glass wool boards faced with aluminium foil in order to prevent heat losses from absorptive surface to the inside body due to the radiation and in order to reflect that to the selective surface. If the case height is suitable, the product is placed between absorbing surface and the soffit insulation by leaving a 10 – 20 mm gap. In order to ventilate the collectors, 2-3 mm diameter holes should be drilled where rain water cannot reach. Otherwise, it may cause condensation of water vapor on window panes at nights and that may affect the efficiency of the collector. For the applications carried out in order to prevent the heat losses from hot water storage surfaces by convection and radiation, constructive precautions should be taken against spacers. Care should be taken for blankets in order not to loose their thicknesses.

Thickness (cm)	Width x Length (cm)	Package (m^2)
5	93 x 1950	18,13



- *High thermal insulation*
- *Fire safety*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*

TECHNICAL DATA SHEET

İzocam Collector Blanket

Properties	Symbol	Unit	Description					Tolerance	Standard
Material	-	-	Glass Wool					-	TS EN 14303
Density	ρ	kg/m^3	11		14			+/-10%	-
Width	w	mm	930					+/-1,5%	TS EN 822
Length	l	mm	19500					+/-2%	TS EN 822
Thickness	t	mm	50					T1 **	TS EN 823
Facing	-	-	Unfaced					-	-
Reaction to fire	-	-	A1					-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	T	°C	10	25	50	75	100	-	TS EN 12667/12939 13787
	λ_D	W/m.K	0,040	0,046	0,055	0,061	0,067		
Max. Service Temperature	-	°C	250					-	-
Water Vapor Diffusion Resistance Coefficient *	μ	-	1					-	TS EN 12086
Specific Heat *	c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Packaging Material	-	-	PE Film					-	-
Other Information	Colour of the product is grey.								

* Literature value.
** T1: -5% or -5 mm; +∞. The biggest value is chosen at minus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

PANEL BOARD

It is a stone wool board manufactured for thermal insulation, sound insulation and fire safety of sandwich panels.

Application

Since it is supplied to the firms producing sandwich roofs and facade panels, it is applied according to the details which the customer provides. It is possible to manufacture with different technical properties in different sizes regarding to the customer needs.

Thickness (mm)	Width x Length (mm)	Package (m^2)
75	1200 x 2000	67,20
80	1200 x 2000	60,00
85	1200 x 2000	67,20
100	1000 x 2000	52,80

- *Fire safety*
- *Thermal insulation*
- *Sound insulation*
- *Available in different sizes*

TECHNICAL DATA SHEET

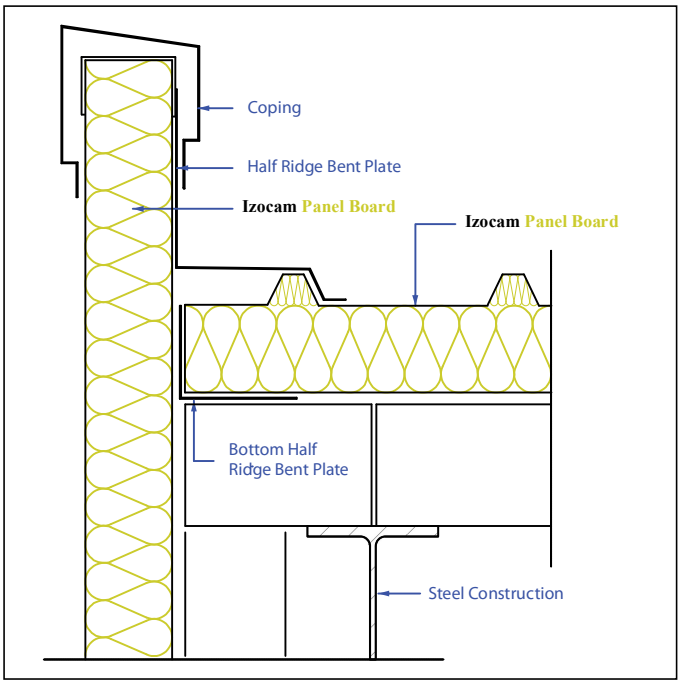
İzocam Panel Board

Properties	Symbol	Unit	Description						Tolerance	Standard
Material	-	-	Stone Wool						-	TS EN 14303
Density	ρ	kg/m³	90		95	100			+/-10%	-
Width	w	mm	1000 - 1200						+/-1,5%	TS EN 822
Length	l	mm	2000						+/-2%	TS EN 822
Thickness	t	mm	78	100	100	78	84	85	T5 *	TS EN 823
Facing	-	-	Unfaced						-	-
Reaction to fire	-	-	A1						-	TS EN 13501-1
Thermal Conductivity (Average of measur.) (10 °C)	T	°C	50	100	150	200	250	300	-	TS EN 12667/12939 13787
	λ_D	W/m.K	0,039	0,048	0,059	0,072	0,087	0,103		
Max. Service Temperature	-	°C	650						-	TS EN 14706
Water Vapor Diffusion Resistance Coefficient **	μ	-	1						-	TS EN 12086
Compressive Strength(width side)	σ	kPa	≥ 50		≥ 60	≥ 75			-	TS EN 826
Tensile Strength (width side)	σ	kPa	≥ 100						-	TS EN 1607
Short Term Water Absorption	W_P	kg/m²	max. 1						-	TS TS EN ISO 29767
Packaging Material	-	-	PE Capsule						-	-

* T5: -1% or -1 mm; +3 mm.The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.
** Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Storing should be carried out by using pallets. Damaged or deformed palettes should not be used.
- Products should not be superposed with pallets.
- Products should not be stepped on and should not be used as steps.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- Storage area should be flat and non-slippery.
- Loading and unloading should be done by forklift or overhead crane.
- The boards should be carried to the application site one at a time by two people with extra care.



OVEN BLANKET
NEEDLED WHITE

Thermal Insulation

It is a noncohesive white glass wool blanket which is given rigidity by needle-punching technique.

Application

Since it is supplied to the firms producing ovens, it is applied according to the details which the customer provides. It is possible to manufacture with different technical properties in different sizes regarding to the customer needs. It can be manufactured in thicknesses between 13 to 40 mm with densities between 40 to 110 mm.

Thickness (mm)	Width x Length (mm)	Package (m^2)
3	45 x 175	9,45

* Different sizes can produce, packages quantity change it depends on production type.

- *High thermal insulation*
- *Available in different sizes*
- *Easy to apply*
- *Creates no odour*

iZOCAM

TECHNICAL DATA SHEET

İzocam Oven Blanket - Needled White

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Needled Glass Wool	-	-
Thickness	t	mm	13 - 40	-1, +5	TS EN 823
Width	w	mm	400 - 1350	+/-1,5%	TS EN 822
Length	l	mm	500 - 6000	+/-2%	TS EN 822
Facing	-	-	Unfaced	-	-
Reaction to fire	-	-	A1	-	TS EN 13501-1
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,031	-	TS EN 12667
Declared Thermal Conductivity (50 °C)	λ_D	W/m.K	0,037	-	TS EN 12667
Declared Thermal Conductivity (100 °C)	λ_D	W/m.K	0,043	-	TS EN 12667
Declared Thermal Conductivity (150 °C)	λ_D	W/m.K	0,049	-	TS EN 12667
Declared Thermal Conductivity (200 °C)	λ_D	W/m.K	0,057	-	TS EN 12667
Declared Thermal Conductivity (250 °C)	λ_D	W/m.K	0,066	-	TS EN 12667
Declared Thermal Conductivity (300 °C)	λ_D	W/m.K	0,076	-	TS EN 12667
Declared Thermal Conductivity (350 °C)	λ_D	W/m.K	0,087	-	TS EN 12667
Max. Service Temperature (permanent)	-	°C	500	-	-
Specific Heat *	c	kJ/(kg.K)	0.84	-	TS EN ISO 10456
Dynamic Elasticity *	Edyn	kN/m²	0.8	-	DIN 52214
Packaging Material	-	-	Carton Box	-	-
Other Information	Thermal conductivity values are appropriate to products that has the density 100 kg/m². Maximum service temperature on the side faced with aluminium foil is 90°C. Water vapor diffusion resistance is not demanded for aluminium foil faced products.				

* Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Loading and unloading should be done by (at least) two people.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be put into upright position during shipping and storing.
- Storing should be carried out by using pallets. But they should not superposed with pallets.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- Blanket bags should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

OVEN BOARD

It is a stone wool board which is used in oven production for thermal insulation purposes.

Application

Since it is supplied to the firms producing ovens, it is applied according to the details which the customer provides. It is possible to manufacture with different technical properties in different sizes regarding to the customer needs.

Thickness (cm)	Width x Length (cm)	Package (m^2)
3	40 x 160	15,36

- *Thermal insulation*
- *Easy to apply*
- *Available in different sizes*
- *Lightweight*

TECHNICAL DATA SHEET

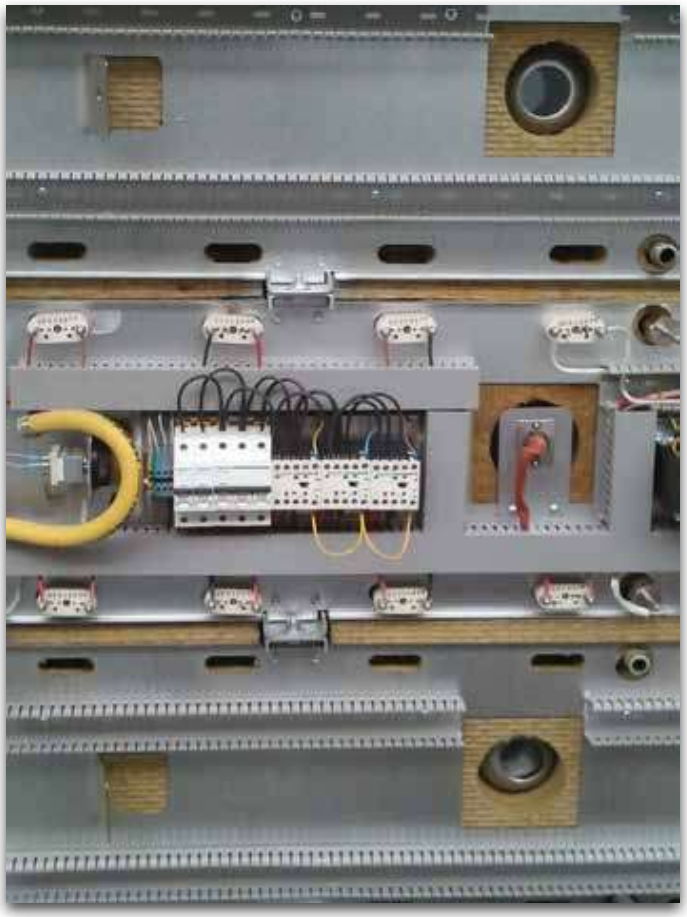
İzocam Oven Board

Properties	Symbol	Unit	Description				Tolerance	Standard
Material	-	-	Stone Wool				-	-
Density	ρ	kg/m^3	40				+/-10%	-
Width	w	mm	400				+/-1,5%	TS EN 822
Length	l	mm	1600				+/-2%	TS EN 822
Thickness	t	mm	30				*	TS EN 823
Facing	-	-	Unfaced		Al-foil		-	-
Reaction to fire	-	-	A1				-	TS EN 13501-1
Declared Thermal Conductivity	T	°C	50	100	150	200	-	TS EN 12667/12939 13787
	λ_D	W/m.K	0,043	0,055	0,070	0,090		
Max. Service Temperature	-	°C	450				-	TS EN 14706
Water Vapor Diffusion Resistance Coefficient **	*μ*	-	1				-	TS EN 12086
Packaging Material	-	-	PE Film				-	-

* -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.
** Literature value

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Storing should be carried out by using pallets. Damaged or deformed palettes should not be used.
- Products should not be superposed with pallets.
- Products should not be stepped on and should not be used as steps.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- Storage area should be flat and non-slippery.
- Loading and unloading should be done by forklift or overhead crane.
- The boards should be carried to the application site one at a time by two people with extra care.



FIRE DOOR BOARD

It is a special stone wool board which fulfils minimum fire resistance of EI 60, EI 90 and EI 120. It is used in fire door production.

Application

Since it is supplied to the firms producing fire doors, it is applied according to the details which the customer provides. It should be applied to the door as one piece with respect to the fire resistance time.

Thickness (cm)	Width x Length (cm)	Package (m^2)
6	95 x 210	63,84

- *Fire safety*
- *Sound insulation*
- *Thermal insulation*
- *Easy to apply*

TECHNICAL DATA SHEET

İzocam Fire Door Board

Properties	Symbol	Unit	Description							Tolerance	Standard
Material	-	-	Stone Wool							-	TS EN 14303
Density	ρ	kg/m³	150							+/-10%	-
Width	w	mm	950							+/-1,5%	TS EN 822
Length	l	mm	2100							+/-2%	TS EN 822
Thickness	t	mm	60							T4 *	TS EN 823
Facing	-	-	Unfaced							-	-
Reaction to fire	-	-	A1							-	TS EN 13501-1
Declared Thermal Conductivity **	T	°C	50	100	150	200	250	300	350		TS EN 12667/12939 13787
	λ_D	W/mK	0,037	0,044	0,051	0,059	0,068	0,077	0,087		
Squareness	S_b	mm/m	max. 5							-	TS EN 824
Max. Service Temperature	-	°C	650							-	-
Water Vapor Diffusion Resistance Coefficient **	μ	-	1							-	TS EN 12086
Packaging Material	-	-	Palette							-	-

* T4: -3% or -3 mm; +5% or +5 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

** Literature value.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Storing should be carried out by using pallets. Damaged or deformed palettes should not be used.
- Products should not be superposed with pallets.
- Products should not be stepped on and should not be used as steps.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- Storage area should be flat and non-slippery.
- Loading and unloading should be done by forklift or overhead crane.
- The boards should be carried to the application site one at a time by two people with extra care.

FOAMBOARD FRIGO

It is special extruded polystrene board manufactured for thermal insulation of frigorific or dry cargo vehicles body.

Application

It is used inside of the vehicles body which are specially designed for heat sensitive products such as food, medicine, chemical etc. to secure thermal insulation. It is possible to manufacture with different technical properties in convenience with the customer needs.

Thickness (cm)	Width x Length (cm)	Package (m^2)	Package (m^3)
4	60 x 260	15,60	0,6240
5	60 x 260	12,48	0,6240
6	60 x 260	10,92	0,6552
8	60 x 260	7,80	0,6240

- *High thermal insulation*
- *Available in different sizes*
- *Easy installation*
- *Water impermeable*

TECHNICAL DATA SHEET

İzocam Foamboard Frigo

Properties	Symbol	Unit	Description				Tolerance	Standard
Material	-	-	Extruded Polystyrene				-	-
Edge Profile	-	-	Square				-	-
Surface Shape	-	-	Roughed and Grooved on both sides				-	-
Thickness	t	mm	40	50	60	80	± 0,5 mm	TS EN 823
Density	ρ	kg/m³	min. 30	min. 28			-	-
Tensile Strength Perpendicular to Faces	σ_{mt}	kPa	min. 600				TR 600	TS EN 1607
Water Vapor Diffusion Resistance Coefficient	MU	-	100				MU100	TS EN 12086
Width	w	mm	600				± 8 mm	TS EN 822
Length	l	mm	2600				± 10 mm	TS EN 822
Reaction to fire	-	-	E				-	TS EN 13501-1
Thermal Resistance	R_D	m².K/W	1,10	1,40	1,70	2,25	-	TS EN 13164
Declared Thermal Conductivity (10 °C)	λ_D	W/m.K	0,035				-	TS EN 12667
Dimensional Stability Under Specified Thermal and Humidity Conditions	$\Delta\varepsilon_l$, $\Delta\varepsilon_b$, $\Delta\varepsilon_d$	%	max. 5 *				DS (70,90)	TS EN 1604
Dimensional Stability Under Specified Thermal and Compressive Load conditions	ε_t	%	max. 5 **				DLT (1)5 DLT (2)5	TS EN 1605
Long Term Water Absorption with Total Immersion	W_{lt}	%	max. 0,7				WL(T)0,7	TS TS EN ISO 16535
Long Term Water Absorption with Diffusion	W_{dv}	%	max. 5				WD(V)5	TS EN ISO 16536
Compressive Strength	σ_{10}	kPa	min. 300	min. 350			CS(10/Y)300	TS EN 826
Packaging Material	-	-	PE Film				-	-

* TS EN 13164 / Item 4.3.2
** TS EN 13164 / Item 4.3.3

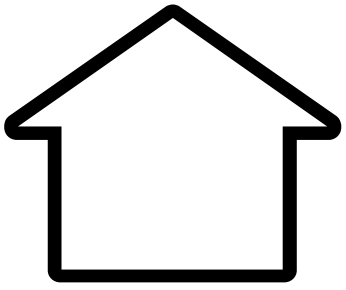
Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors if the weather is rainy.
- Products should be put on top of each other with extra care.
- Only backshutter of the truck body should be opened during unloading.
- Unloading should be carried out from backside to the front.
- Products should not be put into upright position during shipping and storing.
- Products should not be pulled by their package.
- Products should not be stepped on and should not be used as steps.
- Board packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- Products can be stored with or without pallets by superposing the packages.
- Products should not be shipped with the materials containing organic solvents (thinner, paint, fuel oil, acetone, etc.).
- Combustible, flammable, hazardous materials should not be stored in storage area and there should be fire extinguishing equipment available.

BN Trade

iZOCAM®

OTHER



IZOPAN

It is a hard glass wool board faced with aluminium foil on one side, yellow glass tissue on the other side. It is used behind various heat sources such as radiator, stove, oven as heat holder and reflector.

Application

The distance between the radiator and the wall should not be less than 1,5 cm, the thickness of the board, to be able to perform the application. The boards are placed between radiator and the exterior wall in a manner that the aluminium foiled side faces the inner space. Anchor distance is marked on the radiators, which are anchored to the wall on the side. Then, slots are cut into the boards through the marking by knife. Board is placed behind the radiator so that slots and anchorage rods meet. If the radiator is supported from the floor, the boards are placed between radiator and the wall directly and leaned against the wall so the foiled side faces inner surface. It offers more thermal saving by its property of reflecting thermal radiation.

Thickness (cm)	Width x Length (cm)	Package (m^2)
1,5	55 x 90	14,85

- *High thermal insulation*
- *Fast and easy installation*
- *Easy to cut*

TECHNICAL DATA SHEET

İzocam Izopan

Properties	Symbol	Unit	Description					Tolerance	Standard
Material	-	-	Glass Wool					-	TS EN 14303
Density	ρ	kg/m^3	100					+/-10%	-
Width	w	mm	550					+/-1,5%	TS EN 822
Length	l	mm	900					+/-2%	TS EN 822
Thickness	t	mm	15					T5 **	TS EN 823
Facing	-	-	Al-foil + Yellow Glass Tissue					-	-
Reaction to fire	-	-	C-s1,d0					-	TS EN 13501-1
Declared Thermal Conductivity	T	°C	10	25	50	75	100	-	TS EN 12667/12939 13787
	λ_D	W/m.K	0,031	0,033	0,035	0,037	0,040		
Max. Service Temperature	-	°C	200					-	-
Specific Heat *	c	kJ/(kg.K)	0,84					-	TS EN ISO 10456
Packaging Material	-	-	PE Bag + Carton Box					-	-
Other Information	Maximum service temperature on the side faced with aluminium foil is 90 °C.								

* Literature value.

** T5: -1% or -1 mm; +3 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position during shipping and storing.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.
- The instructions on the boxes should be followed.

PEFLEX ROD

İzocam PEflex Rod is a polyethylene based filling rod manufactured by extrusion method. It is used to fill the dilatations and joints of the buildings, gaps between the doors, windows and the walls.

Application

İzocam PEflex with appropriate diameter according to the dilatation gap to be filled is chosen. The gap is filled by squeezing method. This application reduces the quantity of joint sealant that is needed. It doesn't adhere to the joint sealants such as mastic silicone and functions seperately. It has high thermal insulation value and it is resistant to water and vapour.

Rod Diameter Lenght (mm)	Package (m)
10	1000
15	600
20	300
25	180
30	150
35	100
40	80
50	50
60	40

- *Highly flexible*
- *Vapour resistance*
- *CFC free*

TECHNICAL DATA SHEET

İzocam PEflex Rod

Properties	Symbol	Unit	Description	Tolerance	Standard
Material	-	-	Polyethylene Foam	-	-
Length	l	m	1000 / 600 / 300 / 180 / 150 / 100 / 80 / 50 / 40	± 1,5 %	-
Pipe Diameter	D_n	mm	10 / 15 / 20	$D_n \leq 20$ ±2	-
			25 / 30 / 35	$20 < D_n \leq 35$ ±3	
			40 / 50 / 60	$D_n \geq 40$ ±4	
Max.Service Temp.	-	°C	-45 / 80	-	-
UV Resistance	-	-	Good	-	-
Flexibility	-	-	Excellent	-	-
Fungal Growth	-	-	None	-	-
Packaging Material	-	-	PE Bag	-	-

Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- The products should definitely be wrapped by a waterproof cover during shipping.
- When the packages piled in the truck body are being tied up hard padding (wood, cardboard, etc.) should be put on the corners of the packages to protect them against possible damages by ropes.
- Only backshutter of the truck body should be opened during unloading.
- Maximum 4 packages should be superposed.
- Storaging should be done indoors and the packages should be put over flat floor.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be unloaded by pushing or throwing from the truck. Packages should be treated gently and put carefully on the ground.
- The truck should not be moved without wrapping and binding the boxes..
- The products should not be exposed to sun.
- Storage area should not be slippery.
- Storage area should be ventilated if the room temperature exceeds 35˚C.
- If the truck needs to stop for a long time, it should stay in the shade.
- The products should be at a minimum distance of 3 m from the lighting armatures.