

3i



## Technical Brochure

# ISOPIPE® ISOTUBE® ISOSOUND®



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## Icons Directory

<i>ICON</i>	<i>DESCRIPTION</i>
	Available as: <b>PIPES</b>
	Available as: <b>SLIT &amp; SEAL</b>
	Available as: <b>SYSTEM</b>
	Available as: <b>SHEETS</b>
	Available as: <b>ROLLS</b>
	Applicable in conditions of: <b>HEATING</b>
	Applicable in conditions of: <b>PLUMBING</b>
	Applicable in conditions of: <b>AIR CONDITIONING</b>
	Applicable in conditions of: <b>REFRIGERATION</b>
	Applicable in conditions of: <b>SOLAR ENERGY</b>
	Applicable in conditions of: <b>NOISE</b>



**3i** International  
Innovative  
Industries S.A.

**Company  
History  
Environment**



## I – Company, History, Environment

### 1. Introduction

Dear partners,

3i – International Innovative Industries S.A. was established in 1997. Our plant is located at Ritsona area of Halkida – 68km north of Athens, on a private 30.000 sq meters facility that accommodates the fully automated production unit. Furthermore, since 2009 we founded ISOPIPE IBERICA S.L., our subsidiary company in Barcelona, Spain.

Our company is one of the three companies in vertical production of insulation worldwide, and is engaged in the production of the widely used closed cell synthetic rubber insulation with the trademark ISOPIPE. We are investing in high technology machinery, research and development and testing laboratories to improve the quality of our products every day. Our production process is now under ISO 9001:2008.

Since our foundation, our obsession on high quality and our attention to detail resulted in our products being covering every insulation and fire protection specification, while they are recommended by specialist as the most appropriate insulation, based on performance and lifetime. In the year 2000, ISOPIPE insulation was awarded by the EUROPEAN Business Organization, due to its excellent quality.

Our company's investment in our R&D Department can be easily highlighted through the constant development on new and innovative insulation products. At the same time, we are proud that 3i is holding a protected patent for innovative product design for the ISOPIPE UV insulation protection (patent No 100 4469).

The above are the results of the continuous commitment to achieve customer satisfaction, through the philosophy stated as to

**“We identify needs – we supply the solution.”**

The international success of 3i in the insulation products market, as its export operation stretches nowadays in more than 40 countries, reward us by feeling proud on our contribution to global energy saving and the future of our planet.



### 3i Production Site

<i><b>EUROPE</b></i>
Ritsona, Halkida, Greece

### 3i Offices

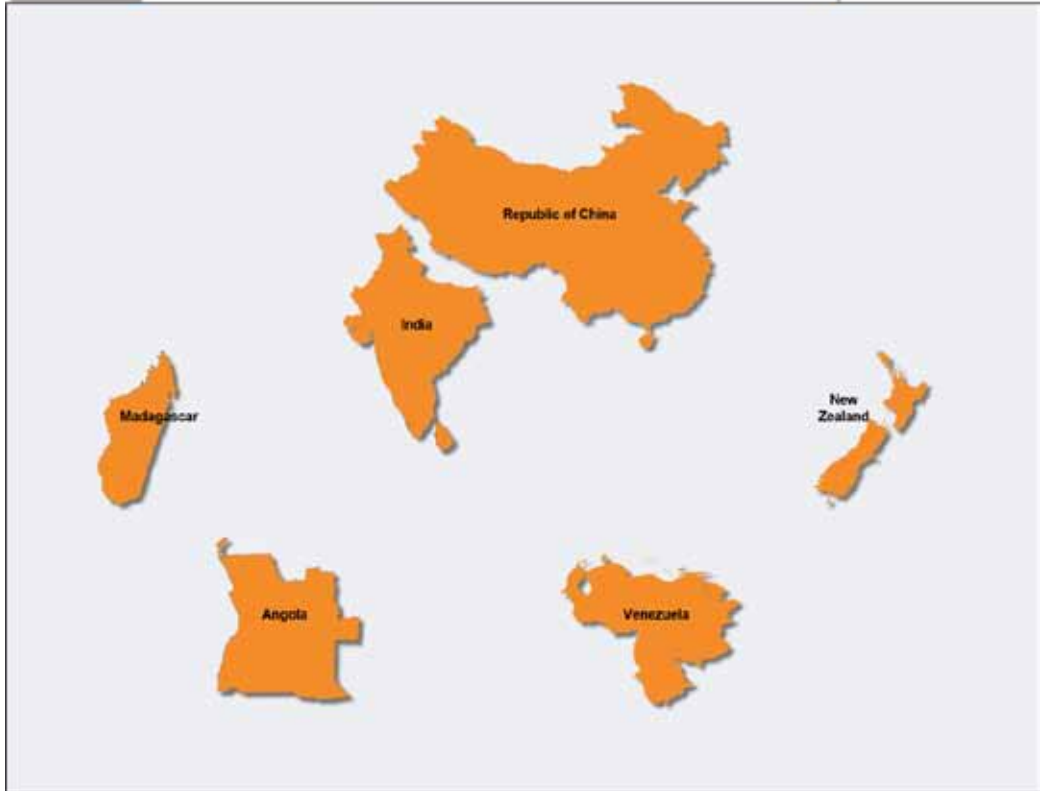
<i><b>EUROPE</b></i>
Head Office: Metamorfosi Attikis, Greece
Subsidiary: Barcelona, Spain

### Distributing Countries

<i><b>EUROPE</b></i>		<i><b>MIDDLE EAST</b></i>	<i><b>AFRICA</b></i>
Armenia	Kazakhstan	Israel	Angola
Azerbaijan	Latvia	Lebanon	Egypt
Bulgaria	Lithuania		Madagascar
Croatia	Malta	<i><b>ASIA</b></i>	Morocco
Cyprus	Netherlands	China	
Finland	Poland	India	
France	Portugal	New Zealand	
FYROM	Romania		
Georgia	Serbia	<i><b>SOUTH AMERICA</b></i>	
Germany	Slovenia	Venezuela	
Greece	Spain		
Hungary	Sweden		
Ireland	Turkey		
Italy	United Kingdom		



### Worldwide 3i Presence



§  3i Export countries

§  3i Offices

## 2. Innovation, Mission and Vision of 3i

3i has obtained the ability to produce specialized products due to its continuous research and development program.

Until today, elastomeric insulation has been vulnerable when used outdoors, and under specific weather conditions. To ensure its performance and lifetime this is ordinarily treated with paint or by wrapping the insulation with plastic type. Environmental and health issues were until recently overlooked.

Unlike other insulation, ISOPIPE is made to last. The R&D department of 3i, managed to combine the effective elastomeric insulation with a specially developed outer covering (polymer membrane), forming one unified body. This eliminates the need for any further external treatment or covering but maintains the flexibility, thermal performance and all other characteristics of the elastomeric insulation.

It is due to this continuous research and development that 3i is able to produce insulation systems that are both environmental and health sensitive without compromising the quality of the insulation performance.

Don't wait any longer to protect your investments. Join the world of 3i today and rest easy.



Our mission is to offer innovative, high quality solutions to the insulation industry to counteract environmental and energy saving issues.

We want to contribute significantly in reducing industrial and household energy consumption, around the world.



### 3. Basics of Insulation

Insulation is any material that can slow the heat transfer. The important component of all insulators is stationary air. Still air is poor conductor of heat but air is never still. Heat is transferred across on air space by conduction, or by combination of conduction and convection, and radiation. Heat transfer is highly dependent on both orientation and thickness. Heat transfer by radiation is dependent of both thickness and orientation and also of the reflectivity of the enclosing surfaces.

#### *Structure of foam insulation*

In foam insulation, air is trapped in many small spaces called cells. These cells are completely enclosed by a thin wall and they are not interconnected (closed cell structure). The thermal conductivity of the whole body then is reduced, but not as much as to reach that of still air, because air in individual cells moves. The value of thermal conductivity that can be reached is dependent on the size of cells and the material from which the cells were produced.

The heat travels conductive through the cell walls, convective-conductive from cells trapped air wall and by convection-radiation when reaches the free surface of the material. The size of cells is related to the density of the foam. High density means a larger number of smaller cells than that of low density. A large number of small cells also indicates presence of more material from which the cells are made of, so this increases the thermal conductivity of the whole body.

The thermal conductivity is strongly dependent on the quantity of solid material present. At very low densities there is so small amount of solid material that there is an appreciable heat transfer by radiation and some by convection. As density increases, the heat transfer by radiation and convection is reduced until the increased conduction, matches the reduction of radiation and convection. This is the density for the minimum thermal conductivity. Beyond this point the thermal conductivity increases.

*ISOPIPE insulation, produced to give a structure of 100-120 cells/cm<sup>2</sup> and a density of 60-75 kg/m<sup>3</sup>, reaches the optimum combination one can get by rubber insulation.*

Heat loss is directly dependent on the area of the surface. When we add insulation to a pipe we increase its outer surface and this means that the heat loss will increase. Insulation reduces the heat transfer but also reduces the temperature-difference between the outer surface and surroundings. Again a contradiction, this means that a balanced calculation is required in order to achieve the optimum insulation level depending on the application.

*ISOPIPE, rubber insulation is produced by rubber compounds which contain special additives that give the excellent final mechanical and insulating properties.*

Usually optimum thickness is represented by intersection curves traced in terms of cost. Thicker insulation may be better but it will not be the optimum. Thinner insulation will not earn its cost from energy saving. Generally it is suggested to require the maximum insulation for outdoors and as over the limit the reduction of loss is minimal and 80% efficiency of insulation is considered to be proper. For intermediate controlled conditions a 50% efficiency has to be required and for indoor conditions a 30% efficiency of insulation. So first we have to calculate the heat loss on not insulated surfaces and then consider the requirements for heat loss reduction.

Finally, construction works must be designed in such a way that in case of an outbreak of fire the spread will be limited. This means that building materials must be selected taking into account their fire performance. This means they should not support or spread fire to other materials and they should not drop flaming particles.

*The ISOPIPE formulations obtained qualification to many countries achieving very low ignitability and spread of flame, no dropping, limited smoke and low heat release.*

## 4. Environmental Sustainability

Energy technology is vital to a dynamic society but global warming, driven primarily by CO<sub>2</sub> emissions, now demands change in current patterns of generation and use.

Half of our energy is used in buildings, which form an excellent focus for actions to reduce CO<sub>2</sub> emissions, starting with energy efficiency.

*How can we make green buildings for the future?*

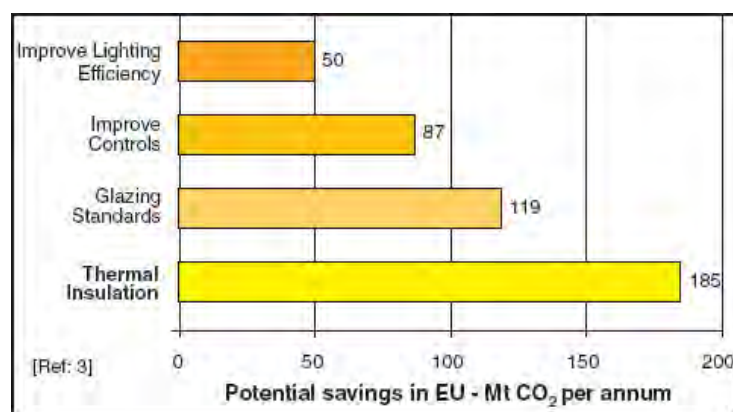
According to the EPA (Environmental Protection Agency) achieving sustainability is straightforward.

- ü **Reduce the amount of natural resources buildings consume.**
- ü **Reduce the amount of pollution emitted by those same buildings.**



In Europe, the largest share of energy in buildings is heating. Insulation and thermal design can dramatically reduce heat loss and help stop global warming. Heating energy demand in existing buildings can be reduced by 30-50% through retrofit, compared to the current average. In new buildings it can be reduced by 90-95%, using widely available technology at competitive costs.

*Insulation shows the greatest potential savings of CO<sub>2</sub> compared to other building efficiency measures!*



Green buildings often include measures to reduce energy use. To increase the efficiency of the building envelope, they may use high-efficiency windows and insulation in walls, ceilings, and floors.

Another strategy, passive solar building design, is often implemented in low-energy homes. Designers orient windows and walls and place awnings, porches, and trees to shade windows and roofs during the summer while maximizing solar gain in the winter. In addition, effective window placement (day lighting) can provide more natural light and lessen the need for electric lighting during the day. Solar water heating further reduces energy loads.

High performance green buildings share three main attributes: high energy efficiency, low environmental impact and proper occupant health and comfort. These are the fundamentals for both new and existing buildings.

The benefits of pipe Insulation include, in addition to reducing costs and environmental impacts of energy consumption:



- ü Conserves Energy by Reducing Heat Loss or Gain:

Properly designed and installed insulation systems immediately reduce the need for energy, a costly ingredient of every product made.

- ü Controls Surface Temperatures for Personnel Protection and Comfort

Insulation reduces the surface temperature of piping or equipment to a safer level, resulting in increased worker safety and the avoidance of worker downtime due to injury.

- ü Facilitates Process Temperature Control

By reducing heat loss or gain, insulation can help maintain the process temperature to a pre-determined value. Insulation thickness must be sufficient to limit the heat loss in a dynamic system or limit the temperature drop, with time, in a static system.

- ü Prevents Condensation on Cold Surfaces

Specifying sufficient insulation thickness with a good vapor retarder is the most effective means of controlling condensation and limiting corrosion on cold piping, ducts, chillers and roof drains. Sufficient thickness is needed to keep the surface temperature above the dewpoint temperature of the ambient air.

- ü Prevents or Reduces Damage to Equipment From Exposure to Fire or Corrosive Atmospheres

When used in combination with other materials, fiber glass and rock and slag wool insulation help provide fire protection in firestop systems; grease- and air-duct fireproofing; and electrical and communications conduit and cable protection.

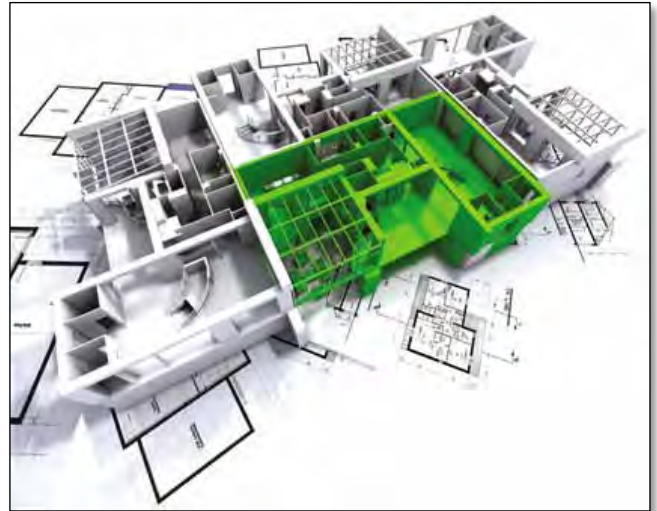
- ü Controls Noise

Special or standard insulation materials can be used to encase or enclose a noise generating source, forming a sound barrier between the source and the surrounding area. Insulation installed in walls and ceilings can provide a barrier to the entry of sound from the outside or other rooms.



### *How to conserve more than 80% of energy?*

ISOPIPE is a highly durable insulation system. It is shown that it offers improved environmental performance and advanced control of buildings. ISOPIPE insulation systems are cost effective and energy efficient; you save money by conserving more than 80% of energy.



A simple measure that directly impacts three attributes is proper insulation systems.

We use raw materials and energy with responsibility to reduce waste. In addition, we meet industry standards by supplying information on the proper use of all our products to ensure their highest performance.

The real pay off comes when you consider ISOPIPE's environmental benefits:

- ü **Low thermal conductivity for effective energy saving and CO<sub>2</sub> reduction**
- ü **Zero ozone depletion potential (ODP).** ISOPIPE is manufactured without CFC's, HFC's or HCFC's in accordance with Green Building requirements.
- ü **Zero Global Warming Potential (GWP).** ISOPIPE is manufactured with blowing agents which do not contribute to Global Warming.



### *How to keep people and environment safe?*

Invest in the future! ISOPIPE is a healthy conscious choice. It allows you to protect the buildings' occupants from mould and poor air quality. So it's an investment that will deliver tremendous benefits.

Poor air quality in buildings can have harmful effects on human health (the body's respiratory and cardiovascular systems) and the environment. Our systems ensure improved air quality keeping people and the environment healthy.

Join us in protecting our planet today by choosing the insulation that protects our future!

# ISOPIPE<sup>®</sup> TC



## II – Products, Protections, Availability



### 1. ISOPIPE TC

#### a. Product Description

ISOPIPE TC is a new generation of high performance insulation. The closed cell elastomeric rubber insulation is a lasting solution against mould. It has outstanding thermal protection and because of this its surface is absolute condensation resistant.

The outstanding performance of the ISOPIPE TC material is guaranteed through continuing supervision and factory tests.



#### Density

ISOPIPE TC insulation is produced with a density of **60-75 kgr/m<sup>3</sup>**



#### Proper Fit

ISOPIPE TC ensures no gaps between insulation and pipe because of the proper and secure fitting. This is especially important in applications like air conditioning, refrigeration or cooling, where condensation on the surface of the pipe is prevented.



#### Temperatures

ISOPIPE TC elastomeric material is characterized as thermoset, which means that brief temperature spikes (**-40°C to +105°C**) will not result in failure.



#### Flexibility

ISOPIPE TC has exceptional flexibility and elasticity. This allows for easy and fast application, effective insulation and at the same time provides excellent tear resistance.



### Permeability

ISOPIPE TC's inherent structure & material offers a very high resistance to water vapor transmission. This ensures long term performance & effectiveness.

- ü  $\mu > 7000$ .

### Thermal Conductivity

As air (closed cells) & elastomeric material are poor conductors of heat, ISOPIPE TC significantly reduces the transfer of heat through its insulation.

- ü  $\lambda = 0,035W/mK$  at  $0^{\circ}C$

- ü  $\lambda = 0,036W/mK$  at  $10^{\circ}C$

- ü  $\lambda = 0,037W/mK$  at  $20^{\circ}C$

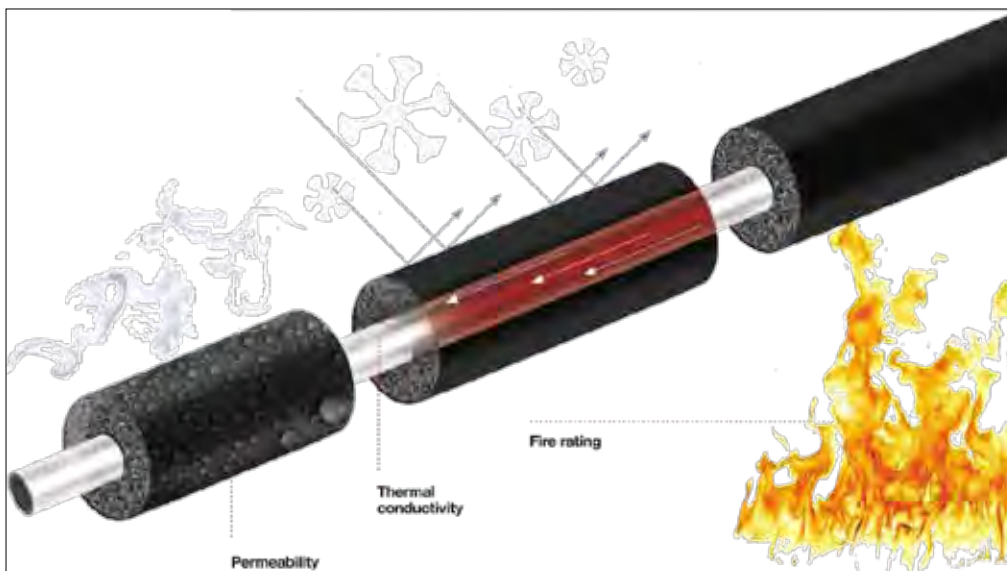
- ü  $\lambda = 0,040W/mK$  at  $40^{\circ}C$

### Fire Rating

ISOPIPE TC has a very good fire behavior. It will not drip flaming particles nor will it spread flames. It provides safe insulation; an ideal choice for residential & public buildings.

- ü **Class 0, Class 1**

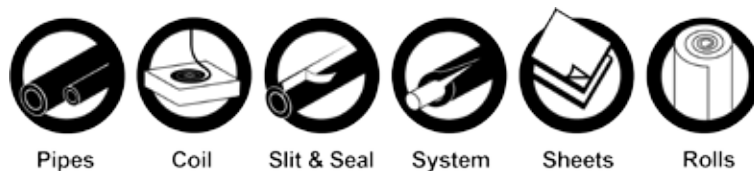
- ü **B - s3, d0**



Applicable in situations of:



Available in forms of:



## The influence of water vapor diffusion resistance index ( $\mu$ ) on thermal conductivity ( $\lambda$ )

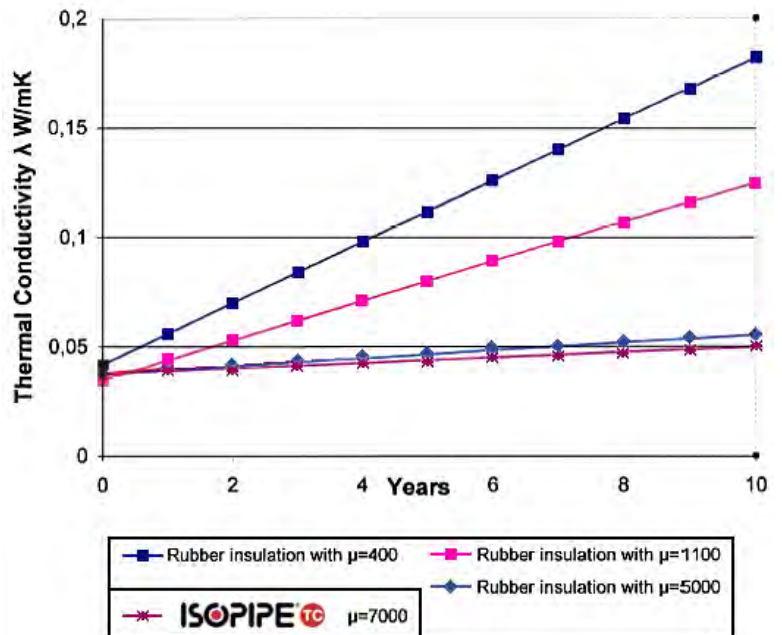
### Values:

Ambient Temperature: 36°C

Line Temperature: 0°C

Relative Humidity: 60%

Insulation Thickness: 19mm



MECHANICAL AND THERMAL PROPERTIES of ISOPIPE TC			
Property	Symbol	Technical Data	Measuring Method
Thermal Conductivity	$\lambda$	0°C - 0,035W/mK 10°C - 0,036W/mK 20°C - 0,037W/mK 40°C - 0,040W/mK	EN 12667  EN ISO 8497
Permeability	$\mu$	$\mu \geq 7000$	EN 13469, EN 12086
Density	$\rho$	60 – 75 Kgr/m <sup>3</sup>	prEN 13470, EN 1602
Tensile Strength	Pa	> 0,15 Mpa	EN ISO 1798
Temperature Resistance	°C	-40°C to +105°C (Pipe, Coil, S/S) -40°C to +85°C (Sheet, Roll, System)	
Fire Rating		B - s3, d0 (Pipe, Coil, S/S) C - s3, d0 (Sheet, Roll, System) Class 0, Class 1 B <sub>L</sub> - s3, d0 (M1) Low Flame Spread	EN 13823 EN ISO 11945-2 BS 476 p.6 & p.7, UNI 8457 NF EN 13823, NF EN 11925-2 IMO RES.MSC 61(67) FTP code, Annex 1, Part 5
Noise Reduction		up to 30dB	DIN 4109
CFC, HFC, HCFC		Free	
Odor		Neutral	

The written figures on these pages are these that have been measured in our laboratory, under typical conditions. They can be modified without prior notice. You are kindly requested to assert their validity before any special usage.

## Certifications

We do not only meet but exceed technical & performance specifications set by the insulation & fire safety standards. All our certificates, awards and documents of conformity to independent global institutes are available as a single book for your convenience and reference.





## b. Types of Protections

### i. UV

**Patented product (1004469) of 3i.** Our specially developed polymer membrane cladding offers enhanced UV protection, vapor barrier and abrasive cover.

#### UV PROPERTIES

**Permeability:** Increased steam diffusion resistance ( $\mu$ ) more than **80%**.

**UV Protection:** May not exhibit aesthetic surface defects for several years after prolonged exposure to UV radiation.

**Flexibility:** Continuous long term performance.

**Temp. Resistance:** **-30°C to +58°C**

**Lifespan (est.):** **3-5 years**

#### Added Benefits:

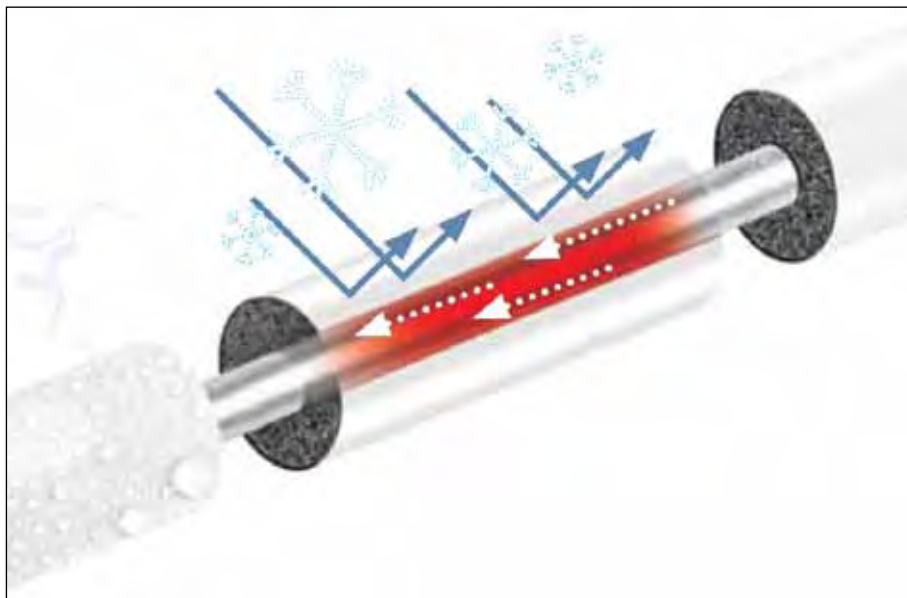
- ü Aesthetically pleasing.
- ü White color helps to detect mold faster.
- ü Oil and grease resistant.
- ü No need to tape, paint or cover and easily cleaned with a standard cloth.
- ü Elastomeric body well protected against scratches and abrasions.
- ü High weather resistant.

#### Applications:



Pipes

Slit & Seal





## ii. UV PLUS

Closed cell elastomeric insulation dressed with an **aluminium outer cover** composed of **three layers polyester, aluminium and polyethylene** which provides resistance both to ultraviolet rays and atmospheric agents.

### UV PLUS PROPERTIES

**Thickness:** 125  $\mu\text{m}$

**Weight:** 135  $\text{gr}/\text{m}^2$

**Temp. Resistance:**  $-30^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

**Lifespan (est.):** **+10 years**

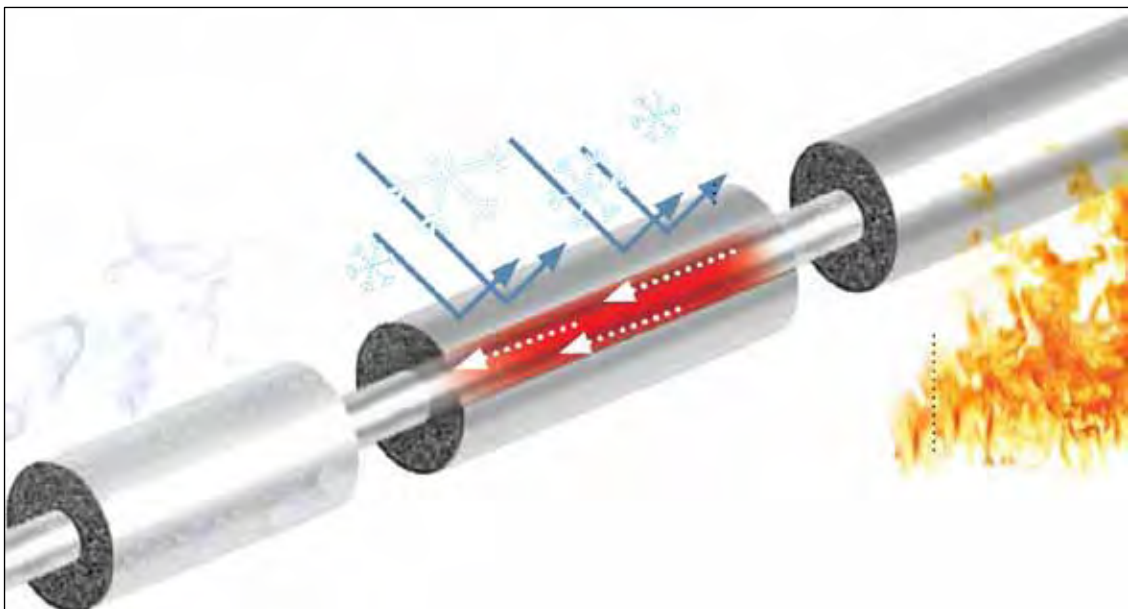
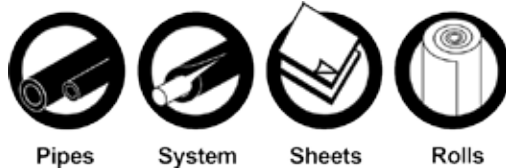
**Permeability:** Increased steam diffusion resistance ( $\mu$ ) more than **100%**.

**Flexibility:** Continuous long term performance.

#### Added Benefits:

- ü High UV protection with reflective properties.
- ü Reduces risk of under insulation corrosion
- ü Chemical and oil resistant.
- ü Fast and easy installation, without requiring special equipment.
- ü Aesthetically pleasing through its smooth and shiny appearance.
- ü No need to tape, paint or cover. Easy to clean and maintain.
- ü Can be cleaned with a standard cloth.

#### Applications:



### iii. H D (HEAVY DUTY)

**Superior aluminium covered insulation** offering protection against mechanical damage, leakages and pipe corrosion. The coating consists of a double layer of aluminium, special UV protection and PVC backing. By using Heavy Duty protection, 50% of installation costs are saved as the insulation comes with the aluminium covering in a unified piece.

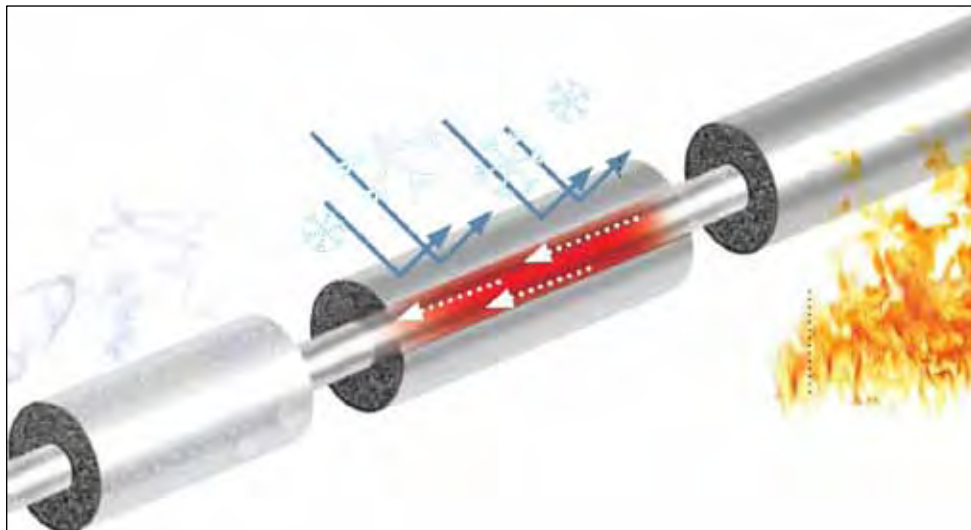
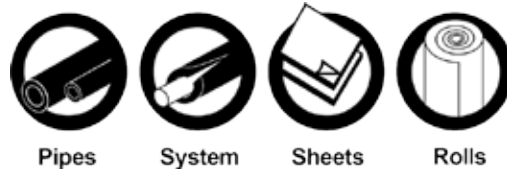


#### HD PROPERTIES

<b>Thickness:</b>	230 $\mu\text{m}$
<b>Weight:</b>	340 $\text{gr}/\text{m}^2$
<b>Temp. Resistance:</b>	<b>-25°C to + 75°C</b>
<b>Lifespan (est.):</b>	<b>+15 years</b>
<b>Permeability:</b>	Increased steam diffusion resistance ( $\mu$ ) more than <b>10 times</b> .
<b>Cover Puncture:</b>	Very high puncture and wear resistance. $\varnothing$ 0,8mm = 23N, $\varnothing$ 2,0mm = 87N
<b>Oxygen Index:</b>	<b>35%</b> (Oxygen level in the air is nearly 20%) > Fire will not spread through
<b>Added Benefits:</b>	

- ü Excellent long term UV protection with extra reflective properties.
- ü Reduces risk of under insulation corrosion.
- ü Chemical, Oil, weather and wear resistant.
- ü It is fire retardant and has two moisture barriers.
- ü Aesthetically pleasing through its smooth and shiny appearance
- ü Easy to clean and maintain. It can be cleaned with a standard cloth.

Applications:



# ISOPIPE<sup>®</sup> TC

## Product Range



## c. Product Range, Availability

### i. Pipes (Regular)



EXTERNAL PIPE DIAMETER			INTERNAL DIAMETER	THICKNESS & DIMENSION OF INSULATION												
Fe	Cu			PP	6mm 1/4"		9mm 3/8"		13mm 1/2"		19mm 3/4"		25mm 1"		30mm 1 1/4"	
Inch	mm	Inch			Φ	m	Φ	m	Φ	m	Φ	m	Φ	m	Φ	m
			min - max													
---	Φ 6	1/4"		7,0 - 8,0	√	420	√	270	√	156	*	84				
---	Φ 8	5/16"		9,0 - 10,0	*	340	*	250								
---	Φ 10	3/8"		11,0 - 12,0	√	340	√	190	√	130	*	70				
---	Φ 12	---		13,0 - 14,0	√	250	√	180	√	120	*	70				
---	Φ 13	1/2"		14,0 - 15,0	*	250	*	170	*	120						
---	Φ 14	---		15,0 - 16,0	*	200	*	140	*	100						
1/4"	Φ 15	---		16,0 - 17,0	√	200	√	140	√	100	√	50	√	40	√	30
---	Φ 16	5/8"	Φ 16	17,0 - 18,0	*	200	*	140	*	100						
3/8"	Φ 18	---		19,0 - 20,0	√	180	√	130	√	90	√	50	*	40	*	30
--	Φ 19	3/4"		20,0 - 21,0	*	180	*	130	*	90						
(16X1) WICU TALOS		---	Φ 20	21,0 - 22,0	*	150	*	110	*	80						
1/2"	Φ 22	7/8"		23,0 - 24,0	√	144	√	100	√	70	√	44	√	30	√	24
	Φ 25	1"	Φ 25	26,0 - 27,0	*	120	*	80	*	60	*	40	*	26	*	24
3/4"	Φ 28	1 1/8"		29,0 - 30,0	√	120	√	80	√	60	√	40	√	26	√	24
---	Φ 30	---		31,0 - 32,0	*	108	*	70	*	44					*	24
---	Φ 32	1 1/4"	Φ32	33,0 - 34,0	*	108	*	70	*	44	*	30				
1"	Φ 35	1 3/8"		36,0 - 37,0	√	108	√	70	√	44	√	30	√	24	√	18
	Φ 38	1 1/2"		39,0 - 40,0	*	60	*	60	*	36	*	28				
1 1/4"	Φ 42	1 5/8"	Φ 40	43,0 - 44,0	√	60	√	60	√	36	√	28	√	22	√	16
	Φ 45	1 3/4"		46,0 - 47,0			*	40	*	30						
1 1/2"	Φ 48	1 7/8"		49,0 - 50,0			√	40	√	30	√	22	√	18	*	14
---	Φ 54	2 1/8"	Φ 50	55,0 - 56,0			√	36	√	26	√	20	√	16	√	12
---	Φ 57	2 1/4"		58,0 - 59,0			*	36	*	26						
2"	Φ 60	2 3/8"		61,0 - 62,0			√	36	√	24	√	16	√	12	*	10
---	Φ 64	2 1/2"	Φ 63	65,0 - 66,0			√	32	√	22	√	16	*	12	*	10
---	Φ 67	2 5/8"		68,0 - 70,0			*	32	*	22	*	14	*	12		
---	Φ 70	2 3/4"		71,0 - 73,0			*	24	*	22	√	14	*	12	*	10
2 1/2"	Φ 76	3"	Φ 75	77,0 - 79,0			√	24	√	20	√	14	√	10	*	10
---	Φ 80	3 1/8"		81,0 - 83,0			*	20	*	16	*	12	*	8	*	10
3"	Φ 89	3 9/16"	Φ 90	90,0 - 92,0			√	20	√	16	√	12	√	8	*	8
---	Φ 101	4"		103,0 - 105,0			*	16	√	16	√	8	*	8	*	6
3 1/2"	Φ 108	4 1/4"	Φ 110	110,0 - 112,0			*	16	√	16	*	8	*	6	*	6
4"	Φ 114	4 9/16"		116,0 - 118,0			√	12	√	16	√	8	√	6	*	6
5"	Φ 139	5 1/2"		141,0 - 143,0			*	10	√	8	√	6	√	4	*	4
Thickness Tolerance					± 1,0 mm		± 1,5 mm		± 1,5 mm		± 2,0 mm		± 2,0 mm		± 2,0 mm	

§ Standard length for ISOPIPE TC is 2 m (± 1,5 %).

§ Standard carton size is 210x41x27 cm.

§ Up to 5% of total carton content may be in 1 meter length.

§ Dimensions marked with a \* should be consulted for price and availability.

## ISOPIPE TC Pipes (UV)



EXTERNAL PIPE DIAMETER				INTERNAL DIAMETER min - max	THICKNESS & DIMENSION OF INSULATION									
Fe	Cu		PP		9mm 3/8"		13mm 1/2"		19mm 3/4"		25mm 1"		30mm 1 1/4"	
Inch	mm	Inch			Φ	m	Φ	m	Φ	m	Φ	m	Φ	m
---	Φ 6	1/4"		7,0 - 8,0	√	270								
---	Φ 10	3/8"		11,0 - 12,0	√	190	√	130	√	70				
---	Φ 12	---		13,0 - 14,0	√	180	√	120	√	70				
1/4"	Φ 15	---		16,0 - 17,0	√	140	√	100	√	50	√	40	√	30
3/8"	Φ 18	---		19,0 - 20,0	√	130	√	90	√	50	√	40	√	30
1/2"	Φ 22	7/8"		23,0 - 24,0	√	100	√	70	√	44	√	30	√	24
---	Φ 25	1"	Φ 25	26,0 - 27,0	√	80	√	60						
3/4"	Φ 28	1 1/8"		29,0 - 30,0	√	80	√	60	√	40	√	26	√	24
1"	Φ 35	1 3/8"		36,0 - 37,0	√	70	√	44	√	30	√	24	√	18
1 1/4"	Φ 42	1 5/8"	Φ 40	43,0 - 44,0			√	36	√	28	√	22	√	16
Thickness Tolerance					± 1,5 mm		± 1,5 mm		± 2,0 mm		± 2,0 mm		± 2,0 mm	

§ Standard length for ISOPIPE TC UV is 2 m (± 1,5%). Standard carton size is 210x41x27 cm.

§ Up to 5% of total carton content may be in 1 meter length.

## ISOPIPE TC Pipes (UV PLUS)



EXTERNAL PIPE DIAMETER				THICKNESS & DIMENSION OF INSULATION									
Fe	Cu			9mm 3/8"		13mm 1/2"		19mm 3/4"		25mm 1"		30mm 1 1/4"	
Inch	mm	Inch		Φ	m	Φ	m	Φ	m	Φ	pcs	Φ	pcs
---	Φ 6	1/4"		√	270								
---	Φ 10	3/8"		√	190	√	130	√	70				
---	Φ 12	---		√	180	√	120	√	70				
1/4"	Φ 15	---		√	140	√	100	√	50	√	40	√	30
3/8"	Φ 18	---		√	130	√	90	√	50	√	40	√	30
1/2"	Φ 22	7/8"		√	100	√	70	√	44	√	30	√	24
3/4"	Φ 28	1 1/8"		√	80	√	60	√	40	√	26	√	24
1"	Φ 35	1 3/8"		√	70	√	44	√	30	√	24	√	18
1 1/4"	Φ 42	1 5/8"		√	60	√	36	√	28	√	22	√	16
1 1/2"	Φ 48	1 7/8"		√	40	√	30	√	22	√	18	*	14
---	Φ 54	2 1/8"		√	36	√	26	√	20	√	16	√	12
2"	Φ 60	2 3/8"		√	36	√	24	√	16	√	12	*	10
---	Φ 64	2 1/2"		√	32	√	22	√	16	√	12	*	10
2 1/2"	Φ 76	3"		√	32	√	20	√	14	√	10	*	10
3"	Φ 89	3 9/16"		√	20	√	16	√	12	√	8	*	8
---	Φ 101	4"		√	16	√	16	√	8	*	8		
3 1/2"	Φ 108	4 1/4"		√	16	√	16	*	8	*	6		
4"	Φ 114	4 9/16"		√	12	√	16	√	8	√	6		
5"	Φ 139	5 1/2"		*	10	√	8	√	6	√	4		
Thickness Tolerance				± 1,5 mm		± 1,5 mm		± 2,0 mm		± 2,0 mm		± 2,0 mm	

§ Standard length for ISOPIPE TC UV PLUS is 95 cm (± 5 cm). Standard carton size is 210x41x27 cm.

§ Up to 5% of total carton content may be in 1 meter length.

§ Dimensions marked with a \* should be consulted for price and availability.

## ISOPIPE TC Pipes (HD)



EXTERNAL PIPE DIAMETER			THICKNESS & DIMENSION OF INSULATION									
Fe Inch	Cu		9mm 3/8"		13mm 1/2"		19mm 3/4"		25mm 1"		30mm 1 1/4"	
	mm	Inch	Φ	m	Φ	m	Φ	m	Φ	m	Φ	m
---	Φ 10	3/8"	√	190	√	130	√	70				
---	Φ 12	---	√	180	√	120	√	70				
1/4"	Φ 15	---	√	140	√	100	√	50	√	40	√	30
3/8"	Φ 18	---	√	130	√	90	√	50	*	40	*	30
1/2"	Φ 22	7/8"	√	100	√	70	√	44	√	30	√	24
3/4"	Φ 28	1 1/8"	√	80	√	60	√	40	√	26	√	24
1"	Φ 35	1 3/8"	√	70	√	44	√	30	√	24	√	18
1 1/4"	Φ 42	1 5/8"	√	60	√	36	√	28	√	22	√	16
1 1/2"	Φ 48	1 7/8"	√	40	√	30	√	22	√	18	*	14
---	Φ 54	2 1/8"	√	36	√	26	√	20	√	16	√	12
2"	Φ 60	2 3/8"	√	36	√	24	√	16	√	12	*	10
---	Φ 64	2 1/2"	*	32	*	22	√	16	*	12	*	10
2 1/2"	Φ 76	3"	√	24	√	20	√	14	√	10	*	10
---	Φ 80	3 1/8"	*	20	*	16	*	12	*	8	*	10
3"	Φ 89	3 9/16"	√	20	√	16	√	12	√	8	*	8
---	Φ 101	4"	√	16	√	16	√	8	*	8	*	6
3 1/2"	Φ 108	4 1/4"	√	16	√	16	*	8	*	6	*	6
4"	Φ 114	4 9/16"	√	12	√	16	√	8	√	6	*	6
---	Φ 125	5"	√	12	*	10	*	6	*	6	*	4
---	Φ 133	---	*	10	*	8	√	6	*	6		
5"	Φ 139	5 1/2"	*	10	*	8	√	6	*	4		
Thickness Tolerance			± 1,5 mm		± 1,5 mm		± 2,0 mm		± 2,0 mm		± 2,0 mm	

- § Standard length for ISOPIPE TC HD is 95 cm (± 5 cm)
- § Standard carton size is 210x41x27 cm
- § Up to 5% of total carton content may be in 1 meter length.
- § Dimensions marked with a \* should be consulted for price and availability

### ISOPIPE TC System (UV Plus)

- ü Protection Thickness: aprx. 125µm
- ü Layers: PET (Polyester) transparent film - Aluminium foil PE (Polyethylene)

### ISOPIPE TC System (HD)

- ü Protection Thickness: aprx. 230µm
- ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)



## ii. ISOPIPE TC Coil (Regular)

**ISOPIPE<sup>TC</sup>**  
COIL

Synthetic rubber installation in continuous length.

ISOPIPE Coil offers you large savings since its delivered in a **continuous length up to 65 m**.

It's specially designed to be the practical solution for the technician and the installer!

### Applications:

It addresses the need for economical and effective insulation for internal & external applications. It is ideal for piping used in dual-temperature systems (hot or cold pipelines), Air Conditioning and Refrigeration, Central Heating and plumbing (hot or cold pipelines).



### Added Benefits:

- ü **No scrap!** Cut only the necessary length and store the rest.
- ü **Less glue!** No need to cut join short pieces.
- ü **Less labour time** from less cutting, joining or gluing!
- ü **More convenient**, due to the easy to carry package!



EXTERNAL PIPE DIAMETER			INTERNAL DIAMETER min - max	THICKNESS & DIMENSION OF INSULATION					
Fe Inch	Cu			6mm 1/4"		9mm 3/8"		13mm 1/2"	
	mm	Inch		Φ	m	Φ	m	Φ	m
---	Φ 6	1/4"	7,0 - 8,5	√	78	√	50		
---	Φ 10	3/8"	11,0 - 12,5	√	72	√	45	√	32
---	Φ 12	---	13,0 - 14,5	√	66	√	42	√	30
1/4"	Φ 15	---	16,0 - 17,5	√	58	√	40	√	27
3/8"	Φ 18	---	19,0 - 20,5	√	54	√	36	√	25
1/2"	Φ 22	7/8"	23,0 - 24,0	√	47	√	33	√	24
3/4"	Φ 28	1 1/8"	29,0 - 30,0			√	27	√	19
Thickness Tolerance				± 1,0 mm		± 1,5 mm		± 1,5 mm	

§ Continuous length tolerance is ± 1.5 %

§ Carton size is 50x50x20 cm

§ Rest cartons is 50x50x30 cm

### iii. ISOPIPE TC Slit and Slit & Seal



**SLIT** - Synthetic rubber installation, lengthwise pre-slitted.

**SLIT & SEAL** - Synthetic rubber installation, lengthwise pre-slitted **WITH** self-adhesive **PLUS** black overlap.

#### Applications:

- ü It's **ideal for confined or restricted working areas** and
- ü for **already installed pipe systems**, where insulation cannot be threaded and must be slit and clamped around the existing pipes.

#### Added Benefits:

- ü ISOPIPE TC Slit & Seal has a **secure double bonding** along the slit length, with strong inner self-adhesive "mesh" tape and self-adhesive overlapping tape.
- ü It is **pre-cut at angle** to ensure larger bonding surface, better adhesion and less risk of heat loss.
- ü ISOPIPE TC Slit & Seal **reduces** significantly **application and installation time** and **costs**.
- ü Its appearance is **attractive** and it has an **professional finish**.

#### Installation:



Clamp insulation over pipe



Peel inner release film



Bring firmly together



Peel release film from overlapping tape and bring over slit



Bring The tape into desired position

## ISOPIPE TC Slit and Slit & Seal (Regular)

Synthetic rubber installation, lengthwise pre-slitted,  
WITH or WITHOUT self-adhesive plus black overlap.



EXTERNAL PIPE DIAMETER			THICKNESS & DIMENSION							
Fe Inch	Cu		OF INSULATION							
	mm	Inch	9mm 3/8"		13mm 1/2"		19mm 3/4"		25mm 1"	
			Φ	m	Φ	m	Φ	m	Φ	m
1/4"	Φ 15	---	√	140	√	100	√	50		
3/8"	Φ 18	---	√	130	√	90	√	50	√	40
1/2"	Φ 22	7/8"	√	100	√	70	√	44	√	30
3/4"	Φ 28	1 1/8"	√	80	√	60	√	40	√	26
1"	Φ 35	1 3/8"			√	44	√	30	√	24
1 1/4"	Φ 42	1 5/8"			√	36	√	28	√	22
1 1/2"	Φ 48	1 7/8"			√	30	√	22	√	18
---	Φ 54	2 1/8"			√	26	√	20	√	16
2"	Φ 60	2 3/8"			√	24	√	16	√	12
---	Φ 64	2 1/2"			√	22	√	16	√	12
2 1/2"	Φ 76	3"			√	20	√	14	√	10
3"	Φ 89	3 9/16"			√	16	√	12	√	8
Thickness Tolerance			± 1,5 mm				± 2,0 mm			



§ Standard length 2 meters (± 1.5 %). Up to 5% of total carton content may be in 1 meter length.

§ Standard carton size is 210x41x27 cm.

## ISOPIPE TC Slit & Seal (UV)

Synthetic rubber installation with UV protection, lengthwise pre-slitted,  
WITH self-adhesive plus white overlap.



EXTERNAL PIPE DIAMETER			THICKNESS & DIMENSION							
Fe Inch	Cu		OF INSULATION							
	mm	Inch	9mm 3/8"		13mm 1/2"		19mm 3/4"		25mm 1"	
			Φ	m	Φ	m	Φ	m	Φ	m
1/4"	Φ 15	---	√	140	√	100	√	50	√	40
3/8"	Φ 18	---	√	130	√	90	√	50	√	40
1/2"	Φ 22	7/8"	√	100	√	70	√	44	√	30
---	Φ 25	1"	√	80	*	60	*	40	*	26
3/4"	Φ 28	1 1/8"	√	80	√	60	√	40	√	26
1"	Φ 35	1 3/8"			√	44	√	30	√	24
1 1/4"	Φ 42	1 5/8"			√	36	√	28	√	22
Thickness Tolerance			± 1,5 mm				± 2,0 mm			



§ Standard length 2 meters (± 1.5 %). Up to 5% of total carton content may be in 1 meter length.

§ Standard carton size is 210x41x27 cm.

§ Dimensions marked with an \* should be consulted for price and availability

#### iv. ISOPIPE TC System



*Pre-slanted cut elastomeric sheets for large bore pipes.*

The ISOSYSTEM sheet insulation system offers an efficient method of insulating. The clue about it is, that it is **already pre-cut** to the dimensions of the pipe.

- ü Available **up to  $\Phi$  1200!!** For bigger diameters, please contact us.
- ü ISOPIPE TC SYSTEM can also be offered with SLIT & SEAL tapes (two self-adhesive and one overlap tape)

#### Applications:

- ü All heating and cooling piping requiring thermal insulation.
- ü Large diameter pipe insulating, where conventional products are unavailable.

#### Added Benefits:

- ü **Large time saving** due to measured pre-cut sheets. No need to calculate, measure or cut sheets.
- ü **Eliminates wastage and scrap**, common in the use of single-sized sheets or rolls.
- ü **Better perfect-fit** application due to engineered **angle-cut endings**. This assures parallel to the pipe bonding, less “unleash” stress and larger adhesive surface area.
- ü Innovative, attractive and **professional appearance**.
- ü **Easy to handle, transport and store** due to the 1 meter packaged and easy to carry carton.

#### Installation:



Place required number of sheets flat on top of each other, align edges and apply an even layer of glue on both angled cut sides



Place one end of ISOSYSTEM on the pipe, hold down and bring insulation around the pipe



Align angle-cut edges and bring together, pressing firmly



Drag palms slowly along joint, aligning and applying pressure

*Apply black adhesive tape along joint to give an attractive finish.*

## ISOPIPE TC System (Regular, UV PLUS, HD)



OutD	InD	THICKNESS & DIMENSION OF INSULATION				
		13mm 1/2" Φ	19mm 3/4" Φ	25mm 1" Φ	32mm 1 1/4" Φ	40mm 1 9/16" Φ
mm	Inch					
Φ 80					√	√
Φ 89	3"	√	√	√	√	√
Φ 101		√	√	√	√	√
Φ 108		√	√	√	√	√
Φ 114	4"	√	√	√	√	√
Φ 127		√	√	√	√	√
Φ 133		√	√	√	√	√
Φ 139	5"	√	√	√	√	√
Φ 152		√	√	√	√	√
Φ 156		√	√	√	√	√
Φ 160		√	√	√	√	√
Φ 168	6"	√	√	√	√	√
Φ 203		√	√	√	√	√
Φ 219	8"	√	√	√	√	√
Φ 254		√	√	√	√	√
Φ 273	10"	√	√	√	√	√
Φ 305		√	√	√	√	√
Φ 323	12"	√	√	√	√	√
Φ 356	14"	√	√	√	√	√
Φ 406	16"	√	√	√	√	√
Φ 457	18"	√	√	√	√	√
Φ 508	20"	√	√	√	√	√
Thickness Tolerance		± 1,5 mm	± 1,5 mm	± 2,0 mm	± 2,0 mm	± 2,0 mm



§ Standard length 1 meter (± 1.5 %)

§ Standard carton size is 104x51x62 cm

### ISOPIPE TC System (UV PLUS)

ü Protection Thickness: aprx. 125µm

ü Layers: PET (Polyester) transparent film - Aluminium foil PE (Polyethylene)

### ISOPIPE TC System (HD)

ü Protection Thickness: aprx. 230µm

ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)



## v. ISOPIPE TC Sheets



*Synthetic rubber installation in form of sheets.*

At a construction site or installation area, technicians often need to work and install insulation along roofs or hard to get and small areas.

ISOPIPE TC Sheets are manufactured to withstand the stress during any installation and operation and at the same time offer enough elasticity to allow the material to be “molded” and formed by the technician into the desired shape of the insulated object.

All sheets are delivered **pre-cut** at the **standard size of 2x1 m.**



### Applications:

- ü All heating and cooling piping requiring thermal insulation.

### Added Benefits:

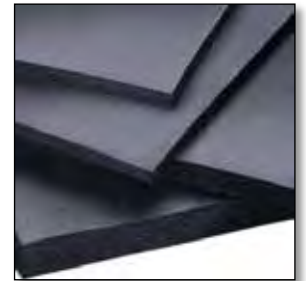
- ü **Easy to handle, transport and store** due to the 1 meter package and easy to carry carton.
- ü Available with the option of **self-adhesive AND/OR aluminium protection foil.**



## ISOPIPE TC Sheets (Regular)

Synthetic rubber installation in form of sheets.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
6 - 1/4"	± 1,0mm	2 x 1	30
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6
36 - 1-7/16"	± 2,0 mm	2 x 1	5
40 - 1-9/16"	± 2,0 mm	2 x 1	4



§ Standard length and width can vary ± 2 %

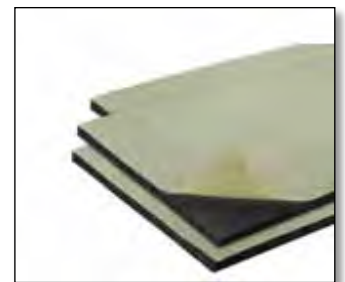
§ Standard carton size is 206x106x11 cm

## ISOPIPE TC Sheets (Regular) with self adhesive

Synthetic rubber installation in form of sheets WITH self adhesive.

- ü No need of glue to stick it on the surface, no waste of time.
- ü Strong adhesive strength and easy to peel off silicon paper.
- ü Ideal for long ducts and in-accessible areas.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
6 - 1/4"	± 1,0mm	2 x 1	30
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6
36 - 1-7/16"	± 2,0 mm	2 x 1	5
40 - 1-9/16"	± 2,0 mm	2 x 1	4



§ Standard length and width can vary ± 2 %

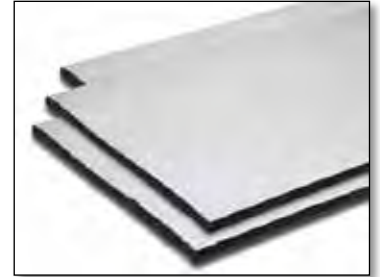
§ Standard carton size is 206x106x11 cm

## ISOPIPE TC Sheets (UV PLUS)

Synthetic rubber installation in form of sheets WITH UV PLUS protection.



THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
6 - 1/4"	± 1,0mm	2 x 1	30
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6
36 - 1-7/16"	± 2,0 mm	2 x 1	5
40 - 1-9/16"	± 2,0 mm	2 x 1	4



- § Standard length and width can vary ± 2 %
- § Standard carton size is 206x106x11 cm

## ISOPIPE TC Sheets (UV PLUS) with self adhesive

Synthetic rubber installation in form of sheets WITH UV PLUS protection and with self adhesive.

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
6 - 1/4"	± 1,0mm	2 x 1	30
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6
36 - 1-7/16"	± 2,0 mm	2 x 1	5
40 - 1-9/16"	± 2,0 mm	2 x 1	4



- § Standard length and width can vary ± 2 %
- § Standard carton size is 206x106x11 cm

- ü Protection Thickness: aprx. 125µm
- ü Layers: PET (Polyester) transparent film - Aluminium foil PE (Polyethylene)



## ISOPIPE TC Sheets (HD)

Synthetic rubber installation in form of sheets WITH HD protection.

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
6 - 1/4"	± 1,0mm	2 x 1	30
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6
36 - 1-7/16"	± 2,0 mm	2 x 1	5
40 - 1-9/16"	± 2,0 mm	2 x 1	4

§ Standard length and width can vary ± 2 %

§ Standard carton size is 206x106x11 cm



## ISOPIPE TC Sheets (HD) with self adhesive

Synthetic rubber installation in form of sheets WITH HD protection and self adhesive.

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
6 - 1/4"	± 1,0mm	2 x 1	30
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6
36 - 1-7/16"	± 2,0 mm	2 x 1	5
40 - 1-9/16"	± 2,0 mm	2 x 1	4

§ Standard length and width can vary ± 2 %

§ Standard carton size is 206x106x11 cm



ü Protection Thickness: aprx. 230µm

ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)

## vi. ISOPIPE TC Rolls

*Synthetic rubber installation in form of rolls.*



At a construction site or installation area, technicians often need to work and install insulation along roofs or hard to get and small areas.

ISOPIPE TC ROLLS are manufactured to withstand the stress during any installation and operation and at the same time offer enough elasticity to allow the material to be “molded” and formed by the technician into the desired shape of the insulated object.



### Applications:

- ü All heating and cooling piping requiring thermal insulation.
- ü Large objects like ducts, large bore pipes, boilers

### Added Benefits:

- ü **Easy to be shaped and formed** around large objects.
- ü **Excellent flexibility.**

### ISOPIPE Rolls Bag

Insulation rolls are delivered in bags. Reduction of required storage and transport space by nearly 50%. Furthermore, due to the decrease of size, they are easier to handle during work.

Each ISOPIPE Roll is being shrink-wrapped before it is put into bag, to ensure that the product remains sturdy during transportation.





## ISOPIPE TC Rolls (Regular)

Synthetic rubber installation in form of rolls.

- ü Can be applied easy and quick on the surface needed.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS / PACKAGING			
		m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>
6 - 1/4"	± 1,0mm	30 x 1 = 30	30 x 1,20 = 36	30 x 1,25 = 37,5	30 x 1,50 = 45
10 - 3/8"	± 1,5 mm	20 x 1 = 20	20 x 1,20 = 24	20 x 1,25 = 25	20 x 1,50 = 30
13 - 1/2"	± 1,5 mm	14 x 1 = 14	14 x 1,20 = 16,80	14 x 1,25 = 17,50	14 x 1,50 = 21
19 - 3/4"	± 1,5 mm	10 x 1 = 10	10 x 1,20 = 12	10 x 1,25 = 12,50	10 x 1,50 = 15
25 - 1"	± 2,0 mm	8 x 1 = 8	8 x 1,20 = 9,60	8 x 1,25 = 10	8 x 1,50 = 12
32 - 1 1/4"	± 2,0 mm	6 x 1 = 6	6 x 1,20 = 7,20	6 x 1,25 = 7,50	6 x 1,50 = 9
36 - 1-7/16"	± 2,0 mm	5 x 1 = 5	5 x 1,20 = 6	5 x 1,25 = 6,25	5 x 1,50 = 7,50
40 - 1-9/16"	± 2,0 mm	4 x 1 = 4	4 x 1,20 = 4,80	4 x 1,25 = 5	4 x 1,50 = 6



§ Standard length and width can vary ± 2 %

§ Standard carton size is 206x106x11 cm

## ISOPIPE TC Rolls (Regular) with self adhesive

Synthetic rubber installation in form of rolls WITH self adhesive.

- ü Can be applied easy and quick on the surface needed.
- ü No need of gluing. Ideal for long ducts and in-accessible areas.
- ü Strong adhesive strength and easy to peel off silicon paper.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
6 - 1/4"	± 1,0mm	30 x 1	30
10 - 3/8"	± 1,5 mm	20 x 1	20
13 - 1/2"	± 1,5 mm	14 x 1	14
19 - 3/4"	± 1,5 mm	10 x 1	10
25 - 1"	± 2,0 mm	8 x 1	8
32 - 1 1/4"	± 2,0 mm	6 x 1	6
36 - 1-7/16"	± 2,0 mm	5 x 1	5
40 - 1-9/16"	± 2,0 mm	4 x 1	4



§ Standard length and width can vary ± 2 %

§ Standard carton size is 206x106x11 cm



## ISOPIPE TC Rolls (UV PLUS)

Synthetic rubber installation in form of rolls WITH UV PLUS protection.

- ü Maximum vapor barrier, protection and longevity of the product.
- ü Remain flexible, economical, attractive and UV resistant.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
6 - 1/4"	± 1,0mm	30 x 1	30
10 - 3/8"	± 1,5 mm	20 x 1	20
13 - 1/2"	± 1,5 mm	14 x 1	14
19 - 3/4"	± 1,5 mm	10 x 1	10
25 - 1"	± 2,0 mm	8 x 1	8
32 - 1 1/4"	± 2,0 mm	6 x 1	6
36 - 1-7/16"	± 2,0 mm	5 x 1	5
40 - 1-9/16"	± 2,0 mm	4 x 1	4



§ Standard length & width can vary ± 2 %

§ Standard bag size is 206x106x11 cm

- ü Protection Thickness: aprx. 125µm
- ü Layers: PET (Polyester) transparent film - Aluminium foil PE (Polyethylene)

## ISOPIPE TC Rolls (HD)

Synthetic rubber installation in form of rolls WITH HD protection.

- ü Maximum vapor barrier, protection and longevity of the product.
- ü Remain flexible, economical, attractive and UV resistant.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
6 - 1/4"	± 1,0mm	30 x 1	30
10 - 3/8"	± 1,5 mm	20 x 1	20
13 - 1/2"	± 1,5 mm	14 x 1	14
19 - 3/4"	± 1,5 mm	10 x 1	10
25 - 1"	± 2,0 mm	8 x 1	8
32 - 1 1/4"	± 2,0 mm	6 x 1	6
36 - 1-7/16"	± 2,0 mm	5 x 1	5
40 - 1-9/16"	± 2,0 mm	4 x 1	4



§ Standard length & width can vary ± 2 %

§ Standard bag size is 206x106x11 cm

- ü Protection Thickness: aprx. 230µm
- ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)



# ISOPIPE<sup>®</sup> HT



## 2. ISOPIPE HT

### a. Product Description

# ISOPIPE<sup>®</sup> HT

*The new generation of high performance insulation!*

**ISOPIPE HT is the environmental solution for higher temperatures.** Apart from a very good outdoor aging resistance it excels in applications where environmental issues (toxicity) are critical. The outstanding performance of the ISOPIPE HT material is guaranteed through continuing supervision and factory tests.



#### Density

ISOPIPE HT insulation is produced to give a density **70-85 kg/m<sup>3</sup>**.



#### Proper Fit

ISOPIPE HT ensures no gaps between insulation and pipe because of the proper and secure fitting. This is especially important in applications like air conditioning, refrigeration or cooling, where condensation on the surface of the pipe is prevented.



#### Operating Temperatures

Brief temperature spikes will not result in failure. ISOPIPE HT is sustainable in situations of extreme temperatures of **up to 175°C** [-40°C to +150°C (175°C)]



#### Flexibility

ISOPIPE HT remains flexible even at temperatures as high as 150°C and temporarily up to 175°C. It is also flexible at low temperatures. This allows for easy and fast application, effective insulation and at the same time provides excellent tear resistance.



### Zero Ozone - Depleting Potential

ISOPIPE HT does not release any CFC's into the atmosphere in the event of fire.

### Permeability

ISOPIPE HT's inherent structure & material offers a very high resistance to water vapor transmission. This ensures the long term performance & effectiveness of the insulation.

$$\ddot{u} \quad \mu > 4000$$

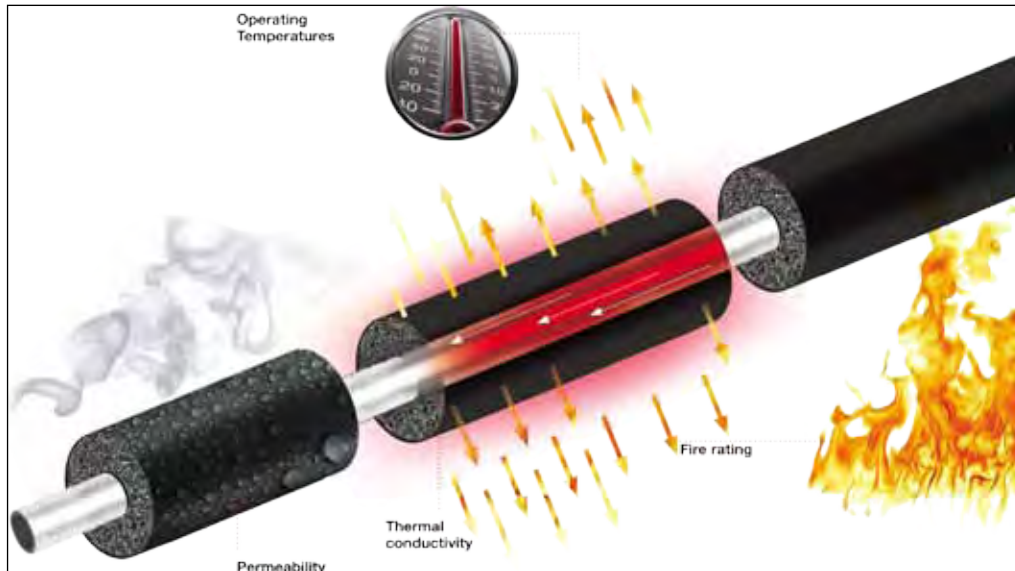
### Thermal Conductivity

As air (closed cells) & elastomeric material are poor conductors of heat, ISOPIPE HT significantly reduces the transfer of heat through its insulation.

$$\ddot{u} \quad \lambda = 0,045W/mK \text{ at } 40^{\circ}C$$

### Fire Rating

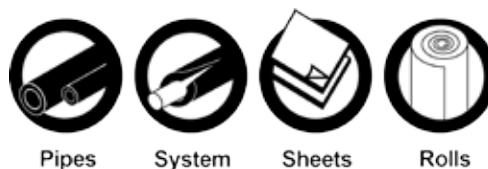
ISOPIPE HT has a very good fire behavior. It will not drip flaming particles. It provides safe insulation; an ideal choice for residential & public buildings.



Applicable in situations of:



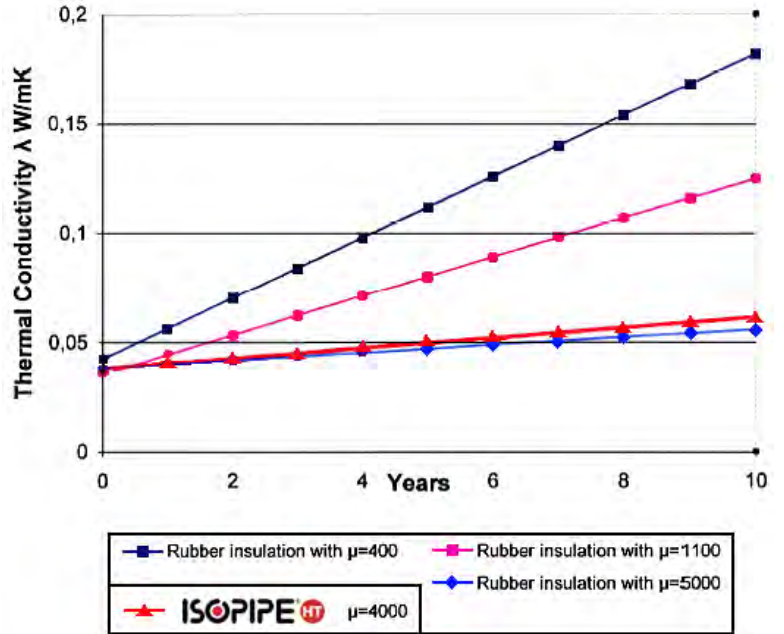
Available in forms of:



**The influence of water vapor diffusion resistance index ( $\mu$ ) on thermal conductivity ( $\lambda$ )**

Values:

Ambient Temperature: 36°C  
 Line Temperature: 0°C  
 Relative Humidity: 60%  
 Insulation Thickness: 19mm



<b>MECHANICAL AND THERMAL PROPERTIES of ISOPIPE HT</b>			
<b>Property</b>	<b>Symbol</b>	<b>Technical Data</b>	<b>Measuring Method</b>
<b>Thermal Conductivity</b>	$\lambda$	0°C - 0,040W/mK 40°C - 0,045W/mK	EN 12667 EN ISO 8497
<b>Permeability</b> resistance to water vapor transmission	$\mu$	$\mu \geq 4000$	EN 13469 EN 12086
<b>Density</b>	$\rho$	70 – 85 Kgr/m <sup>3</sup>	prEN 13470 EN 1602
<b>UV Resistance</b>		Very Good	ISO 4892-2
<b>Fire Rating</b>		E - s3, d0	EN 13823 EN ISO 11945-2
<b>Noise Reduction</b>		up to 30dB	DIN 4109
<b>CFC, HFC, HCFC</b>		Free	
<b>PVC</b>		Free	
<b>Odor</b>		Neutral	

The written figures on these pages are these that have been measured in our laboratory, under typical conditions. They can be modified without prior notice. You are kindly requested to assert their validity before any special usage.

**Certifications**

We do not only meet but exceed technical & performance specifications set by the insulation & fire safety standards. All our certificates, awards and documents of conformity to independent global institutes are available as a single book for your convenience and reference.



## b. Types of Protections

### i. UV

**Patented product (1004469) of 3i.** Our specially developed polymer membrane cladding offers enhanced UV protection, vapor barrier and abrasive cover.

#### UV PROPERTIES

**Permeability:** Increased steam diffusion resistance ( $\mu$ ) more than **80%**.

**UV Protection:** May not exhibit aesthetic surface defects for several years after prolonged exposure to UV radiation.

**Flexibility:** Continuous long term performance.

**Temp. Resistance:** **-30°C to +58°C**

**Lifespan (est.):** **3-5 years**

#### Added Benefits:

- ü Aesthetically pleasing.
- ü White color helps to detect mold faster.
- ü Oil and grease resistant.
- ü No need to tape, paint or cover and easily cleaned with a standard cloth.
- ü Elastomeric body well protected against scratches and abrasions.
- ü High weather resistant.

#### Applications:

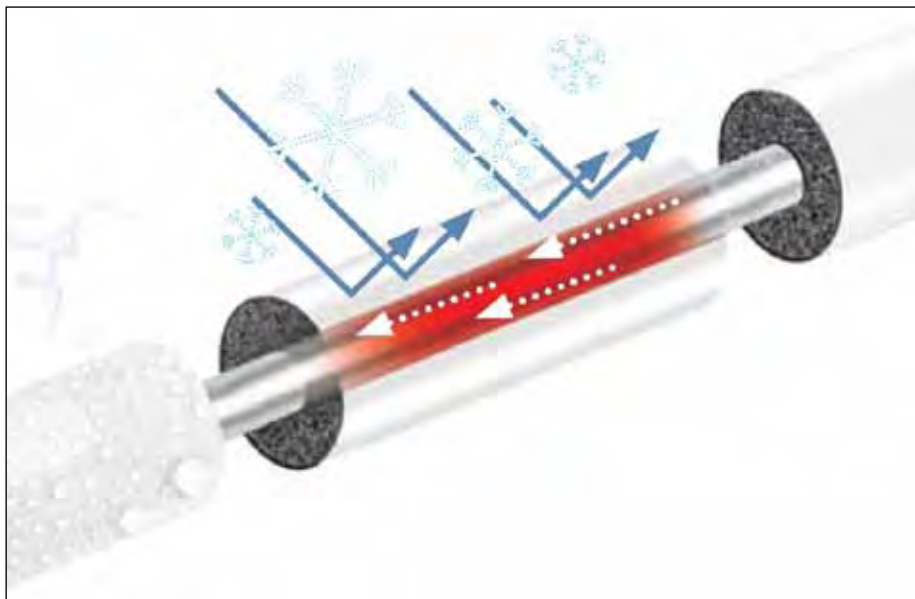


Pipes

System

Sheets

Rolls





## ii. UV PLUS

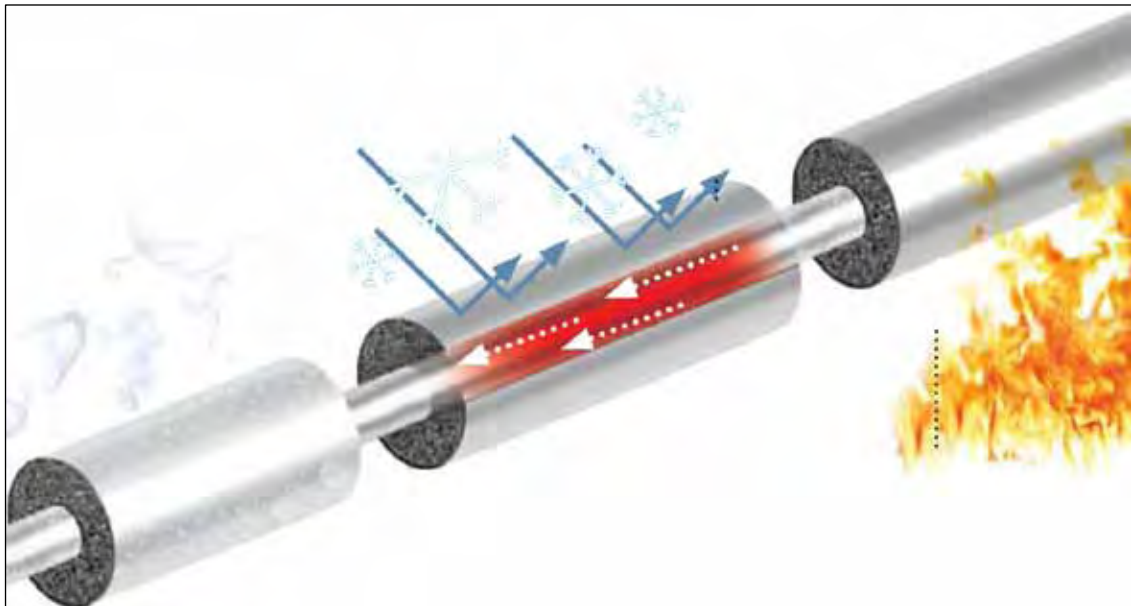
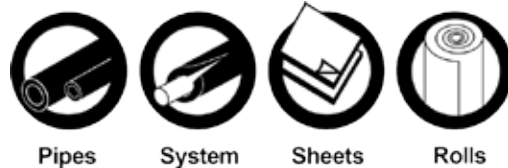
Closed cell elastomeric insulation dressed with an **aluminium outer cover** composed of **three layers polyester, aluminium and polyethylene** which provides resistance both to ultraviolet rays and atmospheric agents.

### UV PLUS PROPERTIES

<b>Thickness:</b>	125 $\mu\text{m}$
<b>Weight:</b>	135 $\text{gr}/\text{m}^2$
<b>Temp. Resistance:</b>	-30°C to +85°C
<b>Lifespan (est.):</b>	<b>+10 years</b>
<b>Permeability:</b>	Increased steam diffusion resistance ( $\mu$ ) more than <b>100%</b> .
<b>Flexibility:</b>	Continuous long term performance.
<b>Added Benefits:</b>	

- ü High UV protection with reflective properties.
- ü Reduces risk of under insulation corrosion
- ü Chemical and oil resistant.
- ü Fast and easy installation, without requiring special equipment.
- ü Aesthetically pleasing through its smooth and shiny appearance.
- ü No need to tape, paint or cover. Easy to clean and maintain.
- ü Can be cleaned with a standard cloth.

### Applications:





### iii. H D (HEAVY DUTY)

**Superior aluminium covered insulation** offering protection against mechanical damage, leakages and pipe corrosion. The coating consists of a double layer of aluminium, special UV protection and PVC backing. By using Heavy Duty protection, 50% of installation costs are saved as the insulation comes with the aluminium covering in a unified piece.

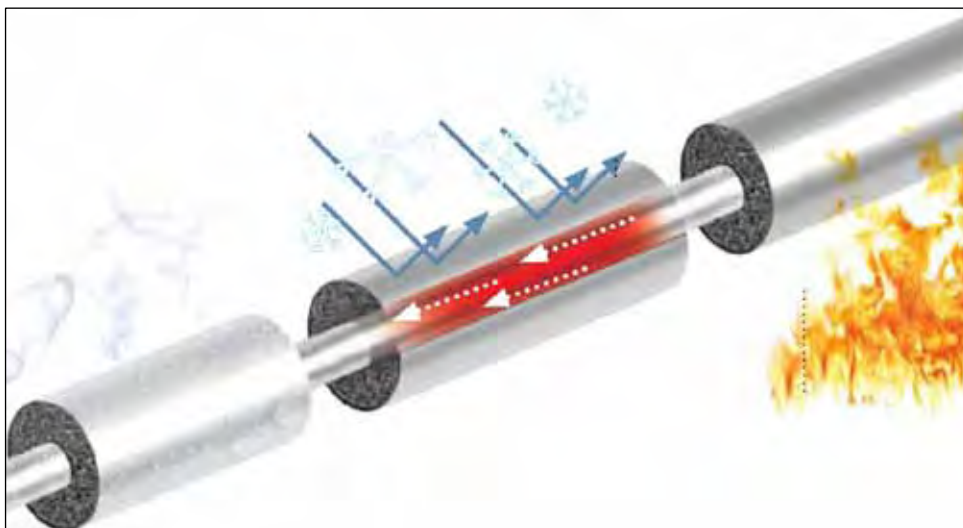
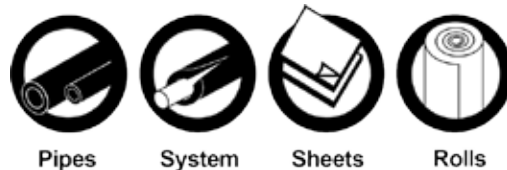


#### HD PROPERTIES

<b>Thickness:</b>	230 $\mu\text{m}$
<b>Weight:</b>	340 $\text{gr/m}^2$
<b>Temp. Resistance:</b>	<b>-25°C to + 75°C</b>
<b>Lifespan (est.):</b>	<b>+15 years</b>
<b>Permeability:</b>	Increased steam diffusion resistance ( $\mu$ ) more than <b>10 times</b> .
<b>Cover Puncture:</b>	Very high puncture and wear resistance. $\varnothing$ 0,8mm = 23N, $\varnothing$ 2,0mm = 87N
<b>Oxygen Index:</b>	<b>35%</b> (Oxygen level in the air is nearly 20%) > Fire will not spread through
<b>Added Benefits:</b>	

- ü Excellent long term UV protection with extra reflective properties.
- ü Reduces risk of under insulation corrosion.
- ü Chemical, Oil, weather and wear resistant.
- ü It is fire retardant and has two moisture barriers.
- ü Aesthetically pleasing through its smooth and shiny appearance
- ü Easy to clean and maintain. It can be cleaned with a standard cloth.

Applications:



# ISOPIPE<sup>®</sup> HT

## Product Range



Pipes

System

Sheets

Rolls



## c. Product Range, Availability

### i. Pipes (Regular)

Synthetic rubber installation for High Temperature.



EXTERNAL PIPE DIAMETER				INTERNAL DIAMETER	THICKNESS & DIMENSION OF INSULATION									
Fe	Cu		PP		9mm 3/8"		13mm 1/2"		19mm 3/4"		25mm 1"		30mm 1 1/4"	
Inch	mm	Inch			φ	m	φ	m	φ	m	φ	m	φ	m
				min - max										
---	Φ 6	1/4"		6,5 - 7,5										
---	Φ 8	5/16"		8,5,0 - 9,5										
---	Φ 10	3/8"		10,5 - 11,5	√	190	√	130	√	70				
---	Φ 12	---		12,5 - 13,5	√	180	√	120	√	70				
---	Φ 13	1/2"		13,5 - 14,5	*		*							
---	Φ 14	---		14,5 - 15,5	*		*							
1/4"	Φ 15	---		15,5 - 16,5	√	140	√	100	√	50	√	40	√	30
---	Φ 16	5/8"	Φ 16	16,5 - 17,5	*		*							
3/8"	Φ 18	---		18,5 - 19,5	√	130	√	90	√	50	*	40	*	30
--	Φ 19	3/4"		19,5 - 20,5	*		*							
(16X1) WICU TALOS		---	Φ 20	20,5 - 21,5	*		*							
1/2"	Φ 22	7/8"		22,5 - 23,5	√	100	√	70	√	44	√	30	√	24
	Φ 25	1"	Φ 25	25,5 - 26,5	*		*		*	40				
3/4"	Φ 28	1 1/8"		28,8 - 29,5	√	80	√	60	√	40	√	26	√	24
---	Φ 32	1 1/4"	Φ32	32,5 - 33,5	*		*						√	
1"	Φ 35	1 3/8"		35,5 - 36,5	√	70	√	44	√	30	√	24	√	18
	Φ 38	1 1/2"		38,5 - 39,5	*		*		*					
1 1/4"	Φ 42	1 5/8"	Φ 40	42,5 - 43,5	√	60	√	36	√	28	√	22	√	16
	Φ 45	1 3/4"		45,5- 46,5	*		*							
1 1/2"	Φ 48	1 7/8"		48,5 - 49,5	√	40	√	30	√	22	√	18	*	14
---	Φ 54	2 1/8"	Φ 50	54,5 - 55,5	√	36	√	26	√	20	√	16	√	12
---	Φ 57	2 1/4"		57,5 - 58,5	*		*							
2"	Φ 60	2 3/8"		60,5 - 61,5	√	36	√	24	√	16	√	12	*	10
---	Φ 64	2 1/2"	Φ 63	64,5 - 65,5	√	32	√	22	√	16	*	12	*	10
---	Φ 67	2 5/8"		67,5 - 69,5	*		*		*					
---	Φ 70	2 3/4"		70,5 - 72,5	*		*		√	14			*	
2 1/2"	Φ 76	3"	Φ 75	76,5 - 78,5	√	24	√	20	√	14	√	10	*	10
---	Φ 80	3 1/8"		80,5 - 82,5	*		*		*		*		√	
3"	Φ 89	3 9/16"	Φ 90	89,5 - 91,5	√	20	√	16	√	12	√	8	*	8
---	Φ 101	4"		102,5 - 104,5	*	16	*		√	8	*	8	*	
3 1/2"	Φ 108	4 1/4"	Φ 110	109,5 - 111,5	*	16	*	16	*	8	*	6	*	
4"	Φ 114	4 9/16"		115,5 - 117,5	√	12	√	16	√	8	√	6	*	6
5"	Φ 139	5 1/2"		140,5 - 142,5	*		√		√		√	4	*	4
Thickness Tolerance					± 1,5 mm		± 1,5 mm		± 2,0 mm		± 2,0 mm		± 2,0 mm	

§ Dimensions marked with a \* should be consulted for price and availability

## ISOPIPE HT Pipes (UV)



Synthetic rubber installation with UV protection.

EXTERNAL PIPE DIAMETER				INTERNAL DIAMETER	THICKNESS & DIMENSION OF INSULATION					
Fe		Cu			9mm		13mm		19mm	
Inch	mm	Inch	PP		Φ	m	Φ	m	Φ	m
---	Φ 6	1/4"		7,0 - 8,0	*	270	*	156	*	84
---	Φ 10	3/8"		11,0 - 12,0	√	190	√	130	√	70
---	Φ 12	---		13,0 - 14,0	√	180	√	120	√	70
1/4"	Φ 15	---		16,0 - 17,0	√	140	√	100	√	50
3/8"	Φ 18	---		19,0 - 20,0	√	130	√	90	√	50
1/2"	Φ 22	7/8"		23,0 - 24,0	*	100	*	70	*	44
---	Φ 25	1"	Φ 25	26,0 - 27,0	√	80	√	60		
3/4"	Φ 28	1 1/8"		29,0 - 30,0	√	80	√	60	√	40
1"	Φ 35	1 3/8"		36,0 - 37,0	√	70	√	44	√	30
1 1/4"	Φ 42	1 5/8"	Φ 40	43,0 - 44,0			√	36	√	28
Thickness Tolerance					± 1,5 mm		± 1,5 mm		± 2,0 mm	

§ Dimensions marked with a \* should be consulted for price and availability

## ISOPIPE HT Pipes (UV PLUS)



Synthetic rubber installation with UV PLUS protection.

EXTERNAL PIPE DIAMETER				THICKNESS & DIMENSION OF INSULATION									
Fe		Cu		9mm		13mm		19mm		25mm		30mm	
Inch	mm	Inch	PP	Φ	m	Φ	m	Φ	m	Φ	m	Φ	m
---	Φ 6	1/4"		√	270								
---	Φ 10	3/8"		√	190	√	130	√	70				
---	Φ 12	---		√	180	√	120	√	70				
1/4"	Φ 15	---		√	140	√	100	√	50	√	40	√	30
3/8"	Φ 18	---		√	130	√	90	√	50	√	40	√	30
1/2"	Φ 22	7/8"		√	100	√	70	√	44	√	30	√	24
3/4"	Φ 28	1 1/8"		√	80	√	60	√	40	√	26	√	24
1"	Φ 35	1 3/8"		√	70	√	44	√	30	√	24	√	18
1 1/4"	Φ 42	1 5/8"		√	60	√	36	√	28	√	22	√	16
1 1/2"	Φ 48	1 7/8"		√	40	√	30	√	22	√	18	*	14
---	Φ 54	2 1/8"		√	36	√	26	√	20	√	16	√	12
2"	Φ 60	2 3/8"		√	36	√	24	√	16	√	12	*	10
---	Φ 64	2 1/2"		√	32	√	22	√	16	√	12	*	10
2 1/2"	Φ 76	3"		√	24	√	20	√	14	√	10	*	10
3"	Φ 89	3 9/16"		√	20	√	16	√	12	√	8	*	8
---	Φ 101	4"		√	16	√	16	√	8	*	8		
3 1/2"	Φ 108	4 1/4"		√	16	√	16	*	8	*	6		
4"	Φ 114	4 9/16"		√	12	√	16	√	8	√	6		
5"	Φ 139	5 1/2"		√		√	8	√	6	√			
Thickness Tolerance				± 1,5 mm		± 1,5 mm		± 2,0 mm		± 2,0 mm		± 2,0 mm	

## ISOPIPE HT Pipes (HD)

Synthetic rubber installation with HD protection.



EXTERNAL PIPE DIAMETER			PP	INTERNAL DIAMETER min - max	THICKNESS & DIMENSION OF INSULATION									
Fe	Cu				9mm	13mm		19mm		25mm		30mm		
Inch	mm	Inch			3/8"	1/2"	3/4"	1"	1 1/4"	φ	m	φ	m	
---	Φ 10	3/8"		11,0 - 12,0	√	190	√	130	√	70				
---	Φ 12	---		13,0 - 14,0	√	180	√	120	√	70				
1/4"	Φ 15	---		16,0 - 17,0	√	140	√	100	√	50	√		√	
---	Φ 16	5/8"	Φ 16	17,0 - 18,0	*		*							
3/8"	Φ 18	---		19,0 - 20,0	√	130	√	90	√	50	*	40	*	30
(16X1) WICU TALOS		---	Φ 20	21,0 - 22,0	*		*							
1/2"	Φ 22	7/8"		23,0 - 24,0	√	100	√	70	√	44	√	30	√	24
	Φ 25	1"	Φ 25	26,0 - 27,0	*		*		*				*	
3/4"	Φ 28	1 1/8"		29,0 - 30,0	√	80	√	60	√	40	√	26	√	24
---	Φ 32	1 1/4"	Φ 32	33,0 - 34,0	*		*							
1"	Φ 35	1 3/8"		36,0 - 37,0	√	70	√	44	√	30	√	24	√	18
	Φ 38	1 1/2"		39,0 - 40,0	*		*		*					
1 1/4"	Φ 42	1 5/8"	Φ 40	43,0 - 44,0	√	60	√	36	√	28	√	22	√	16
	Φ 45	1 3/4"		46,0 - 47,0	*		*							
1 1/2"	Φ 48	1 7/8"		49,0 - 50,0	√	40	√	30	√	22	√	18	*	14
---	Φ 54	2 1/8"	Φ 50	55,0 - 56,0	√	36	√	26	√	20	√	16	√	12
---	Φ 57	2 1/4"		58,0 - 59,0	*		*							
2"	Φ 60	2 3/8"		61,0 - 62,0	√	36	√	24	√	16	√	12	*	10
---	Φ 64	2 1/2"	Φ 63	65,0 - 66,0	√		√		√	16	*		*	
---	Φ 67	2 5/8"		68,0 - 70,0	*		*		*					
---	Φ 70	2 3/4"		71,0 - 73,0									*	
2 1/2"	Φ 76	3"	Φ 75	77,0 - 79,0	√	24	√	20	√	14	√	10	*	10
---	Φ 80	3 1/8"		81,0 - 83,0	*		*		*		*		√	
3"	Φ 89	3 9/16"	Φ 90	90,0 - 92,0	√	20	√	16	√	12	√	8	*	8
---	Φ 101	4"		103,0 - 105,0	*	16	*	16	√	8	*		*	
3 1/2"	Φ 108	4 1/4"	Φ 110	110,0 - 112,0	*	16	*	16	*		*	6	*	
4"	Φ 114	4 9/16"		116,0 - 118,0	√	12	√	16	√	8	√	6	*	
	Φ 125	5"		128,0 - 130,0	√	12	√		√					
5"	Φ 139	5 1/2"		141,0 - 143,0	√		√		√	6				
Thickness Tolerance					± 1,5 mm		± 1,5 mm		± 1,5 mm		± 1,5 mm		± 1,5 mm	

§ Standard length for ISOPIPE HT and ISOPIPE HT UV is 2 m (± 1.5 %)

§ Standard length for ISOPIPE HT UV PLUS and ISOPIPE HT HD is 95 cm (± 1.5 %)

§ Dimensions marked with a \* should be consulted for price and availability

ü Protection Thickness: aprx. 230 µm

ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)

## ii. ISOPIPE HT System (Regular, UV PLUS, HD)

Pre-slanted cut elastomeric sheets for large bore pipes.



OD mm	OD Inch	THICKNESS & DIMENSION OF INSULATION				
		13mm 1/2" Φ	19mm 3/4" Φ	25mm 1" Φ	32mm 1 1/4" Φ	40mm 1 9/16" Φ
Φ 89	3"	√	√	√	√	√
Φ 101		√	√	√	√	√
Φ 108		√	√	√	√	√
Φ 114	4"	√	√	√	√	√
Φ 127		√	√	√	√	√
Φ 133		√	√	√	√	√
Φ 139	5"	√	√	√	√	√
Φ 152		√	√	√	√	√
Φ 156		√	√	√	√	√
Φ 160		√	√	√	√	√
Φ 168	6"	√	√	√	√	√
Φ 203		√	√	√	√	√
Φ 219	8"	√	√	√	√	√
Φ 254		√	√	√	√	√
Φ 273	10"	√	√	√	√	√
Φ 305		√	√	√	√	√
Φ 323	12"	√	√	√	√	√
Φ 356	14"	√	√	√	√	√
Φ 406	16"	√	√	√	√	√
Φ 457	18"	√	√	√	√	√
Φ 508	20"	√	√	√	√	√
Thickness Tolerance		± 1,5mm	± 1,5 mm	± 2,0 mm	± 2,0 mm	± 2,0 mm



§ Standard length 1 meter (± 1.5 %)

§ Standard carton size is 104x51x62 cm

§ ISOPIPE HT SYSTEM can also be offered with SLIT & SEAL tapes, including two self-adhesive and one overlap tape.

### ISOPIPE HT System (UV PLUS)

- ü Protection Thickness: aprx. 125µm
- ü Layers: PET (Polyester) transparent film - Aluminium foil PE (Polyethylene)

### ISOPIPE HT System (HD)

- ü Protection Thickness: aprx. 230µm
- ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)



### iii. ISOPIPE HT Sheets (Regular, UV PLUS, HD)



Synthetic rubber installation in form of sheets.

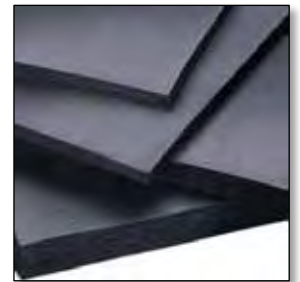
At a construction site technicians often need to work and install insulation along roofs or hard to get and small areas. ISOPIPE HT Sheets are manufactured to withstand the stress during any installation and operation. They still offer elasticity to allow the material to be formed by the technician into the desired shape. All sheets are delivered **pre-cut** at the **standard size of 2x1 m**.

#### Added Benefits:

- ü **Easy to handle, transport and store** due to the 1 meter package and easy to carry carton.
- ü Available with the option of **self-adhesive AND/OR aluminium protection foil**.

#### ISOPIPE HT Sheets (Regular)

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6



§ Standard length and width can vary ± 2 %

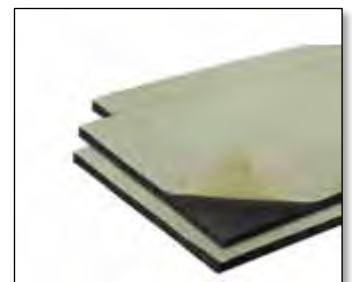
§ Standard carton size is 206x106x11 cm

#### ISOPIPE HT Sheets (Regular) with self adhesive

Synthetic rubber installation in form of sheets WITH self adhesive.

- ü No need of glue to stick it on the surface, no waste of time.
- ü Strong adhesive strength and easy to peel off silicon paper.
- ü Ideal for long ducts and in-accessible areas.

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6



§ Standard length and width can vary ± 2 %

§ Standard carton size is 206x106x11 cm

## ISOPIPE HT Sheets (UV PLUS)

Synthetic rubber installation in form of sheets WITH UV PLUS protection.



THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6



- § Standard length and width can vary ± 2 %
- § Standard carton size is 206x106x11 cm

## ISOPIPE HT Sheets (UV PLUS) with self adhesive

Synthetic rubber installation in form of sheets WITH UV PLUS protection and with self adhesive.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6



- § Standard length and width can vary ± 2 %
- § Standard carton size is 206x106x11 cm

- ü Protection Thickness: aprx. 125µm
- ü Layers: PET (Polyester) transparent film - Aluminium foil PE (Polyethylene)

## ISOPIPE HT Sheets (HD)

Synthetic rubber installation in form of sheets WITH HD protection.



THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6



§ Standard length and width can vary ± 2 %

§ Standard carton size is 206x106x11 cm

## ISOPIPE HT Sheets (HD) with self adhesive

Synthetic rubber installation in form of sheets WITH HD protection and self adhesive.

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
10 - 3/8"	± 1,5 mm	2 x 1	20
13 - 1/2"	± 1,5 mm	2 x 1	14
19 - 3/4"	± 1,5 mm	2 x 1	10
25 - 1"	± 2,0 mm	2 x 1	8
32 - 1 1/4"	± 2,0 mm	2 x 1	6



§ Standard length and width can vary ± 2 %

§ Standard carton size is 206x106x11 cm

ü Protection Thickness: aprx. 230µm

ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)

#### iv. ISOPIPE HT Rolls



Synthetic rubber installation in form of rolls.

At a construction site, technicians often need to work and install insulation along roofs or hard to get and small areas. Our ROLLS are manufactured to withstand the stress during installation and at the same time offer enough elasticity to allow the material to be formed by the technician.

#### ISOPIPE HT Rolls (Regular)

Synthetic rubber installation in form of rolls.

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS			
		m	m	m	m
10 - 3/8"	± 1,5 mm	20 x 1 = 20	20 x 1,20 = 24	20 x 1,25 = 25	20 x 1,50 = 30
13 - 1/2"	± 1,5 mm	14 x 1 = 14	14 x 1,20 = 16,80	14 x 1,25 = 17,50	14 x 1,50 = 21
19 - 3/4"	± 1,5 mm	10 x 1 = 10	10 x 1,20 = 12	10 x 1,25 = 12,50	10 x 1,50 = 15
25 - 1"	± 2,0 mm	8 x 1 = 8	8 x 1,20 = 9,60	8 x 1,25 = 10	8 x 1,50 = 12
32 - 1 1/4"	± 2,0 mm	6 x 1 = 6	6 x 1,20 = 7,20	6 x 1,25 = 7,50	6 x 1,50 = 9



§ Standard length & width can vary ± 2 %

§ Standard carton size is 206x106x11 cm

#### ISOPIPE HT Rolls (Regular) with self adhesive

Synthetic rubber installation in form of rolls WITH self adhesive.

- ü Can be applied easy and quick on the surface needed.
- ü No need of gluing. Ideal for long ducts and in-accessible areas.
- ü Strong adhesive strength and easy to peel off silicon paper

THICKNESS mm - inch	THICKNESS TOLERANCE mm	DIMENSIONS m	PACKAGING m <sup>2</sup>
10 - 3/8"	± 1,5 mm	20 x 1	20
13 - 1/2"	± 1,5 mm	14 x 1	14
19 - 3/4"	± 1,5 mm	10 x 1	10
25 - 1"	± 2,0 mm	8 x 1	8
32 - 1 1/4"	± 2,0 mm	6 x 1	6

§ Standard length & width can vary ± 2 %

§ Standard carton size is 206x106x11 cm





## ISOPIPE HT Rolls (UV PLUS)

Synthetic rubber installation in form of rolls WITH UV PLUS protection.

- ü Maximum vapor barrier, protection and longevity of the product due to the aluminium cover.
- ü Remain flexible, economical, attractive and UV resistant.

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
10 - 3/8"	± 1,5 mm	20 x 1	20
13 - 1/2"	± 1,5 mm	14 x 1	14
19 - 3/4"	± 1,5 mm	10 x 1	10
25 - 1"	± 2,0 mm	8 x 1	8
32 - 1 1/4"	± 2,0 mm	6 x 1	6



§ Standard length & width can vary ± 2 %

§ Standard carton size is 206x106x11 cm

- ü Protection Thickness: aprx. 125µm
- ü Layers: PET (Polyester) transparent film - Aluminium foil PE (Polyethylene)

## ISOPIPE HT Rolls (HD)

Synthetic rubber installation in form of rolls WITH HD protection.

- ü Maximum vapor barrier, protection and longevity of the product due to the aluminium cover.
- ü Remain flexible, economical, attractive and UV resistant.

THICKNESS	THICKNESS TOLERANCE	DIMENSIONS	PACKAGING
mm - inch	mm	m	m <sup>2</sup>
10 - 3/8"	± 1,5 mm	20 x 1	20
13 - 1/2"	± 1,5 mm	14 x 1	14
19 - 3/4"	± 1,5 mm	10 x 1	10
25 - 1"	± 2,0 mm	8 x 1	8
32 - 1 1/4"	± 2,0 mm	6 x 1	6



§ Standard length & width can vary ± 2 %

§ Standard carton size is 206x106x11 cm

- ü Protection Thickness: aprx. 230µm
- ü Layers: Transparent film - Aluminium glossy - PVC FR (Flame Retardant)

# ISOTUBE®





### 3. ISOTUBE

# ISOTUBE®

***Saving time. Saving money.  
The complete solution for professionals.***

*Continuing on the path of innovation, 3i designed ISOTUBE.  
The absolute, effective and reliable **pre-insulated pipe system**.*

ISOTUBE combines our own vertically produced superior insulation with our expertise in pre-insulating pipes in order to offer a high value, convenient service. The method is based on the **push-in principle** as opposed to the cut-in principle to ensure a perfect fit.

ISOTUBE is both lightweight and flexible and can be installed easily and extreme quickly in commercial and residential applications without worrying about covers or obstacles.



#### **Added Benefits:**

- ü Lightweight, robust and flexible. ISOTUBE is easy to transport and install.
- ü ISOTUBE meets standards for sustainable construction.
- ü ISOTUBE is marked at meter intervals enabling you to cut and use the exact amount of material needed.
- ü ISOTUBE helps saving time of every professional providing the most rapid laying.

#### **ISOTUBE makes life easier!**

- ü NO Measuring.
- ü NO Cutting.
- ü NO Joining.
- ü NO Gluing.



#### **Perfect Fit**

ISOTUBE is perfectly fitted around the pipe preventing even the slightest loss of energy.

3i provides the following pipes with the ISOTUBE pre-insulated solution:

- ü ISOPIPE TC or ISOPIPE HT without protection:  
6mm, 9mm, 13mm and 19mm



**ISOTUBE TC / HT**  
with  
**PEX-AL-PEX Pipes ( $\Phi 12 - \Phi 20$ )**



**ISOTUBE TC / HT**  
with  
**POLYETHYLENE Pipes ( $\Phi 12 - \Phi 22$ )**



**ISOTUBE TC / HT**  
with  
**COPPER Pipes (6mm - 22mm, 1/4" 3/4")**



**ISOTUBE TC / HT**  
with  
**INOX Pipes ( $\Phi 6 - \Phi 20$ )**

- ü ISOPIPE TC or ISOPIPE HT with UV protection  
6mm, 9mm, 13mm and 19mm



**ISOTUBE TC / HT UV  
with  
PEX-AL-PEX Pipes (Φ12 - Φ20)**



**ISOTUBE TC / HT UV  
with  
POLYETHYLENE Pipes (Φ12 - Φ22)**



**ISOTUBE TC / HT UV  
with  
COPPER Pipes (6mm - 22mm, 1/4" 3/4")**



**ISOTUBE TC / HT UV  
with  
INOX Pipes (Φ6 - Φ20)**

- ü ISOTUBE is manufactured in a standard length of 50 m.
  - ü Shorter lengths are available upon request.
- ü **Pipes of YOUR CHOICE, can also be used!**

# ISOSOUND<sup>®</sup>





#### 4. ISOSOUND

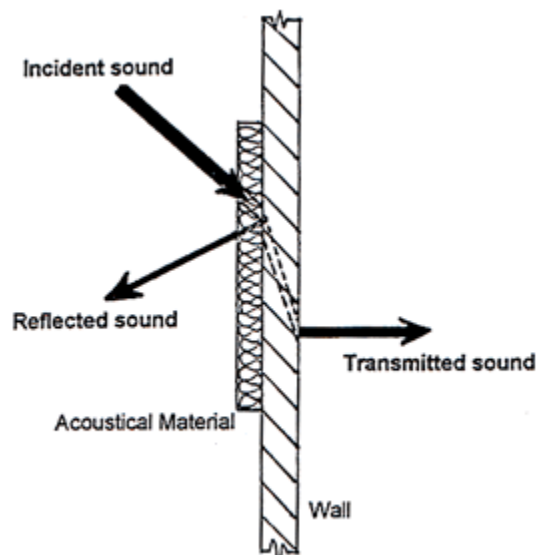
##### *The new effective way of absorbing sound!*

ISOSOUND is a brand new high performance acoustic insulation, designed for demanding applications. The structure, formulation and composition of the material can offer a very high acoustic energy absorption in a given thickness when compared with traditional sound insulation materials. This allows great variability in designing the space consumption and the sound absorption.



##### *Understanding Sound & Noise*

Environmental noise (traffic, airplanes, industry, construction, trains etc.) is produced by man's activity. This noise is often called as unwanted sound. We experience it in our homes, at work, during travel, even during our relax time. Everybody is seeking for a more quieter environment, because too much or unwanted noise is causing stress, irritation, interference and at the same time decreases life quality. Sound can be transferred from one part of a building to another.

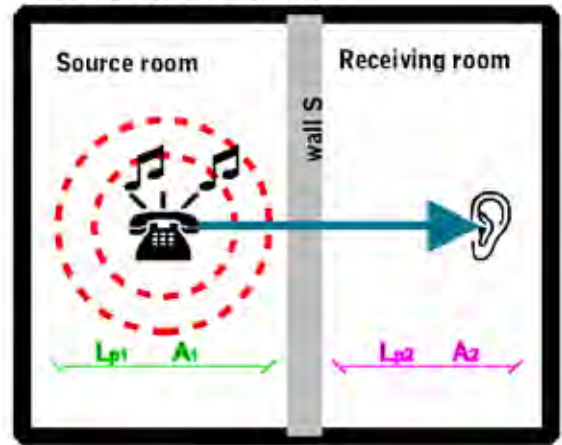


There are various types of sound transmissions:

#### *Airborne transmission*

A noise source in one room sends air pressure waves which induce vibration to one side of a wall setting it moving such that the other face of the wall vibrates in an adjacent room. Structural isolation therefore becomes an important consideration in the acoustic design of buildings. The most important acoustic control method is adding mass into the structure, which will reduce airborne sound transmission better than a light one.

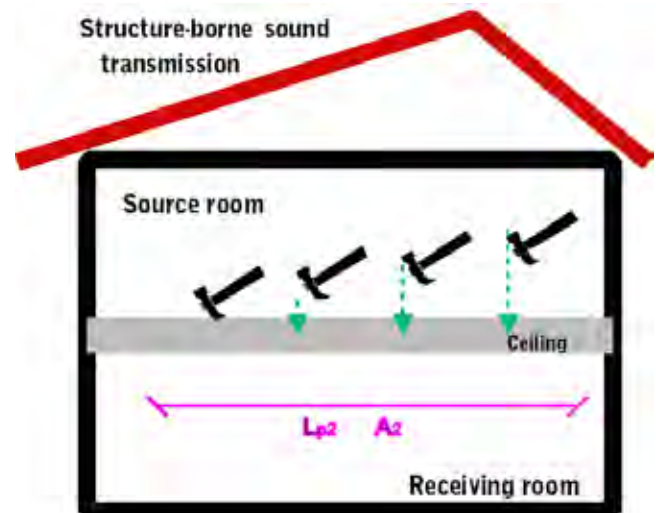
Airborne sound transmission



#### *Structure-borne transmission*

A noise source (e.g. footsteps) in one room results from an impact of an object onto a separating surface (e.g. floor) and transmits the sound to another room. Acoustic control measures usually include attempts to isolate the source of the impact, or cushioning it, like carpets for example.

Structure-borne sound transmission



#### *Flanking transmission*

The resultant vibrations from a noise source are transmitted to other rooms by elements of structure within the building. For example, in a steel framed building, once the frame itself is set into motion the effective transmission can be pronounced.

### Cell Structure

ISOSOUND's open cell structure with its complex pore geometry allows the effective absorption of airborne and structure-borne sound.



#### Density

ISOSOUND insulation is produced to give a structure of  $150 \text{ kg/m}^3$  or  $250 \text{ kg/m}^3$ . This offers valuable sound transmission loss properties.



## Fire Rating

ISOSOUND has a very good fire behavior. It will not drip flaming particles nor will it spread flames. It provides safe insulation; an ideal choice for residential & public buildings.

ü **Class 1**

Applicable in situations of:

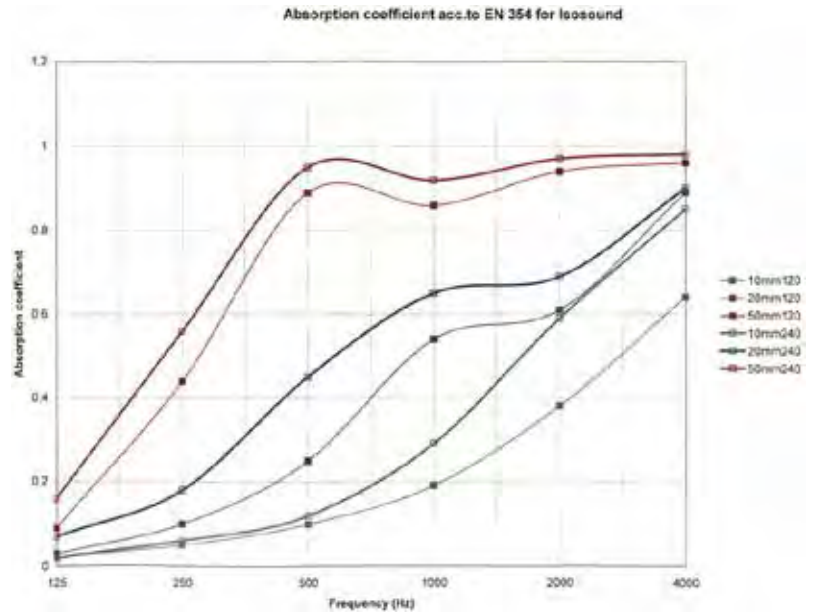


Noise

Available in forms of:



Sheets



### MECHANICAL AND THERMAL PROPERTIES of ISOSOUND

Property	Symbol	Technical Data		Measuring Method
Thermal Conductivity	$\lambda$	for 150 kgr/m <sup>3</sup>		EN 12667 EN ISO 8497
		10°C - 0,039W/mK	for 250 kgr/m <sup>3</sup>	
		20°C - 0,038W/mK	10°C - 0,042W/mK	
		30°C - 0,040W/mK	20°C - 0,041W/mK	
		40°C - 0,042W/mK	30°C - 0,043W/mK	
Density	$\rho$	150 kgr/m <sup>3</sup> 250 kgr/m <sup>3</sup>		prEN 13470, EN 1602
Elongation at Strength	Pa	40%	55%	EN ISO 1798
Temperature Resistance	°C	-40°C to +85°C		
Fire Rating		Low Flame Spread Class 1		EN ISO 4589-2 BS 476 p.6 & p.7, DIN 4102 B2
Noise Reduction		up to 55dB		DIN 4109
CFC, HFC, HCFC		Free		
Odor		Neutral		

The written figures are these that have been measured in our laboratory, under typical conditions. They can be modified without prior notice. You are kindly requested to assert their validity before any special usage.

## Certifications

We do not only meet but exceed technical & performance specifications set by the insulation & fire safety standards. All our certificates, awards and documents of conformity to independent global institutes are available as a single book for your convenience and reference.



**Additional technical data and product range of ISOSOUND upon request!**

# ISOPIPE®

## Accessories



## 5. ISOTAPE, ISOCOVER, ISOGLUE, ISOFINISH ELBOWS, TEE

**ISOPIPE**<sup>®</sup>  
Accessories

### ISOTAPE – Self adhesive fastening tape

- ü Should not be used as the sole joining.
- ü Do not apply tight or compress the insulation, as compression may compromise the effectiveness of the insulation itself.
- ü Is applied over the glued ends/joints 36 hours after application, when the glue is totally dry and solvent completely evaporated.
- ü Available as Aluminium, UV (White or Black), UV Plus or HD.



<b>DESCRIPTION</b>	<b>LENGTH</b>	<b>WIDTH</b>	<b>PACKING</b>
	<i>m</i>	<i>mm</i>	<i>Pcs/Crtn</i>
Aluminium tape	40 m	30 mm	50
Aluminium tape	40 m	50 mm	50
UV White Polymer	33 m	50 mm	80
UV Black Polymer	33 m	50 mm	80
UV Plus Pet-Al-Pe	10 m	50 mm	70
UV Plus Pet-Al-Pe	25 m	50 mm	40
UV Plus Pet-Al-Pe	30 m	50 mm	40
UV Plus Pet-Al-Pe	50 m	50 mm	35
Heavy Duty Pet-Al-PVC	25 m	50 mm	35

### ISOTAPE – Self adhesive insulation tape

- ü Highly effective and strong adhesive tape is used for insulating difficult areas or gaps between insulation.
- ü Should not be used as the sole joining.
- ü Do not apply tight as it may compromise the effectiveness of the insulation itself.
- ü Is applied over the glued ends or joints 36 hours after application, when the glue is totally dry and solvent completely evaporated.



<b>DESCRIPTION</b>	<b>LENGTH</b>	<b>WIDTH</b>	<b>THICKNESS</b>	<b>PACKING</b>
	<i>m</i>	<i>mm</i>	<i>mm</i>	<i>Pcs/Crtn</i>
TC Insulation S/A tape	10 m	50 mm	3 mm	36
TC Insulation S/A tape	15 m	50 mm	3 mm	12
TC Insulation S/A tape	30 m	50 mm	3 mm	10

## ISOCOVER – Self adhesive

- ü Highly effective and strong adhesive cover in 1 meter length.
- ü **Ideal for confined or restricted working areas** and for **already installed pipe systems**, where insulation cannot be threaded and must be clamped around the existing pipes.
- ü Available as UV Plus or HD.



DESCRIPTION	LENGTH m	WIDTH m
UV Plus Pet-Al-Pe	10 m	1 m
UV Plus Pet-Al-Pe	25 m	1 m
Heavy Duty Pet-Al-PVC	10 m	1 m
Heavy Duty Pet-Al-PVC	25 m	1 m

## ISOGLUE – Black or Neutral

- ü Fully compatible glue for joining ISOPIPE insulation.
- ü Achieving strong and homogenous rubber bonding.



DESCRIPTION	PACKING Pcs/Crtn
Isoglue 250 ml with Brush	24
Isoglue 500 ml	24
Isoglue 1000 ml	12
Isoglue 5 lt	4

## ISOFINISH – White protective paint

- ü This polyurethane based paint offers protection against UV rays.
- ü Gives an aesthetic coating over the insulation.



DESCRIPTION	PACKING Pcs/Crtn
Isosinish 1 kg	12
Isosinish 5 kg	4





## ELBOWS 90°



PIPE OYT DIAMETER Ø mm	INSULATION THICKNESS							
	9 mm	13 mm	15 mm	20 mm	25 mm	30 mm	32,5 mm	40 mm
12		√	√	√*				
15		√						
18	√	√	√	√*	√	√		√
22	√	√	√	√*	√*	√		√*
28		√	√	√	√	√		√
35		√	√	√	√	√		√*
42			√*	√*	√	√		√
48			√	√	√	√		√*
54			√	√		√		
60			√	√	√	√		√*
64				√		√		
70				√	√	√		√
76			√	√	√	√	√	√*
89				√	√	√	√	√*
102				√	√	√		√
108				√	√	√		√
133					√	√		√
140					√	√		√
159					√	√		√
168					√	√		√
194						√		√
219					√	√		√

§ Dimensions marked with a \* are also available as 45°



## TEE



<b>DIMENSIONS</b> <b>a x b x a</b> <b>Ø mm</b>
52 x 52 x 52
57 x 52 x 57
57 x 57 x 57
61 x 52 x 61
61 x 57 x 61
61 x 61 x 61
67 x 52 x 67
67 x 57 x 67
67 x 61 x 67
67 x 67 x 67
73 x 52 x 73
73 x 57 x 73
73 x 61 x 73
73 x 67 x 73
73 x 73 x 73
82 x 52 x 82
82 x 57 x 82
82 x 61 x 82
82 x 67 x 82
82 x 73 x 82
82 x 82 x 82
88 x 82 x 88
88 x 57 x 88
88 x 61 x 88
88 x 67 x 88
88 x 73 x 88
88 x 82 x 88
88 x 88 x 88

<b>DIMENSIONS</b> <b>a x b x a</b> <b>Ø mm</b>
93 x 61 x 93
93 x 67 x 93
93 x 73 x 93
93 x 82 x 93
93 x 88 x 93
93 x 93 x 93
100 x 61 x 100
100 x 67 x 100
100 x 73 x 100
100 x 82 x 100
100 x 88 x 100
100 x 93 x 100
100 x 100 x 100
102 x 61 x 102
102 x 67 x 102
102 x 73 x 102
102 x 82 x 102
102 x 88 x 102
102 x 93 x 102
102 x 100 x 102
102 x 102 x 102
108 x 61 x 108
108 x 67 x 108
108 x 73 x 108
108 x 82 x 108
108 x 88 x 108
108 x 93 x 108
108 x 100 x 108
108 x 102 x 108
108 x 108 x 108

<b>DIMENSIONS</b> <b>a x b x a</b> <b>Ø mm</b>
116 x 116 x 116
120 x 120 x 120
128 x 128 x 128
130 x 82 x 130
130 x 88 x 130
130 x 100 x 130
130 x 102 x 130
130 x 116 x 130
136 x 136 x 136
140 x 67 x 140
140 x 93 x 140
140 x 102 x 140
140 x 108 x 140
140 x 120 x 140
140 x 128 x 140
140 x 140 x 140
149 x 149 x 149
156 x 93 x 156
156 x 102 x 156
156 x 108 x 156
156 x 136 x 156
156 x 156 x 156
160 x 93 x 160
160 x 108 x 160

<b>DIMENSIONS</b> <b>a x b x a</b> <b>Ø mm</b>
169 x 149 x 169
169 x 159 x 169
169 x 169 x 169
176 x 176 x 176
182 x 182 x 182
189 x 189 x 189
194 x 194 x 194
214 x 140 x 214
214 x 156 x 214
214 x 169 x 214
214 x 182 x 214
214 x 189 x 214
214 x 194 x 214
245 x 189 x 245
245 x 214 x 245
245 x 245 x 245
268 x 268 x 268
300 x 300 x 300

# Certifications

International certificates of  
quality and test reports



### III – Certifications

#### 1. Complete List of ISOPIPE Certifications

AUTHORITY	COUNTRY	REGULATION
<b>GENERAL</b>		
Euro Business Association	(EU)	High Quality Award
Bureau Veritas	(BE)	ISO 9001:2008 Certificate
Industrial Property Organization - OBI	(GR)	Invention Pattern
Materials Testing N.P.I.P.A.B. (MPA)	(DE)	DIN 1988 T7
BBANC Certificate	(LV)	Quality Certificate
National Certification Institute	(RU)	Certificate Of Compliance
National Sanitary Institute	(RU)	Sanitary Certificate
LGAI Technological Center #1	(ES)	ISOPIPE UV 30x35, Weather Certificate
LGAI Technological Center #2	(ES)	ISOPIPE UV Plus 30x42, Weather Certificate
<b>SHIPPING</b>		
Marine Division - Bureau Veritas	(BE)	EC TYPE 96/98 (WHEELMARK) - Quality System
<b>THERMAL CONDUCTIVITY "λ"</b>		
DEMOKRITOS - Research Center #1	(GR)	Thermal Conductivity "λ" UV
DEMOKRITOS - Research Center #2	(GR)	Thermal Conductivity "λ" TC
HNCN EOOD - Construction Institute	(BG)	Thermal Conductivity "λ"
Latvian State Construction Division	(RO)	Thermal Conductivity "λ"
Ministry Of Construction	(RO)	Thermal Conductivity "λ", Fire Rating Steam Diffusion
<b>PERMEABILITY</b>		
Rigas Technical University	(LV)	Permeability Index (μ)
<b>FIRE</b>		
Warrington Fire Research Center #1	(UK)	BS class 0
Warrington Fire Research Center #2	(UK)	BS 476 part 7
Warrington Fire Research Center #3	(UK)	BS 476 part 6
Siemens Axiva GmbH & CO KG #1	(DE)	ISOPIPE Sheet, DIN 4102 - B1
Siemens Axiva GmbH & CO KG #2	(DE)	ISOPIPE SBI Pipe, DIN 4102 - B1
Siemens Axiva GmbH & CO KG #3	(DE)	ISOPIPE SBI Sheets, DIN 4102-B1
Siemens Axiva GmbH & CO KG #4	(DE)	ISOPIPE Sheets, Class M1 NF
Siemens Axiva GmbH & CO KG #5	(DE)	IMO. RES. MSC 61 (67), FTP Code, Annex 1 , Part 5
FIW Munich #1	(DE)	ISOPIPE TC, DIN 4102 - B2
FIW Munich #2	(DE)	ISOPIPE HT, EN 14707:2005
Testing Institute Hoch	(DE)	ISOPIPE UV, DIN 4102 - B2
L.N.E. #1	(FR)	ISOPIPE TC (Pipes, Coil, SBI, Tech), Class M1 NF
L.N.E. #2	(FR)	ISOPIPE TC, Class M1 NF
Laboratorio Prevenzione Incendi #1 (LA.P.I.)	(IT)	Class 1 UNI 845 (1987)
Laboratorio Prevenzione Incendi #2 (LA.P.I.)	(IT)	Class 1 UNI 8457-9174 (1987)
Ministero dell' Interno	(IT)	Class 1 UNI 9176 (1998)
Environmental Administration (STF)	(FI)	Through Wall Withstand Fire, 30-120 min
SWEDCERT AB	(SWE)	Through Wall Withstand Fire, 30-120 min & SBI
TNO Center For Fire Research	(NL)	EN ISO 11925-2 & EN 13823
Latvian National Accreditation Bureau	(LV)	Fire Rating
National Institute	(RU)	Fire Certificate
N.P.I.P.A.B.	(BG)	Fire Rating

§ Should you need any specific certificate or our complete book, please contact us.



ΕΘΝΙΚΟ ΚΕΝΤΡΟ ΕΡΕΥΝΑΣ ΦΥΣΙΚΩΝ ΕΠΙΣΤΗΜΩΝ  
 "ΔΗΜΟΚΡΙΤΟΣ" / "DEMOKRITOS"  
 NATIONAL CENTER FOR SCIENTIFIC RESEARCH

ΕΡΓΑΣΤΗΡΙΟ ΔΟΚΙΜΩΝ ΗΛΙΑΚΩΝ ΚΑΙ ΆΛΛΩΝ ΕΝΕΡΓΕΙΑΚΩΝ ΣΥΣΤΗΜΑΤΩΝ  
 LABORATORY OF TESTING SOLAR & OTHER ENERGY SYSTEMS

ΕΚΘΕΣΗ ΔΟΚΙΜΩΝ  
 ΠΡΟΣΔΙΟΡΙΣΜΟΣ ΙΔΙΟΤΗΤΩΝ ΘΕΡΜΙΚΗΣ ΜΕΤΑΔΟΣΗΣ ΣΕ  
 ΣΤΑΘΕΡΗ ΚΑΤΑΣΤΑΣΗ, ΘΕΡΜΟΜΟΝΩΤΙΚΟΥ ΚΕΛΥΦΟΥΣ ΓΙΑ  
 ΚΥΚΛΙΚΟΥΣ ΑΓΩΓΟΥΣ  
 ΣΥΜΦΩΝΑ ΜΕ ΤΟ ΠΡΟΤΥΠΟ ΕΛΟΤ EN ISO 8497:1997

TEST REPORT  
 DETERMINATION OF STEADY-STATE  
 THERMAL TRANSMISSION PROPERTIES OF THERMAL  
 INSULATION FOR CIRCULAR PIPES  
 ACCORDING THE ΕΛΟΤ EN ISO 8497:1997 STANDARD

ΑΡΙΘΜΟΣ ΔΟΚΙΜΗΣ / TEST REFERENCE  
 SpThR04102

153-10 Αγ. Παρόλας, Αθήνα  
 Τηλ: 210 6523815  
 Fax: 210 9544362  
 E-mail: eelab@gsd.demokritos.gr

GR 153 10 Αγ. Παρόλας, Ορεστιάδα  
 Τηλ: +30-210-4303815  
 Fax: +30-210-6544362  
 Web site: http://www.solar.demokritos.gr





# Useful Information

**Safety Data Sheets**

**Packaging Measurements**

**Label Instructions**

**Calculation Software**





## IV – Useful Information

### 1. Safety Data Sheets

#### a. ISOPIPE, ISOSHEET, ISOROLL

**SAFETY DATA SHEET**, according to European Directive 2001/58/EC

#### 1. Product and company Identification

Product identification: **ISOPIPE/ISOROLLS/ISOSHEETS**  
 Description: Flexible thermal insulation material  
 Manufacturer: 3i S.A.

**Plant:** 68 Km Nat. Rd. Athens-Lamia, 341 00 Ritsona – Halkida, T: +30 22620 89800, F: +30 22620 72006

**Head office:** Nafpliou & Daskalogiani, 144 52 Metamorfofi Attikis, T: +30 210 2844555, F: +30 210 2819210

E-mail: info@isopipe.gr, www.isopipe.gr

#### 2. Composition / Information on ingredients

Expanded, cross linked, synthetic rubber in several sizes and forms.

#### 3. Hazards identification

The product is not hazardous to health or environment according to EC criteria

#### 4. First aids measures

Inhalation: Ingredients are bound to rubber and no inhalation problems occur.  
 Ingestion: Product is not intended to be ingested or eaten. In case of swallowing do not induce vomiting. Consult physician if patient not well.  
 Contact with Skin: Not established  
 Contact with eyes: Not established

#### 5. Fire-fighting measures - Product are not flammable and will not support fire.

Flash point: N/A  
 Extinguishing media: Foam, CO<sub>2</sub>, water  
 Exposure hazards: Material is stable under normal conditions. In the event of a prolonged fire, as with all organic materials, smoke containing carbon monoxide, dioxide and water evolved together with small quantities of other gases.  
 Special equipment: Firefighters should wear protective clothing, eye protection and self contained breathing apparatus.

#### 6. Accidental release measures

Personal precautions: None  
 Environmental precautions: None  
 Methods for cleaning up: Sweep up or whatever convenient  
 Disposal: Normal industrial waste

#### 7. Handling and storage

Handling: None under normal processing  
 Storage: Keep the product dry and away from sunlight

#### 8. Exposure control-Personal protection

Not applicable

## 9. Physical and chemical properties

General information:	Closed cell elastomeric tube or sheet
Color:	Black
Odor:	Neutral
PH value:	Not applicable
Boiling point/boiling range:	Inapplicable
Melting point/melting range:	Inapplicable
Flashpoint:	Inapplicable
Oxidizing properties:	Not applicable
Explosive properties:	Not applicable
Density:	65-70 kgr/m <sup>3</sup>
Water solubility/flat solubility:	Practically not soluble
Partition coefficient N-octanol/water:	Not applicable
Content of solvents:	0 %

## 10. Stability and reactivity

Conditions to avoid:	Temperature above to 150 <sup>0</sup> C
Materials to avoid:	No known materials to avoid
Hazardous decomposition products:	Carbon monoxide, dioxide, sulphonated hydrocarbons, acid chlorhydric, antimony halides

## 11. Toxicological information

Inhalation:	See under heading 4 – First Aid Measures
Eye contact:	See under heading 4 – First Aid Measures
Skin contact:	Not harmful

## 12. Ecological information

Product degrades slowly in the presence of sunlight. Does not contain CFC or evolve gasses which will damage the ozone layer, or contribute to ground level ozone pollution

## 13. Disposal considerations

Product may be disposed off as normal industrial waste or under local regulations. Empty carton boxes should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

Not classified as dangerous in the meaning of transport regulations

## 15. Regulatory information

No labeling is required in accordance with the EEC directive.

## 16. Other information

Recommended uses and restrictions:	Product is manufactured upon inquiry for end use as thermal insulation for specified applications.
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This information herein is presented in good faith and believed to be accurate. It is based on raw material technical data, current knowledge and experience. The purpose of this Safety Data Sheet is to describe the product in terms of its safety requirements and no warranty, expressed or implied is given. The above details do not imply any guarantee concerning composition, properties or performance.

## b. ISOGLUE

**SAFETY DATA SHEET**, according to European Directive 2001/58/EC

### 1. Product and company Identification

Product identification: **ISOGLUE 255**  
 Description: Solvent Based Adhesive  
 Manufacturer: 3i S.A.

**Plant:** 68 Km Nat. Rd. Athens-Lamia, 341 00 Ritsona – Halkida, T: +30 22620 89800, F: +30 22620 72006

**Head office:** Nafpliou & Daskalogiani, 144 52 Metamorfosi Attikis, T: +30 210 2844555, F: +30 210 2819210

E-mail: info@isopipe.gr, www.isopipe.gr

### 2. Composition / Information on ingredients

Chemical name	CAS No.
Hexane	110-54-3
Acetone	67-64-1
Ethyl acetone	107-87-9
Polychloroprene	9010-98-4

### 3. Hazards identification

Harmful by inhalation. Harmful if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact.

### 4. First aids measures

Inhalation: If vapor is inhaled in high concentrations, move affected individual to fresh air and keep him warm, let him rest. If there is difficulty in breathing, call a doctor

Ingestion: Product is not intended to be ingested or eaten. If it is ingested, severe irritation of the gastrointestinal tract may occur and should be treated symptomatically. In case of swallowing do not induce vomiting. Consult a doctor immediately.

Contact with Skin: Remove contaminated clothes immediately and wash skin with a cleanser and plenty of warm water. Consult a doctor in the event of skin irritation.

Contact with eyes: Flush eyes for at least 10 minutes while holding eye lids open. Contact a doctor.

### 5. Fire-fighting measures

Product is flammable and contains flammable solvents. It should be used only in well ventilated areas away from heat, sparks, naked flames and other ignition sources.

Flash point: 35-45 °C

Extinguishing media: Foam, CO<sub>2</sub>, Water

Exposure hazards: Material is stable under normal conditions. In the event of a prolonged fire, formation of carbon monoxide, dioxide, hydrocarbons, chlorine and small quantities of other gases is possible.

Special protective equipment: Firefighters must wear protective clothing, full face protection and self contained breathing apparatus. Inhalation of combustion products should be avoided.

### 6. Accidental release measures

Personal precautions: Wear full-protective clothing and respiratory protection as required maintaining exposures during clean-up below the applicable exposure limits.

Environmental precautions: Do not discharge spillage into drains.

Methods for cleaning up: Cover remainders with wet absorbent (e.g. sand etc). After aprox. one waste container and do not seal. Keep damp in safe ventilated area for several days.

## 7. Handling and storage

Handling:	Avoid contact with skin and eyes. Do not smoke, eat and drink at the work place. The working place must be ventilated.
Storage:	Keep the product dry and away from sunlight. Avoid prolonged heating above 50° C. Store the product in tight closed containers in a well ventilated area and in accordance with national regulations. Keep out of reach of children.

## 8. Exposure control-Personal protection

Skin protection:	Light gloves & eye glasses recommended.
Respiratory protection:	If there is no adequate ventilation of the working place, wear respiratory equipment approved for organic vapors.

## 9. Physical and chemical properties

Physical form :	Sticky dense fluid.
Color:	Black
Odor:	Solvent like smell
Boiling point/boiling range:	65 °C
Melting point/melting range:	n/a
Flashpoint:	35-45°C
Water solubility/flat solubility:	Practically not soluble (0.1%)

## 10. Stability and reactivity

Conditions to avoid:	Temperature above 50°C
Materials to avoid:	No know materials to avoid
Hazardous decomposition:	Carbon monoxide, dioxide, hydrocarbons, chlorine.

## 11. Toxicological information

Inhalation:	Over exposure may cause irritating effects on nose throat and respiratory tract.
Eye contact:	Over exposure may cause irritating effects on eyes.
Skin contact:	Prolonged or repeated contact may result in irritation effects.

## 12. Ecological information

Do not allow product to escape into waters, wastewater or soil.

## 13. Disposal considerations

Product may be disposed off as chemical waste. Dispose of waste according to local state and provincial regulations.

## 14. Transport information

Product is flammable. Store (as a class 3.3 material) in a cool place away from any source of ignition or hot surface. Keep container tightly sealed when not in use. Transport as a Class 3.3 material, Packaging Group III

## 15. Regulatory information, Symbol



Flammable



Xn-Xi Harmful / Irritant

Hazard designation	Flammable	Xn-Xi Harmful / Irritant
R-Phrases:	R-10 – Flammable, R-20/22 - Harmful by inhalation and if swallowed R-36/37/38 - Irritating to eyes, respiratory system and skin	
S-Phrases:	S-23 - Do not breath gas/fumes/vapour/spray, S-36/37 - Wear suitable protective clothing and gloves S-47 - In case of accident or if you feel unwell, seek medical advice.	

## 16. Other information

This information herein is presented in good faith and believed to be accurate. It is based on raw material technical data, current knowledge and experience. The purpose of this Safety Data Sheet is to describe the product in terms of its safety requirements and no warranty, expressed or implied is given. The above details do not imply any guarantee concerning composition, properties or performance.

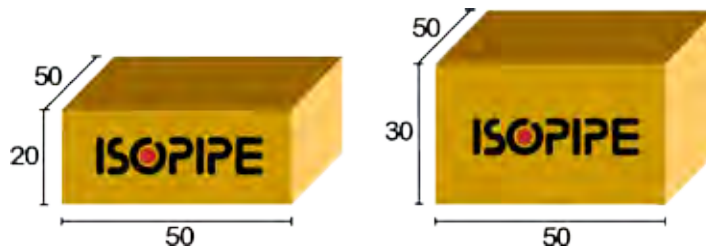
## 2. Packing Measurements

ISOPIPE PIPES carton size: 210 x 41x27 cm

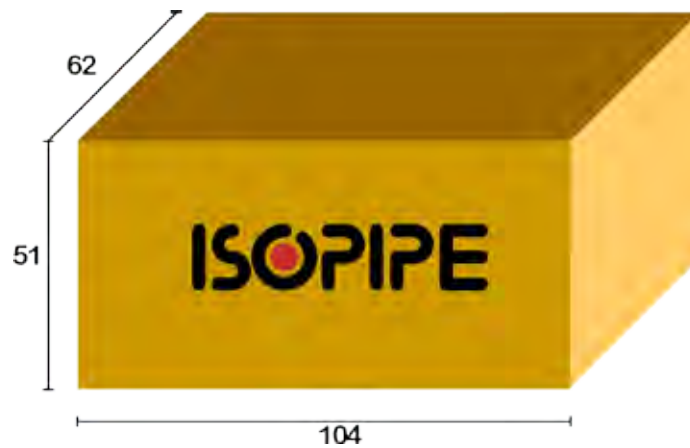


ISOPIPE COIL carton size #1: 50 x 50 x 20 cm

ISOPIPE COIL carton size #2: 50 x 50 x 30 cm



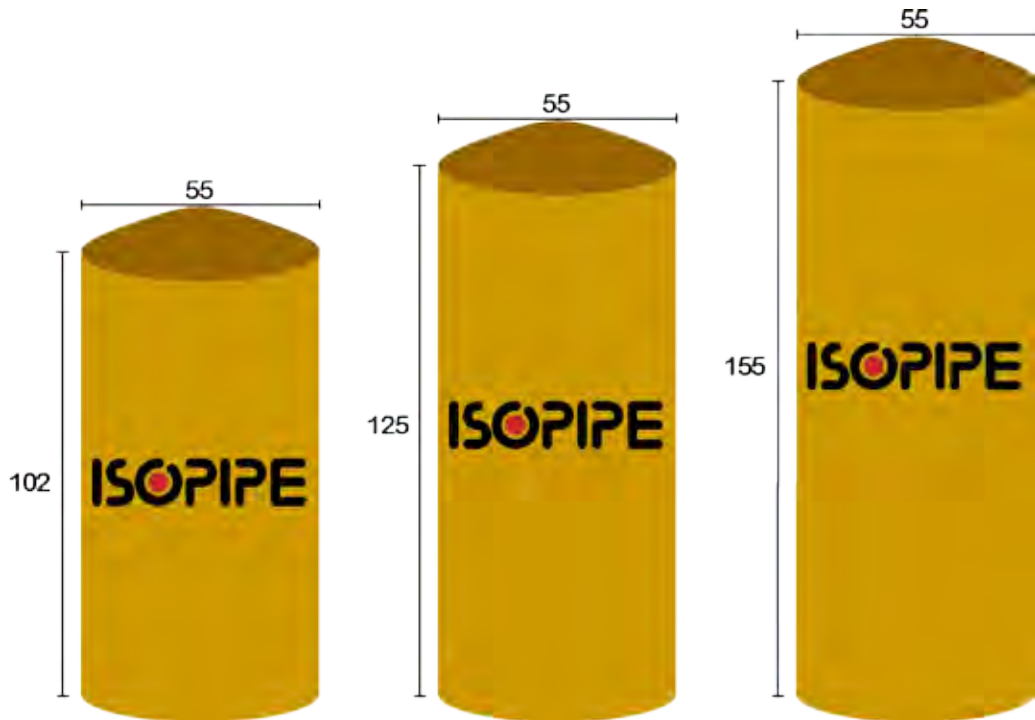
ISOPIPE SYSTEM carton size: 104 x 51 x 62 cm



ISOPIPE SHEETS carton size: 206 x 11 x 106 cm

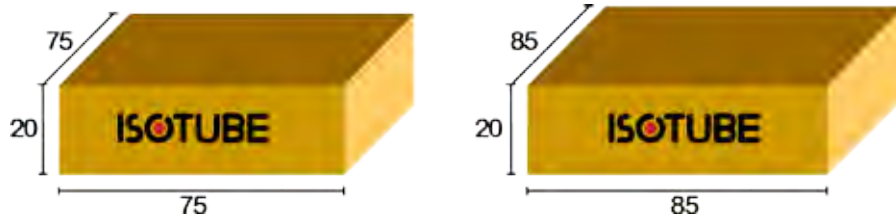


ISOPIPE ROLLS bag size: 102 x  $\Phi$ 55 cm



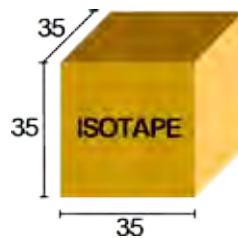
ISOTUBE carton size #1: 75 x 20 x 75 cm

ISOTUBE carton size #2: 85 x 20 x 85 cm



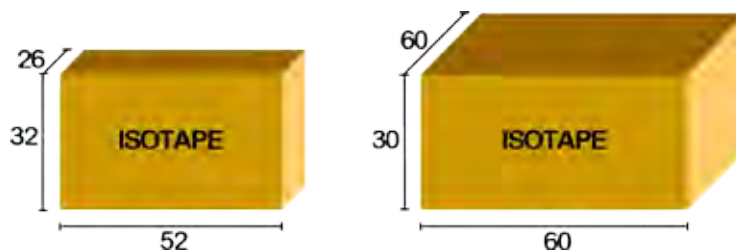
ISOTAPE Fastening Tape carton size:

35 x 35 x 35 cm



ISOTAPE Insulation Tape, 10mm carton size #1: 60 x 60 x 30 cm

ISOTAPE Insulation Tape, 15mm carton size #2: 52 x 26 x 32 cm





### 3. Label Instructions

Registered Trade Mark

Type

Barcode

# ISOPIPE® TC

TYPE	QUANTITY	ARTICLE No:	DIMENSION	
<b>13x88</b>	7 x 2 m	123456 <small>Pls indicate the above No in case of inquiry</small>	THICKNESS	PIPES EXTERNAL DIAMETER
	<b>14 m</b>		13 mm	88mm 3 9/16" Cu
		$\lambda_{20} = 0,037 \text{ W/mK}$		

Produced by 3i International Innovative Industries S.A.  
68km Nat.Rd. Athens-Lamia, Greece

When circled = 2pc Rolls

Made in E.U.

ID (Thickness x Diameter)

Quantity and length of each Piece

Total linear meter quantity in carton

Thermal conductivity value







Nominal Thickness

Recommended Pipe diameter insulation suited for

LOT (production) number

§ \* The above information are indicative and are subject to change without further notice.

All our product labels are differentiated through different background colors for recognition purposes!

-  ISOPIPE TC (Regular) products
-  all ISOPIPE TC/HT products with UV
-  all ISOPIPE TC/HT products with UV PLUS
-  all ISOPIPE TC/HT products with HD
-  all ISOPIPE TC Slit, all ISOPIPE products with S/A
-  ISOPIPE TC Coil, ISOPIPE HT

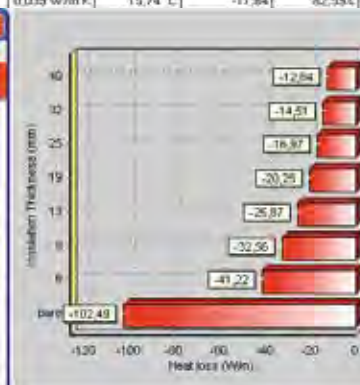
## 4. ISOPIPE Calculation Software

Various screenshots of our calculation program.

Available on CD-ROM or through [www.isopipe.gr](http://www.isopipe.gr).

Calculation of:

- ü Surface Temperature
- ü Heat Loss
- ü Energy Savings
- ü Condensation Risk







[www.isopipe.eu](http://www.isopipe.eu)

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