



Insulation materials.
Our world.
For a better world.



advanced elastomeric thermal and
acoustic insulation materials

GENERAL CATALOGUE



Insulation materials.
Our world.
For a better world.



O U R H I S T O R Y

UNION FOAM Spa was founded in the early 60s with the name "I.R.G. - Industria Rigerati Gomma Spa" and initially specialized in the production of recycled products from waste rubber.

In that period the company established important and strong relationships with the major manufacturers of both raw materials (ENICHEM, BAYER, SIR) and rubber products (PIRELLI, MANULI).

In 1978, following changes in its production plant, the company became the first in Italy to produce semifinished closed-cell foam rubber products for thermal and acoustic insulation used in domestic and industrial applications.

Today, UNION FOAM Spa, with vast experience in research, testing and the development of innovative and highly technological products has become a European market leader in this field and is in constant expansion.

The company's products and systems, capable of preventing the formation of condensation, limiting the loss of energy, absorbing sound and vibrations and protecting the environment, are used in a wide range of both domestic and industrial applications. (Heating and plumbing, air conditioning, refrigeration, oil, petrochemical, shipyards and railways.)

Certification bodies, qualified both on a national and international level, guarantee, in accordance with the regulations in force, the quality and performance of all products.

The versatility of the production systems together with the ability and desire of the staff to satisfy worldwide customer requirements allows the company to adapt its product range to meet the needs and comply with the regulations of all of the countries in which Union Foam and its business partners operate.

The company has been granted the certification ISO EN 9001:2008, CE MARK, RAL QUALITY MARK, MED MARINE, and has always adopted a "total customer satisfaction" policy in order to consolidate and develop working relationships and partnerships with customers through the SYSTEM 1+ for the evaluation and verification of their products' performance consistency.

Thanks to its network of agents and distributors, UNION FOAM is now a leading company in the major world wide markets.

Recently UNION FOAM, along with four other companies of the same group, has founded "FIVE 5" which, with the sponsorship of the Lombardy district administration and other bodies, aims to create cooperation between various local manufacturers to promote products "Made in Italy".

UNION FOAM S.p.A



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QUALITY MANAGEMENT SYSTEM CERTIFICATE

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificato No./Certificate No.:
CERT-02587-98-AQ-MIL-SINCERT

Data prima emissione/Initial date:
13 febbraio 1998

Validità/Valid:
25 novembre 2015 - 25 novembre 2018

Si certifica che il sistema di gestione di/This is to certify that the management system of

UNION FOAM S.p.A.

Via dell'Industria, 8/11 - 20882 Bellusco (MB) - Italy

È conforme ai requisiti della norma per il Sistema di Gestione Qualità/
has been found to conform to the Quality Management System standard:

UNI EN ISO 9001:2015 (ISO 9001:2015)

Questa certificazione è valida
per il seguente campo applicativo:

**Progettazione, produzione e commercio
di tubi e lastre in elastomero espanso**

(Settore EA: 14)

This certificate is valid
for the following scope:

**Design, manufacture and trade of pipes
and sheets in elastomeric foam**

(EA Sector: 14)

Luogo e Data/Place and date:
Vimercate, 23 novembre 2017



ISO 9001:2015
ISO 9001:2015
ISO 9001:2015
ISO 9001:2015

Member of IFA EA per gli schemi di accreditamento
ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 e UNI EN ISO 9001:2015
per gli schemi di accreditamento ISO 9001:2015, ISO 14001:2015
e ISO 45001:2018 per gli schemi di accreditamento
UNI EN ISO 9001:2015, UNI EN ISO 14001:2015 e UNI EN ISO 45001:2018

Per l'Organismo di Certificazione/
For the Certification Body

Nicola Privato
Management Representative

La validità del presente Certificato è subordinata al rispetto delle condizioni contenute nel Contratto di Certificazione/
Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

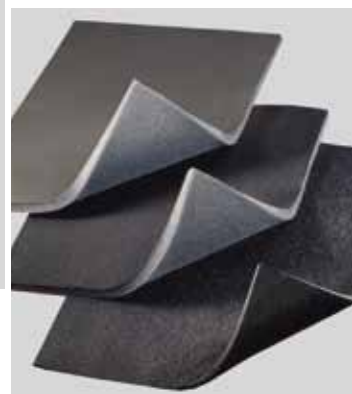
DNV GL Business Assurance Italia S.r.l. Via Energy Park, 14, 20871 Vimercate (MB), Italy. Tel: 039 68 99 905. www.dnvgl.it/assurance



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**UNION FOAM.
SOLUTIONS TO
ENSURE EFFICIENT
THERMAL AND
ACOUSTIC
INSULATION.**





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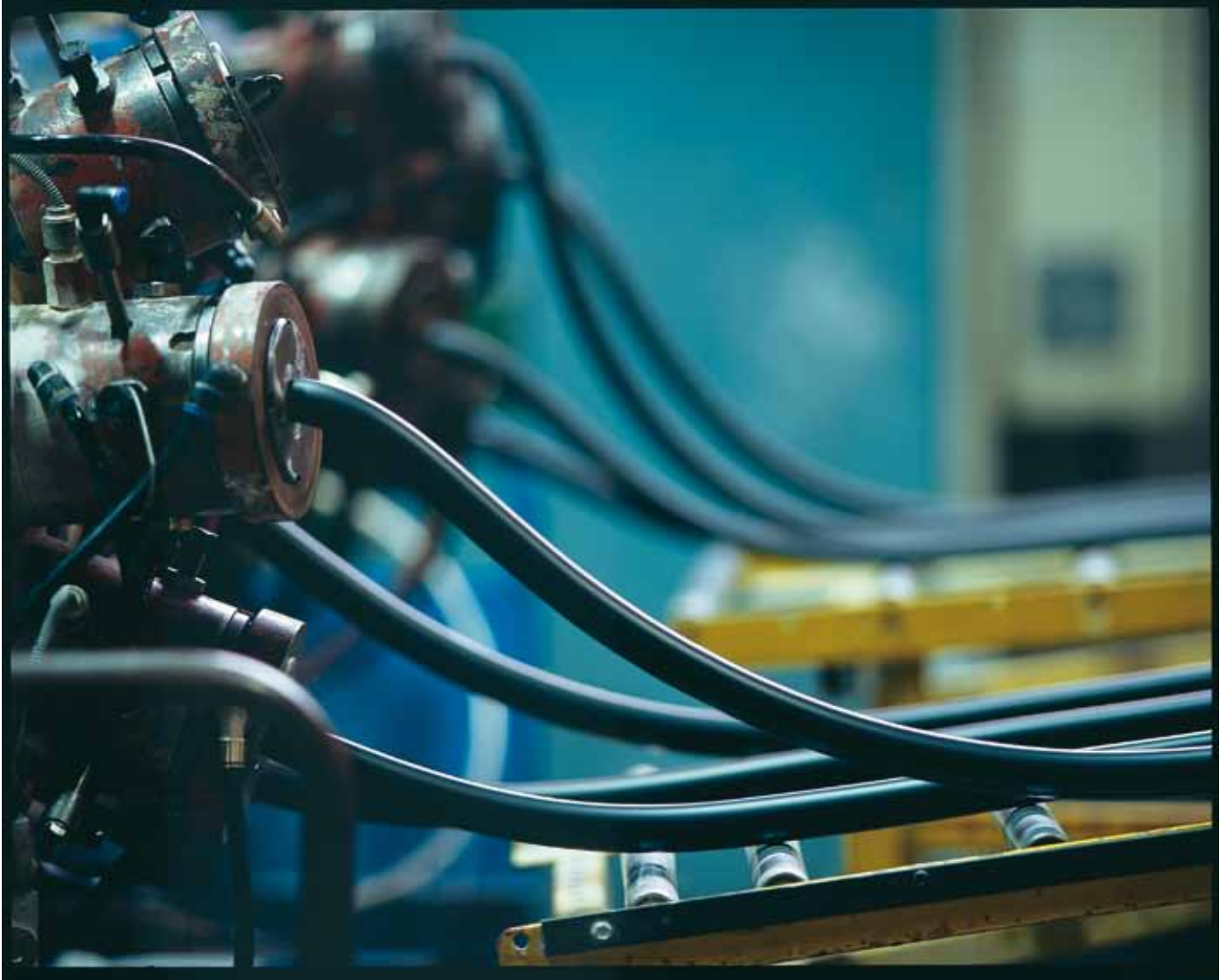
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THERMAL INSULATION



advanced elastomeric thermal and acoustic insulation materials



CFC, HCFC free, GWP zero thermal insulation in the form of tubes, sheets, coils and self-adhesive tape, a Flexible Elastomeric Foam product complying with the European standard EN 14304. EUROBATEX is a closed cell, integral vapour barrier material with a high emissivity surface making it the ideal material for condensation control on refrigeration, air-conditioning and dual temperature services. It also has a class leading s2 smoke rating to the EN 13823 Reaction to Fire test for pipes. Its stable thermal conductivity and availability as thin wall items also provide specific benefits for energy conservation, frost protection, temperature control and personnel protection applications.



advanced elastomeric thermal and acoustic insulation materials



Type of material: Black closed-cell flexible elastomeric foam (FEF).

Product range: Tubes in pipe sections (also in a self-adhesive version) and coils with thicknesses from 6 to 60 mm and diameters from 6 to 170 mm.
Flat sheets or rolls (also in a self-adhesive version) with thicknesses from 6 to 60 mm.
Tapes with a thickness of 3 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: Flexible and expanded CFC and HCFC-free rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate reinforced with mesh structure. Protection liner made of polyethylene or paper foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive products should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706/EN 14707
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	Tubes THK ≤ 25 mm ≤ 0.033 W/m·K Tubes THK > 25 mm ≤ 0.035 W/m·K Sheets THK ≤ 32 mm ≤ 0.033 W/m·K Sheets THK > 32 mm ≤ 0.034 W/m·K Tapes ≤ 0.033 W/m·K Tubes THK ≤ 25 mm ≤ 0.037 W/m·K Tubes THK > 25 mm ≤ 0.039 W/m·K Sheets THK ≤ 32 mm ≤ 0.037 W/m·K Sheets THK > 32 mm ≤ 0.038 W/m·K Tapes ≤ 0.037 W/m·K	EN 12667/EN ISO 8497
Water vapour diffusion resistance factor (μ)	≥ 7000	EN 13469/EN 12086
Water absorption	$< 0,1$ kg/m ²	EN 13472/EN 1609
Fire performance European standard UK: Fire propagation Surface spread of flame Building Regulations USA, Canada Shipyards (MED)	Tubes B _L -s2,d0 Tapes B-s2,d0 Sheets B-s3,d0 Sheets 60 mm E i1 ≤ 6.0 Class 1 Class 0 UL Approved Flame Class V-0, up to 13 mm. Flame Class V-0, HF-1 - thk. 3 mm. Meets test requirements	EN 13501 -1 BS476: Part 6 BS476: Part 7 BS476 Parts 6 and 7 UL 94 UL 746 A - UL 746 B IMO Res. MSC.307(88); IMO MSC/Circ. 1004 (Directive MED 2014/90/UE Modules B and D)
Ozone resistance	Excellent	ISO 7326
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	EN 13468

* NB: for applications at lower temperatures please contact our technical department.
For information regarding the chemical resistance of the product please consult the specific technical documentation.
For self-adhesive sheets and tapes, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

System 1 Marking in accordance with the European Standard EN 14304
Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021

The product meets the requirements for the achievement of the Eco-Bau classification.

All the normatives quoted in this document are updated to the latest issued versions.

For outside uses Eurobatex should be protected with Union Covering or Vec elastomeric paint.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



EUROBATEX®

PIPE SECTIONS - LENGTH 2 m

PRODUCT RANGE

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	Thickness 6 mm		Thickness 9 mm		Thickness 13 mm	
ext. Ø mm	Ø nomin. DN	ext. Ø mm	Ø inches	Ø nomin. DN	Ø nomin. DN	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct	Item no. thickness x ID Ø	m/ct
6	4					06-06 EUR	496	09-06 EUR	352	13-06 EUR	220
8	6					06-08 EUR	432	09-08 EUR	300	13-08 EUR	210
10	8	10,20	1/8"	6		06-10 EUR	364	09-10 EUR	266	13-10 EUR	172
12	10				12	06-12 EUR	316	09-12 EUR	234	13-12 EUR	162
14	10	13,60	1/4"	8		06-14 EUR*	266	09-14 EUR*	192	13-14 EUR*	136
15/16					16	06-15/16 EUR	266	09-15/16 EUR	192	13-15/16 EUR	136
17/18	15	17,20	3/8"	10		06-17/18 EUR	220	09-17/18 EUR	166	13-17/18 EUR	118
20					20	06-20 EUR*	180	09-20 EUR*	136	13-20 EUR*	98
22	20	21,30	1/2"	15		06-22 EUR	180	09-22 EUR	136	13-22 EUR	98
25	20	25,0			25	06-25 EUR*	152	09-25 EUR*	108	13-25 EUR*	80
27/28	25	26,90	3/4"	20		06-27/28 EUR	130	09-27/28 EUR	98	13-27/28 EUR	78
34/35	32	33,7	1"	25		06-34/35 EUR	100	09-34/35 EUR	76	13-34/35 EUR	58
38								09-38 EUR*	66	13-38 EUR*	50
42	40	42,4	1,1/4"	32		06-42 EUR	90	09-42 EUR	60	13-42 EUR	48
48				40				09-48 EUR	50	13-48 EUR	40
54	35	48,3	1,1/2"	40				09-54 EUR	46	13-54 EUR	34
57								09-57 EUR*	46	13-57 EUR*	32
60		60,3	2"	50				09-60 EUR	46	13-60 EUR	32
64								09-64 EUR*	46	13-64 EUR*	30
70		70,0						09-70 EUR	40	13-70 EUR	26
76	65	76,1	2,1/2"	65				09-76 EUR	40	13-76 EUR	26
80								09-80 EUR*	36	13-80 EUR*	24
90	80	88,9	3	80				09-90 EUR	36	13-90 EUR	24
101		101,6/104,3	3,1/2"					09-101 EUR	22	13-101 EUR	16
108								09-108 EUR*	22	13-108 EUR*	16
114	100	114,3	4"	100				09-114 EUR	22	13-114 EUR	16
127		127,0								13-127 EUR*	12
133		133,0								13-133 EUR*	12
140		139,7								13-140 EUR*	12
160		160,0								13-160 EUR*	12
168										13-168 EUR*	10

* Made to order. Packaging dimensions: 212 x 33 x 39 cm.



PIPE SECTIONS - LENGTH 2 m

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	Thickness 19 mm		Thickness 25 mm		Thickness 32 mm	
ext. ø mm	ø nomin. DN	ext. ø mm	ø inches	ø nomin. DN	ø nomin. DN	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct
10	8	10,20	1/8"	6		19-10 EUR	98				
12	10					19-12 EUR	88				
14	10	13,60	1/4"	8		19-14 EUR*	78				
15/16					12	19-15/16 EUR	78				
17/18	15	17,20	3/8"	10		19-17/18 EUR	72	25-17/18 EUR	50	32-17/18 EUR	32
20					16	19-20 EUR*	66				
22	20	21,30	1/2"	15		19-22 EUR	64	25-22 EUR	42	32-22 EUR	32
25	20	25,0			20	19-25 EUR*	50				
27/28	25	26,90	3/4"	20		19-27/28 EUR	48	25-27/28 EUR	40	32-27/28 EUR	24
34/35	32	33,7	1"	25	25	19-34/35 EUR	36	25-34/35 EUR	24	32-34/35 EUR	22
38						19-38 EUR*	32				
42	40	42,4	1,1/4"	32		19-42 EUR	32	25-42 EUR	22	32-42 EUR	16
48				40		19-48 EUR	24	25-48 EUR	18	32-48 EUR	14
54	35	48,3	1,1/2"	40		19-54 EUR	24	25-54 EUR	16	32-54 EUR	12
57						19-57 EUR*	22				
60		60,3	2"	50		19-60 EUR	22	25-60 EUR	12	32-60 EUR	10
64						19-64 EUR*	18	25-64 EUR*	12	32-64 EUR*	10
70		70,0				19-70 EUR	18	25-70 EUR*	12	32-70 EUR*	8
76	65	76,1	2,1/2"	65		19-76 EUR	18	25-76 EUR	10	32-76 EUR	8
80						19-80 EUR*	14			32-80 EUR*	8
90	80	88,9	3	80		19-90 EUR	14	25-90 EUR	8	32-90 EUR	8
101		101,6/104,3	3,1/2"			19-101 EUR	14	25-101 EUR	8	32-101 EUR	6
108						119-108 EUR*	12	25-108 EUR*	8	32-108 EUR	6
114		114,3				19-114 EUR	12	25-114 EUR	6	32-114 EUR	6
127	100	127,0	4"	100		19-127 EUR*	10				
133		133,0				19-133 EUR*	8	25-133 EUR	6	32-133 EUR	6
140		139,7				19-140 EUR*	8	25-140 EUR	4	32-140 EUR	4
160		160,0				19-160 EUR*	8	25-160 EUR*	4	32-160 EUR*	4
168						19-168 EUR*	8	25-168 EUR*	4	32-168 EUR*	4

* Made to order. Packaging dimensions: 212 x 33 x 39 cm.

Different thicknesses and diameters available on request.

EUROBATEX®

PIPE SECTIONS



SELF-ADHESIVE PIPE SECTIONS - LENGTH 2 m

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	Thickness 9 mm		Thickness 13 mm		Thickness 19 mm	
ext. ø mm	ø nomin. DN	ext. ø mm	ø inches	ø nomin. DN	ø nomin. DN	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct
12	10				12	09-12EUR 0 AD2	234	13-12EUR 0 AD2	162	19-12EUR 0 AD2	88
14	10	13,60	1/4"	8		09-14EUR 0 AD2	192	13-14EUR 0 AD2	136	19-14EUR 0 AD2	78
15/16					16	09-15/16EUR 0 AD2	192	13-15/16EUR 0 AD2	136	19-15/16EUR 0 AD2	78
17/18	15	17,20	3/8"	10		09-17/18EUR 0 AD2	166	13-17/18EUR 0 AD2	118	19-17/18EUR 0 AD2	72
20					20	09-20EUR* 0 AD2	136	13-20EUR 0 AD2	98	19-20EUR 0 AD2	66
22	20	21,30	1/2"	15		09-22EUR 0 AD2	136	13-22EUR 0 AD2	98	19-22EUR 0 AD2	64
25	20	25,0			25	09-25EUR 0 AD2	108	13-25EUR 0 AD2	80	19-25EUR 0 AD2	50
27/28	25	26,90	3/4"	20		09-27/28EUR 0 AD2	98	13-27/28EUR 0 AD2	78	19-27/28EUR 0 AD2	48
34/35	32	33,7	1"	25		09-34/35EUR 0 AD2	76	13-34/35EUR 0 AD2	58	19-34/35EUR 0 AD2	36
38						09-38EUR 0 AD2	66	13-38EUR 0 AD2	50	19-38EUR 0 AD2	32
42	40	42,4	1,1/4"	32		09-42EUR 0 AD2	60	13-42EUR 0 AD2	48	19-42EUR 0 AD2	32
48				40		09-48EUR 0 AD2	50	13-48EUR 0 AD2	40	19-48EUR 0 AD2	24
54	35	48,3	1,1/2"	40		09-54EUR 0 AD2	46	13-54EUR 0 AD2	34	19-54EUR 0 AD2	24
57						09-57EUR 0 AD2	46	13-57EUR 0 AD2	32	19-57EUR 0 AD2	22
60		60,3	2"	50		09-60EUR 0 AD2	46	13-60EUR 0 AD2	32	19-60EUR 0 AD2	22
64						09-64EUR 0 AD2	46	13-64EUR 0 AD2	30	19-64EUR 0 AD2	18
70		70,0				09-70EUR 0 AD2	40	13-70EUR 0 AD2	26	19-70EUR 0 AD2	18
76	65	76,1	2,1/2"	65		09-76EUR 0 AD2	40	13-76EUR 0 AD2	26	19-76EUR 0 AD2	18
80						09-80EUR 0 AD2	36	13-80EUR 0 AD2	24	19-80EUR 0 AD2	14
90	80	88,9	3	80		09-90EUR 0 AD2	36	13-90EUR 0 AD2	24	19-90EUR 0 AD2	14
101		101,6/104,3	3,1/2"					13-101EUR 0 AD2	16	19-101EUR 0 AD2	14
108								13-108EUR 0 AD2	16	19-108EUR 0 AD2	12
114	100	114,3	4"	100				13-114EUR 0 AD2	16	19-114EUR 0 AD2	12

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	Thickness 25 mm		Thickness 32 mm	
ext. ø mm	ø nomin. DN	ext. ø mm	ø inches	ø nomin. DN	ø nomin. DN	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct
17/18	15	17,20	3/8"	10		25-17/18EUR 0 AD2	50	32-17/18EUR 0 AD2	32
22	20	21,30	1/2"	15		25-22EUR 0 AD2	42	32-22EUR 0 AD2	32
27/28	25	26,90	3/4"	20		25-27/28EUR 0 AD2	40	32-27/28EUR 0 AD2	24
34/35	32	33,7	1"	25	25	25-34/35EUR 0 AD2	24	32-34/35EUR 0 AD2	22
42	40	42,4	1,1/4"	32		25-42EUR 0 AD2	22	32-42EUR 0 AD2	16
48				40		25-48EUR 0 AD2	18	32-48EUR 0 AD2	14
54	35	48,3	1,1/2"	40		25-54EUR 0 AD2	16	32-54EUR 0 AD2	12
60		60,3	2"	50		25-60EUR 0 AD2	12	32-60EUR 0 AD2	10
64						25-64EUR 0 AD2*	12	32-64EUR 0 AD2*	10
70		70,0				25-70EUR 0 AD2*	12	32-70EUR 0 AD2*	8
76	65	76,1	2,1/2"	65		25-76EUR 0 AD2	10	32-76EUR 0 AD2	8
80								32-80EUR 0 AD2*	8
90	80	88,9	3	80		25-90EUR 0 AD2	8	32-90EUR 0 AD2	8
101						25-101EUR 0 AD2	8	32-101EUR 0 AD2	6
108						25-108EUR 0 AD2*	6	32-108EUR 0 AD2	6
114	100	114,3	4"	100		25-114EUR 0 AD2	6	32-114EUR 0 AD2	6

* Made to order. Packaging dimensions: 212 x 33 x 39 cm.
Version with overlap available on request.
Tubes are supplied with an adhesive strip on both sides.



EUROBATEX® COILS

Internal ø	Thickness 6 mm		Thickness 9 mm		Thickness 13 mm	
mm	item no.	m/ct	item no.	m/ct	item no.	m/ct
6	06-06 EUR 0 ROT*	95	09-06 EUR 0 ROT	70	13-06 EUR 0 ROT	45
10	06-10 EUR 0 ROT*	75	09-10 EUR 0 ROT	50	13-10 EUR 0 ROT	35
12	06-12 EUR 0 ROT*	65	09-12 EUR 0 ROT	45	13-12 EUR 0 ROT	32
15	06-15 EUR 0 ROT*	55	09-15 EUR 0 ROT	40	13-15 EUR 0 ROT	32
18	06-18 EUR 0 ROT*	45	09-18 EUR 0 ROT	38	13-18 EUR 0 ROT	30
20	06-20 EUR 0 ROT*	40	09-20 EUR 0 ROT	34	13-20 EUR 0 ROT	28
22	06-22 EUR 0 ROT*	40	09-22 EUR 0 ROT	30	13-22 EUR 0 ROT	26
28	06-28 EUR 0 ROT*	30	09-28 EUR 0 ROT	26	13-28 EUR 0 ROT	20

Packaging dimensions: 60 x 60 x 21 cm.

* Made to order.

EUROBATEX® ECO COILS FOR INDUSTRIAL APPLICATIONS

Item no.	coil LENGTH m	Item no.	coil LENGTH m	Item no.	coil LENGTH m
06-06EUR 1 C	200	09-06EUR 1 C	100	13-06EUR 1 C	100
06-08EUR 1 C	200	09-08EUR 1 C	100	13-08EUR 1 C	100
06-10EUR 1 C	150	09-10EUR 1 C	100	13-10EUR 1 C	80
06-12EUR 1 C	150	09-12EUR 1 C	100	13-12EUR 1 C	60
06-14EUR 1 C	100	09-14EUR 1 C	80	13-14EUR 1 C	60
06-15EUR 1 C	100	09-15EUR 1 C	60	13-15EUR 1 C	50
06-18EUR 1 C	80	09-18EUR 1 C	50	13-18EUR 1 C	35
06-20EUR 1 C	50	09-20EUR 1 C	40	13-20EUR 1 C	30
06-22EUR 1 C	50	09-22EUR 1 C	40	13-22EUR 1 C	30
06-25EUR 1 C	50	09-25EUR 1 C	40	13-25EUR 1 C	30
06-28EUR 1 C	50	09-28EUR 1 C	40	13-28EUR 1 C	30
		09-35EUR 1 C	30		

Packaging dimensions: 50 x 58 x 60 cm.

Product not in stock, available on request.



EUROBATEX® COILS



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® CONTINUOUS ROLLS

Item no.	Thickness mm	Dimensions m ²
06EUR R	6	30
10EUR R	10	20
13EUR R	13	14
16EUR R	16	12
19EUR R	19	10
25EUR R	25	8
32EUR R	32	6
40EUR R	40	4
50EUR R	50	4
60EUR R*	60	3

Packaging dimensions: 54 x 54 x 110 cm (volume = 0.32m³)

*Made to order.

1 x 2 m or 0,5 x 2 m plate versions available on request.



SELF-ADHESIVE CONTINUOUS ROLLS

Item no.	Thickness mm	Dimensions m ²
06EUR R ADR	6	30
10EUR R ADR	10	20
13EUR R ADR	13	14
16EUR R ADR	16	12
19EUR R ADR	19	10
25EUR R ADR	25	8
32EUR R ADR	32	6
40EUR R ADR	40	4
50EUR R ADR	50	4
60EUR R ADR*	60	3

Packaging dimensions: 54 x 54 x 110 cm (volume = 0.32m³)

*Made to order.



SHEETS

EUROBATEX® SELF-ADHESIVE TAPE

Item no.	Description	pcs/ct
FPX 10 TR	thickness 3 mm x 50 mm width - 10 m length	24
FPX 15 TR	thickness 3 mm x 50 mm width - 15 m length	12

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® PLUS



EUROBATEX PLUS is a Flexible Elastomeric Foam offering all of the features and benefits of EUROBATEX but is formulated with a microcellular structure which gives an improved and higher water vapour diffusion resistance factor ($\mu \geq 10000$); it also has a class leading s2 smoke rating to the EN 13823 Reaction to Fire test for pipes. This material is suitable for commercial, industrial and domestic applications.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® PLUS

Type of material: Black closed-cell flexible elastomeric foam (FEF).

Product range: Tubes in pipe sections (also in a self-adhesive version) and coils in thicknesses from 6 to 40 mm and diameters from 6 to 160 mm.
Sheets in rolls (also in a self-adhesive version) in thicknesses from 6 to 40 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate; available plain or reinforced with mesh structure. Protection liner made of polyethylene or paper foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive products should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706/EN 14707
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	Tubes THK ≤ 25 mm ≤ 0.033 W/m·K Tubes THK > 25 mm ≤ 0.035 W/m·K Sheets THK ≤ 32 mm ≤ 0.033 W/m·K Sheets THK > 32 mm ≤ 0.034 W/m·K Tubes THK ≤ 25 mm ≤ 0.037 W/m·K Tubes THK > 25 mm ≤ 0.039 W/m·K Sheets THK ≤ 32 mm ≤ 0.037 W/m·K Sheets THK > 32 mm ≤ 0.038 W/m·K	EN 12667/EN ISO 8497
Water vapour diffusion resistance factor (μ)	Tubes THK 6-19 mm ≥ 10000 Sheets THK 6-25 mm ≥ 10000 Tubes THK 25-40 mm ≥ 7000 Sheets THK 32-40 mm ≥ 7000	EN 13469/EN 12086
Water absorption	$< 0,1$ kg/m ²	EN 13472/EN 1609
Fire performance European standard USA, Canada	Tubes B _L -s2,d0 Sheets B-s3,d0 UL Approved Flame Class V-0, up to 13 mm. Flame Class V-0, HF-1 - thk. 3 mm.	EN 13501-1 UL 94 UL 746 A - UL 746 B
Shipyards (MED)	Meets test requirements	IMO Res. MSC.307(88); IMO MSC/Circ. 1004 (Directive MED 2014/90/UE Modules B and D)
Ozone resistance	Excellent	ISO 7326
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	EN 13486

* NB: for applications at lower temperatures please contact our technical department.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 1 CE Marking in accordance with the European Standard EN 14304.

Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

All the normatives quoted in this document are updated to the latest issued versions.

For outside uses Eurobatex Plus should be protected with Union Covering or Vec elastomeric paint.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



EUROBATEX® PLUS

PIPE SECTIONS - LENGTH 2 m PRODUCT RANGE

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	Thickness 6 mm		Thickness 9 mm		Thickness 13 mm	
ext. Ø mm	Ø nomin. DN	ext. Ø mm	Ø inches	Ø nomin. DN	Ø nomin. DN	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct
6	4					06-06 EUR P	496	09-06 EUR P	352	13-06 EUR P	220
8	6					06-08 EUR P	432	09-08 EUR P	300	13-08 EUR P	210
10	8	10,20	1/8"	6		06-10 EUR P	364	09-10 EUR P	266	13-10 EUR P	172
12	10				12	06-12 EUR P	316	09-12 EUR P	234	13-12 EUR P	136
14	10	13,60	1/4"	8		06-14 EUR P*	266	09-14 EUR P*	192	13-14 EUR P*	136
15/16					16	06-15 EUR P	266	09-15 EUR P	192	13-15 EUR P	136
17/18	15	17,20	3/8"	10		06-18 EUR P	220	09-18 EUR P	166	13-18 EUR P	118
20					20	06-20 EUR P*	180	09-20 EUR P*	136	13-20 EUR P*	98
22	20	21,30	1/2"	15		06-22 EUR P	180	09-22 EUR P	136	13-22 EUR P	98
25	20	25,0			25	06-25 EUR P*	152	09-25 EUR P*	108	13-25 EUR P*	80
27/28	25	26,90	3/4"	20		06-28 EUR P	130	09-28 EUR P	98	13-28 EUR P	78
34/35	32	33,7	1"	25		06-35 EUR P	100	09-35 EUR P	76	13-35 EUR P	58
38								09-38 EUR P*	66	13-38 EUR P*	50
42	40	42,4	1,1/4"	32		06-42 EUR P	90	09-42 EUR P	60	13-42 EUR P	48
48				40				09-48 EUR P	50	13-48 EUR P	40
54	35	48,3	1,1/2"	40				09-54 EUR P	46	13-54 EUR P	34
57								09-57 EUR P*	46	13-57 EUR P*	32
60		60,3	2"	50				09-60 EUR P	46	13-60 EUR P	32
64								09-64 EUR P*	46	13-64 EUR P*	30
70		70,0						09-70 EUR P	40	13-70 EUR P	26
76	65	76,1	2,1/2"	65				09-76 EUR P	40	13-76 EUR P	26
80								09-80 EUR P*	36	13-80 EUR P*	24
90	80	88,9	3	80				09-90 EUR P	36	13-90 EUR P	24
101		101,6/104,3	3,1/2"					09-101 EUR P	22	13-101 EUR P	16
108								09-108 EUR P*	22	13-108 EUR P*	16
114	100	114,3	4"	100				09-114 EUR P	22	13-114 EUR P	16
127		127,0								13-127 EUR P*	12
133		133,0								13-133 EUR P*	12
140		139,7								13-140 EUR P*	12
160		160,0								13-160 EUR P*	12

* Made to order. Packaging dimensions: 212 x 33 x 39 cm.



PIPE SECTIONS - LENGTH 2 m

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	Thickness 19 mm		Thickness 25 mm		Thickness 32 mm	
ext. Ø mm	Ø nomin. DN	ext. Ø mm	Ø inches	Ø nomin. DN	Ø nomin. DN	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct	Item no. thickness x ID	m/ct
10	8	10,20	1/8"	6		19-10 EUR P	98				
12	10					19-12 EUR P	88				
14	10	13,60	1/4"	8		19-14 EUR P*	78				
15/16					12	19-15 EUR P	78				
17/18	15	17,20	3/8"	10		19-18 EUR P	72	25-18 EUR P	50	32-18 EUR P	32
20					16	19-20 EUR P*	66				
22	20	21,30	1/2"	15		19-22 EUR P	64	25-22 EUR P	42	32-22 EUR P	32
25	20	25,0			20	19-25 EUR P*	50				
27/28	25	26,90	3/4"	20		19-28 EUR P	48	25-28 EUR P	40	32-28 EUR P	24
34/35	32	33,7	1"	25	25	19-35 EUR P	36	25-35 EUR P	24	32-35 EUR P	22
38						19-38 EUR P*	32				
42	40	42,4	1,1/4"	32		19-42 EUR P	32	25-42 EUR P	22	32-42 EUR P	16
48				40		19-48 EUR P	24	25-48 EUR P	18	32-48 EUR P	14
54	35	48,3	1,1/2"	40		19-54 EUR P	24	25-54 EUR P	16	32-54 EUR P	12
57						19-57 EUR P*	22				
60		60,3	2"	50		19-60 EUR P	22	25-60 EUR P	12	32-60 EUR P	10
64						19-64 EUR P*	18	25-64 EUR P*	12	32-64 EUR P*	10
70		70,0				19-70 EUR P	18	25-70 EUR P*	12	32-70 EUR P*	8
76	65	76,1	2,1/2"	65		19-76 EUR P	18	25-76 EUR P	10	32-76 EUR P	8
80						19-80 EUR P*	14			32-80 EUR P*	8
90	80	88,9	3	80		19-90 EUR P	14	25-90 EUR P	8	32-90 EUR P	8
101		101,6/104,3	3,1/2"			19-101 EUR P	14	25-101 EUR P	8	32-101 EUR P	6
108						119-108 EUR P*	12	25-108 EUR P*	6	32-108 EUR P	6
114	100	114,3	4"	100		19-114 EUR P	12	25-114 EUR P	6	32-114 EUR P	6
127		127,0				19-127 EUR P*	10				
133		133,0				19-133 EUR P*	8	25-133 EUR P	4	32-133 EUR P	4
140		139,7				19-140 EUR P*	8	25-140 EUR P	4	32-140 EUR P	4
160		160,0				19-160 EUR P*	8	25-160 EUR P*	4	32-160 EUR P*	4

* Made to order. Packaging dimensions: 212 x 33 x 39 cm.

EUROBATEX® PLUS

PIPE SECTIONS



COILS

Internal ø	Thickness 6 mm		Thickness 9 mm		Thickness 13 mm	
mm	item no.	m/ct	item no.	m/ct	item no.	m/ct
6	06-06 EUR P ROT*	95	09-06 EUR P ROT	70	13-06 EUR P ROT	45
10	06-10 EUR P ROT*	75	09-10 EUR P ROT	50	13-10 EUR P ROT	35
12	06-12 EUR P ROT*	65	09-12 EUR P ROT	45	13-12 EUR P ROT	32
15	06-15 EUR P ROT*	55	09-15 EUR P ROT	40	13-15 EUR P ROT	32
18	06-18 EUR P ROT*	45	09-18 EUR P ROT	38	13-18 EUR P ROT	30
20	06-20 EUR P ROT*	40	09-20 EUR P ROT	34	13-20 EUR P ROT	28
22	06-22 EUR P ROT*	40	09-22 EUR P ROT	30	13-22 EUR P ROT	26
28	06-28 EUR P ROT*	30	09-28 EUR P ROT	26	13-28 EUR P ROT	20

Packaging dimensions: 60 x 60 x 21 cm.

* Made to order.

EUROBATEX[®] PLUS

COILS



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® PLUS

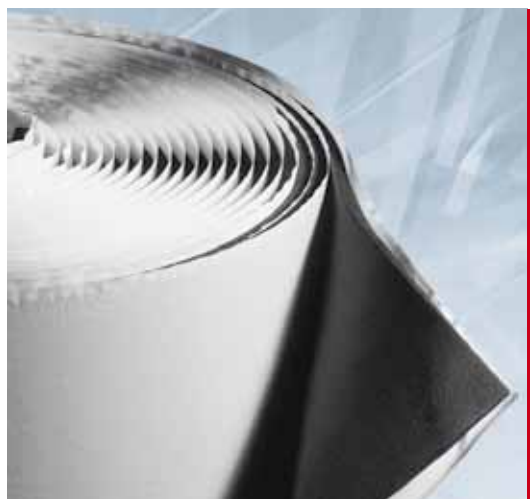
CONTINUOUS ROLLS

Code	Thickness mm	Dimensions m ²
06 EURPS	6	15
10 EURPS	9	10
13 EURPS	13	8
19 EURPS	19	6
25 EURPS	25	4
32 EURPS	32	3
40 EURPS	40	3

Packaging dimensions: 400 x 400 x 1070 mm (volume = 0.17m³)



SELF-ADHESIVE CONTINUOUS ROLLS



Code	Thickness mm	Dimensions m ²
06 EURPS ADR	6	15
10 EURPS ADR	9	10
13 EURPS ADR	13	8
19 EURPS ADR	19	6
25 EURPS ADR	25	4
32 EURPS ADR	32	3
40 EURPS ADR	40	3

Packaging dimensions: 400 x 400 x 1070 mm (volume = 0.17m³)

EUROBATEX® PLUS

EUROBATEX® SELF-ADHESIVE TAPE

Item no.	Description	pcs/ct
FPX 10 TR	thickness 3 mm x 50 mm width - 10 m length	24
FPX 15 TR	thickness 3 mm x 50 mm width - 15 m length	12

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



EUROBATEX® PLUS UF



EUROBATEX PLUS UF is a Flexible Elastomeric Foam offering all of the features and benefits of EUROBATEX but is formulated with a microcellular structure which gives an improved and higher water vapour diffusion resistance factor ($\mu \geq 10000$); it also has a class leading s2 smoke rating to the EN 13823 Reaction to Fire test for pipes. This material is suitable for commercial, industrial and domestic applications. EUROBATEX PLUS UF tubes also offer the advantage of having engineered wall thicknesses to maintain a constant surface temperature with increasing pipe size.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® PLUS UF

Type of material: Black closed-cell flexible elastomeric foam (FEF).

Product range: Tubes in pipe sections (also in a self-adhesive version) in thickness from 7 to 45 mm and diameters from 6 to 160 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate reinforced with mesh structure. Protection liner made of polyethylene foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive pipes should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14707
Thermal conductivity λ At a mean temperature of 0 °C	Tubes UF1, UF2, UF3, UF4 ≤ 0.033 W/m·K Tubes UF5, UF6 ≤ 0.035 W/m·K	EN ISO 8497
At a mean temperature of +40 °C	Tubes UF1, UF2, UF3, UF4 ≤ 0.037 W/m·K Tubes UF5, UF6 ≤ 0.039 W/m·K	
Water vapour diffusion resistance factor (μ)	Tubes UF1, UF2, UF3, UF4 ≥ 10000 Tubes UF5, UF6 ≥ 7000	EN 13469
Water absorption	<0,1 kg/m ²	EN 13472
Fire performance European standard	B _L -s2,d0	EN 13501-1
Shipyards (MED)	Meets test requirements	IMO Res. MSC.307(88); IMO MSC/Circ. 1004 (Directive MED 2014/90/UE Modules B and D)
Ozone resistance	Excellent	ISO 7326
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	EN 13468

*NB: for applications at lower temperature please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 1 CE Marking in accordance with the European Standard EN 14304.
Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

All the normatives quoted in this document are updated to the latest issued versions.

For outside uses Eurobatex Plus UF should be protected with Union Covering or Vec elastomeric paint.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



EUROBATEX® PLUS UF

PIPE SECTIONS - LENGTH 2 m

PRODUCT RANGE

							engineered thickness from 7 to 10 mm			engineered thickness from 9,5 to 16 mm			engineered thickness from 12,5 to 19 mm		
COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	ø INT. MIN-MAX	UF-1			UF-2			UF-3		
ext. ø mm	ø nomin. DN	ext. ø mm	ø inches	ø nomin. DN	ø nomin. DN	mm	thk. mm	item no.	m/ct	thk. mm	item no.	m/ct	thk. mm	item no.	m/ct
6	4					7-10	7	EURUF-1-006	496	9,5	EURUF-2-006	352			
8	6					9-12	7	EURUF-1-008	432	10	EURUF-2-008	300			
10	8	10,20	1/8"	6		11-14	7,5	EURUF-1-010	364	11	EURUF-2-010	266	12,5	EURUF-3-010	172
12	10				12	13-16	7,5	EURUF-1-012	316	11	EURUF-2-012	234	13	EURUF-3-012	162
15	10	13,60	1/4"	8	16	16-19	8	EURUF-1-015	266	11,5	EURUF-2-015	192	14	EURUF-3-015	136
18	15		3/8"			19-22	8	EURUF-1-018	266	11,5	EURUF-2-018	166	14	EURUF-3-018	118
22	20	17,20	1/2"	10		23-26	8,5	EURUF-1-022	220	12	EURUF-2-022	136	14,5	EURUF-3-022	98
25	20				25	26-29	8,5	EURUF-1-025	152	12,5	EURUF-2-025	108	14,5	EURUF-3-025	80
28	25	21,30	3/4"	15		29-32	8,5	EURUF-1-028	130	12,5	EURUF-2-028	98	15,5	EURUF-3-028	78
30	25	25,0				31-34	9	EURUF-1-030	152	12,5	EURUF-2-030	98	15,5	EURUF-3-030	78
35	32	26,90	1"	20		36-39	9	EURUF-1-035	130	13	EURUF-2-035	76	16	EURUF-3-035	58
38	32	33,7		25		39-42	9	EURUF-1-038	100						
42	40					43-46	9	EURUF-1-042	90	13,5	EURUF-2-042	66	16,5	EURUF-3-042	50
45		42,4		32		46-49				13,5	EURUF-2-045	60	16,5	EURUF-3-045	48
48	35			40		49-52				13,5	EURUF-2-048	50	16,5	EURUF-3-048	40
54	50	48,3	1,1/2"	40		55-58				13,5	EURUF-2-054	46	17	EURUF-3-054	34
57	50					58-61				14	EURUF-2-057	46	17	EURUF-3-057	32
60		60,3	2"	50		61-64				14	EURUF-2-060	46	17	EURUF-3-060	32
64						65-68				14	EURUF-2-064	46	17	EURUF-3-064	30
70	65	70,0				71-74				14	EURUF-2-070	40	17,5	EURUF-3-070	26
76		76,1	2,1/2"	65		77-80				14	EURUF-2-076	40	17,5	EURUF-3-076	26
80	80					81-84				14,5	EURUF-2-080	36	17,5	EURUF-3-080	24
88,9	80	88,9	3	80		90,5-93,5				14,5	EURUF-2-089	36	18	EURUF-3-089	24
101		101	3,1/2"			102,5-107,5				14,5	EURUF-2-102	22	18	EURUF-3-102	16
108	100					109-114				14,5	EURUF-2-108	22	18	EURUF-3-108	16
114	100	114,3	4"	100		115-120				15	EURUF-2-114	22	18,5	EURUF-3-114	16
127		127,0				127-132				15	EURUF-2-125	12	18,5	EURUF-3-125	12
133	125	133,0				134-139				15,5	EURUF-2-133	12	18,5	EURUF-3-133	8
139		139,7				140,5-145,5				15,5	EURUF-2-139	8	19	EURUF-3-139	8

Made to order.

Packaging dimensions: 212 x 33 x 39 cm.



advanced elastomeric thermal and acoustic insulation materials

PIPE SECTIONS - LENGTH 2 m

							engineered thickness from 15,5 to 25 mm			engineered thickness from 25 to 32 mm			engineered thickness from 32 to 45 mm		
COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	ø INT. MIN-MAX	UF-4			UF-5			UF-6		
ext. ø mm	ø nomin. DN	ext. ø mm	ø inches	ø nomin. DN	ø nomin. DN	mm	thk. mm	item no.	m/ct	thk. mm	item no.	m/ct	thk. mm	item no.	m/ct
10	8	10,20	1/8"	6		11,0-14,0	15,5	EURUF-4-010	98						
12	10	12,50			12	13,0-16,0	16	EURUF-4-012	88						
15	10	13,50	1/4"	8	16	16,0-19,0	17	EURUF-4-015	78						
18	15	17,20		10		19,0-22,0	17,5	EURUF-4-018	72	25	EURUF-5-018	50	32	EURUF-6-018	32
22	20	21,30	3/8"	15		23,0-26,0	18	EURUF-4-022	64	25	EURUF-5-022	42	33,5	EURUF-6-022	32
25	20	25,0			25	26,0-29,0	18,5	EURUF-4-025	50						
28	25	26,90	1/2"	20		29,0-32,0	19	EURUF-4-028	48	25	EURUF-5-028	40	35	EURUF-6-028	24
30	25					31,0-34,0	19	EURUF-4-030	48						
35	32	33,70	3/4"	25		36,0-39,0	19,5	EURUF-4-035	36	27	EURUF-5-035	24	35	EURUF-6-035	22
42	32	38,0		32		43,0-46,0	20,5	EURUF-4-042	32	27	EURUF-5-042	18	36,5	EURUF-6-042	16
	40	42,40	1,1/4"			46,0-49,0	20,5	EURUF-4-045	32						
48				32		49,0-52,0	21	EURUF-4-048	24	27,5	EURUF-5-048	18	37,5	EURUF-6-048	14
54	50	54,0	1,1/2"			55,0-58,0	21	EURUF-4-054	24	28,5	EURUF-5-054	16	38	EURUF-6-054	12
57	50	57,0				58,0-61,0	21,5	EURUF-4-057	22				38,5	EURUF-6-057	12
60		60,3	2"			61,0-64,0	21,5	EURUF-4-060	22	29	EURUF-5-060	12	39	EURUF-6-060	10
64				50		65,0-68,0	21,5	EURUF-4-064	18	29	EURUF-5-064	12	39,5	EURUF-6-064	10
70		70,0				71,0-74,0	22	EURUF-4-070	18	29,5	EURUF-5-070	12	40	EURUF-6-070	8
76	65	76,1	2,1/2"			77,0-80,0	22	EURUF-4-076	18	30	EURUF-5-076	10	40,5	EURUF-6-076	8
80				65		81,0-84,0	22,5	EURUF-4-080	14				41	EURUF-6-080	8
90	80	88,9	3			90,5-93,5	22,5	EURUF-4-089	14	30,5	EURUF-5-089	8	41,5	EURUF-6-089	8
101		101	3,1/2"	80		102,5-107,5	23	EURUF-4-102	14				42,5	EURUF-6-102	6
108	100					109,0-114,0	23	EURUF-4-108	12	31	EURUF-5-108	6	42,5	EURUF-6-108	6
114	100	114,3	4"			115,0-120,0	23,5	EURUF-4-114	12	31,5	EURUF-5-114	6	43	EURUF-6-114	6
127		127,0		100		127,0-132,0	23,5	EURUF-4-125	10						
133	125	133,0				134,0-139,0	24	EURUF-4-133	8				44	EURUF-6-133	4
140		139,7				140,5-145,5	24,5	EURUF-4-139	8	32	EURUF-5-139	4	44,5	EURUF-6-139	4
159	150	160,0				161,0-166,0	25	EURUF-4-160	8				45	EURUF-6-160	4

Made to order.

Packaging dimensions: 212 x 33 x 39 cm.

EUROBATEX® SELF-ADHESIVE TAPE

Item no.	Description	pcs/ct
FPX 10 TR	thickness 3 mm x 50 mm width - 10 m length	24
FPX 15 TR	thickness 3 mm x 50 mm width - 15 m length	12

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



advanced elastomeric thermal and acoustic insulation materials



EUROBATEX GLASTEC is EUROBATEX sheet covered with a mineral fibre based jacketing with a black or matt aluminium external finish of high resistance against mechanical abuse and UV radiation.

This product is an ideal solution for the thermal insulation of air-conditioning ducts and heating & plumbing systems in both industrial and civil applications, and thanks to its excellent fire performance (B-s2,d0), is particularly indicated for constructions where high security standards are required.

The product is also ideal for railway applications, achieving a hazard level HL3/R1 according to EN 45545.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® GLASTEC

Type of material: Black closed-cell flexible elastomeric foam (FEF) coupled with mineral fibre material with a black or matt aluminium coloured exterior finishing.

Product range: Sheets in rolls (also in a self-adhesive version) with thicknesses from 6 to 32 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC, HCFC and free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate; reinforced with mesh structure. Protection liner made of polyethylene. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive sheets should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	≤ 0.033 W/m·K ≤ 0.037 W/m·K	EN 12667
Water vapour diffusion resistance factor (μ)	≥ 10000	EN 12086
Fire performance European standard	B-s2,d0	EN 13501-1
Railways	HL-3/R1	EN 45545
UV resistance	Excellent	UNI ISO 4892-2
Ozone resistance	Excellent	ISO 7326
Corrosion risk	Meets test requirements	EN 13468

CHARACTERISTICS OF THE COVERING

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES
Total thickness	μm	approx. 200
Weight	g/m^2	approx. 250

External finishing colour: black or matt aluminium

* NB: for applications at lower temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

System 1 CE Marking in accordance with the European Standard EN 14304.
Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

All the normatives quoted in this document are updated to the latest issued versions.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.

EUROBATEX® GLASTEC

CONTINUOUS ROLLS - WIDTH 1000 and 1500 mm WITH BLACK or MATT ALUMINIUM COLOURED EXTERNAL FINISHING

PRODUCT RANGE

Width 1000 mm			Width 1500 mm		
THK (mm)	Item no.	Roll (m ² /ct)	THK (mm)	Item no.	Roll (m ² /ct)
6	06EUR R GLAS B	30	6	06EUR R H 1,5 GLAS B	45
10	10EUR R GLAS B	20	8	08EUR R H 1,5 GLAS B	37,5
13	13EUR R GLAS B	14	10	10EUR R H 1,5 GLAS B	30
19	19EUR R GLAS B	10	12	12EUR R H 1,5 GLAS B	22,5
25	25EUR R GLAS B	8	15	15EUR R H 1,5 GLAS B	18
32	32EUR R GLAS B	6	20	20EUR R H 1,5 GLAS B	15
			25	25EUR R H 1,5 GLAS B	12
			30	30EUR R H 1,5 GLAS B	9

Width 1000 mm			Width 1500 mm		
THK (mm)	Item no.	Roll (m ² /ct)	THK (mm)	Item no.	Roll (m ² /ct)
6	06EUR R GLAS N	30	6	06EUR R H 1,5 GLAS N	45
10	10EUR R GLAS N	20	8	08EUR R H 1,5 GLAS N	37,5
13	13EUR R GLAS N	14	10	10EUR R H 1,5 GLAS N	30
19	19EUR R GLAS N	10	12	12EUR R H 1,5 GLAS N	22,5
25	25EUR R GLAS N	8	15	15EUR R H 1,5 GLAS N	18
32	32EUR R GLAS N	6	20	20EUR R H 1,5 GLAS N	15
			25	25EUR R H 1,5 GLAS N	12
			30	30EUR R H 1,5 GLAS N	9



MATT ALUMINIUM FINISHING



BLACK FINISHING

SELF-ADHESIVE SHEETS - WIDTH 1000 and 1500 mm

Width 1000 mm			Width 1500 mm		
THK (mm)	Item no.	Roll (m ² /ct)	THK (mm)	Item no.	Roll (m ² /ct)
6	06EUR R GLAS B AD	30	6	06EUR R H 1,5 GLAS B AD	45
10	10EUR R GLAS B AD	20	8	08EUR R H 1,5 GLAS B AD	37,5
13	13EUR R GLAS B AD	14	10	10EUR R H 1,5 GLAS B AD	30
19	19EUR R GLAS B AD	10	12	12EUR R H 1,5 GLAS B AD	22,5
25	25EUR R GLAS B AD	8	15	15EUR R H 1,5 GLAS B AD	18
32	32EUR R GLAS B AD	6	20	20EUR R H 1,5 GLAS B AD	15
			25	25EUR R H 1,5 GLAS B AD	12
			30	30EUR R H 1,5 GLAS B AD	9

Width 1000 mm			Width 1500 mm		
THK (mm)	Item no.	Roll (m ² /ct)	THK (mm)	Item no.	Roll (m ² /ct)
6	06EUR R GLAS N AD	30	6	06EUR R H 1,5 GLAS N AD	45
10	10EUR R GLAS N AD	20	8	08EUR R H 1,5 GLAS N AD	37,5
13	13EUR R GLAS N AD	14	10	10EUR R H 1,5 GLAS N AD	30
19	19EUR R GLAS N AD	10	12	12EUR R H 1,5 GLAS N AD	22,5
25	25EUR R GLAS N AD	8	15	15EUR R H 1,5 GLAS N AD	18
32	32EUR R GLAS N AD	6	20	20EUR R H 1,5 GLAS N AD	15
			25	25EUR R H 1,5 GLAS N AD	12
			30	30EUR R H 1,5 GLAS N AD	9

GLASTEC - SELF ADHESIVE TAPE

Item no.	Description	pcs/ct
NC GLAS B 50x25	matt ALUMINIUM adhesive tape, 50 mm x 25 m	20
NC GLAS N 50x25	BLACK adhesive tape, 50 mm x 25 m	20

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g tin - 225 ml including brush	24
CNX S 850	850 g tin - 1000 ml	12



CFC and HCFC-free insulation tubes in flexible expanded rubber foam (FEF) which conform to the European standard EN 14304. These tubes are protected by a scratch, "pecking" and UV resistant external film of white color (or black on demand). They are suitable for the thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications and for all external applications within their temperature range.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® R

Type of material: Black closed-cell flexible elastomeric foam (FEF) covered with a white (black on demand) thermoplastic film.

Product range: Tubes in pipe sections in thicknesses from 9 to 25 mm and diameters from 15 to 42 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications and for all external applications within their temperature range.

Dimensional tolerances: In accordance with the European Standard EN 14304

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Tubes should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	- 45 °C +110 °C	EN 14707
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	≤ 0.033 W/m·K ≤ 0.037 W/m·K	EN ISO 8497
Water vapour diffusion resistance factor (μ)	≥ 10000	EN 13469
Fire performance European standard	E _L	EN 13501 -1
Ozone resistance	Excellent	ISO 7326
UV resistance	Excellent	UNI ISO 4892-2

* NB: for applications at lower temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 3 CE Marking in accordance with the European Standard EN 14304.

All the normatives quoted in this document are updated to the latest issued versions.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® R

PIPE SECTIONS - LENGTH 1 m, 2 m WITH A WHITE (BLACK AVAILABLE ON REQUEST) WEATHER RESISTANT THERMOPLASTIC POLYMER FILM

PRODUCT RANGE

WHITE COVERING FILM

COPPER PIPES (CU)			STEEL PIPES (FE)			TUBES PE/PP/PVC	Thickness 9 mm		Thickness 13 mm		Thickness 19 mm	
ø ext mm	DN mm	ø inches	ø ext mm	ø inches	DN mm	ø ext mm	Item no.	m/ct	Item no.	m/ct	Item no.	m/ct
12,70	12	1/2"					09-12EURRB	170	13-12EURRB	120	19-12EURRB	70
15,87	16	5/8"				16	09-15EURRB	140	13-15EURRB	100	19-15EURRB	50
	18		17,20	3/8"	10		09-18EURRB	130	13-18EURRB	90	19-18EURRB	50
22,22	22		21,30	1/2"	15		09-22EURRB	100	13-22EURRB	70	19-22EURRB	44
28,57	28	1-1/8"					09-28EURRB	80	13-28EURRB	60	19-28EURRB	40
34,92	35	1-3/8"	33,70	1"	25		09-35EURRB	60	13-35EURRB	44	19-35EURRB	30
41,27	42	1-5/8"	42,40	1-1/4"	32				13-42EURRB	36	19-42EURRB	24
			48,30	1-1/2"	40						19-48EURRB	22

Different thicknesses and diameters available on request.

BLACK COVERING FILM

COPPER PIPES (CU)			STEEL PIPES (FE)			TUBES PE/PP/PVC	Thickness 13 mm		Thickness 19 mm		Thickness 25 mm	
ø ext mm	DN mm	ø inches	ø ext mm	ø inches	DN mm	ø ext mm	Item no.	m/ct	Item no.	m/ct	Item no.	m/ct
9,52	10	3/8"	10,10	1/8"	6		13-10EURRN	172	19-10EURRN	98		
12,70	12	1/2"					13-12EURRN	162	19-12EURRN	88	25-12EURRN	50
15,87	16	5/8"				16	13-15EURRN	136	19-15EURRN	78	25-15EURRN	50
	18		17,20	3/8"	10		13-18EURRN	118	19-18EURRN	72	25-18EURRN	50
22,22	22	7/8"	21,30	1/2"	15		13-22EURRN	98	19-22EURRN	64	25-22EURRN	42
28,57	28	1-1/8"					13-28EURRN	78	19-28EURRN	48	25-28EURRN	40
34,92	35	1-3/8"	33,70	1"	25		13-35EURRN	58	19-35EURRN	36	25-35EURRN	24
41,27	42	1-5/8"	42,40	1-1/4"	32		13-42EURRN	48	19-42EURRN	32	25-42EURRN	22

Different thicknesses and diameters available on request.

Range with black covering not in stock, produced on request and based on minimum purchasing quantities.



CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



advanced elastomeric thermal and acoustic insulation materials



Grey CFC and HCFC-free flexible elastomeric foam insulating tubes (FEF) which conform to the European standard EN 14304. This material is especially suitable for the thermal insulation of air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® H - H SUPER

Type of material: Grey closed-cell flexible elastomeric foam (FEF).

Product range: EUROBATEX H - Tubes in pipes sections (also in a self-adhesive version) and coils with thicknesses from 18 to 36 mm and diameters from 10 to 114 mm.
EUROBATEX H SUPER - Tubes in pipes sections with thickness of 10 mm and diameters from 15 to 42 mm.
H Tapes with a thickness of 3 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: Flexible and expanded CFC and HCFC-free rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate reinforced with mesh structure. Protection liner made of polyethylene or paper foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive products should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706/EN 14707
Thermal conductivity λ At a mean temperature of 0 °C	≤ 0.032 W/m·K EUROBATEX H SUPER ≤ 0.033 W/m·K EUROBATEX H tapes ≤ 0.033 W/m·K EUROBATEX H THK ≤ 25 mm ≤ 0.035 W/m·K EUROBATEX H THK > 25 mm	EN 12667 / EN ISO 8497
At a mean temperature of + 40 °C	≤ 0.036 W/m·K EUROBATEX H SUPER ≤ 0.037 W/m·K EUROBATEX H tapes ≤ 0.037 W/m·K EUROBATEX H THK ≤ 25 mm ≤ 0.039 W/m·K EUROBATEX H THK > 25 mm	
Fire performance European standard	Tubes B _L -s2,d0 Tapes B-s2,d0	EN 13501-1
Ozone resistance	Excellent	ISO 7326
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	EN 13486

*NB: for applications at lower temperature please contact our technical department.
For information regarding the chemical resistance of the product please consult the specific technical documentation.
For tapes, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

System 1 CE Marking in accordance with the European Standard EN 14304.
Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

All the normatives quoted in this document are updated to the latest issued versions.
For outside uses Eurobatex H should be protected with Union Covering or Vec elastomeric paint.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® H - H SUPER

PIPE SECTIONS: LENGTH 2 m

PRODUCT RANGE

Thickness for internal ø mm	Item no.	m/ct
10-15	10-15EUR H	150
10-18	10-18EUR H	130
10-22	10-22EUR H	100
10-28	10-28EUR H	80
10-35	10-35EUR H	80
10-42	10-42EUR H	70
18-28	18-28EUR H	48
20-35	20-35EUR H	32
20-42	20-42EUR H	28
24-15	24-15EUR H	40
24-18	24-18EUR H	40
24-22	24-22EUR H	36
24-28	24-28EUR H	32
24-42	24-42EUR H	24
24-48	24-48EUR H	24
32-54	32-54EUR H	12
32-57	32-57EUR H	12
32-60	32-60EUR H	12
36-28	36-28EUR H	18
36-35	36-35EUR H	16

Different thicknesses and diameters available on request.



EUROBATEX® H



advanced elastomeric thermal and acoustic insulation materials

TALC SOLUTION



EUROBATEX AT is a CFC, HCFC free, GWP zero thermal insulation available in the form of tubes, sheets and coils; it is a Flexible Elastomeric Foam complying with European standard EN 14304. It is a closed cell, flexible material with a high emissivity surface but is based upon a different polymer than EUROBATEX which means that it is suitable for continuous use at 150 C° and can be used outdoors unpainted. The major use of EUROBATEX AT is on Solar Heating pipework but it is also a versatile and useful option for energy conservation and personnel protection in commercial, industrial and institutional applications. EUROBATEX AT is PVC free making it suitable for use on Austenitic Stainless Steel pipework. EUROBATEX AT tubes are talc injected to reduce friction and ensure easier installation.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® AT

Type of material: Black closed-cell flexible elastomeric foam (FEF).

Product range: Tubes in pipe sections and coils with thicknesses from 6 to 32 mm and diameters from 10 to 114 mm. Sheets in rolls (also in a self-adhesive version) with thicknesses from 6 to 32 mm. Tapes with a thickness of 3 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications, and solar thermal systems working at high temperatures.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC, HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate; available plain or reinforced with mesh structure. Protection liner made of polyethylene or paper foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C, and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Tapes and self-adhesive sheets should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	Tubes -45 °C +150 °C	EN 14706/EN 14707
Thermal conductivity λ At a mean temperature of + 40 °C	≤ 0.042 W/m·K	EN 12667/EN ISO 8497
Water absorption	$< 0,1$ kg/m ²	EN 13472/EN 1609
Fire performance European standard	E	EN 13501-1
Ozone resistance	Excellent	ISO 7326
UV resistance	Excellent	UNI ISO 4892-2
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	EN 13468

* NB: for applications at lower temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

For self-adhesive sheets and tapes, adhesives with operating temperatures up to +100 °C and +140 °C are available.

System 3 C€ Marking in accordance with the European Standard EN 14304.

All the normatives quoted in this document are updated to the latest issued versions.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.

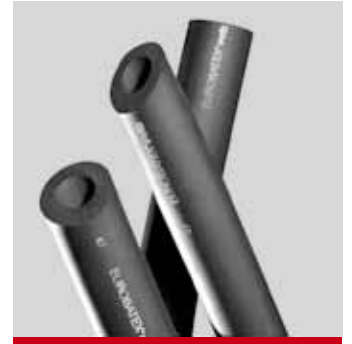


EUROBATEX® AT

PIPE SECTIONS - LENGTH 2 m PRODUCT RANGE

TALC SOLUTION

COPPER PIPE (Cu)		STEEL PIPE (Fe)			Thickness 9 mm		Thickness 13 mm	
ext. ø mm	ø nomin. DN	ext. ø mm	ø inches	ø nomin. DN	Item no.	m/ct	Item no.	m/ct
15/16					09- 15EURAT	140	13- 15EURAT	100
18	15	17,2	3/8"	10	09- 18EURAT	130	13- 18EURAT	90
22	20	21,3	1/2"	15	09- 22EURAT	100	13- 22EURAT	70
28	25	26,9	3/4"	20	09- 28EURAT	80	13- 28EURAT	60
35	32	33,7	1"	25	09- 35EURAT	60	13- 35EURAT	44
42	40	42,4	1,1/4"	32	09- 42EURAT	50	13- 42EURAT	36
48		48,3	3/8"	40	09- 48EURAT	42	13- 48EURAT	30
54	50	54,0			09- 54EURAT	36	13- 54EURAT	26
60		60,3		50	09- 60EURAT	32	13- 60EURAT	24
					09- 64EURAT*	32	13- 64EURAT*	22
					09- 67EURAT*	32	13- 67EURAT*	22
					09- 70EURAT*	30	13- 70EURAT*	20
76	65	76,1	2,1/2"	65	09- 76EURAT	28	13- 76EURAT	16
89	80	88,9	3"	80	09- 90EURAT	22	13- 90EURAT	16
114	100	114,3	4"	100	09- 114EURAT	18		



COPPER PIPE (Cu)		STEEL PIPE (Fe)			Thickness 19 mm		Thickness 25 mm		Thickness 32 mm	
ext. ø mm	ø nomin. DN	ext. ø mm	ø inches	ø nomin. DN	Item no.	m/ct	Item no.	m/ct	Item no.	m/ct
15/16					19- 15EURAT	60	25- 15EURAT	30		
18	15	17,2	3/8"	10	19- 18EURAT	60	25- 18EURAT	30		
22	20	21,3	1/2"	15	19- 22EURAT	44	25- 22EURAT	26	32- 22EURAT*	24
28	25	26,9	3/4"	20	19- 28EURAT	40	25- 28EURAT	20	32- 28EURAT*	22
35	32	33,7	1"	25	19- 35EURAT	30	25- 35EURAT	16	32- 35EURAT*	16
42	40	42,4	1,1/4"	32	19- 42EURAT	24	25- 42EURAT	16	32- 42EURAT*	16
48		48,3	1,1/2"	40	19- 48EURAT	22	25- 48EURAT	16	32- 48EURAT*	12
54					19- 54EURAT	18	25- 54EURAT	12	32- 54EURAT*	12
57					19- 57EURAT*	18	25- 57EURAT*	12	32- 57EURAT*	12
60		60,3	2"		19- 60EURAT	18	25- 60EURAT	12	32- 60EURAT*	12
64					19- 64EURAT*	16	25- 64EURAT*	12	32- 64EURAT*	10
67					19- 67EURAT*	14	25- 67EURAT*	12	32- 67EURAT*	10
70					19- 70EURAT	14	25- 70EURAT*	12	32- 70EURAT*	10
76		76,1	2, 1/2"		19- 76EURAT	14	25- 76EURAT	8	32- 76EURAT*	10
80					19- 80EURAT	14	25- 80EURAT	8	32- 80EURAT*	8
90		88,9	3"		19- 90EURAT	12	25- 90EURAT	8	32- 90EURAT*	8
101					19- 101EURAT	12	25- 101EURAT	8	32- 101EURAT*	8
108					19- 108EURAT	12	25- 108EURAT	8	32- 108EURAT*	6
114		114,3	44"		19- 114EURAT	8	25- 114EURAT	8	32- 114EURAT*	6

*Made to order.

Different thicknesses and diameters available on request. Packaging dimensions: 212 x 33 x 39 cm.

Tubes in coil version not in stock, available on request.



CONTINUOUS ROLLS - WIDTH 1 m

Item no.	Thickness mm	m ² /roll
06EUATR	6	30
10EUATR	10	20
13EUATR	13	14
19EUATR	19	10
25EUATR	25	8
32EUATR	32	6



Different thicknesses available on request. Packaging dimensions: 107 x 53 x 53,5 cm. For self-adhesive sheets, please contact our customer service.

EUROBATEX® AT SELF-ADHESIVE TAPE

Item no.	Description	pcs/ct
FPX 10 R AT	thickness 3 mm x 50 mm width - 10 m length	24
FPX 15 R AT	thickness 3 mm x 50 mm width - 15 m length	12

CNX AT TWO-COMPONENT ADHESIVE RESISTANT TO TEMPERATURES UP TO +150 °C

Item no.	Description	pcs/ct
CNX 425 EURAT*	425 g - 500 ml tin	12
CNX ATT-36	activator for CNX EURAT 36 g	12

* The article requires the CNX ATT 36 component. Please refer to the technical data sheet regarding the instructions for use.

EUROBATEX® AT



EUROBATEX® AT R

Type of material: Black closed-cell flexible elastomeric foam (FEF) with covering film in thermoplastic materials.

Product range: Tubes in pipe section thicknesses from 13 to 19 mm and diameters from 15 to 54 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications, and for all external applications within their temperature range.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC, HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C, and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Tubes should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +150 °C	EN 14707
Thermal conductivity λ At a mean temperature of + 40 °C	≤ 0.042 W/m·K	EN ISO 8497
Water vapour diffusion resistance factor (μ)	≥ 10000	EN 12086
Fire performance European standard	E _L	EN 13501 -1
Ozone resistance	Excellent	ISO 7326
UV resistance	Excellent	UNI ISO 4892-2

* NB: for applications at lower temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 3 CE Marking in accordance with the European Standard EN 14304.

All the normatives quoted in this document are updated to the latest issued versions.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



EUROBATEX AT R

CFC, HCFC and PVC-free insulation tubes in flexible expanded rubber foam (FEF), which conform to the European standard EN 14304. They are coated with a black seamless polymeric coating, which provides additional weather and mechanical protection. This material is suitable for the thermal insulation of components of systems working with high temperature fluids, up to +150 °C in continuous use (solar-heating, industrial steam pipework systems) even in external environments.



EUROBATEX® AT R

INSULATING PIPE SECTIONS WITH SCRATCH
and UV RESISTANT FILM - LENGTH 2 m

PRODUCT RANGE

TALCO SOLUTION	COPPER PIPES (Cu)			STEEL PIPES (Fe)			PE/PP/PVC PIPES	Thickness 13 mm		Thickness 19 mm	
	ext. ø mm	ø nomin. DN	ø inches	ø est. mm	ø nomin. DN	ø inches	ø est. mm	Item no.	m/ct	Item no.	m/ct
	15,87	16	1/4"	16			16	13 - 15TAATR	100	19 - 15TAATR	60
		18		17,20	10	3/8"		13 - 18TAATR	90	19 - 18TAATR	60
								13 - 24TAATR	70	19 - 24TAATR	44
								13 - 29TAATR	60	19 - 29TAATR	40
						1"	32	13 - 33TAATR	44	19 - 33TAATR	30

Different thicknesses and diameters available on request.

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 425 EURAT*	425 g - 500 ml tin	12
CNX ATT-36	activator for CNX EURAT 36 g	12

* The article requires the CNX ATT 36 component. Please refer to the technical data sheet regarding the instructions for use.



advanced elastomeric thermal and acoustic insulation materials

EUROSOLAR TWIN SPECIAL



Composite systems consisting of two twinned tubes in corrugated stainless steel (AISI 316 L), high performance elastomeric insulation material and a sensor cable. Produced in rolls of considerable lengths on bobbins, allowing for a more practical, fast and reliable installation and a reduction of waste ensuring substantial savings. The insulation covering is available both black and brick red colour which helps to enhance the aesthetic appearance of systems. Supplied with the relevant fittings.



advanced elastomeric thermal and acoustic insulation materials

EUROSOLAR TWIN SPECIAL

Type of material: Composite system in roll consisting of two twinned tubes of corrugated stainless steel AISI 316 L, EUROBATX AT insulation coated with a polymeric UV resistant film (Black or Red Brick) and sensor cable.

Product range: Tubes in rolls in lengths of 10-15-20-25 m, bobbins in lengths of 50-100-150 m in DN 16-20-25. Insulation thickness of 10 mm.

Fields of application: The production of heat-transfer fluid distribution systems in solar thermal applications or those that work with high temperature fluids (+150 °C in continuous operation; +180 °C in intermittent operation) and for all external applications within their temperature range.

Dimensional tolerances: - **Steel:** In accordance with the European Standard EN EN 10088-2 / DIN 1744: 1.4404
- **Insulation:** In accordance with the European Standard EN 14304.

TECHNICAL SPECIFICATIONS OF THE CORRUGATED STAINLESS STEEL AISI 316 L TUBE

TYPE (DN)	THICKNESS (mm)	EXTERNAL DIAMETER (mm)	TOLERANCE (mm)
16	0,18	21,6	± 0,25
20	0,18	26,6	± 0,25
25	0,20	32,2	± 0,30

TECHNICAL SPECIFICATIONS OF THE INSULATION

PHYSICAL PROPERTIES	REFERENCE VALUES	TEST METHOD
Operating temperature range	-45 °C +150 °C	EN 14707
Thermal conductivity λ At a mean temperature of +40 °C	≤ 0.038 W/m·K	EN ISO 8497
Fire performance European standard	E _L	EN 13501 -1
Water absorption	<0.1 kg/m ²	EN 13472
Ozone resistance	Excellent	ISO 7326
UV resistance	Excellent	UNI ISO 4892-2
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	EN 13468

TECHNICAL SPECIFICATIONS OF THE EXTERNAL COVERING

Type	LDPE film	
Colour	Red brick/Black	
Thickness	≈ 350 μ m	
Elongation at break (%)	200 MD/550 TD	ISO 527-3

TECHNICAL SPECIFICATIONS OF THE SENSOR CABLE

Type	Silicone rubber (double thread)	
Operating temperature range	From -60 °C to +180 °C	
Section	1 mm ²	EN ISO 12086
Nominal tension	Uo/U 300/500 V	

For information regarding the chemical resistance of the product please consult the specific technical documentation.

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advanced elastomeric thermal and acoustic insulation materials

PRODUCT RANGE

EUROSOLAR TWIN SPECIAL

TWO TWINNED TUBES IN CORRUGATED STAINLESS STEEL AISI 316 L
WITH 10 mm THICK INSULATION COVERING.

TYPE DN	THK STEEL TUBE (mm)	EXT. DIAMETER-STEEL TUBE	LENGTH OF ROLLS (m)	LENGTH OF BOBBINS (m)
DN 16	0,18	21,6	10, 15, 20, 25	50, 100, 150
DN 20	0,18	26,6	10, 15, 20, 25	50, 100
DN 25	0,20	32,2	15, 20, 25	50, 100



ACCESSORIES

A range of self flare fittings with different types of attachments and shapes to use for connecting the various parts of the system to be installed.



advanced elastomeric thermal and acoustic insulation materials

WINDING MACHINE FOR EUROSOLAR TWIN SPECIAL

OPERATION SPECIFICATIONS



This device is ideal for the packaging of the **EUROSOLAR TWIN SPECIAL** product. It is easy to use, ideal for cutting the material to required lengths and winding it into rolls, facilitating transport, storage and on-site management.

STRUCTURE OF THE WINDING MACHINE (figures 1 and 2)

Its load bearing structure allows it to support a bobbin holding up to 250 m of the **EUROSOLAR TWIN SPECIAL** product (of both the single and double tube versions).

COMPONENTS

- Ⓐ **Cutter** - This allows the products to be easily cut. It's safe, precise and cuts without damaging the product.
- Ⓑ **Meter counter** - This calculates when the required measurement should be cut, and measures both the supply and the return.
- Ⓒ **Rolling wheel** - This helps maintain the correct tension of the material also during the rotation stage when making the rolls.

OPERATING STAGES (sequence of figures from 3-6)

- Insert the metal bar in the hole positioned in the centre of the **EUROSOLAR TWIN SPECIAL** bobbin.
- Raise the structure by the handgrip until the metal bar of the bobbin is hooked.
NB : The clasping system is made with 2 hooks, a lower one (for coils up to 150 meters in length) and an upper one (for coils up to 250 meters).
- Disengage the brake lock (by removing the pin) in order to avoid tension loss during the rolling of the coil.
- Attach the winder after having hooked the bobbin on (to ensure that the operator avoids lifting excessive amounts of weight (**Ref. Legislative decree 626/94** - weights greater than 30 Kg).
- Insert the **EUROSOLAR TWIN SPECIAL** product into the specific lane through the cutter and the meter counter.
- Fasten the head of the product with the specific rod onto the rolling wheel.
NB: Choose and fasten the rod based on the channeling which corresponds to the diameter of the product to be cut.
- The meter counter is programmed to control both the supply and the return (to avoid any errors made by the operator).
- The rolling wheel includes a pawl in order to prevent loss of tension of the material during the rolling stage.
- After the automatic start-up and when the required roll length has been reached, rotation will cease, allowing for the cutting process to begin.
- The cut roll will remain taut and can be extracted by sliding off one side of the rolling wheel. The material can now be stored, ready for packing and without any changes to the acquired structure.



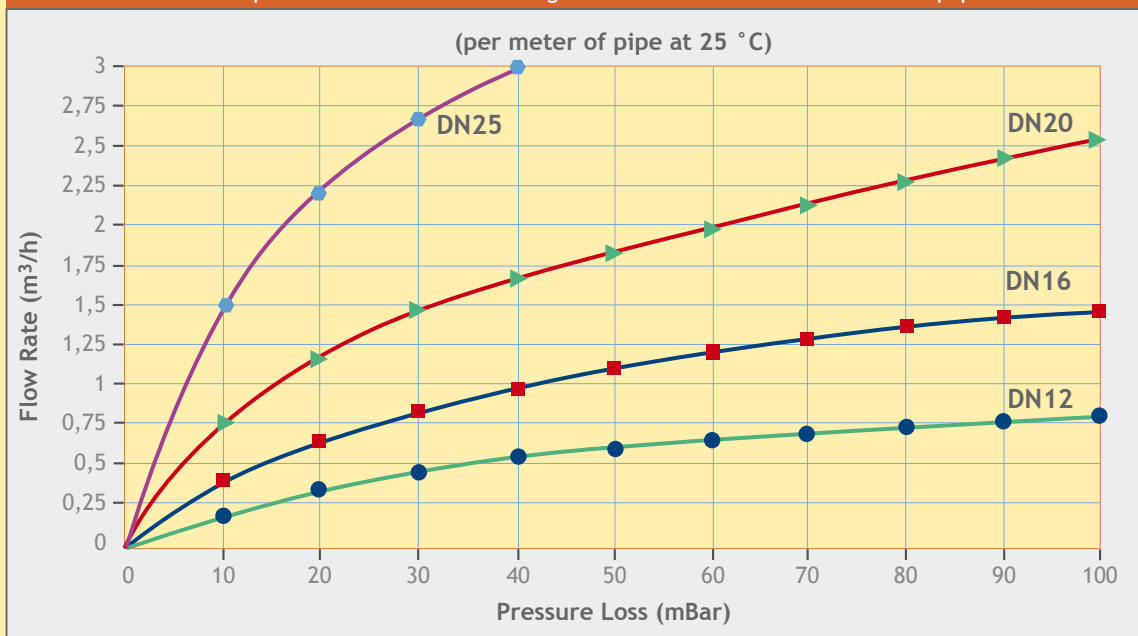
Characteristics of the cutter: Power 2 KW - Rotation 3700 rpm/min



advanced elastomeric thermal and acoustic insulation materials

EUROSOLAR TWIN SPECIAL

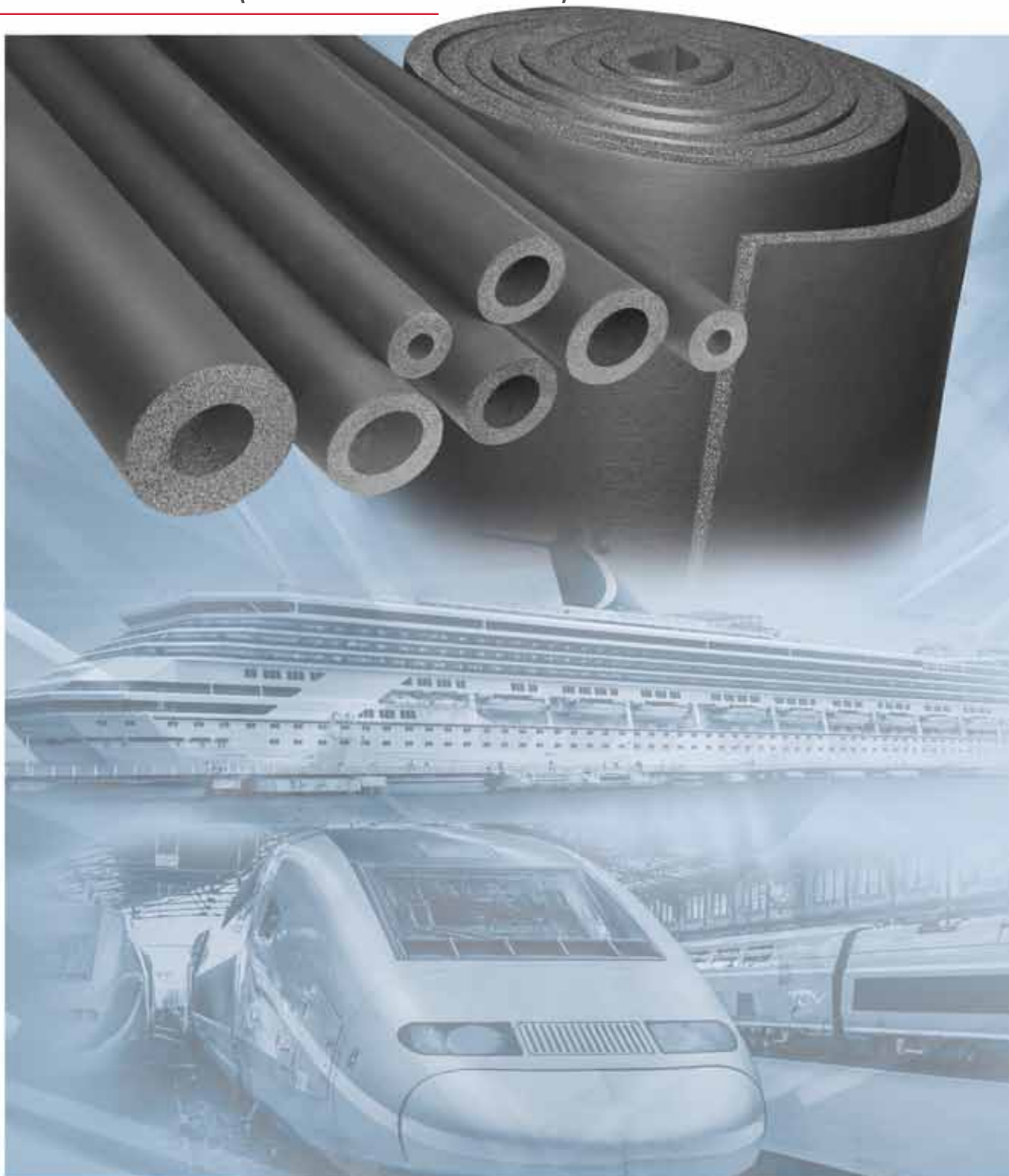
Table of pressure losses of corrugated stainless steel AISI 316 L pipes.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® HF (HALOGEN FREE)

NEW TECHNOLOGY



CFC, HCFC, halogen and PVC-free insulation tubes and sheets in flexible expanded rubber foam (FEF), which conform to the European standard EN 14304. This material is ideal for the thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications, and wherever a high standard of safety is required (hospitals, pharmaceutical plants, public entertainment locations, airports, public offices, ships and trains). Suitable for continuous use at 130 °C.



advanced elastomeric thermal and acoustic insulation materials



EUROBATEX® HF (HALOGEN FREE)



Type of material: Black closed-cell flexible elastomeric foam (FEF) without halogens (Chlorine, Bromine, Fluorine) and PVC.

Product range: Tubes in pipe sections with thicknesses from 13 to 32 mm and bore sizes from 10 to 139 mm.
Sheets in roll form (also in self-adhesive version) from 6 to 32 mm.
Tapes with a thickness of 3 mm.


Fields of application: Thermal insulation of refrigeration and air-conditioning services in commercial, industrial and domestic applications. Especially suitable for naval, rail and civil applications where high safety standards exist in case of fire.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate reinforced with mesh structure. Protection liner made of polyethylene or paper foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Tapes and self-adhesive sheets and tubes should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +130 °C	EN 14706/EN 14707
Thermal conductivity λ At a mean temperature of + 40 °C	≤ 0.040 W/m·K	EN 12667/EN ISO 8497
Water vapour diffusion resistance factor (μ)	≥ 2000	EN 13469/EN 12086
Water absorption	$< 0,1$ kg/m ²	EN 13472/EN 1609
Fire performance European standard	Tubes D _L -s2-d0 Open Tubes (sheets for linear application $\varnothing \leq 300$ mm) : D _L -s2-d0 Tapes: D-s3,d0 Sheets thk 6-25 mm: D-s3,d0 Sheets thk 32 mm: E	EN 13501 - 1
Railways	HL-1/R1 (low emissions, low toxicity in case of fire)	EN 45545
Shipyards (MED)  Type Approval: Lloyd's Register, Rina	Meets test requirements	IMO Res. MSC.307(88); IMO MSC/Circ. 1004 (Directive MED 2014/90/UE Modules B and D)
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	EN 13468

* NB: for applications at lower temperatures please contact our technical department.

For self-adhesive sheets and tapes, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 3 CE Marking in accordance with the European Standard EN 14304.

The product meets the requirements for the achievement of the Baubook, Minergie Eco and Eco-Bau classification.

All the normatives quoted in this document are updated to the latest issued versions.

For outside uses Eurobatex HF should be protected with Union Covering or Vec elastomeric paint.

Before installation, please refer to EUROBATEX HF's installation advices, available on our website (download area).

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



EUROBATEX® HF (HALOGEN FREE)

PIPE SECTIONS - LENGTH 2 m PRODUCT RANGE

COPPER PIPES (Cu)			STEEL PIPES (Fe)			PE/PP/PVC PIPES	Thickness 13 mm		Thickness 19 mm		Thickness 25 mm		Thickness 32 mm	
ø ext mm	DN mm	ø inches	ø ext mm	ø inches	DN mm	ø ext mm	Item no.	m/ct	Item no.	m/ct	Item no.	m/ct	Item no.	m/ct
9,52	10	3/8"	10,10	1/8"	6		13-10 EURHF	172	19-10 EURHF	98				
12,70	12	1/2"					13-12 EURHF	162	19-12 EURHF	88				
							13-15 EURHF	136	19-15 EURHF	78				
15,87	16	5/8"				16								
	18		17,20	3/8"	10		13-18 EURHF	118	19-18 EURHF	72	25-18 EURHF	50	32-18 EURHF	32
19,05		3/4"				20								
22,22	22	7/8"	21,30	1/2"	15		13-22 EURHF	98	19-22 EURHF	64	25-22 EURHF	42	32-22 EURHF	32
25,40		1"				25								
28,57	28	1-1/8"				32	13-28 EURHF	78	19-28 EURHF	48	25-28 EURHF	40	32-28 EURHF	24
						40								
34,92	35	1-3/8"	33,70	1"	25		13-35 EURHF	58	19-35 EURHF	36	25-35 EURHF	24	32-35 EURHF	22
						50								
41,27	42	1-5/8"	42,40	1-1/4"	32		13-42 EURHF	48	19-42 EURHF	32	25-42 EURHF	22	32-42 EURHF	16
			48,30	1-1/2"	40		13-48 EURHF	40	19-48 EURHF	24	25-48 EURHF	18	32-48 EURHF	14
						50								
53,97	54	2"					13-54 EURHF	34	19-54 EURHF	24	25-54 EURHF	16	32-54 EURHF	12
			60,30	2"	50		13-60 EURHF	32	19-60 EURHF	22	25-60 EURHF	12	32-60 EURHF	10
	76,10		76,10	2-1/2"	65	75	13-76 EURHF	26	19-76 EURHF	18	25-76 EURHF	10	32-76 EURHF	8
	88,90		88,90	3"	80	90	13-89 EURHF	24	19-89 EURHF	14	25-89 EURHF	8	32-89 EURHF	8
	114	4-1/2"	114,30	4"	100	110	13-114 EURHF*	16	19-114 EURHF*	12	25-114 EURHF*	6	32-114 EURHF*	6
							13-139 EURHF*	12	19-139 EURHF*	8	25-139 EURHF*	4	32-139 EURHF*	4

Packaging dimensions: 2100 x 390 x 330 mm (volume = 0.27m³)

Different thicknesses and diameters available on request.

*Made to order.

EUROBATEX® HF - HALOGEN FREE - CONTINUOUS ROLLS - WIDTH 1m

Self adhesive version available on request.

Item no.	Thickness mm	Roll (m ² /ct)
06EUHFR	6	30
10EUHFR	10	20
13EUHFR	13	14
19EUHFR	19	10
25EUHFR	25	8
32EUHFR	32	6

EUROBATEX® HF SELF-ADHESIVE HALOGEN FREE TAPE

Item no.	Description	pcs/ct
FPX 15 HF	thickness 3 mm x 50 mm width - 15 m length	12

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



NEW TECHNOLOGY



CFC, HCFC free and GWP Zero, this halogen free and PVC free insulation is a flexible elastomeric foam (FEF) material protected with a mineral fibre covering, extremely resistant to mechanical abuse and UV Radiation. Suitable for external applications with a classification of **EUROCLASS B-s2,d0**, which allows a wide range of applications for the product by combining the specific characteristics required for shipyard with those which are beneficial in a wide range of industrial, commercial and institutional applications.



advanced elastomeric thermal and acoustic insulation materials

EUROBAT[®]EX High Technology

Type of material: Black closed-cell flexible elastomeric foam (FEF) covered with a mineral fibre based jacketing with a black or matt aluminium external quality finish. Does not contain halogens (Chlorine, Bromine, Fluorine) and PVC.

Product range: Sheets in roll (also in a self-adhesive version) in thicknesses from 6 to 32 mm.


Fields of application: Thermal insulation of refrigeration and air-conditioning services in industrial, commercial and institutional applications. Especially suitable for Marine and Civil Engineering applications working at high temperature, where a higher standard of safety in case of fire is required.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible, expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate-reinforced with mesh structure. Protection liner made of polyethylene. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Does not expose the material to heat or direct sunlight before installing. Self-adhesive sheets should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +130 °C	EN 14706
Thermal conductivity λ At a mean temperature of + 40 °C	$\leq 0,040$ W/m·K	EN 12667
Water vapour diffusion resistance factor (μ)	≥ 10000	EN 12086
Fire performance European standard	B-s2,d0	EN 13501-1
Shipyards (MED)  Type Approval: Lloyd's Register, Rina	Meets test requirements	IMO Res. MSC.307(88); IMO MSC/Circ. 1004 (Directive MED 2014/90/UE Modules B and D)
Ozone resistance	Excellent	ISO 7326
UV resistance	Excellent	DIN 1988 Part 7 - EN 13468

CHARACTERISTICS OF THE COVERING

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES
Total thickness	μm	approx. 200
Weight	g/m^2	approx. 250

External finishing colour: black or matt aluminium

*NB: for applications at lower temperature please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

System 1 CE Marking in accordance with the European Standard EN 14304.
Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

All the normatives quoted in this document are updated to the latest issued versions.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.

EUROBATEX® High Technology

CONTINUOUS ROLLS - WIDTH = 1000 mm WITH BLACK OR MATT ALUMINIUM COLOURED EXTERNAL FINISHING

PRODUCT RANGE

Thickness (mm)	Item no.	Roll (m ² /ct)
6	06 EUHFR GLAS B	30
10	10 EUHFR GLAS B	20
13	13 EUHFR GLAS B	14
19	19 EUHFR GLAS B	10
25	25 EUHFR GLAS B	8
32	32 EUHFR GLAS B	6

Thickness (mm)	Item no.	Roll (m ² /ct)
6	06 EUHFR GLAS	30
10	10 EUHFR GLAS	20
13	13 EUHFR GLAS	14
19	19 EUHFR GLAS	10
25	25 EUHFR GLAS	8
32	32 EUHFR GLAS	6



MATT ALUMINIUM FINISHING



BLACK FINISHING

SELF-ADHESIVE SHEETS - WIDTH 1000 mm

Thickness (mm)	Item no.	Roll (m ² /ct)
6	06 EUHFR GLAS B AD	30
10	10 EUHFR GLAS B AD	20
13	13 EUHFR GLAS B AD	14
19	19 EUHFR GLAS B AD	10
25	25 EUHFR GLAS B AD	8
32	32 EUHFR GLAS B AD	6

Thickness (mm)	Item no.	Roll (m ² /ct)
6	06 EUHFR GLAS AD	30
10	10 EUHFR GLAS AD	20
13	13 EUHFR GLAS AD	14
19	19 EUHFR GLAS AD	10
25	25 EUHFR GLAS AD	8
32	32 EUHFR GLAS AD	6

GLASTEC- SELF ADHESIVE TAPE

Item no.	Description	pcs/ct
NC GLAS B 50x25	matt ALUMINIUM tape, 50 mm x 25 m	1
NC GLAS N 50x25	BLACK tape, 50 mm x 25 m	1

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12

EUROBATEX® ISOLTEC



Eurobatex Isoltec is Eurobatex with Isoltec jacketing factory applied. Isoltec jacketing is a high performance product made up in 3 layers, the base layer is unplasticized PVC, the second layer is Aluminium foil and the top layer is transparent polymeric coating. The composite jacketing has very good puncture resistance, is aesthetically pleasing and provides long term weather protection. Isoltec jacketing is also sold separately and so can be used over existing Eurobatex pipe and sheet insulation or can be applied at the same time on site and thereby allow the contractor to stagger joints between the insulation and jacketing layers. Isoltec jacketing has the appearance of metal jacketing but the transparent coating gives a system with a high emissivity surface with the benefits that this offers for condensation control and personnel protection applications. The Jacketing has good fire performance characteristics and the system if correctly installed has high resistance to water penetration so that it can be used on internal pipework which needs to be washed down regularly. Eurobatex and Isoltec together offer premium system able to protect external refrigeration pipework from persistent bird attack or a tough, good looking, hygienic system able to insulate internal pipework in food factories, dairies and abattoirs where power hoses are in regular use.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® ISOLTEC

Type of material: Black closed-cell flexible elastomeric foam (FEF) coupled with a 3 layered coating; PVC, aluminium and an UV resistant film.

Product range: Self-adhesive pipe sections in thicknesses from 6 to 60 mm and diameters from 15 to 170 mm. Sheets in rolls (in self-adhesive version) with thicknesses from 6 to 50 mm.

Fields of application: Thermal Insulation for commercial and industrial applications involving cold and hot ducts, large pipes and vessels, also in external environments.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate reinforced with mesh structure. Protection liner made of polyethylene foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environments at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive sheets and tubes should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14707/EN 14706
Thermal conductivity λ At a mean temperature of 0 °C	Tubes THK ≤ 25 mm ≤ 0.033 W/m·K Tubes THK > 25 mm ≤ 0.035 W/m·K Sheets THK ≤ 32 mm ≤ 0.033 W/m·K Sheets THK > 32 mm ≤ 0.034 W/m·K	EN 12667/EN ISO 8497
At a mean temperature of + 40 °C	Tubes THK ≤ 25 mm ≤ 0.037 W/m·K Tubes THK > 25 mm ≤ 0.039 W/m·K Sheets THK ≤ 32 mm ≤ 0.037 W/m·K Sheets THK > 32 mm ≤ 0.038 W/m·K	
Water vapour diffusion resistance factor (μ)	≥ 10000	EN 13469/EN 12086
Fire performance European standard	Tubes C _L -s2-d0 Sheets C-s3,d0	EN 13501-1
Ozone resistance	Excellent	ISO 7326
UV resistance	Excellent	UNI ISO 4892-2

CHARACTERISTICS OF THE COATING

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES	TEST METHOD
Colour	-	Aluminium	
Weight	g/m ²	ca. 400	EN 22-286
Total thickness	μ m	280 \pm 0,05	
Breaking load	N/mm ²	> 35	EN ISO 527-3
Elongation at break	%	40	EN ISO 527-3
Tear resistance	N	80	EN ISO 527-3
Perforation resistance \varnothing 0,3mm	N	100	PR EN 14477
UV stability test	-	Excellent	-
Air layer thickness (SD)	m	>1500	-
Emissivity ϵ		0,65	

*NB: for applications at lower temperature please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

System 1 CE Marking in accordance with the European Standard EN 14304.
Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

All the normatives quoted in this document are updated to the latest issued versions.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® ISOLTEC

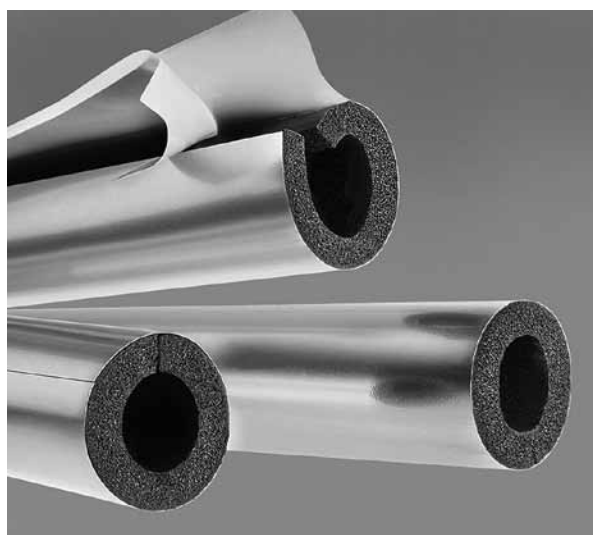
PRE-CUT, SELF-ADHESIVE PIPE SECTIONS WITH
AN ISOLTEC COATING - LENGTH 1 m

PRODUCT RANGE

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC TUBES	Thickness 13 mm		Thickness 19 mm		Thickness 25 mm		Thickness 32 mm	
ext. Ø mm	Ø nomin. DN	ext. Ø mm	Ø inches	Ø nomin. DN	Ø nomin. DN	Item no.	m/ct	Item no.	m/ct	Item no.	m/ct	Item no.	m/ct
14	10	13,60	1/4"	6		13 - 14 EUR O TEC	136	19 - 14 EUR O TEC	78				
18	15	17,20	3/8"	10		13 - 18 EUR O TEC	118	19 - 18 EUR O TEC	72	25 - 18 EUR O TEC	50	32 - 18 EUR O TEC	32
22	20	17,20				13 - 22 EUR O TEC	98	19 - 22 EUR O TEC	64	25 - 22 EUR O TEC	42	32 - 22 EUR O TEC	32
28	20	21,30	1/2"	15	25	13 - 28 EUR O TEC	78	19 - 28 EUR O TEC	48	25 - 28 EUR O TEC	40	32 - 28 EUR O TEC	24
35	32	33,7	1"	25		13 - 35 EUR O TEC	58	19 - 35 EUR O TEC	36	25 - 35 EUR O TEC	24	32 - 35 EUR O TEC	22
42	40	42,4	1,1/4"	32		13 - 42 EUR O TEC	48	19 - 42 EUR O TEC	32	25 - 42 EUR O TEC	22	32 - 42 EUR O TEC	16
48				40		13 - 48 EUR O TEC	40	19 - 48 EUR O TEC	24	25 - 48 EUR O TEC	18	32 - 48 EUR O TEC	14
54	35	48,3	1,1/2"	40		13 - 54 EUR O TEC	34	19 - 54 EUR O TEC	24	25 - 54 EUR O TEC	16	32 - 54 EUR O TEC	12
60		60,3	2"	50		13 - 60 EUR O TEC	32	19 - 60 EUR O TEC	22	25 - 60 EUR O TEC	12	32 - 60 EUR O TEC	10
76	65	76,1	2,1/2"	65		13 - 76 EUR O TEC	26	19 - 76 EUR O TEC	18	25 - 76 EUR O TEC	10	32 - 76 EUR O TEC	8
89	80	88,9	3"	80		13 - 89 EUR O TEC	24	19 - 89 EUR O TEC	14	25 - 89 EUR O TEC	8	32 - 89 EUR O TEC	8
101		101	3,1/2"			13 - 101 EUR O TEC	16	19 - 101 EUR O TEC	14	25 - 101 EUR O TEC	8	32 - 101 EUR O TEC	6
114	100	114,3	4"	100		13 - 114 EUR O TEC	16	19 - 114 EUR O TEC	12	25 - 114 EUR O TEC	8	32 - 114 EUR O TEC	6
127		127,0				13 - 127 EUR O TEC	12	19 - 127 EUR O TEC	10	25 - 127 EUR O TEC	8	32 - 127 EUR O TEC	6
133		133,0				13 - 133 EUR O TEC	12	19 - 133 EUR O TEC	8	25 - 133 EUR O TEC	6	32 - 133 EUR O TEC	6
139		139,7				13 - 139 EUR O TEC	12	19 - 139 EUR O TEC	8	25 - 139 EUR O TEC	4	32 - 139 EUR O TEC	4

Packaging dimensions: 110 x 54 x 54 cm (volume = 0,32 m³)

Different diameters and thicknesses are available on request.



EUROBATEX® ISOLTEC

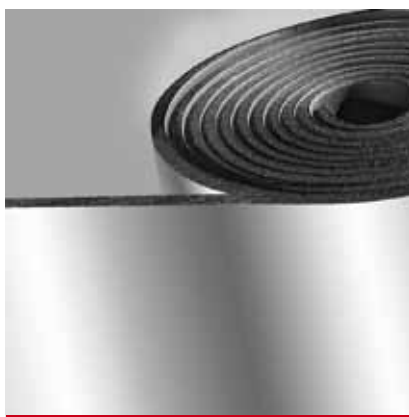
PIPE SECTIONS

EUROBATEX® ISOLTEC CONTINUOUS SHEETS - WIDTH 1000 mm

Item no.	Thickness mm	Dimensions m ²	SELF-ADHESIVE	Item no.	Thickness mm	Dimensions m ²
6 EUR R TEC	6	30		6 EUR R TEC AD	6	30
10 EUR R TEC	10	20		10 EUR R TEC AD	10	20
13 EUR R TEC	13	14		13 EUR R TEC AD	13	14
19 EUR R TEC	19	10		19 EUR R TEC AD	19	10
25 EUR R TEC	25	8		25 EUR R TEC AD	25	8
32 EUR R TEC	32	6		32 EUR R TEC AD	32	6

Packaging dimensions: 110 x 54 x 54 cm (volume = 0.32m³)

Different thicknesses are available on request.



EUROBATEX® ISOLTEC ELBOWS

		Insulation thickness				
Piping		13 mm	15 mm	20 mm	25 mm	30 mm
mm	inches	item no.	item no.	item no.	item no.	item no.
14	1/4"	CTECG 13 - 14				
18	3/8"	CTECG 13 - 18	CTECG 15 - 18	CTECG 20 - 18	CTECG 25 - 18	CTECG 30 - 18
22	1/2"	CTECG 13 - 22	CTECG 15 - 22	CTECG 20 - 22	CTECG 25 - 22	CTECG 30 - 22
28	3/4"	CTECG 13 - 28	CTECG 15 - 28	CTECG 20 - 28	CTECG 25 - 28	CTECG 30 - 28
35	1"	CTECG 13 - 35	CTECG 15 - 35	CTECG 20 - 35	CTECG 25 - 35	CTECG 30 - 35
42	1,1/4"	CTECG 13 - 42	CTECG 15 - 42	CTECG 20 - 42	CTECG 25 - 42	CTECG 30 - 42
48	1,1/2"	CTECG 13 - 48	CTECG 15 - 48	CTECG 20 - 48	CTECG 25 - 48	CTECG 30 - 48
54		CTECG 13 - 54	CTECG 15 - 54	CTECG 20 - 54	CTECG 25 - 54	CTECG 30 - 54
60	2"	CTECG 13 - 60	CTECG 15 - 60	CTECG 20 - 60	CTECG 25 - 60	CTECG 30 - 60
76	2,1/2"	CTECG 13 - 76	CTECG 15 - 76	CTECG 20 - 76	CTECG 25 - 76	CTECG 30 - 76
89	3"	CTECG 13 - 89	CTECG 15 - 89	CTECG 20 - 89	CTECG 25 - 89	CTECG 30 - 89
101	3,1/2"	CTECG 13 - 101	CTECG 15 - 101	CTECG 20 - 101	CTECG 25 - 101	CTECG 30 - 101
114	4"	CTECG 13 - 114	CTECG 15 - 114	CTECG 20 - 114	CTECG 25 - 114	CTECG 30 - 114
133		CTECG 13 - 133	CTECG 15 - 133	CTECG 20 - 133	CTECG 25 - 133	CTECG 30 - 133
139	5"	CTECG 13 - 139	CTECG 15 - 139	CTECG 20 - 139	CTECG 25 - 139	CTECG 30 - 139



EUROBATEX® ISOLTEC
SHEETS and ELBOWS



advanced elastomeric thermal and acoustic insulation materials

ISOLTEC JACKETING, WIDTH 1 m - LENGTH - 25 m

Item no.	Roll dimensions	Roll (m ² /ct)
ALUPAK 230	1 x 25 m	25



ISOLTEC ELBOWS

		Insulation thickness				
Piping		13 mm	15 mm	20 mm	25 mm	30 mm
mm	inches	item no.	item no.	item no.	item no.	item no.
14	1/4"	CTEC 13 - 14				
18	3/8"	CTEC 13 - 18	CTEC 15 - 18	CTEC 20 - 18	CTEC 25 - 18	CTEC 30 - 18
22	1/2"	CTEC 13 - 22	CTEC 15 - 22	CTEC 20 - 22	CTEC 25 - 22	CTEC 30 - 22
28	3/4"	CTEC 13 - 28	CTEC 15 - 28	CTEC 20 - 28	CTEC 25 - 28	CTEC 30 - 28
35	1"	CTEC 13 - 35	CTEC 15 - 35	CTEC 20 - 35	CTEC 25 - 35	CTEC 30 - 35
42	1,1/4"	CTEC 13 - 42	CTEC 15 - 42	CTEC 20 - 42	CTEC 25 - 42	CTEC 30 - 42
48	1,1/2"	CTEC 13 - 48	CTEC 15 - 48	CTEC 20 - 48	CTEC 25 - 48	CTEC 30 - 48
54		CTEC 13 - 54	CTEC 15 - 54	CTEC 20 - 54	CTEC 25 - 54	CTEC 30 - 54
60	2"	CTEC 13 - 60	CTEC 15 - 60	CTEC 20 - 60	CTEC 25 - 60	CTEC 30 - 60
76	2,1/2"	CTEC 13 - 76	CTEC 15 - 76	CTEC 20 - 76	CTEC 25 - 76	CTEC 30 - 76
89	3"	CTEC 13 - 89	CTEC 15 - 89	CTEC 20 - 89	CTEC 25 - 89	CTEC 30 - 89
101	3,1/2"	CTEC 13 - 101	CTEC 15 - 101	CTEC 20 - 101	CTEC 25 - 101	CTEC 30 - 101
114	4"	CTEC 13 - 114	CTEC 15 - 114	CTEC 20 - 114	CTEC 25 - 114	CTEC 30 - 114
133		CTEC 13 - 133	CTEC 15 - 133	CTEC 20 - 133	CTEC 25 - 133	CTEC 30 - 133
139	5"	CTEC 13 - 139	CTEC 15 - 139	CTEC 20 - 139	CTEC 25 - 139	CTEC 30 - 139



ISOLTEC - ADHESIVE TAPE

Item no.	Width mm	Length m
NCA 50x50 TEC	50	50
NCA 75x50 TEC	75	50
NCA 100x50 TEC	100	50

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12

CHARACTERISTICS OF THE COVERING

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES	TEST METHOD
Colour	-	Aluminium	
Weight	g/m ²	ca. 400	EN 22-286
Total thickness	µm	280 ± 0,05	
Breaking load	N/mm ²	> 35	EN ISO 527-3
Elongation at break	%	40	EN ISO 527-3
Tear resistance	N	80	EN ISO 527-3
Perforation resistance Ø 0,3mm	N	100	PR EN 14477
UV stability test	-	Excellent	-
Air layer thickness (SD)	m	>1500	-
Emissivity ε		0,65	

EUROBATEx® TRIPLEX



Eurobatex Triplex is Eurobatex sheet with Triplex jacketing, made of a base layer of polyester film, a layer of aluminium foil and a top layer of polyethylene film to give a 100 micron thick facing which has very good tear resistance, an attractive appearance and good long term weather resistance. It offers a good quality option when installing Eurobatex sheet outdoors. It is typically used for insulating external ductwork in commercial and institutional applications for the purposes of condensation control.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® TRIPLEX

Type of material: Black closed-cell flexible elastomeric foam (FEF) coupled with a multi-layered coating of polyester, polyethylene and aluminium films.

Product range: Sheets in rolls (also available in self adhesive version) with thicknesses from 6 to 50 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications and for all external applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate; reinforced with mesh structure. Protection liner made of polyethylene. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive sheets should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	THK \leq 32 mm \leq 0.033 W/m·K THK > 32 mm \leq 0.034 W/m·K THK \leq 32 mm \leq 0.037 W/m·K THK > 32 mm \leq 0.038 W/m·K	EN 12667
Water vapour diffusion resistance factor (μ)	\geq 10000	EN 12086
Fire performance European standard	E	EN 13501-1
UV resistance	Excellent	UNI ISO 4892-2
Ozone resistance	Excellent	ISO 7326
Corrosion risk	Meets test requirements	EN 13468

CHARACTERISTICS OF THE COATING

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES
Colour	-	Matt aluminium
Weight	g/m ²	\approx 125
Total thickness	μ m	\approx 100

* NB: for applications at lower temperatures please contact our technical department.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 3 € Marking in accordance with the European Standard EN 14304.

All the normatives quoted in this document are updated to the latest issued versions.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



EUROBATEX® TRIPLEX

CONTINUOUS SHEETS WITH A MULTI-LAYERED COATING OF PET,
ALUMINIUM AND PE FILM - WIDTH 1000 mm

PRODUCT RANGE

Item no.	Thickness mm	Roll (m ² /ct)
06 EUR R TRIX	6	30
10 EUR R TRIX	10	20
13 EUR R TRIX	13	14
16 EUR R TRIX	16	12
19 EUR R TRIX	19	10
25 EUR R TRIX	25	8
32 EUR R TRIX	32	6

Different thicknesses available on request.

Item no.	Thickness mm	Roll (m ² /ct)
06 EUR R TRIXAD	6	30
10 EUR R TRIXAD	10	20
13 EUR R TRIXAD	13	14
16 EUR R TRIXAD	16	12
19 EUR R TRIXAD	19	10
25 EUR R TRIXAD	25	8
32 EUR R TRIXAD	32	6

SELF-ADHESIVE

Different thicknesses available on request.



EUROBATEX® TRIPLEX

SELF-ADHESIVE TAPE FOR TRIPLEX FINISHING

Item no.	Description	pcs/ct
NCA 50x50	aluminium coloured tape width 50 mm x 50 m	loose

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® FILM PROTECTION



This product is Eurobatex sheet with a pigmented polyethylene film factory applied. The polyethylene film is washable and it significantly improves the resistance of the system to casual mechanical damage.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® FILM PROTECTION

Type of material: Black closed-cell flexible elastomeric foam (FEF) coupled with a polyolefinic film.

Product range: Sheets in rolls (also available in self adhesive version) in thicknesses from 6 to 50 mm.
Tapes with a thickness of 3 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate reinforced with mesh structure. Protection liner made of polyethylene or paper foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive products should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	THK \leq 32 mm \leq 0.033 W/m·K THK > 32 mm \leq 0.034 W/m·K THK \leq 32 mm \leq 0.037 W/m·K THK > 32 mm \leq 0.038 W/m·K	EN 12667
Water vapour diffusion resistance factor (μ)	\geq 10000	EN 12086
Fire performance European standard	E	EN 13501-1
Corrosion risk	Meets test requirements	EN 13468

CHARACTERISTICS OF THE FILM

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES
Colour	-	Black
Weight	g/m ²	\approx 45
Total thickness	μ m	\approx 70

* NB: for applications at lower temperatures please contact our technical department.

For self-adhesive sheets and tapes, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 3 C€ Marking in accordance with the European Standard EN 14304.

All the normatives quoted in this document are updated to the latest issued versions.
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EUROBATEX® FILM PROTECTION

CONTINUOUS ROLLS COUPLED WITH A POLYOLEFINIC FILM
WIDTH 1000 mm

PRODUCT RANGE

Item no.	Thickness mm	Roll (m ² /ct)
06EUR FP	6	30
10EUR FP	10	20
13EUR FP	13	14
16EUR FP	16	12
19EUR FP	19	10
25EUR FP	25	8
32EUR FP	32	6

Different thicknesses available on request.

SELF-ADHESIVE	Item no.	Thickness mm	Roll (m ² /ct)
	06EUR FP AD	6	30
	10EUR FP AD	10	20
	13EUR FP AD	13	14
	16EUR FP AD	16	12
	19EUR FP AD	19	10
	25EUR FP AD	25	8
	32EUR FP AD	32	6

Different thicknesses available on request.



EUROBATEX® FILM PROTECTION

EUROBATEX® FILM PROTECTION SELF-ADHESIVE TAPE

Item no.	Description	pcs/ct
FPX 10 R FP	thickness 3 mm x 50 mm width - 10 m length	24

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® PEN-PEAL



Insulating sheets made of CFC and HCFC free closed-cell flexible elastomeric foam (FEF) in accordance with the European Standard EN 14304. They are protected by an external PE coating with an aluminium or black embossed, scratch-resistant PE film, guaranteeing excellent mechanical resistance. These insulating sheets are especially suitable for the thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX[®] PEN - PEAL

Type of material: Black closed-cell flexible elastomeric foam (FEF) coupled with a 3 mm layer of reticulated foam in PE and an exterior embossed finishing PE film in either black or aluminium colour.

Product range: Sheets in rolls (also available in self adhesive version) with thicknesses from 6 to 50 mm (plus the 3 mm thick covering).

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate - reinforced with mesh structure. Protection liner made of polyethylene. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive sheets should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	THK \leq 32 mm \leq 0.033 W/m·K THK > 32 mm \leq 0.034 W/m·K THK \leq 32 mm \leq 0.037 W/m·K THK > 32 mm \leq 0.038 W/m·K	EN 12667
Water vapour diffusion resistance factor (μ)	\geq 10000	EN 12086
Fire performance European standard	E	EN 13501-1
UV resistance	PEAL Excellent PEN Good	UNI ISO 4892-2
Ozone resistance	Excellent	ISO 7326
Corrosion risk	Meets test requirements	EN 13468

* NB: for applications at lower temperatures please contact our technical department.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 3 CE Marking in accordance with the European Standard EN 14304.

All the normatives quoted in this document are updated to the latest issued versions.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



CHARACTERISTICS OF THE PEN-PEAL COVERINGS

CHARACTERISTICS OF THE COVERING IN PE RETICULATED FOAM, THICKNESS 3 mm			
PHYSICAL PROPERTIES	TEST METHOD	UNIT OF MEASURE	REFERENCE VALUES
Density	ISO 845	Kg/mc	29 ±10
Tensile-strength resistance	ISO 1798	MPa	0,24
Squareness Transverse		Mpa	0,18
Elongation at break	ISO 1798	%	125
Squareness Transverse		%	120
Compression resistance	ISO 3386/1	kPa	10% - 15
		kPa	25% - 33
		kPa	50% - 88
Compression set	ISO 1856		
25% , 22 H , 23 °C , 0.5 H		%	20
25% , 22 H , 23 °C , 24 H		%	13
50% , 22 H , 23 °C , 0.5 H		%	44
50% , 22 H , 23 °C , 24 H		%	34
Dimensional stability	ISO 2796	°C	100

CHARACTERISTICS OF THE COVERING IN PE, THICKNESS 50 µm (BLACK OR ALUMINIUM)			
PHYSICAL PROPERTIES	TEST METHOD	UNIT OF MEASURE	REFERENCE VALUES
Thickness	Test interno	µm	50
Density	Test interno	g/cm ³	0.940
Tensile-strength resistance	ASTM D 882	N/mm ²	>20.0
MD TD		N/mm ²	>18.0
Elongation	ASTM D 882	%	>240
MD TD		%	>560
Shrinking	120 °C x 60	%	70.0
MD TD		%	10.0
Melting point	DSC	°C	112
Release	FINAT 4 - TESA TAPE 7475	cN/cm	6 ±2



EUROBATEX® PEN - PEAL

CONTINUOUS SHEETS COUPLED WITH RETICULATED PE COAT
COVERED WITH BLACK (PEN) OR ALUMINIUM COLOUR (PEAL)
EMBOSSED FILM - WIDTH 1000 mm

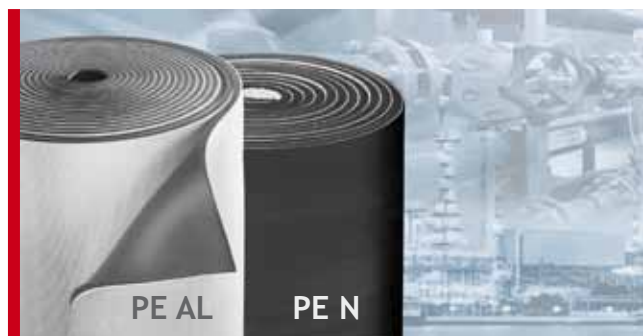
PRODUCT RANGE

Item no.	Thickness mm	Roll (m ² /ct)
06 EUR R PEAL	6 + 3	30
10 EUR R PEAL	10 + 3	20
13 EUR R PEAL	13 + 3	14
16 EUR R PEAL	16 + 3	12
19 EUR R PEAL	19 + 3	10
25 EUR R PEAL	25 + 3	8
32 EUR R PEAL	32 + 3	6

Different thicknesses are available on request.

Item no.	Thickness mm	Roll (m ² /ct)
06 EUR R PEN	6 + 3	30
10 EUR R PEN	10 + 3	20
13 EUR R PEN	13 + 3	14
16 EUR R PEN	16 + 3	12
19 EUR R PEN	19 + 3	10
25 EUR R PEN	25 + 3	8
32 EUR R PEN	32 + 3	6

Different thicknesses are available on request.



SELF-ADHESIVE SHEETS - WIDTH 1000 mm

Item no.	Thickness mm	Rotolo (m ² /ct)
06 EUR R PEALAD	6 + 3	30
10 EUR R PEALAD	10 + 3	20
13 EUR R PEALAD	13 + 3	14
16 EUR R PEALAD	16 + 3	12
19 EUR R PEALAD	19 + 3	10
25 EUR R PEALAD	25 + 3	8
32 EUR R PEALAD	32 + 3	6

Different thicknesses are available on request.

Item no.	Thickness mm	Roll (m ² /ct)
06 EUR R PEN AD	6 + 3	30
10 EUR R PEN AD	10 + 3	20
13 EUR R PEN AD	13 + 3	14
16 EUR R PEN AD	16 + 3	12
19 EUR R PEN AD	19 + 3	10
25 EUR R PEN AD	25 + 3	8
32 EUR R PEN AD	32 + 3	6

Different thicknesses are available on request.

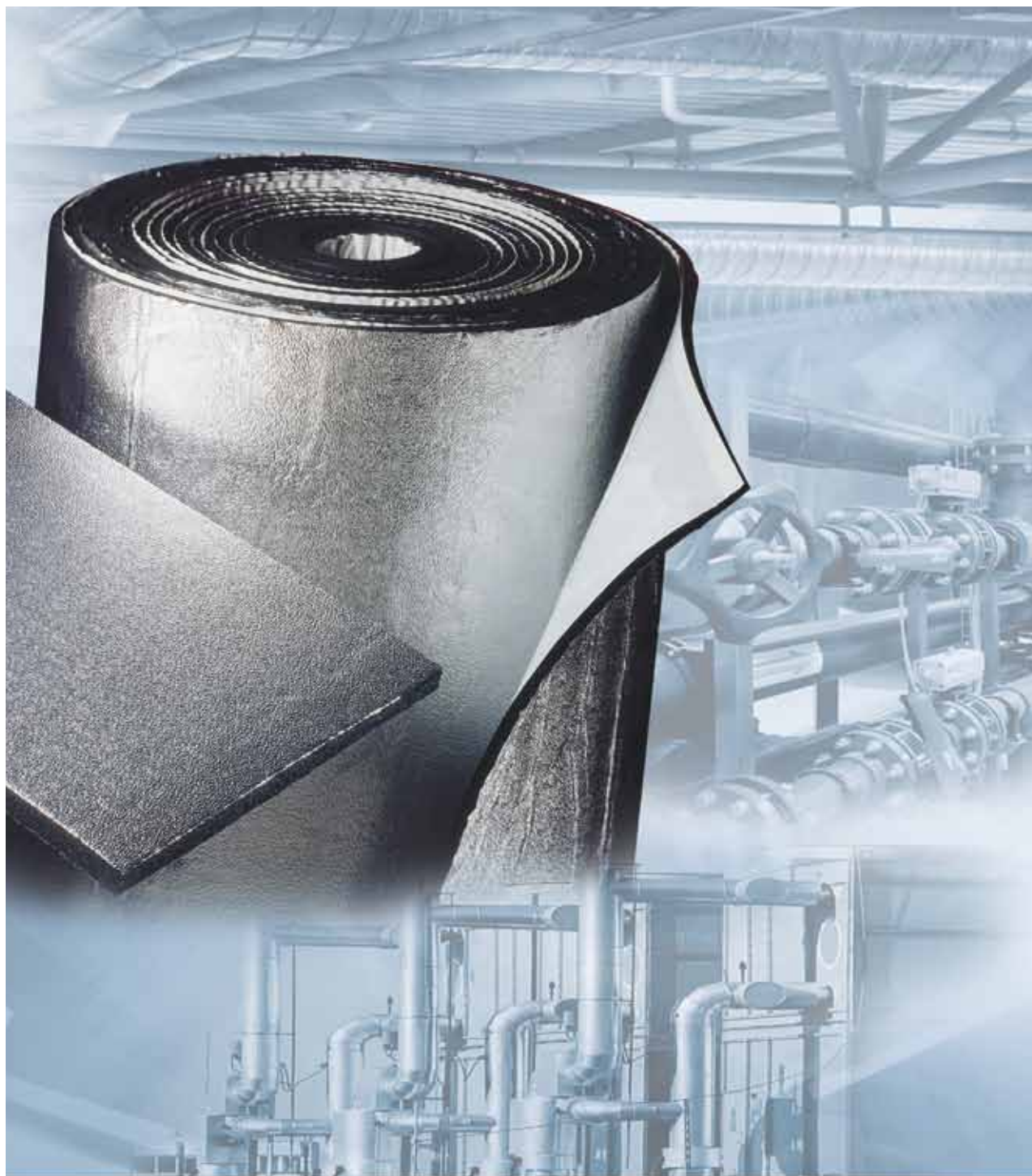
PEN/PEAL SELF-ADHESIVE TAPE

Item no.	Description	pcs/ct
FPE 1,5 PEAL 25M	PE foam tape, thickness 1,5 mm + embossed film aluminum colour, width 50 mm x 25 m length	24
FPE 1,5 PEN 25M	PE foam tape, thickness 1,5 mm + embossed film black colour, width 50 mm x 25 m length	24

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12

EUROBATEX® HI-TEC



This product is Eurobatex Sheet covered with a 50 micron thick embossed Aluminium foil. The surface looks like embossed aluminium cladding but the Eurobatex insulation gives a composite with the benefits of a closed cell, integral vapour barrier material. The aluminium foil improves resistance to mechanical abuse. It is a recommended option for use on internal and external ductwork, as well as for outdoors applications.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® HI-TEC

Type of material: Black closed-cell flexible elastomeric foam (FEF) coupled with a layer of embossed aluminium foil.

Product range: Sheets in rolls (also available in self adhesive version) with thicknesses from 6 to 50 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications and for all external applications.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate - reinforced with mesh structure. Protection liner made of polyethylene. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive sheets should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-45 °C +110 °C	EN 14706
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	THK \leq 32 mm \leq 0.033 W/m·K THK > 32 mm \leq 0.034 W/m·K THK \leq 32 mm \leq 0.037 W/m·K THK > 32 mm \leq 0.038 W/m·K	EN 12667
Water vapour diffusion resistance factor (μ)	\geq 10000	EN 12086
Fire performance European standard	C-s3,d0	EN 13501-1
UV resistance	Excellent	UNI ISO 4892-2
Ozone resistance	Excellent	ISO 7326
Corrosion risk	Meets test requirements	EN 13468

CHARACTERISTICS OF THE COVERING

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES
Colour	-	Aluminium
Total thickness	μ m	\approx 50

* NB: for applications at lower temperatures please contact our technical department.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 1 CE Marking in accordance with the European Standard EN 14304.
Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

All the normatives quoted in this document are updated to the latest issued versions.
Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



EUROBATEX® HI-TEC

CONTINUOUS ROLLS COUPLED WITH A LAYER OF
EMBOSSED ALUMINIUM FOIL - WIDTH 1000 mm

PRODUCT RANGE

Item no.	Thickness mm	Roll (m ² /ct)
06 EUR R ALL	6	30
10 EUR R ALL	10	20
13 EUR R ALL	13	14
16 EUR R ALL	16	12
19 EUR R ALL	19	10
25 EUR R ALL	25	8
32 EUR R ALL	32	6

Other thicknesses available on request.

SELF-ADHESIVE SHEETS - WIDTH 1000 mm

Item no.	Thickness mm	Roll (m ² /ct)
06 EUR R ALAD	6	30
10 EUR R ALAD	10	20
13 EUR R ALAD	13	14
16 EUR R ALAD	16	12
19 EUR R ALAD	19	10
25 EUR R ALAD	25	8
32 EUR R ALAD	32	6

Other thicknesses available on request.



EUROBATEX® HI-TEC

SELF-ADHESIVE EMBOSSED ALUMINIUM TAPE

Item no.	Description	pcs/ct
NCA 50x25 GOFFR	ALUMINIUM embossed adhesive tape mm 50 x 25 m	loose

CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g - 1000 ml tin	12
CNX 425	425 g - 500 ml tin	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® DUCT - DUCT TRIPLEX



CFC, HCFC free, GWP zero self-adhesive sheets in roll form made from Flexible Elastomeric Foam, an insulation product complying with European standard EN 14304. This material has an integral vapour barrier, is suitable for the thermal insulation of hot, cold and dual temperature ductwork and also for large diameter pipes and vessels including those with a complex surface shape. The range is available in a width of 1500 mm to minimise wastage, improve installation times and thereby reduce costs. A coated version, with a metallic appearance called DUCT TRIPLEX is also available.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® DUCT - DUCT TRIPLEX

Type of material: DUCT - Black closed-cell flexible elastomeric foam (FEF).
DUCT TRIPLEX - Eurobatex Duct coupled with the TRIPLEX coating, a multi-layered coating of polyester, polyethylene and aluminium film.

Product range: 1500 mm wide mesh self-adhesive sheets in rolls, in thicknesses from 6 to 30 mm.

Fields of application: Thermal Insulation for commercial and industrial applications involving cold and hot ducts, large pipes and vessels.

Dimensional tolerances: In accordance with the European Standard EN 14304.

Environmental Information: CFC and HCFC-free flexible and expanded rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

Additional information: Self-adhesive material: the self-adhesive coating is based on modified acrylate reinforced with mesh structure. Protection liner made of polyethylene foil. Traces of silicon can be found on the foil protecting the self-adhesive coating.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing. Self-adhesive sheets should not be kept in storage for more than one year.

PHYSICAL PROPERTIES	RESULT OBTAINED		TEST METHOD
	DUCT	DUCT TRIPLEX	
Operating temperature range*	-45 °C +110 °C		EN 14706
Thermal conductivity λ	≤0.033 W/m·K		EN 12667
At a mean temperature of 0 °C			
At a mean temperature of + 40 °C	≤0.037 W/m·K		
Water vapour diffusion resistance factor (μ)	≥7000	≥10000	EN 12086
Water absorption	<0,1 kg/m²		EN 1609
Fire performance European standard	B-s3,d0	E	EN 13501-1
UK: Fire propagation Surface spread of flame Building Regulations	i1≤6.0 Class 1 Class 0	- - -	BS476: Part 6 BS476: Part 7 BS476 Parts 6 and 7
USA, Canada:	UL Approved Flame Class V-0, up to 13 mm. Flame Class V-0, HF-1 - thk. 3 mm.	-	UL 94 UL 746 A - UL 746 B
Ozone resistance	Excellent	Excellent	ISO 7326
UV resistance	-	Excellent	UNI ISO 4892-2
Antimicrobial behaviour	Meets test requirements	Meets test requirements	AATCC test method 30-2004
Corrosion risk	Meets test requirements	Meets test requirements	EN 13468

CHARACTERISTICS OF THE TRIPLEX COATING

PHYSICAL PROPERTIES	UNIT OF MEASURE	REFERENCE VALUES
Colour	-	Aluminium
Weight	g/m ²	approx. 125
Total thickness	μ m	approx. 100

* NB: for applications at lower temperatures please contact our technical department.

For self-adhesive sheets, the maximum operating temperature is +90 °C. For applications at higher temperatures please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

For outside uses Eurobatex Duct should be protected with Union Covering or Vec elastomeric paint.

EUROBATEX DUCT - System 1 **CE** Marking in accordance with the European Standard EN 14304.

Certification of Constancy of Performance issued by CSI S.p.A. - Bollate IT-20021.

EUROBATEX DUCT TRIPLEX - System 3 **CE** Marking in accordance with the European Standard EN 14304.

All the normatives quoted in this document are updated to the latest issued versions.

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EUROBATEX® DUCT - DUCT TRIPLEX

SELF-ADHESIVE CONTINUOUS ROLLS
WIDTH 1500 mm

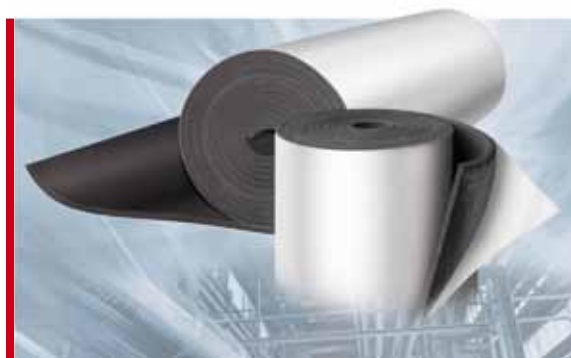
PRODUCT RANGE

DUCT

Item no.	Thickness mm	Roll (m ² /ct)
06EUR R H1,5 ADR	6	45
08EUR R H1,5 ADR	8	37,5
10EUR R H1,5 ADR	10	30
12EUR R H1,5 ADR	12	22,5
15EUR R H1,5 ADR	15	18
20EUR R H1,5 ADR	20	15
25EUR R H1,5 ADR	25	12
30EUR R H1,5 ADR	30	9

DUCT TRIPLEX

Item no.	Thickness mm	Roll (m ² /ct)
06EUR RH1,5 TX ADR	6	45
08EUR RH1,5 TX ADR	8	37,5
10EUR RH1,5 TX ADR	10	30
12EUR RH1,5 TX ADR	12	22,5
15EUR RH1,5 TX ADR	15	18
20EUR RH1,5 TX ADR	20	15
25EUR RH1,5 TX ADR	25	12
30EUR RH1,5 TX ADR	30	9



EUROBATEX® SELF-ADHESIVE TAPE

Item no.	Description	pcs/ct
FPX 10 TR	thickness 3 mm x 50 mm width - 10 m length	24
FPX 15 TR	thickness 3 mm x 50 mm width - 15 m length	12

SELF ADHESIVE TAPE WITH TRIPLEX FINISHING

Item no.	Description	pcs/ct
NCA 50x50	aluminium coloured tape width 50 mm x 50 m	loose

CNX ADHESIVE

Item no.	Description	pc/box
CNX 850	850 g tin - 1000 ml	12
CNX 425	425 g tin - 500 ml	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12



advanced elastomeric thermal and acoustic insulation materials

POLISOLAN PE 80 R



Polisolan PE 80 R is a CFC and HCFC free closed cell polyethylene foam pipe insulation material with a polymeric surface coating factory applied. The coating improves resistance to mechanical abuse and gives a composite product which can be used outdoors without any further weather protection. It is suitable for a range of domestic and light commercial applications including frost protection, condensation control and energy conservation.



advanced elastomeric thermal and acoustic insulation materials

POLISOLAN PE 80 R

Type of material: Closed cell flexible polyethylene foam (PEF) with a black polyethylene scratch resistant film.

Product range: Tubes in pipe sections in thicknesses from 6 to 10 mm and diameters from 12 to 60 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14313.

Environmental Information: CFC, PVC and HCFC-free flexible and expanded rubber foam; it does not contain powders or fibres.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	Tubes -45 °C +110 °C	EN 14707 - UNI ISO 188
Thermal conductivity λ At a mean temperature of 0 °C At a mean temperature of + 40 °C	≤ 0.034 W/m·K ≤ 0.038 W/m·K	DIN 52613
Water vapour diffusion resistance factor (μ)	≥ 15000	EN 13469/DIN 52615
Fire performance European standard	B _L -s1,d0	EN 13501-1
UV resistance	Excellent	ISO 7326
Antimicrobial behaviour	Meets test requirements	AATCC test method 30-2004
Resistance to deformation	Excellent	

*NB: for applications at lower temperature please contact our technical department.
For information regarding the chemical resistance of the product please consult the specific technical documentation.

System 1 CE Marking in accordance with the European Standard EN 14313.

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POLISOLAN PE 80 R

POLISOLAN PE 80 R - POLYETHYLENE FOAM PIPE SECTIONS
WITH SCRATCH RESISTANT COVERING - LENGTH 2 m

PRODUCT RANGE

POLISOLAN PE 80 R

COPPER PIPE (Cu)		STEEL PIPE (Fe)			PE/PP/PVC PIPES	Thickness 6 mm		Thickness 10 mm pre-cut	
ø est. mm	ø nomin. DN	ø est. mm	ø inches	ø nomin. DN	ø nomin. DN	Item no.	m/ct	Item no.	m/ct
12	10				12	06- 12POL R	570	10- 12POL R	460
14/15	10	13,50	1/4"	8		06- 14POL R	490	10- 14POL R	430
16					16	06- 16POL R	410	10- 16POL R	380
18	15	17,20	3/8"	10		06- 18POL R	400	10- 18POL R	220
					20	06- 20POL R	320		
22	20	21,30	1,1/2"	15		06- 22POL R	300	10- 22POL R	200
25	20				25	06- 25POL R	250		
28	25	26,90	3/4"	20		06- 27POL R	230	10- 27POL R	160
35	32	33,70	1"	25		06- 34POL R	180	10- 34POL R	120
42	40	42,40	1,1/4"	32		06- 43POL R	120	10- 43POL R	90
		48,30	1,1/2"	40				10- 49POL R	80
		60,30	2"	50				10- 61POL R	60



advanced elastomeric thermal and acoustic insulation materials

POLISONORM P.N. 83 PVC/ALU



These products are a range of rigid Polyurethane Foam pipe sections with either a PVC Jacketing or an embossed Aluminium Foil. The pipe sections are slit and a double sided tape is applied to the cut seam to give a self-adhesive product which can be used for a variety of heating & plumbing applications.



advanced elastomeric thermal and acoustic insulation materials

POLISONORM P.N. 83 PVC/ALU

Type of material: Rigid Polyurethane Foam(PUR) with a protective film in PVC (PVC type) or an embossed aluminium foil (ALU type).

Product range: Pre-cut, self adhesive pipe sections in thicknesses from 20 to 40 mm and in diameters from 22 to 115 mm. 90° elbows with external covers in thicknesses from 20 to 40 mm and in diameters from 22 to 115 mm.

Fields of application: Thermal insulation of refrigeration, air-conditioning and heating & plumbing services in commercial, industrial and domestic applications.

Dimensional tolerances: In accordance with the European Standard EN 14308.

Environmental Information: CFC and HCFC free rigid Polyurethane Foam; it does not contain asbestos.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range	-30 °C +130 °C	
Polyurethane density	25 kg/m ³	
Thermal conductivity λ At a mean temperature of + 40 °C	≤ 0.029 W/m·K	UNI 7745
Fire performance European standard	B _L -s1,d0 (with ALU foil) E _L (with PVC film)	EN 13501-1
ALU type - External coating	Embossed aluminium foil with a thickness of $\approx 0,30$ mm	
PVC type - External coating	PVC film with a thickness of $\approx 0,25$ mm	

For information regarding the chemical resistance of the product please consult the specific technical documentation.

ALU type - System 1  Marking in accordance with the European Product Standard EN 14308.

PVC type - System 3  Marking in accordance with the European Product Standard EN 14308.

All the normatives quoted in this document are updated to the latest issued versions.
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POLISONORM P.N. 83 PVC/ALU

POLYURETHANE PIPE SECTIONS AND ELBOWS WITH EXTERNAL COVERS IN PVC/ALU

PRODUCT RANGE

internal Ø		external Ø	Insulation thickness	Pipe length 2 m		90° elbows with cover	
mm	inches	mm	mm	Item no.	m/ct	Item no.	pcs/ct
22	1/2"	61	20	20- 22PNS P	144	20- 22PNSCP	30
27	3/4"	67	20	20- 27PNS P	112	20- 27PNSCP	30
34	1"	75	20	20- 34PNS P	90	20- 34PNSCP	30
43	1,1/4"	87	22	20- 43PNS P	70	20- 43PNSCP	20
49	1,1/2"	98	25	25- 49PNS P	60	25- 49PNSCP	20
61	2"	110	25	25- 61PNS P	40	25- 61PNSCP	15
77	2,1/2"	141	32	30- 77PNS P	24	30- 77PNSCP	15
90	3"	157	33	30- 90PNS P	22	30- 90PNSCP	15
102	3,1/2"	172	35	40- 102PNS P	16	40- 102PNSCP	10
115	4"	195	40	40- 115PNS P	12	40- 115PNSCP	10

PVC



internal Ø		external Ø	Insulation thickness	Pipe length 1 m		90° elbows with cover	
mm	inches	mm	mm	Item no.	m/ct	Item no.	pcs/ct
22	1/2"	61	20	20- 22PNS A	63	20- 22PNSCA	30
27	3/4"	67	20	20- 27PNS A	45	20- 27PNSCA	30
34	1"	75	20	20- 34PNS A	40	20- 34PNSCA	30
43	1,1/4"	87	22	20- 43PNS A	32	20- 43PNSCA	20
49	1,1/2"	98	25	25- 49PNS A	24	25- 49PNSCA	20
61	2"	110	25	25- 61PNS A	18	25- 61PNSCA	15
77	2,1/2"	141	32	30- 77PNS A	11	30- 77PNSCA	15
90	3"	157	33	30- 90PNS A	9	30- 90PNSCA	15
102	3,1/2"	172	35	40- 102PNS A	6	40- 102PNSCA	10
115	4"	195	40	40- 115PNS A	6	40- 115PNSCA	10

ALU



advanced elastomeric thermal and acoustic insulation materials

THERMAL INSULATION PRODUCTS FOR BUILDING EQUIPMENT AND INDUSTRIAL INSTALLATIONS. FACTORY MADE FLEXIBLE ELASTOMERIC FOAM (FEF) PRODUCTS

DIMENSIONAL TOLERANCES SPECIFIED BY THE EUROPEAN PRODUCT STANDARD EN 14304

Form of delivery	Length	Width	Thickness		Squareness	Inside diameter	
			Declared	Tolerance		$D_i \leq 100$	$D_i > 100$
Tubes	$\pm 1,5\%$	-	$d_D \leq 8$	± 1	3,0 mm	$D_{iD} + 1 \leq D_i \leq D_{iD} + 4$	$D_{iD} + 1 \leq D_i \leq D_{iD} + 6$
			$8 < d_D \leq 18$	$\pm 1,5$	-	-	-
			$18 < d_D \leq 31$	$\pm 2,5$	-	-	-
			$d_D > 31$	± 3	-	-	-
Sheets	$\pm 1,5\%$	$\pm 2\%$	$d_D \leq 6$	± 1	3,0 mm/m (length/width)	-	-
			$6 < d_D \leq 19$	$\pm 1,5$	-	-	-
			$d_D > 19$	± 2	3,0 mm (thickness)	-	-
Rolls	+ 5% - 1.5%	$\pm 2\%$	$d_D \leq 6$	± 1	3,0 mm/m (length/width)	-	-
			$6 < d_D \leq 19$	$\pm 1,5$	-	-	-
			$d_D > 19$	± 2	3,0 mm (thickness)	-	-
Tapes	+ 5% - 1.5%	$\pm 2\%$	$d_D = 3$	- 0.1 + 1,5	-	-	-



THERMAL INSULATION PRODUCTS FOR BUILDING EQUIPMENT AND INDUSTRIAL INSTALLATIONS. FACTORY MADE RIGID POLYURETHANE FOAM (PUR) AND POLYISOCYANURATE FOAM (PIR) PRODUCTS

DIMENSIONAL TOLERANCES SPECIFIED BY THE EUROPEAN PRODUCT STANDARD EN 14308

Form of delivery	Length	Width	Thickness	Internal diameter
Panels				
l < 1000 mm	± 5 mm	± 5 mm	± 1,5 mm	—
l = from 1000 to 2000 mm	± 7,5 mm			
l = from 2001 to 4000 mm	± 10 mm			
l = from 4000 mm	± 15 mm			
Pipe sections	± 3 mm	—	± 2 mm	- 0 mm +2 mm a - 0 mm +3 mm b
Sector	+ 3 mm	± 2 mm	± 2 mm	- 0 mm +4 mm
Ready-made articles	+ 3 mm	—	± 2 mm	—

a To apply to internal diameters smaller than 170 mm

b To apply to internal diameters of 170 mm and above



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THERMAL INSULATION PRODUCTS FOR BUILDING EQUIPMENT AND INDUSTRIAL INSTALLATIONS. FACTORY MADE POLYETHYLENE (PEF) PRODUCTS

DIMENSIONAL TOLERANCES SPECIFIED BY THE EUROPEAN PRODUCT STANDARD EN 14313

Table 1 - Dimensional tolerances (length, width, thickness and a squareness)

Form of delivery	Length	Width	Thickness* mm		Squareness
			Declared	Tolerance	
Tubes and profiles	- 1,5% + 2,5%	-	$d_D \leq 6$	$\pm 1,0$	5,0 mm (for $D_{LD} \leq 60$ mm)
			$6 < d_D \leq 10$	$\pm 1,5$	
			$10 < d_D \leq 15$	$\pm 2,0$	10,0 mm (for $60 < D_{LD} \leq 120$ mm)
			$15 < d_D \leq 31$	$\pm 2,5$	
			$d_D > 30$	$\pm 4,0$	
Sheets and rolls	$\pm 1,5\%$	$\pm 1,0\%$	$d_D \leq 5$	$\pm 1,0$	10,0 mm/m (length + width)
			$5 < d_D \leq 10$	$\pm 1,5$	
			$10 < d_D \leq 15$	$\pm 2,0$	2,0 mm (thickness)
			$15 < d_D \leq 30$	$\pm 2,5$	
			$d_D > 30$	$\pm 3,5$	
Tapes	$\pm 1,5\%$	± 2 mm		$\pm 1,5$	-

*The tolerances of profiles are only defined for the sections designed for the reduction of heat flux

Table 2 - Dimensional tolerances (internal diameters) - Dimensions in mm

Form of delivery	Internal diameters		
	$D_{LD} \leq 35$	$35 < D_{LD} \leq 100$	$D_{LD} > 100$
Tubes	$D_{LD} \text{ da } +1 \text{ a } +4$	$D_{LD} \text{ da } +2 \text{ a } +6$	$D_{LD} \text{ da } +3 \text{ a } +8$
Profiles	$D_{LD} \text{ da } +1 \text{ a } +4$	$D_{LD} \text{ da } +2 \text{ a } +6$	$D_{LD} \text{ da } +3 \text{ a } +8$



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SPECIAL APPLICATIONS



These products are a new generation of high density closed cell foams which have been formulated to provide better mechanical resistance properties for applications where thermal conductivity is of secondary importance. Our Special Application foams have potential uses in a variety of industrial applications and build upon our previous experience of making products for the automotive industry.



advanced elastomeric thermal and acoustic insulation materials

EG 100

Type of material: CFC, HCFC and PVC-free closed cell EPDM based Flexible Elastomeric Foam (FEF) in rolled sheets. Suitable for applications where better mechanical performance characteristics and higher operating temperatures are required. Also suitable for outdoor applications.

Product range: Supplied as a product with a nominal density of 100 kg/m³ (±15 kg/m³) in rolled sheets with standard thicknesses of 19 and 25 mm. Different thicknesses and a self-adhesive version are available on request.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature	-45 °C +150 °C	
Tensile strength	≥ 100 kPa	ISO 1798
Elongation at break	≥ 100 %	ISO 1798
Tear resistance	≥ 1 KN/m	ISO 34-1
Shore 00	30-45	ASTMD 2240
Compression set (23 °C - 22h - 50% U.R.)	≤ 15 %	ISO 1856
Compression deflection 25%	20-40 kPa	ASTMD-1056
Compression deflection 50%	70-110 kPa	ASTMD-1056

Products not in stock, available on request.

NG 100

Type of material: A CFC and HCFC-free closed cell NBR+PVC based Flexible Elastomeric Foam (FEF) in rolled sheets. Suitable for applications where better mechanical characteristics are required.

Product range: Supplied as a product with a nominal density of 90 kg/m³ (±20 kg/m³) in rolls with standard thicknesses of 19 and 25 mm. Different thicknesses and a self-adhesive version are available on request.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature	-45 °C +110 °C	
Tensile strength	≥ 400 kPa	ISO 1798
Elongation at break	≥ 100 %	ISO 1798
Tear resistance	≥ 1 KN/m	ISO 34-1
Shore 00	35-55	ASTMD 2240
Compression set (23 °C - 22h - 50% U.R.)	≤ 20 %	ISO 1856
Compression deflection 25%	10-40 kPa	ASTMD-1056
Compression deflection 50%	50-90 kPa	ASTMD-1056

Products not in stock, available on request.

K 80

Type of material: CFC, CFC-free and GWP Zero closed cell NBR+PVC based Flexible Elastomeric Foam (FEF) in the form of coiled tubes. Suitable for the applications in various industrial sectors including automotive applications.

Product range: Thin wall tubes supplied in a coiled form with a nominal density of 80 kg/m³, a 6 mm insulation thickness and bore sizes from 6 to 35 mm.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature	-45 °C +110 °C	EN 14707
Thermal conductivity λ At mean temperature of +40 °C	≤ 0.048 W/m·K	EN ISO 8497
Ozone resistance	Excellent	ISO 7326
Tensile strength	≥ 250 kPa	ISO 1798
Elongation at break	100% +/- 20%	ISO 1798

Products not in stock, available on request.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

All the normatives quoted in this document are updated to the latest issued version.

For outside uses NG 100 and K 80 should be protected with Union Covering or Vec elastomeric paint.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



ACOUSTIC INSULATION



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SILENTPLUS RUBBER



A range of acoustic-insulation rolled sheets produced by the coupling of high-density elastomeric and expanded foam material (FEF). Available in different thicknesses. Suitable to solve problems of acoustic insulation in building and industrial applications.



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SILENTPLUS RUBBER

Type of material: Soundproofing barrier layer coupled with a flexible elastomeric foam (FEF).

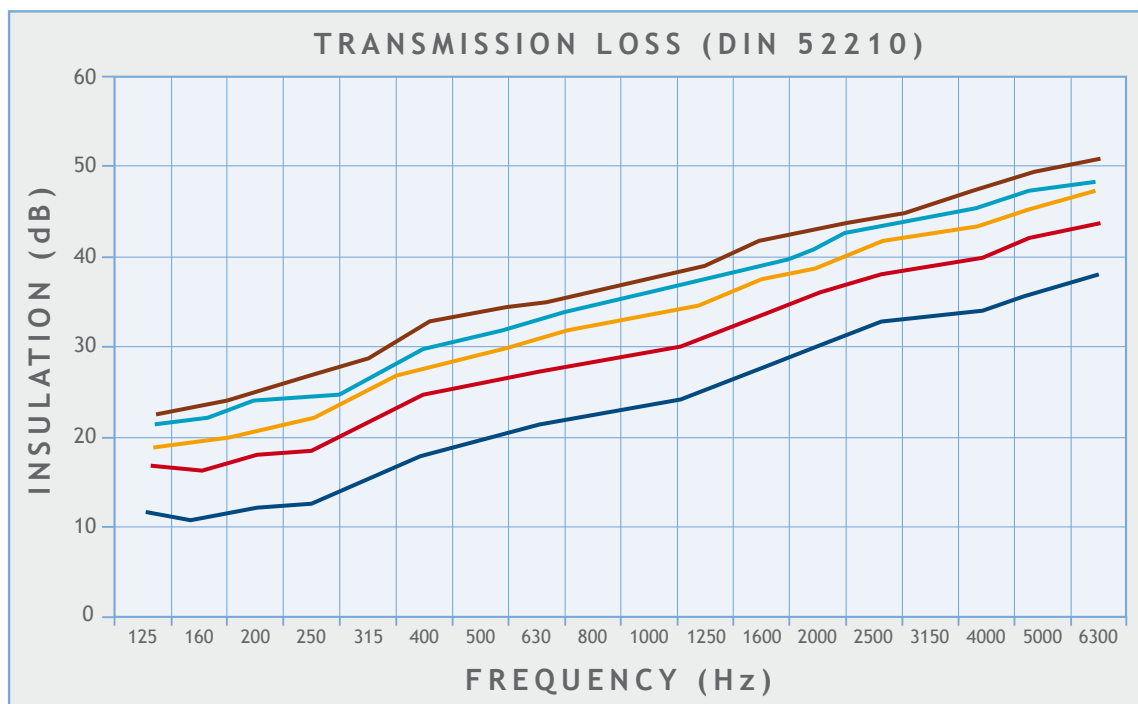
Product range: Sheets in rolls with dimensions of 1x2 m (see the specific composition).

Fields of applications: Acoustic insulation of walls, floors and ceilings; enclosures for motors and air-conditioning equipment; acoustic insulation of water pipes, drains and heating & plumbing services in commercial, industrial and domestic applications.

Specific composition: Compound composed of elastomeric high-density barrier, available in thickness from 1 to 5mm, covered on one or both sides, by a 10mm expanded elastomeric foam made of FEF, available also in different thicknesses.

PHYSICAL PROPERTIES	RESULT OBTAINED			TEST METHOD
		2 mm high density layer	5 mm high density layer	
Operating temperature range		from -45 °C to +110 °C		
Weight		approx. 4 kg/m ²	approx. 10 kg/m ²	ASTM D 1662
Measurement of noise from waste water installations				
Reduction of air-borne sound transmission	Flow rate	dB(A)	dB(A)	UNI EN 14366
	0,5l/s	12	16	
	1l/s	12	15,5	
	2l/s	10,5	14	
Structure-borne sound level	Flow rate	dB(A)	dB(A)	
	0,5l/s	15,5	14,7	
	1l/s	16,5	16,4	
	2l/s	18,4	18	
Sound reduction index R _w		26 dB (0; -3)		EN ISO 140-3 - UNI EN ISO 717-1
Hardness*		80 ± 10 Shore A		ASTM D 2240 / UNI EN ISO 868 / DIN 53505
Tensile strength*		> 1 N/mm ²		ASTM D 412 / DIN 53504 / UNI 6065
Elongation at break*		> 20 %		ASTM D 412 / DIN 53504 / UNI 6065
Fire performance				
European standard		D-s2,d0		EN 13501 - 1
Antimicrobial behaviour		Excellent		—

*Data refer exclusively to the 2 mm high density layer.



— 2 kg/m² (THK 1 mm) — 4 kg/m² (THK 2 mm) — 6 kg/m² (THK 3 mm) — 8 kg/m² (THK 4 mm) — 10 kg/m² (THK 5 mm)

For information regarding the chemical resistance of the product please consult the specific technical documentation.

All the normatives quoted in this document are updated to the latest issued version.

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SILENTPLUS RUBBER HF



A range of multi-layered acoustic-insulation rolled sheets produced by the coupling of elastomeric and expanded foam material (FEF) Eurobatex HF, an high density elastomeric material and an external aluminium covering. Available in different thicknesses are suitable to solve problems of acoustic insulation in building and industrial applications, where Halogen free materials are required to meet the high safety standards.



advanced elastomeric thermal and acoustic insulation materials

SILENTPLUS RUBBER HF

Type of material: Halogen-free compound composed of a soundproofing barrier layer coupled with a flexible elastomeric foam (FEF) and an external aluminium covering.

Product range: Sheets in rolls with dimensions of 1 x 2 m (see the specific composition).

Fields of applications: Acoustic insulation of walls, floors and ceilings; enclosures for motors and air-conditioning equipment; acoustic insulation of water pipes, drains and heating & plumbing services in commercial, industrial and domestic applications, where high safety standards exist in case of fire.

Specific composition: Compound composed of 2 mm of elastomeric high-density barrier coupled with 10mm expanded elastomeric foam made of FEF and aluminium covering. Available in different thicknesses.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range	-45 °C to +130 °C	
Weight	approx. 4 kg/m ²	ASTM D 1662
Measurement of noise from waste water installations		
Reduction of air-borne sound transmission	Flow rate 0,5l/s 1l/s 2l/s 4l/s dB(A) 12 12 10,5 10,5	UNI EN 14366
Structure-borne sound level	Flow rate 0,5l/s 1l/s 2l/s 4l/s dB(A) 15,5 16,6 18,4 19,6	
Sound reduction index R _w	26 dB (0; -3)	EN ISO 140-3 - UNI EN ISO 717-1
Hardness*	80 ± 10 Shore A	ASTM D 2240 / UNI EN ISO 868 / DIN 53505
Tensile strength*	> 1 N/mm ²	ASTM D 412 / DIN 53504 / UNI 6065
Elongation at break*	> 20 %	ASTM D 412 / DIN 53504 / UNI 6065
Fire performance		
European standard	C-s2,d0	EN 13501 - 1
Antimicrobial behaviour	Excellent	—

*Data refer exclusively to the 2 mm high density layer.

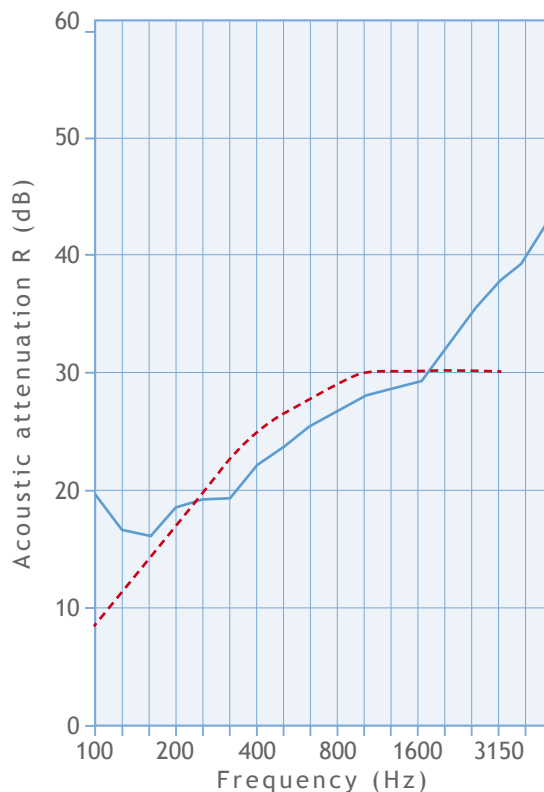
For information regarding the chemical resistance of the product please consult the specific technical documentation.

SILENTPLUS RUBBER HF - Sound Reduction Index

(Ref. European Standard UNI EN ISO 140-3 and 717-1)

FREQ. Hz	R dB
100	20,4
125	15,8
160	14,9
200	17,4
250	18,5
315	18,7
400	21,3
500	21,9
630	23,9
800	25,3
1000	26,7
1250	28,1
1600	28,7
2000	29,4
2500	31,0
3150	35,2
4000	38,6
5000	44,0

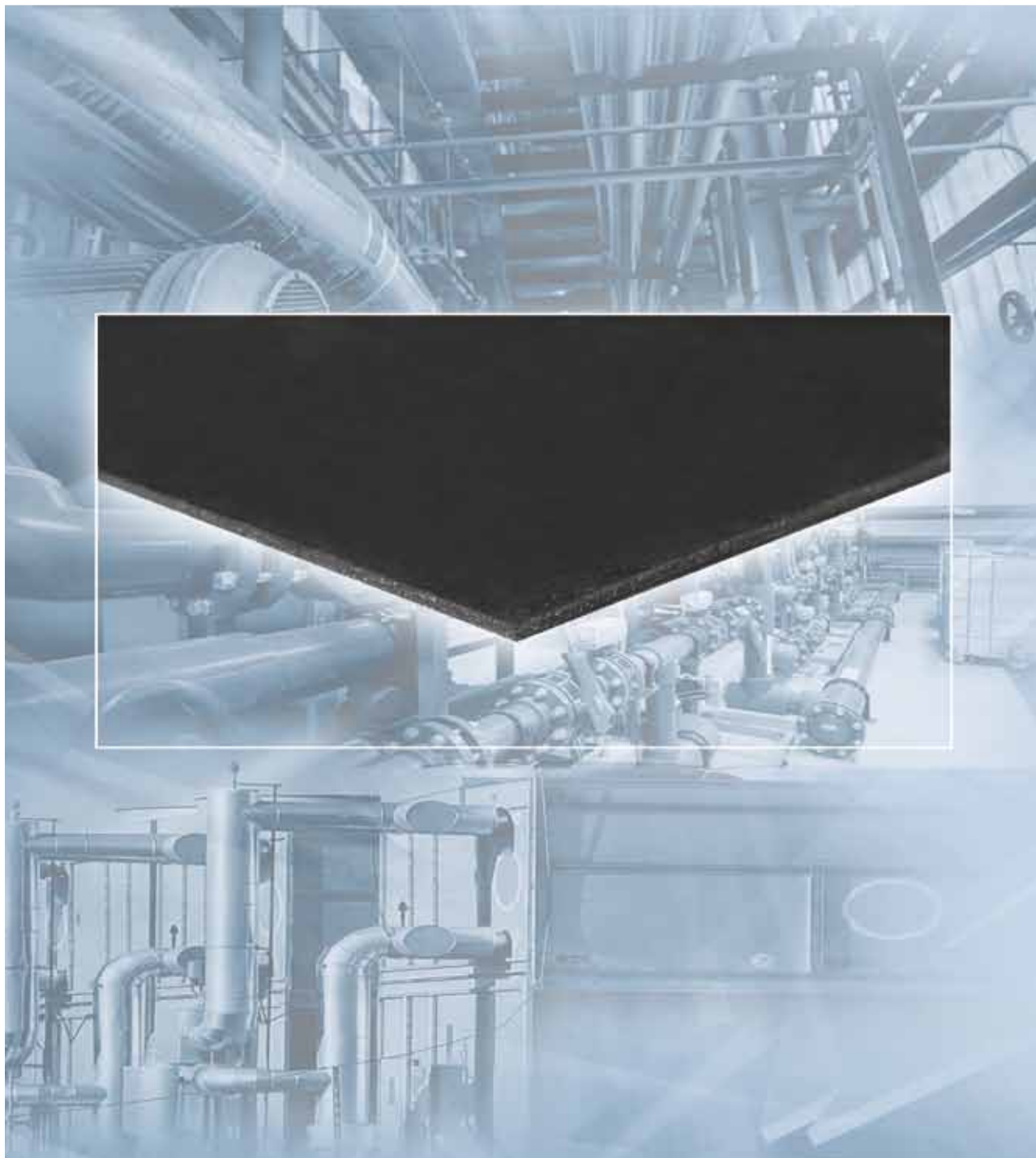
R_w (C;C_{tr}) = 26 dB (0; -3)



— Tested product - - - - - ISO 717-1 curve

All the normatives quoted in this document are updated to the latest issued version.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.



A range of sound-proofing high density sheets with high performance in noise reduction, especially at low frequencies. An ideal solutions in industrial and domestic applications.



advanced elastomeric thermal and acoustic insulation materials

EURO SOUND

Type of material: A soundproofing material made of a polymeric compound and high density mineral fillers. The product is free from lead, unrefined aromatic oils and bitumen, it is halogen free and does not contain substances which are hazardous to human health.

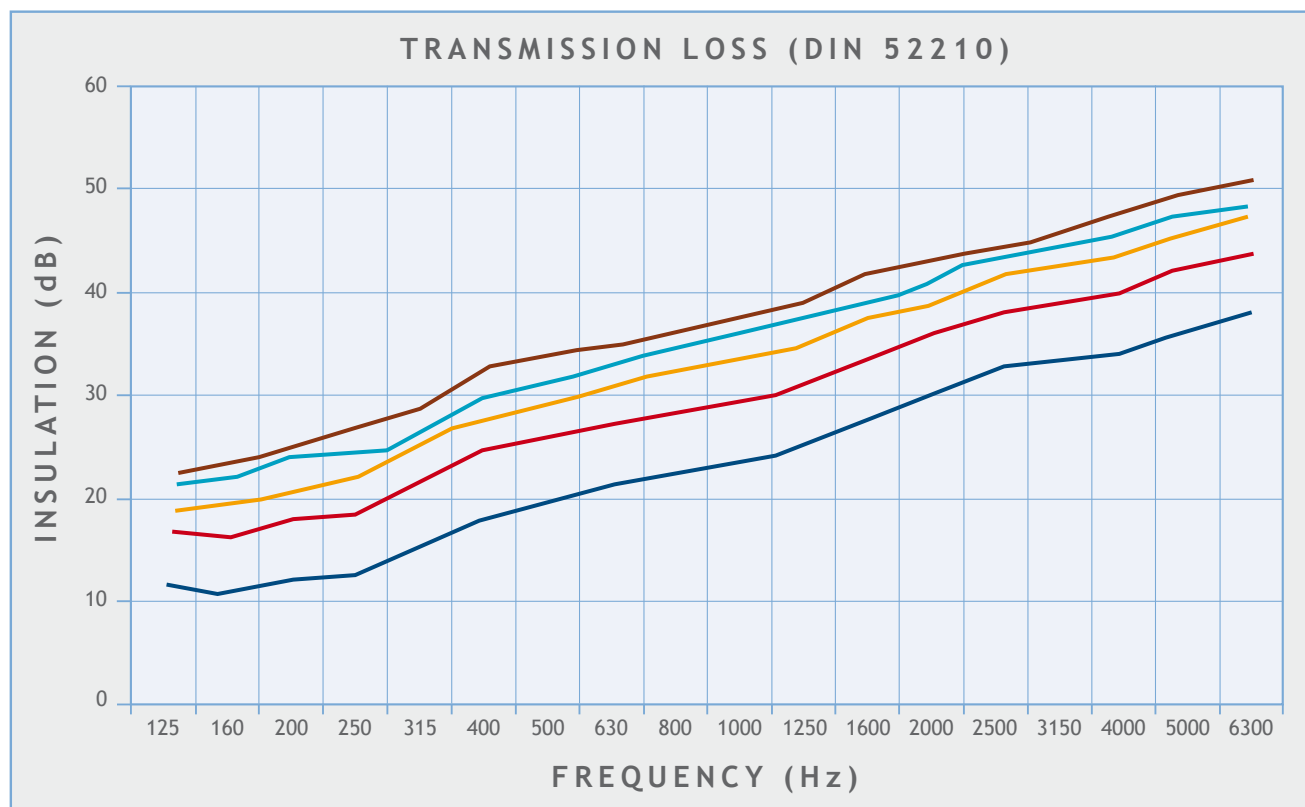
Product range: Available in sheets and rolls in a range of thicknesses from 1 mm to 5 mm and in widths up to 1200 mm.

Fields of application: A flexible high performance noise barrier useful for reducing airborne sound transmission and as a component of an acoustic system with good low frequency sound barrier characteristics.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Service temperature	-30 °C / +110 °C	
Density*	1,95 ± 0,1 g/cm ³	EN ISO 1183-1 and 2
Hardness*	80 ± 10 Shore A	EN ISO 868
Tensile strength*	> 1 N/mm ²	DIN 53504 / UNI 6065
Elongation at break*	> 20%	DIN 53504 / UNI 6065
Fire performance Flame propagation	< 100 mm/min	ISO 3795 / UL 94

*Data refer to the 2 mm thick layer.



— 2 kg/m² (THK 1 mm) — 4 kg/m² (THK 2 mm) — 6 kg/m² (THK 3 mm) — 8 kg/m² (THK 4 mm) — 10 kg/m² (THK 5 mm)

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advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® BUGNATO



A range of flexible elastomeric foam (FEF) acoustic insulation made from Eurobatex sheets with a profiled surface cut in to one side. The result of this special process is an open cell structure with an increased surface area which produces a significant noise reduction especially at medium to high frequencies (greater thickness = better acoustic insulation). The Euroclass level achieved by this product (B-s3,d0) allows its use in many applications where a high safety standard is required.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® BUGNATO

Type of material: An acoustic material in sheet form made from Flexible Elastomeric Foam (FEF) with a profiled surface cut into one side of the sheet.

Product range: Sheet in a standard thickness of 20 mm, comprising of a 10 mm thick base layer and a 10 mm thick profiled surface layer. Different thicknesses are available upon request.

Fields of application: Acoustic absorption.

Environmental information: CFC and HCFC-free rubber foam. It does not damage the ozone layer (ODP zero) and does not contribute to the greenhouse effect (GWP zero).

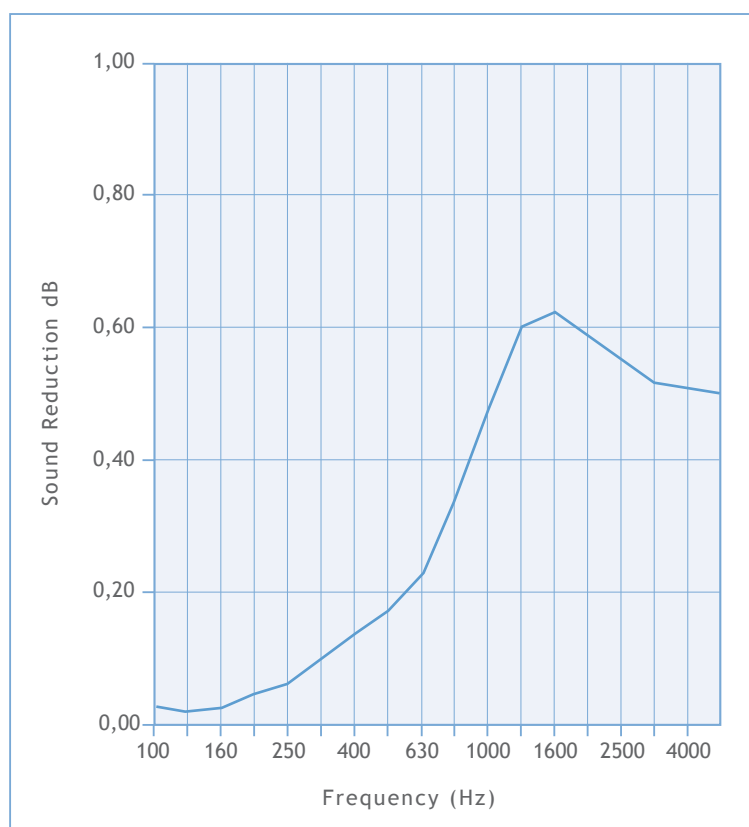
Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Fire performance European standard	B-s3,d0	EN 13501-1
Acoustic absorption (α)		
250 Hz.	0,06	UNI EN ISO 354
500 Hz.	0,14	
1000 Hz.	0,47	
2000 Hz.	0,59	
4000 Hz.	0,50	
5000 Hz.	0,49	

Sample surface: $S = 12 \text{ m}^2$

FREQ. Hz	T1 (sec)	T2 (sec)	α_s	α_p
100	6,50	6,01	0,03	
125	5,66	5,41	0,02	0,05
160	6,51	6,11	0,03	
200	5,69	5,09	0,05	
250	5,42	4,81	0,06	0,05
315	5,53	4,58	0,10	
400	5,75	4,48	0,12	
500	5,42	4,14	0,14	0,15
630	5,11	3,50	0,23	
800	4,89	2,97	0,33	
1000	4,70	2,52	0,47	0,45
1250	4,54	2,20	0,59	
1600	4,27	2,09	0,62	
2000	3,97	2,07	0,59	0,60
2500	3,57	2,02	0,54	
3150	2,99	1,86	0,51	
4000	2,64	1,74	0,50	0,50
5000	2,15	1,52	0,49	

Rating according to ISO 11654
 $\alpha_w = 0,25 \text{ (H)}$



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advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® OC



A range of granulated FEF material in a resin binder supplied in sheet form, for use as a soundproofing and for impact sound insulation in sub-floor applications. Also used as a system component for thermal and acoustic insulation in industrial applications.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® OC

Type of material: Granulated Flexible Elastomeric Foam (FEF) held together by a polyurethane resin binder.

Product range: Sheets available in a range of thicknesses from 10 to 40 mm. Available at density of 160 kg/m³ or 240 kg/m³ (tolerance -20 +120 kg/m³). Different thicknesses are available upon request.

Fields of application: Acoustic absorption.

Storage conditions/shelf life: Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST DI PROVA
Operating temperature range	-45 °C +110 °C	
Fire performance European standard	C-s3,d0	EN 13501-1
Acoustic absorption (α)	Thk. 25 mm, Δ 240 Kg/m ³	UNI EN ISO 354
250 Hz.	0,26	
500 Hz.	0,70	
1000 Hz.	0,90	
2000 Hz.	0,85	
4000 Hz.	0,85	
5000 Hz.	0,85	

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This is a flexible polyethylene insulating sheath with a scratch resistant protective covering. It is the most economical and practical solution for reducing audible noise from water pipes and drains.



advanced elastomeric thermal and acoustic insulation materials

NORUMOR

Type of material: Flexible polyethylene foam (PEF) with scratch resistant protective coating.

Product range: Tubes in rolls with diameters from 40 to 140 mm and a thickness of 4 mm

Fields of application: Acoustic insulation of drainage systems.

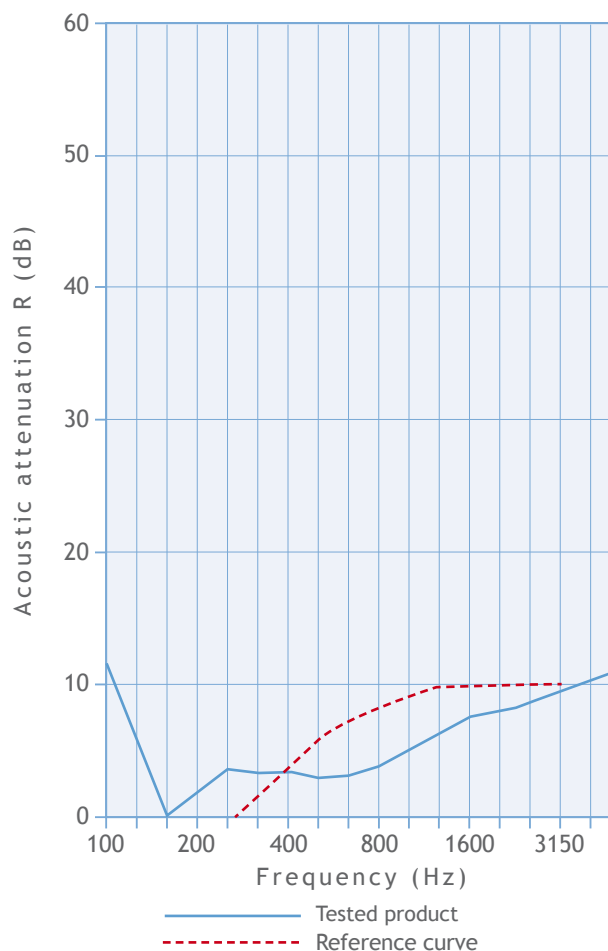
ACOUSTIC INSULATION TEST

(Ref. European Standards UNI EN ISO 10140-1-2 - UNI EN ISO 717 -)

Sample area $S = 1,50 \text{ m}^2$
 Volume of the receiving room $V = 69,6 \text{ m}^3$
 Volume of the transmitting room 86 m^3

FREQ. Hz	R dB	U dB
100	12,1	1,6
125	3,9	1,4
160	0,4	1,5
200	2,5	1,4
250	4,0	1,0
315	2,9	1,0
400	3,2	0,8
500	2,6	0,7
630	2,8	0,7
800	3,7	0,7
1000	4,5	0,6
1250	5,4	0,6
1600	6,4	0,6
2000	7,2	0,6
2500	8,0	0,6
3150	9,4	0,6
4000	10,5	0,6
5000	11,7	0,6

$R_W (C; C_{tr}) = 6 (-1; -3) \text{ dB}$
 $K=2.00 - 95\%$



TEST RESULTS WITH NORUMOR THICKNESS 4 mm

Sound level of drainage pipe	70 dB (A) -
Noise reduction with NORUMOR	6 dB (A) -
Noise reduction of the walling	32 dB (A) =
MEASURED AMBIENT NOISE LEVEL	32 dB (A)

NB: For drainage pipes, the current legislation imposes a limit of 35 dB as being the level of noise not to be exceeded in the environment.

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advanced elastomeric thermal and acoustic insulation materials

SILENTPLUS RUBBER/SILENTPLUS RUBBER HF/EUROSOUND

SOUNDPROOFING SHEETS

PRODUCT RANGE

SILENTPLUS RUBBER

Compound of 2mm elastomeric high-density barrier coupled with 10mm expanded elastomeric foam sheet (FEF). Coupling available also on both sides with sheets of different thicknesses.

Sheets dimensions m	Item no.	sqm
1 x 2	02+10SIL RUB	2

Packaging dimensions: 103 x 20 x 20 cm = (volume = 0,04 m³).

Different thicknesses available on request.



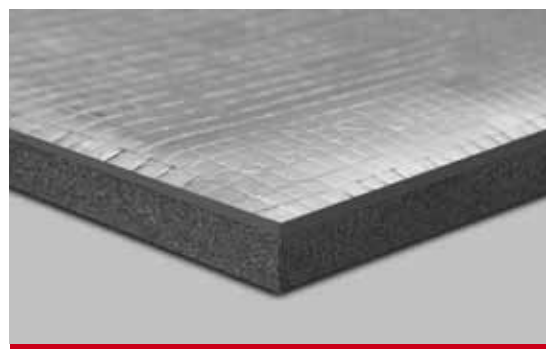
SILENTPLUS RUBBER HF

Halogen-free compound of 2mm elastomeric high-density barrier coupled with 10mm expanded elastomeric foam sheet (FEF) and aluminium covering. Available in different thicknesses.

Sheets dimensions m	Item no.	sqm
1 x 2	02+10SIL RUB HF	2

Packaging dimensions: 103 x 20 x 20 cm = (volume = 0,04 m³).

Different thicknesses available on request.



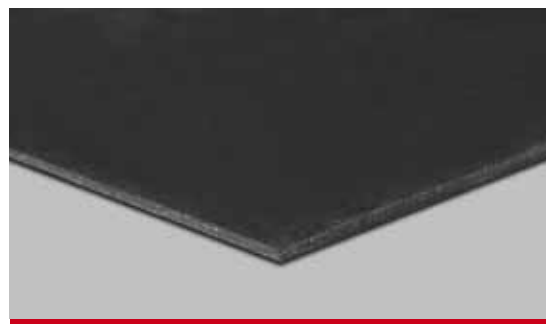
EUROSOUND

Soundproofing material made of polymeric compound with mineral fillers.

Sheets dimensions m	thk.	Item no.	sqm
1 x 2	2	GommaCaric.4	2

Packaging dimensions: 103 x 20 x 20 cm = (volume = 0.04 m³).

Different thicknesses in the range from 1 to 5 mm available on request.



EUROBATEX® BUGNATO/EUROBATEX® OC

SOUNDPROOFING SHEETS

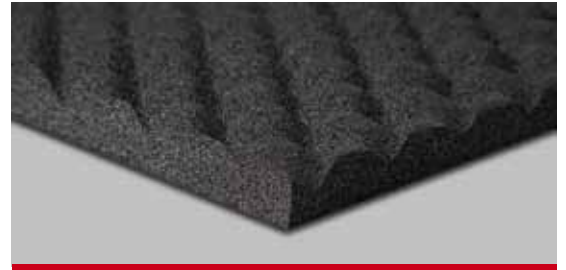
PRODUCT RANGE

EUROBATEX® BUGNATO

An acoustic material in sheet form made from Flexible Elastomeric Foam (FEF) with a profiled surface cut into one side of the sheet.

Sheets dimensions m	Item no.	sqm
1 x 1	10+10 EURBU	1

Different thicknesses available on request.



EUROBATEX® OC

Granulated Flexible Elastomeric Foam (FEF) held together by a polyurethane resin binder.

Flat sheets dimensions m	thk.	Item no.		sheet/pallet
		Δ 160	Δ 240	
1 x 2	10	10 EUR OC 160	10 EUR OC 240	100
1 x 2	20	20 EUR OC 160	20 EUR OC 240	50
1 x 2	25	25 EUR OC 160	25 EUR OC 240	40
1 x 2	30	30 EUR OC 160	30 EUR OC 240	33
1 x 2	40	40 EUR OC 160	40 EUR OC 240	25

The sheets are supplied on 1 x 2 m pallets.
Different thicknesses available on request.

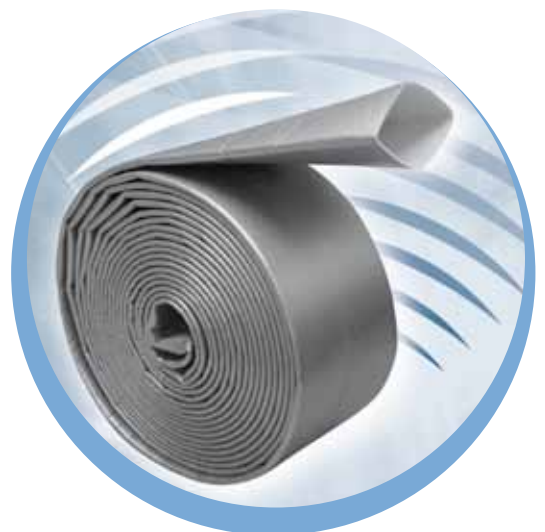


NORUMOR

ACOUSTIC INSULATION IN ROLLS - LENGTH 15 m

PRODUCT RANGE

Thickness 4 mm			
pipe ø mm	Item no.	rolls x ct	m x ct
40	NR 00404	10	150
50	NR 00504	9	135
63	NR 00634	7	105
75	NR 00754	6	90
80	NR 00804	6	90
90	NR 00904	5	75
100	NR 01004	5	75
110	NR 01104	5	75
125	NR 01254	4	60
140	NR 01404	4	60



ACCESSORIES



advanced elastomeric thermal and acoustic insulation materials



Union Foam provides a comprehensive range of accessories for use with its various thermal and acoustic insulation products. The range includes CNX Adhesive and Cleaner for use with Eurobatex, Union Colour Paint to provide weather protection for external services and a flexible coating over Eurobatex on internal services; Eurobatex Pipe Supports to meet load-bearing requirements for insulated pipework. There are also mastics, colour matching tapes, rivets, punches and other components to facilitate the installation of specific products.



advanced elastomeric thermal and acoustic insulation materials

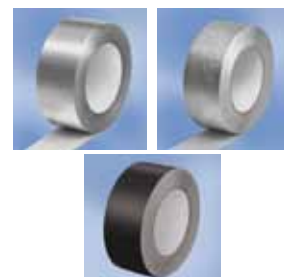
SELF-ADHESIVE PVC TAPE

Item no.	Description	pcs/ct
NCN 25x25	BLACK adhesive tape mm 25 x 25 m	96
NCN 38x25	BLACK adhesive tape mm 38 x 25 m	60
NCN 50x25	BLACK adhesive tape mm 50 x 25 m	48
NCB 38x25	WHITE adhesive tape mm 38 x 25 m	60
NCG 25x25	GREY adhesive tape mm 25x33 m	90
NCG 50x25	GREY adhesive tape mm 50x33 m	18



SELF-ADHESIVE ALUMINIUM TAPE

Item no.	Description	pcs/ct
NCA 25x50	aluminium adhesive tape mm 25 x 50 m	loose
NCA 50x50	aluminium adhesive tape mm 50 x 50 m	loose
NCA 50x25 GOFFR	embossed aluminium adhesive tape mm 50 x 25 m	loose
NCA 50x50 N	BLACK aluminium adhesive tape mm 50 x 50 m	loose
NCA 100x10 ALU BT	aluminium tape with Butyl adhesive mm100x10 m	loose
NCA 50x10 ALU BT	aluminium tape with Butyl adhesive mm 50x10 m	loose



CNX ADHESIVE

Item no.	Description	pcs/ct
CNX 850	850 g - 1000 ml tin	12
CNX 425	425 g - 500 ml tin	24
CNX 200	200 g - 225 ml tin including brush	24
CNX S 850	850 g - 1000 ml tin	12
CNX 425 EURAT*	425 g - 500 ml tin	24
CNX ATT-36	activator for CNX EURAT 36g	24



* The article requires the CNX ATT 36 component. Please refer to the technical data sheet regarding the instructions for use.

CLEANER FOR CNX ADHESIVES

Item no.	Description	pcs/ct
DETERGENT	850 g - 1000 ml tin	12



VEC PAINT

Item no.	Description	pcs/ct
VEC G 0,75	GREY paint - 0,75 litre can	6
VEC G 2,5	GREY paint - 2,5 litres can	loose
VEC N 0,75	BLACK paint - 0,75 litre can	6
VEC N 2,5	BLACK paint - 2,5 litres can	loose
VEC W 0,75	WHITE paint - 0,75 litre can	6
VEC W 2,5	WHITE paint - 2,5 litres can	loose



SEALANT

Description	Item no.		pcs/ct
	Black	Grey	
290 ml cartridges	Sil-Ma	Sil-Ma G	12

SIMSON SEALANT

TECHNICAL DATA

Storage temperature	from + 5 to + 25 °C
Working temperature	from + 5 to + 35 °C
Skin time	approx. 8 min. (23 °C, 50% R.H.)
Open time	approx. 10 min. (23 °C, 50% R.H.)
Tack free	approx. after 4 hours (23 °C, 50% R.H.)
Operating temperature	-40 + 120 °C
Exposure limit at high temperature	max. 180 °C (30 min.)



UNION COLOUR PAINT VEC

General characteristics: Union Colour paint is an elastomeric coating manufactured from styrene acrylic copolymers and inorganic pigments in an aqueous solution to give a product with a satin finish. It is designed to provide weather protection and UV radiation resistance to Eurobatex in external environments and to provide a flexible coating on internal pipes, ducts and FEF insulated mechanical services indoors.

Recommended Use: Union Colour Paint is recommended by Union Foam for use on Eurobatex tubes and sheets, it may also be used on Eurobatex HF and Eurobatex AT, the latter product does not require weather protection but here the paint can be used as a flexible decorative finish. Union Colour paint is technically suitable for waterproofing a wide range of non-permeable horizontal surfaces including, roofs, elastic and rubberised supports but it is the duty of the installer to confirm compatibility in such cases.

Technical characteristics:

Density at 25 °C	1,250 to 1,360 g/cm ³	Physical appearance	Thixotropic Paste
Solid content (dry residue)	66%	Coverage	3-5 m ² /litre per coat

Physical Properties: This product has high elasticity hence its compatibility with a flexible substrate such as Eurobatex. It can be applied to large surface areas without the use of expansion joints even when these surfaces are in direct sunlight. Union Colour Paint has been formulated to offer a high level of weather protection and resistance to UV radiation (tested to > 100 hours exposure on a QUV Weatherometer); it forms a good mechanical key to Eurobatex surfaces and if correctly applied will form a uniform weatherproof sheath.

Surface preparation: The Eurobatex surface should be clean, dry and free from any oil, grease, organic growth or any extraneous substances which may affect the adhesion or cure of the paint.

Application: Method: brush, roller or airless spray.

Dilution: when using 2 coats the first coat may be diluted with 5-7% by volume of clean water. Dilution is not acceptable for 1 coat application.

Ambient application limits: The paint may be applied when the Ambient Temperature is between 10 °C and 35 °C and the Relative Humidity ≤70%; lower Ambient Temperatures will significantly extend drying times and very low Ambient Temperature, <5 °C may make the product too viscous to apply as a smooth even coating. Application at temperatures above 35 °C may cause surface skinning.

Dry Film Thickness: typically 0,5 mm per coat.

Coverage: 1.5 to 2.5m²/litre for 2 coat application.

Number of coats: 1 or 2

Drying time at 25 °C, 60% R.H.:

Touch Dry	4h
Dry Through	12h
Fully Cured	24h

These values will be influenced by ambient temperature and relative humidity with lower temperatures and higher humidity's extending the times shown. Union Colour Paint is a water based coating and as such it will be susceptible to wash off until it is fully cured, this needs to be borne in mind for external application and in the case of external ductwork tenting is always recommended if rain is likely in the next 48 hours.

Colours: Grey, Black and White should be permanently in stock. Blue, Red and other colours can be made to order but will be subject to extended lead times and minimum order requirement.

Packaging: 0.75 litre and 2.5 litre plastic pails.

Shelf Life and Storage: The product can be stored for a maximum of 6 months in its original hermetically sealed containers in a cool place. Residual material in opened tins should be used as soon as possible and stored in a container which minimises the air-space above the product and the lid. Do not expose the product to an ambient temperature in excess of 40 °C, permanent storage at high ambient temperatures will shorten the shelf life.

Health and Safety: The product is not classified as a hazardous material pursuant to the provisions set out Directives 67/548/EEC and 1999/45/EEC or to any subsequent amendments or additions to these regulations. Residues must not be disposed of in to sewerage systems and unnecessary contact with skin should be avoided; uncured paint may be washed off with warm soapy water.

Performance on insulating pipes meter/litre

Diameter mm	thickness 6 mm	thickness 9 mm	thickness 13 mm	thickness 19 mm	thickness 25 mm	thickness 32 mm
6	71	46				
8	64	43				
10	58	42	35	25		
12	53	36	34	24		
14	49	31	34	23		
16	46	29	28	22		
18	43	25	26	20	15	11
20	41	22	23	18	14	10
22	38	22	23	18	14	10
25	35	20	20	16	13	9
27	33	20	20	16	13	9
34	28	18	16	15	12	9
42	23	18	16	14	11	8
48		16	15	13	11	8
54		15	14	12	10	7
60		14	13	11	10	7
70		13	11	10	9	6
76		12	10	9	8	6
89		11	9	9	8	6
102		10	9	8	7	5
108		9	8	8	7	5
114		8	8	7	6	5
127			7	7	6	5
134			7	6	5	4
140			6	5	5	4
160			6	5	4	5

The technical data and information contained here above are only general guidelines and not a guarantee. It is the final user's responsibility to verify that the product is appropriate for the specific application intended.

Union Foam S.p.A. reserves the right to modify any information at any time without prior notice.

General characteristics: One component Polychloroprene adhesive of high thermal resistance.

Recommended Use: CNX Adhesive is used to bond NBR based products as Eurobatex, Eurobatex HF and Eurobatex Plus. It is the preferred product for any situation involving the installation of Eurobatex sheets and for sealing butt joints and seams in both domestic and industrial application.

Technical characteristics: **General Composition:** polychloroprene polymer and synthetic resins dissolved in organic solvents.
Solvent Composition: a mixture of Aliphatic and Acrylic compounds including Ketones and Esters.
Appearance: a medium viscosity, light brown liquid.
Viscosity: 900 ± 200 mPa.s (tested with a Brookfield RVT Viscosimeter at 20 rpm with a No.3 Spindle).
Density: 880 Kg/m³
Dry Residue (%): 20,5 ± 1
Operating temperature range: -40 °C to +110 °C
Application temperature range: +10 °C to +30 °C
Permitted diluent agent: CNX Cleaner

Application Technique: CNX Adhesive can be applied by brush, abt. 100 -110 g/m² for a double-side application. Carefully clean up the pieces to have a dry, free of grease and dust surface to bind. Spread evenly a thin layer of adhesive on the two surfaces to be joined. Allow each prepared surface to dry separately for 5/7 minutes depending on temperature and environment conditions (test standard conditions: 23 °C and 55% relative humidity on the piece). When the pieces are completely dry press strongly together for 5/10 seconds. CNX Adhesive requires 72 hours to fully cure at room temperature and should not be exposed to mechanical stress or an operating temperature of 150 °C until it is fully cured. We remind you that higher environmental temperatures may cause open tack-time longer while lower temperatures make it shorter. Before using CNX adhesive we recommend to read the Safety Data Sheet.

Storage conditions/ shelf life: CNX Adhesive has a shelf life of 12 months when stored in the original containers at an ambient temperature of 10 °C to 30 °C.

Packaging: CNX Adhesive is supplied in metals cans with a net weight of 200g, 425g and 850g.

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CNX S

General characteristics: One component Polychloroprene adhesive of high thermal resistance. Thanks to the specific formulation, CNX S has a longer “tack free dry”, which allows to increase the operating time between the application of the adhesive and the installation of the material.

Recommended Use: CNX Adhesive is used to bond NBR based products as Eurobatex, Eurobatex HF and Eurobatex Plus. It is the preferred product for any situation involving the installation of Eurobatex sheets and for sealing butt joints and seams in both domestic and industrial application.

Technical characteristics: **General Composition:** polychloroprene polymer and synthetic resins dissolved in organic solvents.
Solvent Composition: a mixture of Aliphatic and Acrylic compounds including Ketones and Esters.
Appearance: a medium viscosity, straw yellow liquid.
Viscosity: 600 ± 100 mPa.s (tested with a Brookfield RVT Viscosimeter at 20 rpm with a No.3 Spindle).
Density: 870 Kg/m³
Dry Residue (%): 21,2 ± 1,5
Operating temperature range: -40 °C to +110 °C
Application temperature range: +10 °C to +30 °C
Permitted diluent agent: CNX Cleaner

Application Technique:

- CNX S is a contact adhesive and it should be applied to both surfaces to be bonded as a thin, even, continuous film.
- Allow the adhesive to “tack dry”, that is to say to let it become dry to the touch but tacky under slight pressure.
- The tack time for CNX S is typically 15 to 20 minutes at an average temperature of 20 °C
- Bring the surfaces to be bonded together using firm pressure. work from the ends to the middle with seams and fit butt joints under pressure.
- CNX S requires 72 hours to fully cure at room temperature and should not be exposed to mechanical stress or to an operating temperature of 110 °C .
- Before using CNX S read carefully the material safety data sheet (MSDS)

Storage conditions/ shelf life: CNX S Adhesive has a shelf life of 12 months when stored in the original containers at an ambient temperature of 10 °C to 30 °C.

Packaging: CNX S Adhesive is supplied in metal cans with a net weight of 850g.

The technical data and information contained here above are only general guidelines and not a guarantee. It is the final user's responsibility to verify that the product is appropriate for the specific application intended.

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advanced elastomeric thermal and acoustic insulation materials

CNX AT ADHESIVE

General characteristics: CNX AT Adhesive is a solvent based two-component polychloroprene adhesive which is suitable for use with Eurobatex AT and similar EPDM based FEF thermal insulation materials.

Use: CNX AT Adhesive is used to bond Eurobatex AT in situations where high temperature durability is required, including any situation where the line temperature is equal or greater than 125 °C. It is the preferred product for any situation involving the installation of Eurobatex AT sheet and for sealing butt joints and seams on Solar Thermal, MPHW Heating or Low Pressure Steam Pipework.

Technical properties:

General Composition: polychloroprene polymer and synthetic resins dissolved in organic solvents.
Solvent Composition: a mixture of Aliphatic and Acrylic compounds including Ketones and Esters.
Appearance: a medium viscosity, light brown liquid.
Viscosity: the viscosity at manufacture of this product is 1900 ± mPa.s (tested with a Brookfield RVT Viscosimeter at 20 rpm with a No. 3 Spindle).
Density: 880 Kg/m³
Operating temperature range: -40 °C to +150 °C
Operating temperature range: +10 °C to +30 °C
Permitted dilution agent: CNX Cleaner (as used with CNX Adhesive).

Application Technique:

- 1) Add the activator at a concentration of 5 to 7% by volume immediately before use and stir the mixture thoroughly, with a clean, non-reactive stirrer.
- 2) Only make up sufficient material for your immediate needs. The mixture has a potlife of approximately 30 minutes at an Ambient Temperature of 20 °C.
- 3) CNX AT Adhesive is a Contact Adhesive and it should be applied to both surfaces to be bonded as a thin, even continuous film.
- 4) Allow the adhesive, to 'tack dry', that is to say let it become dry to the touch but tacky under slight pressure.
- 5) The tack time for CNX AT Adhesive is longer than with normal CNX Adhesive, typically 15 to 25 minutes at 20 °C.
- 6) Bring the surfaces to be bonded together using firm but even pressure. Work from the ends to the middle with seams and fit butt joints under pressure with Eurobatex AT just as you would with Eurobatex.
- 7) CNX AT Adhesive requires 72 hours to fully cure at room temperature and should not be exposed to mechanical stress or an operating temperature of 150 °C until it is fully cured. Exposure to a line temperature of 50 °C to 80 °C can shorten the curing time but should only be used if it can be accomplished.
- 8) If CNX AT Adhesive is used with open cell or porous materials, then it may be necessary to apply two coats of adhesive to get a good bond. The first coat of adhesive should be diluted with 10% by volume of CNX Cleaner and the surfaces to be bonded should not be bonded together at this time but left for a minimum of 1 hour to air dry. The first coat should be activated as in Point 1 once the dilution agent has been added. The second coat may then be applied to the two bonding surfaces following points 1 to 7. This procedure is not necessary when using CNX AT Adhesive with Eurobatex AT.

Storage: CNX AT Adhesive has a shelf life of 12 months when stored in the original containers at an ambient temperature of 10 °C to 30 °C.

Packaging: CNX AT Adhesive is supplied in metal cans with a net weight of 425g and the activator in a separate box with 36 g bottles.




POLYMERIC JACKETING

Type of material: A tough and flexible non-metallic jacketing system designed to be compatible with Flexible Elastomeric Foam (FEF) products such as Eurobatex, available in black and grey.

Product range: Supplied in 1 metre wide rolls with a length of 25m; available in thickness of 1 mm (2 mm upon request).

Fields of application: The protection of insulated pipework, valves fittings, ductwork, vessels, plant and equipment in a range of industrial applications including onshore and off-shore chemical, petrochemical and LNG plant and Equipment.

PHYSICAL PROPERTIES	RESULT OBTAINED	TEST METHOD
Operating temperature range*	-20 °C +120 °C	ASTM D 573
Density	1,8 g/cm ³ (±0,05)	ASTM D 1622
Water vapour diffusion resistance factor (μ)	≥ 15000	EN 12086
Fire performance European standard	B-s3,d0	EN 13501-1
Shipyards (MED) 	Meets test requirements	IMO Res. MSC.307 (88)
Ozone resistance	Good	
UV resistance	Good	
Tensile Strength	≥ 5 mPa	ASTM D 412 C
Elongation at break	≥ 150%	ASTM D 412 C

*NB: for applications at lower temperature please contact our technical department.

For information regarding the chemical resistance of the product please consult the specific technical documentation.

Installation: bond applying CNX Adhesive, fix with hot air gun and , where necessary, with mechanical fittings.

Finishing: sealant Simson ISR 7003 or 7005 recommended.

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advanced elastomeric thermal and acoustic insulation materials

ISOPAK

Type of material: Recoiling PVC sheet.

Product range: Rolled sheets 1 m width and 25 m length. 90° elbows.

Fields of application: Mechanical and aesthetical finishing for insulation material.

**Storage conditions/
shelf life:** Store the material in a dry and clean environment at a temperature between 0 °C and 35 °C and a RH between 50% and 70%. Do not expose the material to heat or direct sunlight before installing.

PHYSICAL PROPERTIES		REFERENCE VALUES
Colour		Grey
Thickness		350 µm
Stress at break	- longitudinal - horizontal	30 - 35 N/mm ² 25 - 30 N/mm ²
Tensile strength	- longitudinal - horizontal	40 - 45 N/mm ² 34 - 40 N/mm ²
Elongation at break	- longitudinal - horizontal	150 - 200% 100 - 150%
Withdrawal	- longitudinal - horizontal	2,5 - 3% 0,0 - 0,5%
Heat-stable		- 20° C + 60 °C
Softening point		73 ± 1 °C
Density		1,38 ± 0,01 g/cm ³
Reaction to fire		B2 (DIN 4102) Class 1

For information regarding the chemical resistance of the product please consult the specific technical documentation.

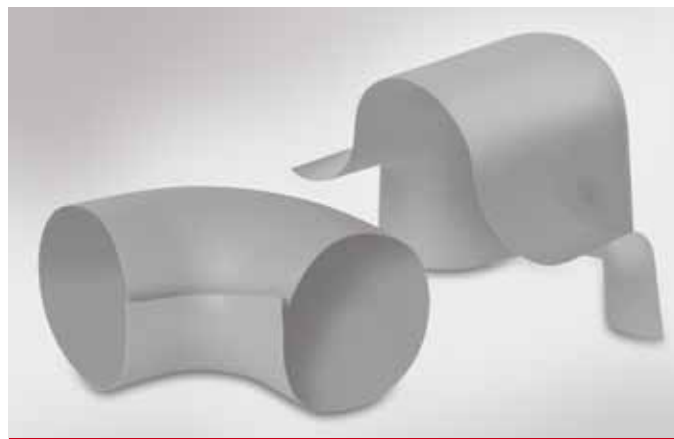
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90° PVC ELBOWS

Piping Ø		Insulation thickness mm						
		20	25	30	32	40	50	60
Inches	mm	item no. Ø mm	item no. Ø mm	item no. Ø mm	item no. Ø mm	item no. Ø mm	item no. Ø mm	item no. Ø mm
	12	CPVC 20-12						
3/8"	17	CPVC 20-17	CPVC 25-17	CPVC 30-17	CPVC 32-17	CPVC 40-17	CPVC 50-17	
1/2"	21	CPVC 20-21	CPVC 25-21	CPVC 30-21	CPVC 32-21	CPVC 40-21	CPVC 50-21	
3/4"	27	CPVC 20-27	CPVC 25-27	CPVC 30-27	CPVC 32-27	CPVC 40-27	CPVC 50-27	
1"	34	CPVC 20-34	CPVC 25-34	CPVC 30-34	CPVC 32-34	CPVC 40-34	CPVC 50-34	CPVC 60-34
1.1/4"	43	CPVC 20-43	CPVC 25-43	CPVC 30-43	CPVC 32-43	CPVC 40-43	CPVC 50-43	CPVC 60-43
1.1/2"	48	CPVC 20-48	CPVC 25-48	CPVC 30-48	CPVC 32-48	CPVC 40-48	CPVC 50-48	CPVC 60-48
	54	CPVC 20-54		CPVC 30-54	CPVC 32-54		CPVC 50-54	
	57			CPVC 30-57				
2"	60	CPVC 20-60	CPVC 25-60	CPVC 30-60		CPVC 40-60	CPVC 50-60	CPVC 60-60
	64	CPVC 20-64		CPVC 30-64				CPVC 60-64
	70	CPVC 20-70		CPVC 30-70		CPVC 40-70	CPVC 50-70	CPVC 60-70
2.1/2"	76	CPVC 20-76	CPVC 25-76	CPVC 30-76	CPVC 32-76	CPVC 40-76	CPVC 50-76	CPVC 60-76
3"	89	CPVC 20-89	CPVC 25-89	CPVC 30-89	CPVC 32-89	CPVC 40-89	CPVC 50-89	CPVC 60-89
	102	CPVC 20-102	CPVC 25-102	CPVC 30-102		CPVC 40-102	CPVC 50-102	CPVC 60-102
	108	CPVC 20-108	CPVC 25-108	CPVC 30-108		CPVC 40-108	CPVC 50-108	CPVC 60-108
4"	114	CPVC 20-114	CPVC 25-114	CPVC 30-114	CPVC 32-114	CPVC 40-114	CPVC 50-114	CPVC 60-114
	127			CPVC 30-127			CPVC 50-127	
	134		CPVC 25-134	CPVC 30-134		CPVC 40-134	CPVC 50-134	CPVC 60-134
5"	140		CPVC 25-140	CPVC 30-140	CPVC 32-140	CPVC 40-140	CPVC 50-140	CPVC 60-140
	159		CPVC 25-159	CPVC 30-159		CPVC 40-159	CPVC 50-159	CPVC 60-159
6"	168		CPVC 25-168	CPVC 30-168	CPVC 32-168	CPVC 40-168	CPVC 50-168	CPVC 60-168
	194					CPVC 40-194	CPVC 50-194	CPVC 60-194
8"	219		CPVC 25-219	CPVC 30-219		CPVC 40-219	CPVC 50-219	CPVC 60-219
	245						CPVC 50-245	
	267			CPVC 30-267			CPVC 50-267	CPVC 60-267
10"	273		CPVC 25-273					
12"	324		CPVC 25-324	CPVC 30-324			CPVC 50-324	
	356		CPVC 25-356					



advanced elastomeric thermal and acoustic insulation materials

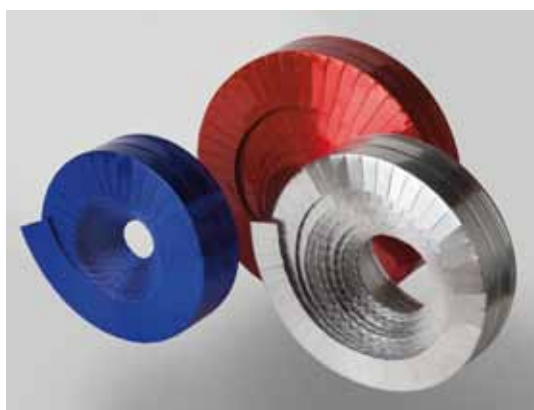
MISCELLANEOUS ACCESSORIES

Description	Item no.	pcs/ct
Recoiling PVC sheet, width 1 m, length 25 m	ISOPAK	25 mq
Straight awl	PNT	loose
Plastic tacks for awl	CHIODI	1000



ALUMINIUM ENDCAPPINGS

Description	Colour	Length mm	Item no.	pcs/ct
18 mm for pipes from Ø 22 mm to Ø 34 mm	natural	10	TER-NA 18	5
18 mm for pipes from Ø 22 mm a Ø 34 mm	red	10	TER-RS 18	5
18 mm for pipes from Ø 22 mm a Ø 34 mm	blue	10	TER-BL 18	5
23 mm for pipes from Ø 43 mm a Ø 49 mm	natural	10	TER-NA 23	5
23 mm for pipes from Ø 43 mm a Ø 49 mm	red	10	TER-RS 23	5
23 mm for pipes from Ø 43 mm a Ø 49 mm	blue	10	TER-BL 23	5
28 mm for pipes from Ø 61 mm a Ø 90 mm	natural	10	TER-NA 28	5
28 mm for pipes from Ø 61 mm a Ø 90 mm	red	10	TER-RS 28	5
28 mm for pipes from Ø 61 mm a Ø 90 mm	blue	10	TER-BL 28	5
38 mm for pipes from Ø 102 mm a Ø 115 mm	natural	10	TER-NA 38	5
38 mm for pipes from Ø 102 mm a Ø 115 mm	red	10	TER-RS 38	5
38 mm for pipes from Ø 102 mm a Ø 115 mm	blue	10	TER-BL 38	5



advanced elastomeric thermal and acoustic insulation materials

UNION COVERING



Union Covering is an Aluminium Cladding system, comprising the cladding itself in roll form plus various pre-formed fitting covers. The system also includes rivets, punches and other accessories to allow it to be correctly installed in accordance with the Installation Manual. Union Covering provides a mechanically strong and aesthetically pleasing cladding system suitable for use over Eurobatex and various other types of thermal insulation product.



advanced elastomeric thermal and acoustic insulation materials

UNION COVERING TECHNICAL DATA

Type of material: 99,5% aluminium sheet.

Product range: Pipe sections with a thickness of 0,6 mm and diameters from 80 to 400 mm, length 1 m.
Elbows with a thickness of 0,6 mm and diameters from 80 to 400 mm.

Fields of application: Cladding, protecting and enhancing the appearance of insulations, also in external environments.

MECHANICAL PROPERTIES									
		Yield point % 0,2 (mpa)		Tensile strength (mpa)			Elongation (A50) %		
Standard		120		140			1		
Test results		188,21		195,78			6,17		

CHEMICAL COMPOSITION									
		Si%	Fe%	Cu%	Mn%	Mg%	Zn%	Ti%	Al%
Standard	Min.								99,50
	Max.	0,25	0,40	0,05	0,05	0,05	0,07	0,05	
Test results		0.087	0,353	0,006	0,004	0,002	0,009	0,0065	99,534

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advanced elastomeric thermal and acoustic insulation materials

UNION COVERING

99.5% ALUMINIUM PIPE SECTIONS - LENGTH 1 m.
90°, 99.5% ALUMINIUM ELBOWS

PRODUCT RANGE

PIPE ø mm	Thickness mm	Item no.
80*	0,6	TALU 0,60 - 80
90	0,6	TALU 0,60 - 90
100	0,6	TALU 0,60 - 100
110	0,6	TALU 0,60 - 110
120	0,6	TALU 0,60 - 120
130	0,6	TALU 0,60 - 130
140	0,6	TALU 0,60 - 140
150	0,6	TALU 0,60 - 150
160	0,6	TALU 0,60 - 160
170	0,6	TALU 0,60 - 170
180	0,6	TALU 0,60 - 180
190	0,6	TALU 0,60 - 190
200	0,6	TALU 0,60 - 200
210	0,6	TALU 0,60 - 210
220	0,6	TALU 0,60 - 220
230	0,6	TALU 0,60 - 230
240	0,6	TALU 0,60 - 240
250	0,6	TALU 0,60 - 250
260	0,6	TALU 0,60 - 260
270	0,6	TALU 0,60 - 270
280	0,6	TALU 0,60 - 280
290	0,6	TALU 0,60 - 290
300	0,6	TALU 0,60 - 300
310	0,6	TALU 0,60 - 310
320	0,6	TALU 0,60 - 320
330	0,6	TALU 0,60 - 330
340	0,6	TALU 0,60 - 340
350	0,6	TALU 0,60 - 350
360	0,6	TALU 0,60 - 360
370	0,6	TALU 0,60 - 370
380	0,6	TALU 0,60 - 380
390	0,6	TALU 0,60 - 390
400	0,6	TALU 0,60 - 400

ELBOW ø mm	Thickness mm	Item no.
80	0,6	CALU 0,60 - 80
90	0,6	CALU 0,60 - 90
100	0,6	CALU 0,60 - 100
110	0,6	CALU 0,60 - 110
120	0,6	CALU 0,60 - 120
130	0,6	CALU 0,60 - 130
140	0,6	CALU 0,60 - 140
150	0,6	CALU 0,60 - 150
160	0,6	CALU 0,60 - 160
170	0,6	CALU 0,60 - 170
180	0,6	CALU 0,60 - 180
190	0,6	CALU 0,60 - 190
200	0,6	CALU 0,60 - 200
210	0,6	CALU 0,60 - 210
220	0,6	CALU 0,60 - 220
230	0,6	CALU 0,60 - 230
240	0,6	CALU 0,60 - 240
250	0,6	CALU 0,60 - 250
260	0,6	CALU 0,60 - 260
270	0,6	CALU 0,60 - 270
280	0,6	CALU 0,60 - 280
290	0,6	CALU 0,60 - 290
300	0,6	CALU 0,60 - 300
310	0,6	CALU 0,60 - 310
320	0,6	CALU 0,60 - 320
330	0,6	CALU 0,60 - 330
340	0,6	CALU 0,60 - 340
350	0,6	CALU 0,60 - 350
360	0,6	CALU 0,60 - 360
370	0,6	CALU 0,60 - 370
380	0,6	CALU 0,60 - 380
390	0,6	CALU 0,60 - 390
400	0,6	CALU 0,60 - 400

* Length 500 mm



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® PIPE SUPPORTS



EUROBATEX pipe supports are composite products made of polyurethane foam (PIR) coupled with flexible elastomeric foam (FEF), with a black PVC coating. These are the ideal solution for insulating shear connectors of piping, creating a barrier against condensation and safeguarding the properties of the insulation material.



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX® PIPE SUPPORTS

Type of material: Expanded polyurethane foam (PIR) coupled with flexible elastomeric foam (FEF) with an external PVC coating.

Product range: Pipe supports with thicknesses from 13 to 32 mm and diameters from 17 to 168 mm, length 50 mm.

Fields of application: Mechanical protection, condensation prevention and to safeguard the properties of the insulation material on piping in general.

CHARACTERISTICS OF THE POLYURETHANE INSULATION MATERIAL

PHYSICAL PROPERTIES		RESULT OBTAINED	TEST METHOD
Density		approx. 60 - 80 kg m ³ *	ISO 845
Working temperatures			
Maximum temperature of fluids transported		+ 120 °C	
Minimum temperature of fluids transported		- 180 °C	
Thermal conductivity λ			
At a mean temperature of 10 °C		0.036 W/m·K	ASTM C 518
Fire performance		B2	DIN 4102
Water vapour transmission		25 (+/-10) } g/m ² - 24 h { 80 kg m ³ 30 (+/-10) } 60 kg m ³	ISO 1663
Water absorption		5%	ISO 2896
Percentage of closed cells		92%	ASTM D 2856
Compression resistance	Parallel	670 (+/-80) } 60 kgm ³ 970 (+/-120) } 80 kgm ³	ISO 844
	Perpendicular	440 (+/-120) } 670 (+/-150) }	
Tensile strength	Parallel	860 (+/-90) } 60 kgm ³ 1280 (+/-160) } 80 kgm ³	ASTM D 1623
	Perpendicular	710 (+/-130) } 1000 (+/-220) }	
Shear strength		kPa 350 (+/-60) —> 60 kh m ³ kPa 550 (+/-60) —> 80 kh m ³	ASTM C 273
Dimension stability			
Length - Width - Thickness		at - 25 °C x 48 h +0,5% +0,5% at + 100 °C x 48 h +1,0% +1,0%	ISO 2796

*NB: PIR density of 60 kg/m³ for pipe supports up to a diameter of 35 mm.

PIR density of 80 kg/m³ for pipe supports with diameters from 42 mm to 219 mm.

The characteristics of the flexible elastomeric foam (FEF) are specified in the technical data sheet EUROBATEX n°01.

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EUROBATEX® PIPE SUPPORTS

SUPPORTS FOR PIPING WITH BLACK PVC COATING

PRODUCT RANGE

Thickness 13 mm	Thickness 19 mm	Thickness 25 mm	Thickness 32 mm
Piping ø mm	Piping ø mm	Piping ø mm	Piping ø mm
18	18	18	18
22	22	22	22
28	28	28	28
35	35	35	35
42	42	42	42
48	48	48	48
54	54	54	54
60	60	60	60
64	64	64	64
67	67	67	67
70	70	70	70
76	76	76	76
80	80	80	80
89	89	89	89
102	102	102	102
108	108	108	108
114	114	114	114
125	125	125	125
133	133	133	133
140	140	140	140
160	160	160	160

Different sizes can be produced on request.



advanced elastomeric thermal and acoustic insulation materials

TECHNICAL INFORMATION



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TECHNICAL MEMO



A collection of basic technical information.



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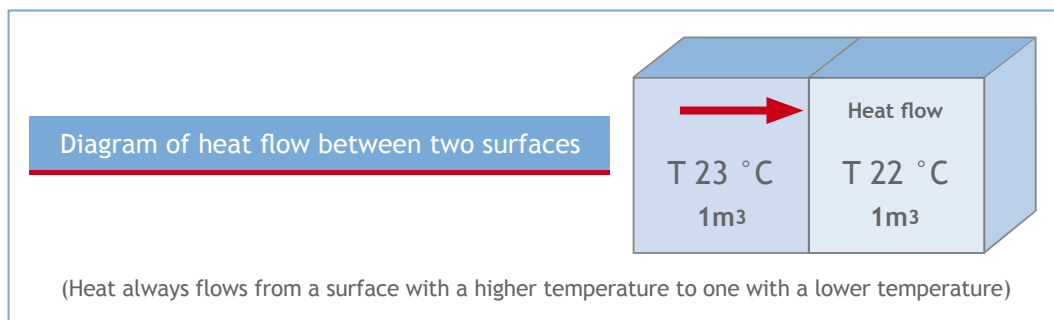
Insulation materials.
Our world.
For a better world.



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Thermal conductivity λ and insulation materials

- Defined by the symbol λ (lambda), thermal conductivity is technically the quantity of heat passing through the contacting surfaces of two materials, both of which have a volume of 1 m^3 and a difference in temperature of 1°C .
It measures the ability of a substance to conduct heat. Given two surfaces on either side of the material with a temperature difference between them, the thermal conductivity is the heat energy transferred per unit time and per unit surface area, divided by the temperature difference, and is measured in watts per degree Kelvin.



Thermal conductivity is measured in $\text{W/m}\cdot\text{K}$ and only materials with a thermal conductivity value (λ) lower than $0,100 \text{ W/m}\cdot\text{K}$ are considered as having insulating properties.

The insulating property of a material is determined by its thermal conductivity value (λ); those with low values are considered as being more effective.

Determining factors that affect the thermal conductivity value (λ) are:

- The chemical composition of materials.
- Density (which leads to a higher thermal conductivity value (λ) and therefore an inferior insulating property.
- The characteristics of a material's cell structure.

The ability of the material to simulate and stabilize the quantity of air in its structure will ensure a lower λ value.

Black closed-cell flexible elastomeric foam Insulation material (FEF), due to its characteristics (low density, compact cell structure and a high amount of closed cells) ensures low thermal conductivity values and conforms to the recent European Standard EN 14304:2009 +A1:2013 standards which stipulate that products should not have a value higher than $0,050 \text{ W/m}\cdot\text{K}$ (at a mean working temperature of 10°C).

The following table shows the thermal conductivity values of the EUROBATEx elastomeric insulation material at different mean temperatures as specified on the certificates issued by specialized laboratories.

MEAN TEMPERATURE OF TEST ($^\circ\text{C}$)	-30	-10	0	+20	+40	+70
THERMAL CONDUCTIVITY ($\text{W/m}\cdot\text{K}$)	0,033	0,034	0,035	0,037	0,038	0,040

The thermal conductivity values of various insulation material

Material	λ ($\text{W/m}\cdot\text{K}$)	Density Kg/m^3
ELASTOMERIC FOAM (FEF)	0,040	50
MINERAL WOOL (MV)	0,045	30-100
POLYURETHANE FOAM (PU)	0,032-0,034	25-50
POLYETHYLENE FOAM (PEF)	0,040	< 30
CELLULAR GLASS (CG)	0,045	100-125
CALCIUM SILICATE	0,060	250

The thermal conductivity of the materials in the table is evaluated at a mean temperature of 40°C .

Water vapour diffusion resistance factor μ

The water vapour diffusion resistance factor is defined by the symbol μ (MU) and is a measured value which determines the effectiveness of an insulating material to act as a barrier against water vapour transmission.

It is a fundamental parameter to assess the suitability of the insulating material for applications through which cold fluids flow: refrigeration and air-conditioning systems.

A high μ value will guarantee the effectiveness of the insulation material over a long period of time.

Usually, as regards thermal insulation materials and in particular elastomeric foam, resistance to water vapour transmission is linked to the following properties:

- A molecular structure with a high amount of closed cells (>90/95%)
- Small cell dimensions
- An excellent cohesion of the cell walls
- Consistent material thickness

To prevent the risk of condensation, the external surface temperature of the insulation material should be equal to or higher than the dew point temperature in the environment in which it is applied.

μ conversion factor in equivalent air thickness

The following formula illustrates how to determine the equivalent air layer thickness for a specific insulation material, taking into consideration that air, with a thermal conductivity λ value of approximately 0,020 W/m·K in normal conditions, is by far the most effective thermal insulator:

SA = ($\mu \times s$) where the different parameters represent:

- **SA** = Equivalent air layer thickness (metres)
- **μ** = The water vapour diffusion resistance factor of the chosen insulation material
- **s** = Thickness (metres) of the chosen insulation material

Assuming that EUROBATEX elastomeric insulation material (with a water vapour diffusion resistance factor of $\mu \geq 7000$) is used, the equivalent air layer thicknesses obtained using the above formula are:

EUROBATEX insulation thk	6 mm	SA=7.000x 0,006 =	42 meters of equivalent air layer thickness
EUROBATEX insulation thk	9 mm	SA=7.000x 0,009 =	63 meters of equivalent air layer thickness
EUROBATEX insulation thk	13 mm	SA=7.000x 0,013 =	91 meters of equivalent air layer thickness
EUROBATEX insulation thk	19 mm	SA=7.000x 0,019 =	133 meters of equivalent air layer thickness
EUROBATEX insulation thk	25 mm	SA=7.000x 0,025 =	175 meters of equivalent air layer thickness
EUROBATEX insulation thk	32 mm	SA=7.000x 0,032 =	224 meters of equivalent air layer thickness
EUROBATEX insulation thk	40 mm	SA=7.000x 0,040 =	280 meters of equivalent air layer thickness
EUROBATEX insulation thk	50 mm	SA=7.000x 0,050 =	350 meters of equivalent air layer thickness
EUROBATEX insulation thk	60 mm	SA=7.000x 0,060 =	420 meters of equivalent air layer thickness

N.B.

It is useful to remember that water vapour diffusion resistance factor μ is purely a numeric parameter used to make calculations. Its value is not taken into consideration in formulas used to calculate thermal dispersions, vital for calculating the correct insulation material thicknesses to use in the various applications.

Rules for calculating insulation material thicknesses to avoid the formation of condensation on piping carrying low temperature fluids.

thickness calculations

In specific cases where fluids carried in the piping have temperatures lower than those of the external environment, together with the likely presence of ambient air humidity, the risk of condensation formation increases, harmful to energy saving and causing corrosion on the piping itself.

Therefore the insulation material has two purposes: to maintain energy saving and preserve and protect piping (exposed to the air and its humidity), ensuring that the external surface temperature is never lower than the dew point temperature of the environment.

To calculate the required insulation thickness, the following information is vital to be able to proceed with the necessary calculation, following the formula described below.

1. The temperature of the fluid in the system's piping.

2. The external ambient temperature

3. Ambient relative humidity

The correct thickness of the insulation material needs to be calculated to avoid condensation formation (basically, this calculation helps to obtain the value relative to the insulation applications on flat surfaces which however represent the maximum dispersed surfaces, and therefore the most difficult situations).

$$S = \frac{\lambda}{\alpha_a} \times \left(\frac{t_a - t_i}{t_a - t_r} - 1 \right)$$

Where:

- **S** = Thickness of the insulation material (expressed in metres).
- **λ** = Thermal conductivity of the specific insulation material expressed as **W/m·K** (the value obtained at the mean functioning temperature should be inserted).
- **α_a** = External surface coefficient expressed as **W/m²·K** (data obtained from the following table).
- **t_a** = Ambient temperature °C.
- **t_i** = Temperature of the fluid inside the piping °C.
- **t_r** = Air dew point temperature °C.

α_a reference values for the calculation

Value	Type of ventilation
5 W/m ² ·K	Poor
9 W/m ² ·K	Normal (internal environment)
15 W/m ² ·K	High (external environment)

The value of (ta-tr) can be obtained from the first table, while the second table indicates the correct thickness of EUROBATEX insulation material required to avoid the formation of condensation.

thickness calculations

Table 1 - ta-tr values

Air Temperature °C	Maximum Humidity g/m³	Permitted air cooling °C until the formation of condensation for relative humidity															Maximum Humidity g/m³	Air Temperature °C
		30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%			
-20	0.90	-	10.4	9.1	8.0	7.0	6.0	5.2	4.5	3.7	2.9	2.3	1.7	1.1	0.5	0.90	-20	
-15	1.40	12.3	10.8	9.6	8.3	7.3	6.4	5.4	4.6	3.8	3.1	2.4	1.8	1.2	0.6	1.40	-15	
-10	2.17	12.9	11.3	9.9	8.7	7.6	6.6	5.7	4.8	3.9	3.2	2.5	1.8	1.2	0.6	2.17	-10	
-5	3.27	13.4	11.7	10.3	9.0	7.9	6.8	5.8	5.0	4.1	3.3	2.6	1.9	1.2	0.6	3.27	-5	
0	4.8	13.9	12.2	10.7	9.3	8.1	7.1	6.0	5.1	4.2	3.5	2.7	1.9	1.3	0.7	4.8	0	
2	5.6	14.3	12.6	11.0	9.7	8.5	7.4	6.4	5.4	4.6	3.8	3.0	2.2	1.5	0.7	5.6	2	
4	6.4	14.7	13.0	11.4	10.1	8.9	7.7	6.7	5.8	4.9	4.0	3.1	2.3	1.5	0.7	6.4	4	
6	7.3	15.1	13.4	11.8	10.4	9.2	8.1	7.0	6.1	5.1	4.1	3.2	2.3	1.5	0.7	7.3	6	
8	8.3	15.6	13.8	12.2	10.8	9.6	8.4	7.3	6.2	5.1	4.2	3.2	2.3	1.5	0.8	8.3	8	
10	9.4	16.0	14.2	12.6	11.2	10.0	8.6	7.4	6.3	5.2	4.2	3.3	2.4	1.6	0.8	9.4	10	
12	10.7	16.5	14.6	13.0	11.6	10.1	8.8	7.5	6.3	5.3	4.3	3.3	2.4	1.6	0.8	10.7	12	
14	12.1	16.9	15.1	13.4	11.7	10.3	8.9	7.6	6.5	5.4	4.3	3.4	2.5	1.6	0.8	12.1	14	
16	13.6	17.4	15.5	13.6	11.9	10.4	9.0	7.8	6.6	5.5	4.4	3.5	2.5	1.7	0.8	13.6	16	
18	15.4	17.8	15.7	13.8	12.1	10.6	9.2	7.9	6.7	5.6	4.5	3.5	2.6	1.7	0.8	15.4	18	
20	17.3	18.1	15.9	14.0	12.3	10.7	9.3	8.0	6.8	5.6	4.6	3.6	2.6	1.7	0.8	17.3	20	
22	19.4	18.4	16.1	14.2	12.5	10.9	9.5	8.1	6.9	5.7	4.7	3.6	2.6	1.7	0.8	19.4	22	
24	21.8	18.6	16.4	14.4	12.6	11.1	9.6	8.2	7.0	5.8	4.7	3.7	2.7	1.8	0.8	21.8	24	
26	24.4	18.9	16.6	14.7	12.8	11.2	9.7	8.4	7.1	5.9	4.8	3.7	2.7	1.8	0.9	24.4	26	
28	27.2	19.2	16.6	14.9	13.0	11.4	9.9	8.5	7.2	6.0	4.9	3.8	2.8	1.8	0.9	27.2	28	
30	30.3	19.5	17.1	15.1	13.2	11.6	10.1	8.6	7.3	6.1	5.0	3.8	2.8	1.8	0.9	30.3	30	
35	39.4	20.2	17.7	15.7	13.7	12.0	10.4	9.0	7.6	6.3	5.1	4.0	2.9	1.9	0.9	39.4	35	
40	50.7	20.9	18.4	16.1	14.2	12.4	10.8	9.3	7.9	6.5	5.3	4.1	3.0	2.0	1.0	50.7	40	
45	64.5	21.6	19.0	16.7	14.7	12.8	11.2	9.6	8.1	6.8	5.5	4.3	3.1	2.1	1.0	64.5	45	
50	82.3	22.3	19.7	17.3	15.2	13.3	11.6	9.9	8.4	7.0	5.7	4.4	3.2	2.2	1.0	82.3	50	

Table 2 - Thicknesses of EUROBATEX in mm required to avoid condensation formation on flat surfaces.

ta Ambient Temperature		+ 15 °C					+ 20 °C					+ 25 °C					+ 30 °C					+ 35 °C				
U.R.%		60	70	80	85	90	60	70	80	85	90	60	70	80	85	90	60	70	80	85	90	60	70	80	85	90
Temperature of the fluid °C	+15	—	—	—	—	—	—	—	—	4	8	—	—	7	11	19	—	6	12	18	31	5	10	17	25	41
	+10	—	—	—	4	8	—	—	7	12	20	—	6	13	19	31	6	10	18	26	42	7	12	22	32	51
	+5	—	—	8	12	19	—	7	13	19	31	6	10	18	26	41	8	13	23	33	54	10	16	27	39	62
	0	4	7	13	20	31	6	10	18	27	43	8	13	23	33	52	10	16	28	40	64	12	19	33	46	73
	-5	6	10	18	27	41	9	14	24	34	55	10	16	28	40	63	12	19	33	46	74	14	22	37	52	82
	-10	8	13	23	33	51	11	17	28	41	64	13	20	34	48	74	15	22	38	53	85	16	25	41	58	91
	-20	13	20	33	48	72	15	23	37	53	83	16	25	41	58	89	19	28	47	66	104	20	31	51	72	112
	-30	17	26	43	61	92	19	29	48	67	105	21	31	51	72	109	22	33	55	76	120	23	34	56	79	123

The CE marking of elastomeric insulation materials and the normative references.

Introduction

The plan to reduce polluting emissions into the atmosphere on a world wide scale detailed during the KYOTO Conference in 1990 and was aimed at encouraging the Member Countries to adopt an adequate energy policy which, without penalizing environmental comfort could boost a sustainable growth, especially for developed countries.

The EU Member Countries (at that time actively involved in creating a more united "future") had already begun to introduce regulations and standards in various specific sectors with the aim to put into effect the decisions taken during the Kyoto Conference as quickly as possible.

Between the sectors identified as being those that could contribute both to energy saving and a reduction of emissions into the atmosphere, the construction industry, which consumes approximately 30% of the total energy, was targeted as being in need of swift intervention.

The 89/106/EEC Directive and the Regulation

The European Directive regarding construction products (89/106/EEC) was promulgated by the boards of experts who imposed fundamental parameters for materials used in this sector with the aim to guarantee safety and to possess efficient energy saving qualities.

In March 2011 the European Community approved the No. 305 Regulation published on April 4th 2011 in the official European Journal, which abrogated the above mentioned Directive, substituting it with the Regulation which became operational from 1 July 2013. The main aim was to guarantee, define all the conditions related to the commercialization of goods (free circulation in the EU) and to unify the administrative regulations in one single document, valid for all EU Member Countries.

NB.

The Regulation (CPR-Construction Product Regulation) is a law that came into force in all EU Member Countries without the necessity of a specific national transposition.

Also all main requirements of construction materials (together with those of insulation materials) have been included in the CPR and are stated in the table below:

List of requirements specified by the 305/2011 Regulation	
Construction material	Insulation material
Mechanical resistance and stability	Thermal conductivity
Safety in the event of fire	Fire performance
Hygiene, health and environment	Water vapour diffusion
Safety and ease of use	Working temperature
Noise protection	Type of installation (installability)
Energy saving and heat retention	Health and safety
Sustainable use of natural resources	

The CE marking of elastomeric insulation materials and the normative references.

The 89/106/EEC European Directive regarding construction products categorically states that specific standards should be harmonized for each type of product, in order to guarantee its proper use based on its technical properties, some of which are not comparable between different types already on the market.

The competent Technical Commission approved the European Standard EN 14304:2009+A1:2013 for elastomeric insulation material; the standard was published in the Official Journal of the European Union and is compulsory in order to gain a CE Marking.

The following tables have the purpose of supplying those who work in this sector with useful information regarding its contents and required conditions.

EUROPEAN STANDARD - EN 14304:2009 + A1:2013

Thermal insulation products for building equipment and industrial installations.
Factory made flexible elastomeric foam (FEF) products.

Regulations and compliances

The main characteristics of elastomeric products for thermal insulation taken into consideration by the Standard are:

- Thermal conductivity
- The dimensions and the Dimensional tolerances
- Dimensional stability
- Fire behaviour
- The minimum and maximum working temperatures
- Water absorption
- Resistance to water vapour
- Solubility and pH value
- Sound absorption
- Release of harmful substances



advanced elastomeric thermal and acoustic insulation materials

The CE marking of elastomeric insulation materials and the normative references.

The characteristics highlighted in the previous table are analysed in greater depth on the following pages since they are considered to be both important and useful for those who work in this sector.

Thermal conductivity

This is considered as being the distinguishing characteristic of insulation material and is defined by the symbol λ (lambda), and is measured in $W/m\cdot K$; the product with the lowest value will have the highest insulating capacity.

Usually a material with a thermal conductivity value lower than $0,100 W/m\cdot K$ is defined as an “insulating” material;

The European Standard states that the thermal conductivity value for elastomeric insulation material should not be greater than $0,050 W/m\cdot K$; at a mean working temperature of $10\text{ }^{\circ}C$.

This value is determined by tests specified by the regulations:

- EN 12667 for flat surfaces (sheets) and EN 12939 (for thickness)
- EN ISO 8497 for cylindrical products (pipes)

It is defined for the complete application temperature range of the product (with a minimum limit of $-170\text{ }^{\circ}C$). Tests on pipes are normally carried out on those with diameters ranging from 22 and 42 mm, taking into consideration the minimum and maximum thicknesses produced.

If different thicknesses are produced, the manufacturer is given the possibility to declare a single thermal conductivity value which should be the highest after having carried out the specific tests. This value will characterize the entire range.

Dimensional tolerances

These are determined by the Standards: EN 822 and EN 823 for sheets, rolls and tapes and EN 13467 for tubes.

A summary of the limitations is stated in the following table:

Dimensions in mm.

Form of delivery	Length	Width	Thickness		Squareness	Inside diameter	
			Declared	Tolerance		$D_i \leq 100$	$D_i > 100$
Tubes	$\pm 1,5\%$	-	$d_D \leq 8$	± 1	3,0 mm	$D_{ID} + 1 \leq D_i \leq D_{ID} + 4$	$D_{ID} + 1 \leq D_i \leq D_{ID} + 6$
			$8 < d_D \leq 18$	$\pm 1,5$	-		
			$18 < d_D \leq 31$	$\pm 2,5$	-		
			$d_D > 31$	± 3	-		
Sheets	$\pm 1,5\%$	$\pm 2\%$	$d_D \leq 6$	± 1	3,0 mm/m (length/width)	-	-
			$6 < d_D \leq 19$	$\pm 1,5$	-		
			$d_D > 19$	± 2	3,0 mm (thickness)		
Rolls	$+ 5\%$ $- 1,5\%$	$\pm 2\%$	$d_D \leq 6$	± 1	3,0 mm/m (length/width)	-	-
			$6 < d_D \leq 19$	$\pm 1,5$	-		
			$d_D > 19$	± 2	3,0 mm (thickness)		
Tapes	$+ 5\%$ $- 1,5\%$	$\pm 2\%$	$d_D = 3$	$- 0,1$ $+ 1,5$	-	-	-

Key:

D_i = inside \varnothing

D_{id} = nominal inside \varnothing (Ref. Tubes)

d_D = Nominal thickness

The CE marking of elastomeric insulation materials and the normative references.

Fire behaviour

In order to harmonise and regulate one of the most important aspects regarding environmental safety on a European level (the fire behaviour of building products, including insulation material), the regulations specified in the table have been introduced to analyse and measure the parameters of: flammability, the production of smoke, heat development and dripping.

Test regulation and European classification

EN 13501-1	Fire classification of building products. Part 1 Fire behaviour
EN 13238	Conditioning procedures
EN ISO 1182	Non-combustibility test
EN ISO 1716	Calculation of calorific values
EN ISO 11925-2	Flammability of construction products in direct contact with flame
EN 13823	Fire behaviour test for construction products excluding floors (S.B.I. test)
EN ISO 9239-1	Fire behaviour test for floors (radiant panel)

Table of the tests and designations required for behaviour to fire classes for construction products











Construction products				Floors		Linear products	
Class	Test method	Classification criteria	Additional classification	Class	Test method	Class	Test method
A1	EN ISO 1182 +	$\Delta T \leq 30^\circ \text{C}$ $\Delta m \leq 50\%$ $t_t \leq 0$ (non-persistent fire)		A1 _{FL}	EN ISO 1182 +	A1 _L	EN ISO 1182 +
	EN ISO 1716	$\text{PCS} \leq 2,0 \text{ MJ. Kg}^{-1}$ $\text{PCS} \leq 2,0 \text{ MJ. Kg}^{-1}$ $\text{PCS} \leq 2,0 \text{ MJ. m}^{-2}$ $\text{PCS} \leq 2,0 \text{ MJ. Kg}^{-1}$			EN ISO 1716		EN ISO 1716
A2	EN ISO 1182	$\Delta T \leq 50^\circ \text{C}$ $\Delta m \leq 50\%$ $t_t \leq 20\text{s}$		A2 _{FL}	EN ISO 1182 +	A2 _L	EN ISO 1182 +
	EN ISO 1716 +	$\text{PCS} \leq 3,0 \text{ MJ. Kg}^{-1}$ $\text{PCS} \leq 4,0 \text{ MJ. Kg}^{-2}$ $\text{PCS} \leq 4,0 \text{ MJ. m}^{-2}$ $\text{PCS} \leq 3,0 \text{ MJ. Kg}^{-1}$			EN ISO 1716		EN ISO 1716
	EN 13823 (SBI)	$\text{FIGRA} \leq 120 \text{ W. s}^{-1}$ LSF < sample margin $\text{THR}_{600\text{s}} \leq 7,5 \text{ MJ}$	Smoke production and burning particles		EN ISO 9239-1		UNI EN 13823 (SBI)
B	EN 13823 (SBI) +	$\text{FIGRA} \leq 120 \text{ W. s}^{-1}$ LSF < sample margin $\text{THR}_{600\text{s}} \leq 7,5 \text{ MJ}$	Smoke production and burning particles	B _{FL}	EN 13823 (SBI) +	B _L	UNI EN 13823 (SBI) +
	EN ISO 11925-2 exposure =30s	$F_s \leq 150 \text{ mm within 60s}$			EN ISO 11925-2 exposure =30s		UNI EN ISO 11925-2 exposure =30s
C	EN 13823 (SBI) +	$\text{FIGRA} \leq 250 \text{ W. s}^{-1}$ LSF < sample margin $\text{THR}_{600\text{s}} \leq 15 \text{ MJ}$	Smoke production and burning particles	C _{FL}	EN 13823 (SBI) +	C _L	UNI EN 13823 (SBI) +
	EN ISO 11925-2 exposure =30s	$F_s \leq 150 \text{ mm within 60s}$			EN ISO 11925-2 exposure =30s		UNI EN ISO 11925-2 exposure =30s
D	EN 13823 (SBI) +	$\text{FIGRA} \leq 750 \text{ W. s}^{-1}$	Smoke production and burning particles	D _{FL}	EN 13823 (SBI) +	D _L	UNI EN 13823 (SBI) +
	EN ISO 11925-2 exposure =30s	$F_s \leq 150 \text{ mm within 60s}$			EN ISO 11925-2 exposure =15s		UNI EN ISO 11925-2 exposure =30s
E	EN ISO 11925-2 exposure =15s	$F_s \leq 150 \text{ mm within 60s}$	Smoke production and burning particles	E _{FL}	EN ISO 11925-2 exposure =15s	E _L	UNI EN ISO 11925-2 exposure =15s
F	Reaction not determined			F _{FL}	Reaction not determined	F _L	Reaction not determined

The CE marking of elastomeric insulation materials and the normative references.

Fire behaviour



Euroclass - application table

Fire behaviour classes			Smoke classes		Dripping classes	
A1	Incombustible		No test required		No test required	
A2		Non-combustible	s1	 Limited or absent	d0	Absent for the first 10 minutes
B		Level of combustion increasing from class B to class E	s2	 Present	d1	 Low dripping of flaming material for less than 10 seconds during the first ten minutes
C			s3	 Significant	d2	 Significant
D			No test		No indications or d2	
E						
F	No test required					

The CE marking of elastomeric insulation materials and the normative references.

In the specific case of elastomeric foam products (usually belonging to the organic material family) the best fire behaviour classification obtained is class B.

N.B:

In the new european classification for classes from A2 to E, additional characteristics are requested that are marked by the letters:

s = smoke

d =dripping

and should be added to the initial classification.

If tests are carried out separately on linear piping or floors, the initial classification will have a subscript L or FL as indicated below:

B_L (tubes)

B_{FL} (floors)

Resistance to water vapour diffusion



Characterized by the symbol μ (mu) with its property determined by the European Standards:

EN 12086 - For flat products

EN 13469 - For cylindrical products

Alternatively it can be determined by the European Standard **EN ISO 10456**

The value should be indicated at intervals of 1000 to a maximum of 15000 and should never be less than the declared value, (this value should always be preceded by the symbol \geq greater or identical), as shown in the following table:

Level (μ)	Declared value (μ)
1000	≥ 1000
2000	≥ 2000
3000	≥ 3000
4000	≥ 4000
 15000	 ≥ 15000

Traces of soluble ions in the water, PH value, release of harmful substances (halogens)


The traces of CHLORIDE- FLUORIDE - SILICATE - SODIUM ions (that can cause possible corrosion of metal piping) together with the product's PH value, are evaluated based on the European Standard **EN 13458**.

Traces of halogens (chlorine, fluorine, bromine, iodine) are determined based on the European Standard **DIN/VDE 472-815**. An elastomeric product can only be defined as being halogen free (halogen free) if its content percentages based on weight are:

- less than 0,2% (the total of its chlorine, bromine and iodine content)
- less than 0,1% for fluorine

The CE marking of elastomeric insulation materials and the normative references.

Examples of CE labelling

	CE conformity marking, consisting of the "CE" - symbol given in Directive 93/68/EEC.
01234	Identification number of the certification body (for products under system 1).
AnyCO Ltd, PO Box 21 B-1050	Name or identifying mark and registered address of the producer.
13	Two last digits of the year for affixing CE marking (ITT).
01234-CPD-00234	Certificate number (for products under system 1).
EN 14304:2009+A1:2013	No. of dated version of European Standard.
Flexible Elastomeric Foam, intended to be used as thermal insulation product for building equipment and industrial installations. Reaction to fire - Class B Thermal conductivity see Manufacturer's Literature.	Description of the product and Information on regulated characteristics.
FEF - EN - 14304 - ST(+) 115 - ST(-) 200 - MU 7000 - CL 1	Designation code (in accordance with Clause 6 for the relevant characteristics according to Table ZA.1).

CE Marking (explanation of references are supplied on the product's labelling)

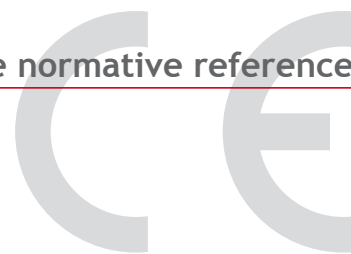
FEF - EN-14304: reference to the product standard regarding elastomers.	ST (+)-ST (-): maximum and minimum working temperatures.	MU 7000: Diffusion coefficient of water vapour value	CL1: quantity of chloride ions soluble in water
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Type of products applicable to CE Markings

(Ref. attached IV-Table 1 - European regulation 305/2011)

As for the CPR concerning building products, the specific references regarding the application of insulation materials are summarized below.

Area code	Type of product
4	Products for thermal insulation Composite insulation kits/systems
27	Heating appliances
28	Ducts, tanks and accessories that do not come into contact with water for human consumption.
34	Kits for buildings, units, prefabricated structures



Documentation relevant to CE Markings

Apart from the labelling previously illustrated, the documents accompanying the CE Trademark (updated when the European Regulation came into force) are as follows:

The product's Certificate of Constancy of Performance (substituting the Certificate of Conformity) released by the notified Body.

Declaration of Performance (DoP) released by the manufacturer, accompanied by the safety data sheet in accordance with the EU Regulation No.1907/2006 (Reach).

NB: according to Reach regulation, the Safety Data Sheet is not mandatory for FEF/PEF products.

Summary of the european standards for materials used for the insulation of systems.

In order to supply adequate information, the following table lists the standards for each type of insulation product. Those which concern the UNION FOAM S.p.A. products are highlighted.

EN 14303 Thermal insulation material for applications in buildings and industrial installations. Factory made mineral wool (MW) products.

EN 14304 Thermal insulation products for building equipment and industrial installations. Factory made flexible elastomeric foam (FEF) products.

EN 14305 Thermal insulation material for applications in buildings and industrial installations. Factory made cellular glass (CG) products.

EN 14306 Thermal insulation material for applications in buildings and industrial installations. Factory made calcium silicate (CS) products.

EN 14307 Thermal insulation material for applications in buildings and industrial installations. Factory made extruded polystyrene foam (XPS) products.

EN 14308 Thermal insulation products for building equipment and industrial installations. Factory made rigid polyurethane foam (PUR) and polyisocyanurate foam (PIR) products.

EN 14309 Thermal insulation material for applications in buildings and industrial installations. Factory made polystyrene foam (EPS) products.

EN 14313 Thermal insulation products for building equipment and industrial installations - Factory made polyethylene foam (PEF) products.

EN 14314 Thermal insulation material for applications in buildings and industrial installations. Factory made phenolic resin foam (PF) products.



advanced elastomeric thermal and acoustic insulation materials

Comparison between CPD (Directive) and CPR (Regulation)

Evaluation systems for performance consistency

The EU No. 305/2011 Regulation (CPR) abrogated, substituted and integrated the 89/106/EEC (CPD) Directive from 01/07/2013 with the following differences.

Characteristics	
89/106/EEC (CPD) Directive	EU No. 305/2011 (CPR) Regulation
Application: OPTIONAL Systems: 1+, 1,2, 2+, 3, 4	Application: COMPULSORY Systems: 1+, 1,2+, 3, 4
Document Type	
Declaration of Conformity CE Certificate of Conformity	Declaration of performance Certificate of Constancy of Performances
European Technical approval (ETA)	European Technical evaluation (ETA)
6 essential requisites of the works	7 essential requisites of the works

a) Basic requirements for construction work, according to the EU No.305/2011 (CPR) Regulation

1. Mechanical resistance and stability

2. Safety in case of fire

3. Hygiene, health and the environment

4. Safety and accessibility in use

5. Protection against noise

6. Energy economy and heat retention

7. Sustainable use of natural resources

Compared to the 89/106 CEE (CPD) Directive, point No. 7 has been added.

b) Assessment and verification of constancy of performance (AVCP)

Defined by the EU No. 305/2011 (CPR) Regulation for construction products, these specify the tests to be carried out by the manufacturer on finished products.

The assessment of the characteristics and the process of measuring its performance is defined by the specific product standard.

There are 5 evaluation systems stipulated by the EU Regulation which are described in the Product Standards in order to obtain the CE Marking:

(4) - (3) - (2+) - (1) - (1+)



From system 4 to system 1+
Greater guarantee of quality

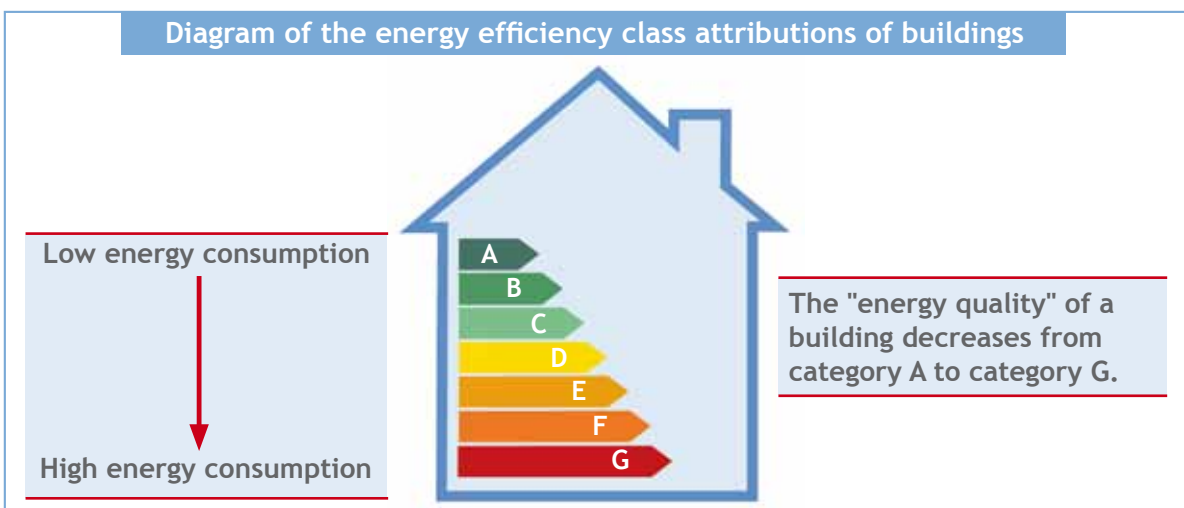
The environmental sustainability of buildings

environmental sustainability of buildings

Introduction

In an era of renewed politics to safeguard the environment and its natural resources, strongly linked to construction and protection of buildings and as well as the need to continuously finalize Energy Performance Certificates, it is possible to study and promote the environmental sustainability of the buildings themselves through the following protocols. The table illustrates the main features of the two types of certificates, aimed, as well as an improved management of traditional energy sources, at guaranteeing adequate personal and environmental protection.

Comparison of the 2 systems	
ENVIRONMENTAL CERTIFICATION	ENERGY PERFORMANCE CERTIFICATE
Declares the performance (and environmental impacts on health) of the building, including energy consumption. IT IS VOLUNTARY (It could become obligatory if required) <ul style="list-style-type: none">• Needed to take advantage of tax incentives<ul style="list-style-type: none">• For public buildings• For ERP buildings• For new public tenders	Declares, through a class of attributed energy consumption (in KWh/mq year) in order to evaluate performance. Energy consumption increases starting from cat. A up until cat. G (see diagram) IT IS OBLIGATORY <ul style="list-style-type: none">• For new buildings (Public and/or Private)• To take advantage of tax incentives• For deeds of sale



Protocols for the certification of the environmental sustainability of buildings

List of world wide protocols:

● BREEM - ENGLAND	INBAR - ITALY
BLUE ANGEL - GERMANY	ITACA - ITALY
CASACLIMA - ITALY	● LEED GBC - UNITED STATES
● CASBEE - JAPAN	MINERGIE ECO - SWITZERLAND
ECOLABEL - EUROPE	QUALITEL - FRANCE
GREEN STAR - AUSTRALIA	SB100 ANAB - ITALY
HQE - FRANCE	SWAN ECOLABELLING - NORTH EUROPE

- The most widespread on a world wide scale are **LEED GBC**, **BREEM** and **CASBEE**.

The diffusion of the protocols in Italy is carried out by:

ITACA - the most widespread on a national level
LEED (GBC Italia) - in the Lombardy Trentino A.A. regions
CASACLIMA - Trentino A.A.

The environmental sustainability of buildings

Features of the ITACA and LEED protocols: analysis and differences

a) ITACA protocol

The ITACA Protocol is a system for the certification of the level of environmental sustainability of buildings of different uses. It is promoted by the Italian Regions and managed by a specific committee with representatives of the regions with the participation of the iISBE Italy and ITC-CNR associations. The protocol is based on the SBMethod, chosen in 2002 as a reference by the Italian regions.

• Homes • Offices • Shopping centres • Industrial buildings

The analysis and evaluation was made based on specific tables based on predetermined criteria necessary to give buildings a score (see following table) which will identify the respected requirement.

Analysing and evaluating with the appropriate tables:

CONSUMPTION OF RESOURCES (Referring to energy and material consumption and the performance of its envelope)

THE QUALITY OF THE INTERNAL ENVIRONMENT (Thermo-hygrometric and acoustic comfort)

THE QUALITY OF THE SERVICE (The maintenance of performances during the operational phase)

SCORE	THE BUILDING'S REQUIREMENT
-1	Inferior performance of the standard practice
0	Minimum acceptable performance (see current regulations)
1	Minor improvement compared to point 0
2	Significant improvement compared to point 0
3	Major improvement compared to point 0 (best practice)
4	Substantial increase of the best practice of point 3
5	Notable performance and of an advanced level compared to the best practice of point 3

Increasing
"environmental
quality"

b) LEED Protocol





This is the most widespread system on a world wide scale for the verification and certification of the environmental sustainability of buildings; in Italy it is promoted by GBC ITALIA and adapted to the national situation.

It consists of a rating system which allocates points in 7 specific areas and identifies both the obligatory prerequisites needed to obtain the certification of buildings and those which are optional which are necessary to obtain a higher classification level.

The reference areas are as follows:

- Sustainability of the site
- Water
- Energy and atmosphere
- Materials and resources
- Quality of the internal environment
- Innovation
- Regional and/or local peculiarities (these are necessary to increase the score obtained in the previous areas)

The scores and relative certifications are described in the following diagram:

CERTIFICATE		from 40 to 49 points
SILVER CERTIFICATE		from 50 to 59 points
GOLD CERTIFICATE		from 60 to 79 points
PLATINUM CERTIFICATE		> 80 points

"Environmental quality"
based on the total score

c) Table of the differences between the two protocols:

ITACA Protocol

Greater importance is given to :

- consumption
- CO2 emissions
- management and maintenance of the building

LEED Protocol

Construction phase with points-based, allocation system for:

- impact on environmental repercussions
- waste production
- emission of harmful substances

N.B.: In the evaluation and quantification of the environmental sustainability of a building, insulation material can play an important role in improving energy efficiency and acoustic performance, contributing to a higher score and therefore a higher certification, even if they are not taken into consideration in the points-based allocation system of the protocols.

Railway applications

Fire safety in railway rolling stock (amendment to the european standard)

railway applications

The aim of this report is to supply some information regarding the **EN 45545** Regulation which, in the May 2013 edition, defined the technical specifications related to fire safety in railway rolling stock. It needed to be accepted and published by the Member States within September 2013 with the obligation to revoke the present norms within March 2016.

It included the following seven points:

- General description.
- Requirements for fire behaviour of material and components.
- Fire resistance requirements of fittings.
- Fire resistance requirements for railway rolling stock material (planning).
- Fire resistance requirements for electrical equipment, including those installed on board trolleybuses, buses and magnetic-levitation vehicles.
- Fire control and suppression systems.
- Safety requirements for gas and flammable liquid installations.

We will analyse Point 1 (general description) and point 2 (relating to the fire behaviour characteristics of material and components that are installed in railway vehicles) in greater detail.

In general, there are 3 specific topics that represent the basis of the regulation, and are as follows:

- 1- The operational categories and their risk levels.
- 2- The test methods (still predominantly related to the standards already applicable to the shipbuilding and civil sectors).
- 3- The evaluation of essential parameters for a correct definition of results.

1. The operational categories and risk levels

Table of details

Type of service	Risk Level	Operative Categories	Type of evacuation
National lines, regional, urban	HL 1	OC 1	Immediate stopping/fast evacuation.
Urban and suburban lines Stretches in tunnels and underground	HL 2	OC 2	Stopping at the nearest station. Slower evacuation.
National and regional lines Stretches in tunnels and underground	HL 3	OC 3	Stopping at the nearest station or in available lateral platforms.
National, regional and urban lines	HL 4	OC 4	Extremely difficult evacuation due to lack of lateral platforms.

Railway applications

Fire safety in railway rolling stock (amendment to the european standard)

2. Test Methods

Taking into consideration the following parameters it is possible to determine the FCE (Fire Critical Effect):

Flammability - Fire diffusion - Heat emission - Opacity of smoke - Smoke toxicity

Through the tests shown below it is possible to define a value for a specific time in which evacuation is impossible if no other assistance is available. Naturally each above-mentioned parameter has its own reference value.

SPECIFICATIONS OF THE TESTING SYSTEMS

Parameter	Type of control	Reference standards
Non-combustibility	Fire persistence and mass loss (through an increase in temperature of the furnace from 750 °C)	EN ISO 1182
Lateral fire spread	Critical heat flux at which the flame extinguishes	ISO 5658-2
Cone calorimeter (heat release)	Determination of MAHRE value in kW/m ² (with radiation of 25/50 in kW/m ²)	ISO 5660-1
Smoke development (opacity)	Determination of Dm, Ds4, VOF4 values (for different radiations in the absence or presence of flame)	ISO 5659-2
Gas Toxicity	Sample of gas taken in dynamic conditions in the smoke room. FTIR analysis and determination of time for CIT=1. Alternatively the AFNOR NF X 70-100 can be used (Tube furnace at 600 °C and discontinued analysis of combustion gases)	ISO 5659-2+FTIR ISO CD 21489 ISO 19702
Heat release for seats	Determination of MAHRE by means of a 3 minutes exposure to the flame of a burner with a power of 7 kW	NT FIRE 032 ISO 9705
Limiting Oxygen Index (LOI)	Measurement of the percentage of oxygen that when mixed could activate combustion	EN 4589-2

Explanation of symbols: **MAHRE** = heat release rate

Dm = maximum value of the optical density of smoke

Ds4 = value of optical density after 4 minutes from the beginning of the test

VOF4 = expressed in minutes, this is the value of smoke opacity (at 4 minutes) in the area represented by the Ds-time curve (from 0 to 4 minutes)

CIT = conventional Toxicity Index (determined by the relationship $C_i/IDHL$ where C_i is the medium concentration of each gas and IDHL represents the concentration which correspond to 30 minutes to determine human incapacity.

Table of IDHL values for gas types in mg/mc.

Gas type		Value	
CO ₂	72000 mg/mc	SO ₂	262 mg/m ³
CO	1380 mg/mc	HF	25 mg/m ³
HCN	55 mg/mc	HBr	99 mg/m ³
NOx	38 mg/mc	HCl	75 mg/m ³

List of the elements to be tested

1 Structural - Internal - External - Furnishings
- Electrical and mechanical equipment

2 Electrical material, electronic and mechanical
(Situated inside the vehicles)

The requirements for mechanical material are: LOI, Dm and CIT as shown in the table below

RISK LEVEL	LOI value		Dm value		CIT value	
	Internal	External	Internal	External	Internal	External
1	28	28	600	-	4	-
2	28	28	300	600	2	4
3	28	28	300	600	2	4
4	32	32	150	300	1	2

Railway applications

Fire safety in railway rolling stock (amendment to the european standard)

The following tables illustrate:

A) The risk level assessment for each type of vehicle. Level HL 4 is not included as it is not considered valid in terms of safety.

Fire risk classification				
Operational Category	Type of vehicle			
	N: Standard vehicles	A: Vehicles belonging to an automatic train without trained staff on board.	D: Double-deck vehicles	S: Vehicles equipped with sleeping facilities.
1	HL1	HL1	HL1	HL2
2	HL2	HL2	HL2	HL2
3	HL2	HL2	HL2	HL3
4	HL3	HL3	HL3	HL3

B) Regarding risk levels, the standard defines the values of single parameters based both on application and the specific required tests.

Material requirements

Material requirements (No. relevant to the product)	Test method	Parameter and unit	Level	HL1	HL2	HL3
R1 (IN1A; IN1B; IN1D; IN1E; IN4; IN5; IN6; IN7; IN8; IN9B; IN11; IN12A; IN12B; IN14; F5)	T02 ISO 5658-2	CFE kWm ⁻²	Minimum	20 (a)	20 (a)	20 (a)
	T03.01 ISO 5660-1: 50 kWm ⁻²	MARHE kWm ⁻²	Maximum	- (a)	90	60
	T10.01 EN ISO 5659-2: 50 kWm ⁻²	D _s (4) non-dimensional	Maximum	600	300	150
	T10.02 EN ISO 5659-2: 50 kWm ⁻²	VOF _s min	Maximum	1200	600	300
	T11.01 EN ISO 5659-2: 50 kWm ⁻²	CIT _G non-dimensional	Maximum	1,2	0,9	0,75

(a): If drops or particles are reported during the ISO 5658-2 test or in cases where the material does not catch fire and are therefore non-classifiable, the following requisites are added:

-The EN ISO 11925-2 test (subjected to direct flame for 30 seconds)
the material is considered acceptable if: flame spread < 150 mm within 60 seconds, no dripping and/or incandescent particles.

The codes in the first column of the table correspond (for internal applications) to:	
IN 1A - vertical internal surfaces (insulation material and internal surface of the body)	IN 7 - doors and windows
IN 1B - horizontal internal surfaces facing the floor (insulation material and internal surface of the body)	IN 8 - curtains and parasols
IN 1D - internal surfaces with cavities	IN 9B - tables and folding tables
IN 1E - external covered surfaces containing technical equipment	IN 11 - bins and ashtrays
IN 4 - areas for luggage storage	IN 12A and IN 12B - internal and external surfaces of air ducts
IN 5 - driver's area	IN 14 - passenger information devices
IN 6 - internal surfaces of the gangways	F 5 - lower surfaces of sleeping wagons and beds

Railway applications

Fire safety in railway rolling stock (amendment to the european standard)

Shown below an example of classification report for railway applications according to EN 45545.

CSI

EN 124
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Rev. 01/01/2013
C. 01/01/2013
C. 01/01/2013

**RAPPORTO DI CLASSIFICAZIONE
CLASSIFICATION REPORT
0753DC/REA/13_2**

Rapporto di classificazione di reazione al fuoco del prodotto: **Eurobat HIF**
Reaction to fire classification report of product

Descrizione / Description: **Vedi pagina 2**
See page 2

Per conto di / On behalf of: **UNION FOAM S.p.A.**

Indirizzo / Address: **Via Dell'Industria, 11
20046 Bollengo (MI)**

Norma tecnica: **EN 45545-2:2013 - Applicazioni ferroviarie - Protezione al fuoco per i materiali ferroviari - Parte 2: Requisiti per il comportamento al fuoco di materiali e componenti**

Technical standard: **EN 45545-2:2013 - Railway applications. Fire protection on railway vehicles. Requirements for fire behaviour of materials and components**

Data / Date: **10-06-2013**

Info: In copia completa di questo Rapporto di Classificazione possono essere richiesti estratti del risultato.
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RAPPORTO DI CLASSIFICAZIONE / CLASSIFICATION REPORT 0753DC/REA/13_2

Data / Date: 10-06-2013

1. DATI GENERALI / GENERAL DATA

Identificazione della norme di riferimento / Standard reference identification:

- EN 45545-2:2013 - Applicazioni ferroviarie - Protezione al fuoco per i materiali ferroviari - Parte 2: Requisiti per il comportamento al fuoco di materiali e componenti
- EN 45545-2:2013 - Railway applications. Fire protection on railway vehicles. Requirements for fire behaviour of materials and components
- ISO 5668-1:2002 - Reaction-to-fire tests - Heat release, smoke production and mass loss rate first release rate (cone calorimeter methods)
- ISO 5668-2:2006/and 1:2011 - Reaction to fire tests - Spread of flame Guidance on flame spread
- ISO 5659-2:2012 - Plastics - Smoke generation - Part 2: Determination of optical density by a single-chamber test

2. IDENTIFICAZIONE DELLE PROCEDURE / PROCEDURES IDENTIFICATION

- Procedura normalizzata / Standard procedure: **M / Test**
- Controllo calcoli / Calculation check: **M / Test**

3. DETTAGLI DEL PRODOTTO CLASSIFICATO / DETAILS OF CLASSIFIED PRODUCT

3.1. Natura e impiego / Nature and end use application:
Il prodotto Eurobat HIF è definito come un materiale isolante - INIA - INIR - INIC - supporti interni, verticali/orizzontali con faccia verso l'alto. La sua classificazione è valida per le seguenti condizioni di impiego:
The product Eurobat HIF is defined as a insulation material - INIA - INIR - INIC - interior surfaces, vertical/horizontal downwards-facing / horizontal upwards-facing. Its classification is valid for the following end use applications:
- Lami di requisiti R1 - Incollati su supporto incombustibile
Requirements set R1 - Glued on non-combustible substrate

3.2. Descrizione / Description:
Il prodotto Eurobat HIF è completamente descritto nel rapporto di prova in merito della classificazione elencata in 3.1.
The product Eurobat HIF is fully described in the test report in support of the classification listed in 3.1.

4. DICHIARAZIONI / STATEMENTS

- I risultati di prova contenuti nel presente rapporto di classificazione si riferiscono esclusivamente al campione provato
Test results contained in this classification report relate only to the specimen tested
- Il presente rapporto di prova non può essere riprodotto parzialmente senza l'autorizzazione del Responsabile di Laboratorio
test report shall not be reproduced except in full without the written approval of the Managing Director

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RAPPORTO DI CLASSIFICAZIONE / CLASSIFICATION REPORT 0753DC/REA/13_2

Data / Date: 10-06-2013

**5. RAPPORTI DI PROVA E RISULTATI DI PROVA IN SUPPORTO DI QUESTA CLASSIFICAZIONE
TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION**

5.1. Rapporti di prova / Test reports

Nome del laboratorio / Name of laboratory	Nome del Committente / Name of sponsor	Numero di Identificazione del rapporto di prova / Test report ref. No.	Metodo di prova / Test method
CSI S.p.A.	UNION FOAM S.p.A.	0753DC/REA/13_1	ISO 5659-2 - T02
CSI S.p.A.	UNION FOAM S.p.A.	0004DC/T03/14_1	ISO 5659-2 - T10.1, T10.02, T10.03

5.2. Risultati di prova / Test results

Metodo di prova / Test method	Parametro / Parameter	Numero di prove / Number of tests	Risultati, valore medio / Results, mean value	Conformità alla lista dei requisiti / Compliance with requirements set
ISO 5659-2 - T02 75 mm	CPE	3	19,16	R1 HL1 HL2 HL3
ISO 5659-2 - T10.1 75 mm	D40	3	225,8	R1 HL1 HL2
ISO 5659-2 - T10.2 75 mm	VOF4	3	774	R1 HL1
ISO 5659-2 - T10.3 75 mm	CTI ₀	3	0,49 (C400) 0,64 (4000)	R1 HL1 HL2 HL3

6. CLASSIFICAZIONE / CLASSIFICATION

6.1. Riferimenti / Reference
Questa classificazione è stata condotta conformemente alla norma EN 45545-2:2013 per la conformità alla tabella 3, tutti i requisiti R1, il prodotto deve soddisfare i criteri di classificazione per ogni metodo di prova riportato.
This classification has been carried out in accordance with EN 45545-2:2013 to meet the requirements in table 3, all requirements R1, the product must fulfil the classification for each test method reported.

6.2. Classificazione / Classification
Il prodotto Eurobat HIF, incollato su supporto non combustibile che consiste in una lastra di acciaio di 0,8 mm di spessore, in riferimento al suo comportamento al fuoco, in accordo alla EN 45545-2:2013 classificato secondo la lista di requisiti R1, livello di rischio HL1, HL2 e HL3 è classificato.
The product Eurobat HIF, glued on non-combustible substrate consisting of a 0,8 mm steel plate, in relation to its reaction to fire behaviour, is according to EN 45545-2:2013 classified in requirement set R1, hazard levels HL1, HL2 and HL3 is classified.

Classificazione di reazione al fuoco: R1; HL1
Reaction to fire classification: R1; HL1

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RAPPORTO DI CLASSIFICAZIONE / CLASSIFICATION REPORT 0753DC/REA/13_2

Data / Date: 10-06-2013

7. LIMITAZIONI / LIMITATIONS

7.1. Avvertimenti / Warning
Questo documento non rappresenta un'approvazione di tipo né una certificazione del prodotto.
This document does not represent type approval or certification of the product.

DATA / Date: 10-06-2013

Rep. Costruttore / Constructor Head: **Piero Farnaghi**

A.D. Divisione Certificazione e Testing / Testing and Certification Division CEO: **Rand Gatti**

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MED 96/98 EC Directive - Requisites and conditions to obtain the conformity marking

Shipbuilding sector - passenger transport

Fire safety

shipbuilding sector

As regards the revision of the fire protection code, IMO (International Maritime Organisation) has updated the FTP Code to IMO RES MSC 307(88) Ed. 2010, completing and describing in greater detail the various test methods.

It came into force from 1st July 2012 and its use became obligatory (with regard to carrying out tests) from 1st July 2013.

Compared to the previous edition of the code, one of the new features introduced regards tests carried out for the new certificates which should be dated within the previous five years. Tests carried out before a five year period can be validated only if released by authorised institutes.

Ten points of the Code have been updated (point 6 has been completely eliminated) and a summary is shown in the table below where parameters relevant to fire behaviour have been labelled with the following sign (▲) and those relevant to fire resistance with the sign (■).

1) Incombustibility test ▲
2) Smoke and toxicity test (in accordance with ISO 5659-2) ▲
3) Class A, B and F division test ■
4) Fire door control systems test ■
5) Surface flammability tests (according to ISO 5658-2 + heat release rate measurement) ▲
6) ELIMINATED POINT
7) Vertically supported materials and film ▲
8) Padded furniture tests ▲
9) Bed components tests ▲
10) Fire-restricting material tests ▲
11) Test for fire resistant partitions for fast embarkation ■

The optical density and the concentration of substances present in combustion gases are also measured.
The number of items to be tested are now 6 instead of 3, as stipulated by the previous edition of the Code.

The requisites for insulation material have been compared to wall and floor cladding and are regulated by SOLAS 74, by the FTP Code 61 (67) and by the IMO MSC Circular No. 916 (determination of toxic gases, No. 1004-1008 for reference purposes).

Specifically, the FTP Code (Annex 1 Parts 2 and 5) requires carrying out tests from which the methodological conformity is required as shown in the table below:

FLAME SPREAD WITH RADIANT HEAT PANEL METHOD (IMO A 653 (16) FOR USE AS WALL CLADDING (EVALUATION PARAMETERS)

CFC = Critical flow >20 kW/m²

Qsb = Heat of combustion >1,5 MJ/m²

Qt = Total heat <0,7 MJ

Qp = Heat release peak <4,0 kW

Determination of smoke and gas according to ISO 5659-2 (NBS Chamber) with irradiation of 25 kW (with or without flame) and of 50 kW (without flame).

MED 96/98 EC Directive - Requisites and conditions to obtain the conformity marking

Shipbuilding sector - passenger transport

Fire safety

shipbuilding sector

The maximum optical density of smoke (Dm) must not exceed a value of 200 in a period of 4 minutes. As regards gases, the acceptable values (parts per million) are specified in the following table and a comparison is made with the results obtained by the EUROBATEX HF insulation material:

Acceptable limits			EUROBATEX HF values
-CO	1450	ppm	870
-HCL	600	ppm	16,5
-HF	600	ppm	<0,1
-NOx	350	ppm	61,0
-HBr	600	ppm	<0,1
-HCN	140	ppm	22,8
-SO2	120	ppm	22,5

For cladding material in the areas near stairs, corridors and escape routes, the Determination of Calorific Value is required if relevant, according to ISO 1716, the maximum reference value being 45MJ/m².

UNION FOAM S.p.A., along with the Management System Certificate according to ISO 9001 and the relevant CE Marking has obtained the MED Mark of Conformity as underlined in the above table and in the following certificates regarding both Module B (EC Certificate of type examination) and Module D (EC quality system certificate for production) in accordance with the Directive.

Quality Management Certificate ISO 9001

DNV GL

**MANAGEMENT SYSTEM
CERTIFICATE**

Certificato No./Certificate No.: CERT-02587-99-AQ-ML-SINCERT
Data prima emissione/Initial date: 13 febbraio 1998
Validità/Valid: 25 novembre 2015 - 25 novembre 2018


Si certifica che il sistema di gestione di/This is to certify that the management system of
UNION FOAM S.p.A.
Via dell'Industria, 8/11 - 20882 Bellusco (MB) - Italy


È conforme ai requisiti della norma per il Sistema di Gestione Qualità/
has been found to conform to the Quality Management System standard:
UNI EN ISO 9001:2015 (ISO 9001:2015)


Questa certificazione è valida
per il seguente campo applicativo:
**Progettazione, produzione e commercio
di tubi e lastre in elastomero espanso
(Settore EA: 14)**

This certificate is valid
for the following scope:
**Design, manufacture and trade of pipes
and sheets in elastomeric foam
(EA Sector: 14)**

Luogo e Data/Place and date:
Vimercate, 23 novembre 2017





Per l'Organismo di Certificazione/
For the Certification Body

Nicola Privato
Management Representative

La validità del presente Certificato è subordinata al rispetto delle condizioni contenute nel Contratto di Certificazione/
Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
DNV GL Business Assurance Italia S.r.l. - Via Energy Park, 14, 20071 Vimercate (MB), Italy. Tel: 039 68 98 905, www.dnvgl.it/assurance

MED 96/98 EC Directive - Requisites and conditions to obtain the conformity marking

Shipbuilding sector - passenger transport

shipbuilding sector

Fire safety

EC certificate of type examination according to the procedures required by Module B (Attachment - Directive 96/98/EC)

CSI CERT

Certificato numero / Certificate number: MED/0497/423

CERTIFICATO CE DEL TIPO (MODULO B)
EC CERTIFICATE (MODULE B) OF TYPE EXAMINATION

Si certifica che CSI SPA, Organismo Notificato n. 0497, ha effettuato le procedure di approvazione per l'equipaggiamento identificato di seguito che è risultato essere conforme ai requisiti di Protezione antincendio della Direttiva 2014/90/UE e del Regolamento di Esecuzione (UE) 2017/730.

This is to certify that CSI SPA, Notified body n. 0497, has undertaken the relevant type approval procedures for the equipment identified below which was found to be in compliance with the fire protection requirements of Marine Equipment Directive (MED) 2014/90/UE and of the Implementing Regulation (EU) 2017/730.

Richiedente / Applicant: **UNION FOAM S.p.A.**
Via dell'Industria, 11 - 20040 BELLUSCO (MI) - ITALY

Item MED / MED item: **MED/3.18d**

Descrizione / Description: **Materiali di copertura e rivestimenti per pavimenti a limitata capacità di propagazione della fiamma:**
d) rivestimenti per la coibentazione di tubature
Surface materials and floor coverings with low flame-spread characteristics:
d) pipe insulation covers

Tipi / Type: **EUROBATEX HF**

Norme di prova: **IMO Res. MSC.307(XII) - (2010 FTP Code) Annex 1 Part 5**

Norme di riferimento: **Reg. II-2/3, Reg. II-2/4, Reg. II-2/5, IMO Res. MSC.306(XII) (1994 HSC Code) 7, IMO Res. MSC.97(73) (2000 HSC Code) 7, IMO MSC/Circ.1128**

L'Allegato A è parte integrante del presente Certificato. Questo certificato è valido se non annullato o revocato, purché le condizioni di cui all'Allegato A siano rispettate e l'equipaggiamento sia mantenuto in servizio in modo soddisfacente.

The Annex A forms part of this Certificate. This Certificate remains valid unless cancelled or revoked, provided the conditions in the Annex A are complied with and the equipment remains satisfactory in service.

12/12/2013: Prima emissione / First issue
30/05/2017: Ultima emissione / Latest issue
11/12/2018: Scadenza / Expiring

Ing. P. Fumagalli
S.R.L. Prodotto (S.R.L. Product): **Polo SpA**

CSI CERT

Certificato numero / Certificate number: MED/0497/423

CERTIFICATO CE DEL TIPO (MODULO B)
EC CERTIFICATE (MODULE B) OF TYPE EXAMINATION
ALLEGATO A / ANNEX A

Richiedente / Applicant: **UNION FOAM S.p.A.**
Luogo di produzione / Place of production: **Via dell'Industria, 11 - 20040 BELLUSCO (MI) - ITALY**

Descrizione prodotto / Product description	Elemento di misura senza allegati / Measuring free element / Item
Spessore / Thickness	4 mm - 12 mm
Densità / Density	1043 kg/m³

Rapporti di prova / Test reports:
n. 0757/DC/UEA/13 del/dated 27/11/2013 emesso da/ issued by CSI SPA
n. 0826/DC/UEA/13 del/dated 09/10/2015 emesso da/ issued by CSI SPA
n. 0270/DC/UEA/13 del/dated 03/04/2017 emesso da/ issued by CSI SPA

Condizioni generali / General conditions:
«Il Marchio di Conformità può essere affisso all'equipaggiamento tipo approvato sopra descritto e una Dichiarazione di Conformità del Produttore può essere rilasciata solo quando il modulo relativo alla fase di controllo della produzione (D, E o F) previsto dall'allegato B della Direttiva 2014/90/UE è pienamente rispettato e controllato con un accordo scritto di ispezione con un Organismo Notificato.
The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production control phase module (D, E or F) of the Directive 2014/90/UE is fully complied with and controlled by a written inspection agreement with a notified body.

12/12/2013: Prima emissione / First issue
30/05/2017: Ultima emissione / Latest issue
11/12/2018: Scadenza / Expiring

Ing. P. Fumagalli
S.R.L. Prodotto (S.R.L. Product): **Polo SpA**

EC quality system certificate for production, with the required requisites according to the procedure of form D.

CSI CERT

Certificato numero / Certificate number: MED/0497/423

CERTIFICATO CE GARANZIA DI QUALITÀ DELLA PRODUZIONE (MODULO D)
EC QUALITY SYSTEM (MODULE D) CERTIFICATE

Si certifica che CSI SPA, Organismo Notificato n. 0497, ha effettuato le procedure di valutazione della qualità per l'equipaggiamento del Fabbricante identificato di seguito che è risultato essere conforme ai requisiti di Protezione antincendio della Direttiva 2014/90/UE sull'equipaggiamento marittimo (MED) e con il tipo descritto nei Certificati CE del Tipo (Modulo B) elencati nell'Allegato di questo Certificato.

This is to certify that CSI SPA, Notified body n. 0497, has undertaken the relevant quality assessment procedures for the equipment of the Manufacturer identified below which was found to be in compliance with the fire protection requirements of Marine Equipment Directive (MED) 2014/90/UE and with the type described in the EC Type Examination Certificate (Module B) listed in the Annex to this Certificate.

Il / The Fabbricante / Manufacturer: **UNION FOAM S.p.A.**
Via dell'Industria, 11 - 20040 BELLUSCO (MI) - ITALY

mantiene e applica un sistema qualità in conformità ai requisiti dell'Allegato B, Modulo D, Direttiva sull'Equipaggiamento Marittimo.
maintains and applies a quality system in accordance with the requirements of the Maritime Equipment Directive Annex B, Module D.

Scopo / Scope: **A.1/3.18d**

Item MED / MED item: **Materiali di copertura e rivestimenti per pavimenti a limitata capacità di propagazione della fiamma:**
d) rivestimenti per la coibentazione di tubature
Surface materials and floor coverings with low flame-spread characteristics:
d) pipe insulation covers

12/12/2013: Prima emissione / First issue
14/12/2016: Ultima emissione / Latest issue
11/12/2018: Scadenza / Expiring

Ing. P. Fumagalli
S.R.L. Prodotto (S.R.L. Product): **Polo SpA**

CSI CERT

Certificato numero / Certificate number: MED/0497/423

CERTIFICATO CE GARANZIA DI QUALITÀ DELLA PRODUZIONE (MODULO D)
EC QUALITY SYSTEM (MODULE D) CERTIFICATE

n. certificato / Certificate n.	tipo / type	data / date	ON / no
MED/0497/423	EUROBATEX HF	12/12/2013	CSI SPA (NB 0497)

Questo certificato autorizza il Fabbricante o il suo mandatario stabilito nella Comunità in unione con il CERTIFICATO CE DEL TIPO (MODULO B) dell'equipaggiamento elencato nell'Allegato A di apporre il "marchio di conformità" (wheelmark), come da esempio:
This certificate authorizes the manufacturer or his authorized representative established within the Community in conjunction with the EC TYPE EXAMINATION (MODULE B) CERTIFICATE of the equipment listed in the Annex A to affix the "Mark of Conformity" (wheelmark), as follows:

0497/yy
0497: number of the Notified Body
yy: last two digits of the year in which the mark is affixed

Questo certificato perde la sua validità se il produttore fa qualsiasi cambiamento o modifica al sistema di qualità approvato, che non siano stati notificados, e concordati con l'Organismo Notificato indicato su questo certificato e/o dopo la scadenza, il ritiro o la revoca del Certificato CE del Tipo (Modulo B).
This certificate loses its validity if the manufacturer makes any changes or modifications to the approved quality system, which have not been notified to, and agreed with the notified body named on this certificate and/or after lapse of time, withdrawal or revocation of the EC Type Examination (Module B) Certificate.

12/12/2013: Prima emissione / First issue
14/12/2016: Ultima emissione / Latest issue
11/12/2018: Scadenza / Expiring

Ing. P. Fumagalli
S.R.L. Prodotto (S.R.L. Product): **Polo SpA**

**Lloyd's
Register**

Lloyd's Register EMEA

21 Fenchurch Street, London, EC3M 4BS
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Page

2 of 2

Document number
SAS F170204

Issue number

1

DESIGN APPRAISAL DOCUMENT

Date

31 August 2017

Issue this reference on all future communications

SCU/TSO/SFS/TA/IE/LAT29620074

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F170204

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

CSE Sp.A., Viale Lombardia 21, 20021 Bollate (MI), Italy. Fire Test Reports No. 0826(DC)/IEA/17 dated 9th October 2015 and No. 0270(DC)/IEA/17 dated 3rd April 2017.

CONDITIONS OF CERTIFICATION

- Restricted Application:** Restricted to cold service pipework / fittings on refrigerated systems listed in SCAS 16-2, Sub 3.3.1.1 everywhere on-board, or to spaces exempt from this requirement in the same regulation, i.e. cargo spaces, mail rooms, baggage room and refrigerated compartments of service spaces
- Consisting of: halogen free elastomer from flukeless items to 32mm, density 95 +/- 5 kg/m³
- Smoke and toxicity criteria is satisfied by meeting the total heat release (Q) and peak heat release rate (q_{pk}) as stated in IMO Fire Test Procedures Code, Annex 2, Section 2.2
- Composites of individual components, including any flame retardants, to be maintained in production in accordance with originally tested composition formula
- Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype

PLACE OF PRODUCTION

Union Force S.p.A.
Via dell'Industria 11
20022 Bollate (MI)
Italy

Jessica Evans
Senior Specialist
Statutory Fire & Safety
Southampton Technical Support Office, Marine & Offshore
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relate to type approval, it certifies that the prototype(s) of the product(s) referred to herein hereafter have found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).

TYPE APPROVAL CERTIFICATE
No. LAB181117C5091
Enclosure - Page 1 of 1
Surobates Hf

Product description

Halogen free elastomeric foam.

- Density (kg/m³): 55 ± 5
- Thickness range (mm): 6 to 32

Field of application

As pipe insulation covers.

On the basis of the value of the total heat release (Q_T) and on the basis of the value of the peak heat release (Q_P) the material is deemed not generating excessive quantities of smoke nor toxic products in fire according to Annex 2 IMO 2010 FTP Code.

Tests carried out

Tests as per CSE Test Laboratory reports No. 0826/DC/REA/15 dated 9 October 2015 and No. 0270/DC/REA/17 dated 3 April 2017 issued according to IMO 2010 FTP Code Part 5.

General conditions for the approval

a) The initial conditions verified by RINA at the time of the approval are to be maintained.

b) Any changes to the initial conditions are to be promptly communicated to RINA, which reserves the right to repeat the relevant assessment.

c) This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with RINA.

d) RINA personnel are to be allowed to witness during the performances of activities, upon their request.

e) The activities are to be carried out in compliance with the RINA Rules and/or other applicable Rules.

f) Should the specified regulations or standards be amended during the validity of this certificate, the product is to be reapproved prior to it being placed on board vessels to which the amended regulations or standards apply.

Genoa 26/06/2017



RINA Services S.p.A.
Via Cavallotti 12 - 00198 Genova
Tel. +39 010 58081
Fax +39 010 5808200

137/148

INORGANIC Substances

	Resistant.		Resistant to limited resistance.		Limited Resistance.		Limited resistance to not resistant		Not resistant.
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INORGANIC substances	Concentration level	Resistance in time				
		Resistant	Resistant to limited resistance.	Limited Resistance.	Limited resistance to not resistant.	Not resistant.
Salts (aqueous solutions)						
Ammonium Nitrate	saturated solution	<div></div>				
Ammonium Phosphate	solution 30%	<div></div>				
Ammonium Sulphate	solution 30%	<div></div>				
Potassium Nitrate	30% or gas	<div></div>				
Rocksalt	melting mixture	<div></div>				
Sodium Carbonate	saturated solution	<div></div>				
Sodium Chloride	saturated solution	<div></div>				
Sodium Nitrateo	saturated solution	<div></div>				
Sodium Sulphate	saturated solution	<div></div>				
Zinc Chloride	saturated solution	<div></div>				
Electroplating Solutions of the Metals						
Sulphur dioxide	gas				<div></div>	
Chlorine	gas and liquid					<div></div>
Bases						
Ammonia	30% or gas	<div></div>				
Calcium Hydrate	saturated solution	<div></div>				
Acids						
Hydrochloric Acid	20%	<div></div>				
Hydrochloric Acid	concentrated		<div></div>			
Hydrofluoric Acid	48%	<div></div>				
Nitric Acid	20%		<div></div>			
Nitric Acid	concentrated			<div></div>		
Phosphoric Acid	concentrated	<div></div>				
Others/Altro						
Hydrogen Peroxide	30%					<div></div>
Hydrogen Peroxide	3%				<div></div>	
Hydrogen Sulphide	gas					<div></div>
Sugared Water	30%	<div></div>				
Caustic Soda	concentrated	<div></div>				

ORGANIC Substances

Resistant.
 Resistant to limited resistance.
 Limited Resistance.
 Limited resistance to not resistant.
 Not resistant.

ORGANIC substances	Concentration level	Resistance in time				
		Resistant.	Resistant to limited resistance.	Limited Resistance.	Limited resistance to not resistant.	Not resistant.
Alcohols						
Ethyl Alcohol	—					
Ethylene Glycol	—					
Glycerine	—					
Methyl Alcohol	—					
Acids						
Acetic Acid	20%					
Concentrated Acetic Acid	99-100%					
Esters						
Tricresyl Phosphate	—					
Aldehydes, Ketones						
Acetaldehyde	solution 40%					
Acetone						
Formalin (water sol. -40% of Formaldheyde)	—					
Ethers						
Ethyl Ether						
Saturated Aliphatics Hydrocarbons						
Hexane	gas or liquid					
Methane	gas					
Aliphatic Halogenated Hydrocarbons						
Carbon Tetrachloride	—					
Chloroform	—					
Freon 11 (boiling point 74 F)	liquid and gas					
Freon 113 (boiling point 114 F)	liquid and gas					
Trichloroethylene	—					
Aromatic Hydrocarbons						
Benzene	—					
Hydrocarbon Blends						
Gas Oil	—					
Hydraulic Oil	—					
Motor Fuel FAM	liquid					
Oils ASTM specifications 1, 2, 3	—					
Petroleum/Petrolío, Crude Petroleum	—					
Animal and Vegetable Oils and Fats						
Castor Oil	—					
Linseed Oil	—					
Soyabean Oil						
Others						
Carbon Disulphide	gas					
Carbon Disulphide	liquid					
Detergents and Surfactants						
Molasses						

EUROBATEX AT

CHEMICAL RESISTANCE

ORGANIC Substances

Resistant.
 Resistant to limited resistance.
 Limited Resistance.
 Limited resistance to not resistant.
 Not resistant.

ORGANIC substances	Concentration level	Resistance in time				
		Resistant.	Resistant to limited resistance.	Limited Resistance.	Limited resistance to not resistant.	Not resistant.
Alcohols						
Ethyl Glycol, Glycerine	—					
Methanol, Ethanol Propanol, Butanol	—					
Acids						
Acetic Acid	50%					
Acetic Anhydride	—					
Chloroacetic and Trichloroacetic Acid	—					
Adipic, Butyric, Caproic, Lactic, Maeic and Oxalic Acid	—					
Formic, Stearic, Plmmitic Oleic and Chlorosulphonic Acid	—					
Amines						
Ethanolamine Triethanolamine	—					
Trimethylamine Triethylamine, Propylamine	—					
Esters/						
Methyl Acetate, Ethyl Acetate Amyl Acetate	—					
Ethyl Acrylate	—					
Dioctylphthalate	—					
Tributyl Phosphate, Tricresyl Phosphate	—					
Butyl Stearate	—					
Aldehydes, Ketones						
Acetaldehyde	—					
Acetone, Methyl Ethyl Ketone	—					
Acrolein	—					
Acrylonitrile	—					
Cyclohexanone	—					
Ethers						
Diethyl Ether Tetrahydrofuran	—					
Saturated Aliphatics Hydrocarbons						
Methane, Propane, Hexane, Isooctane, Kerosene	—					

EUROBATEX AT

CHEMICAL RESISTANCE

ORGANIC Substances

Resistant.
 Resistant to limited resistance.
 Limited Resistance.
 Limited resistance to not resistant.
 Not resistant.

ORGANIC substances	Concentration level	Resistance in time				
		Resistant.	Resistant to limited resistance.	Limited Resistance.	Limited resistance to not resistant.	Not resistant.
Unsaturated Aliphatics Hydrocarbons						
Ethane, Propene, Butadiene Acetylene	—					
Aliphatic Halogenated Hydrocarbons						
Methylene Chloride, Ethylene Chloride Chloride	—					
Ethylene Dichloride	—					
Trichloroethylene, Chloroform, Perchloroethylene	—					
Carbon Tetrachloride, Ethylene Bromide, Allyl Chloride	—					
Vinyl Chloride, Freon	—					
Aromatic Hydrocarbons						
Benzene, Toluene, Xylene Tetralin, Decalin	—					
Aniline, Nitrobenzene	—					
Naphtalene, Styrene, Phenol, Vinylpyridine	—					
Chlorobenzene, Bromobenzene, Benzyl Chloride	—					
Benzaldehyde	—					
Mineral Oils	—					
Animal and Vegetable Oils and Fats						
Olive Oil, Butter	—					
Coconut Oil, Castor Oil, Soyabean Oil	—					



advanced elastomeric thermal and acoustic insulation materials

EUROBATEX AT

CHEMICAL RESISTANCE

INORGANIC Substances

Resistant.
 Resistant to limited resistance.
 Limited Resistance.
 Limited resistance to not resistant.
 Not resistant.

INORGANIC substances	Concentration level	Resistance in time				
		Resistant.	Resistant to limited resistance.	Limited Resistance.	Limited resistance to not resistant.	Not resistant.
Salts (aqueous solutions)						
Ammonium, Alkali Metals, Alkaline Earth Metals	—					
Cadmium, Zinc, Aluminium, Iron, Chromium	—					
Antimony, Arsenic, Tin, Siver	—					
Mercury and Uranium Salts	—					
Bases						
Ammonia, Alkali Metal Hydroxides	—					
Alkali Earth Metal Hydroxides	—					
Acids						
Hydrochloric Acid	37%					
Nitric Acid	30%					
Phosphoric Acid	—					
Sulphuric Acid	75%					
Sulphurous Acid	—					
Others						
Copper, Gold, Nickel, Rhodium	—					
Bromine, Iodine	—					
Chorine	dry					
Chorine	moist					
Platinum, Silver, Tin, Zinc and Brass	—					
Sulpher Dioxide	dry, moist					
Water, Hot Water, Water Vapour, Sea Water	—					



advanced elastomeric thermal and acoustic insulation materials

European Regulation 1907/2006 . REACH

(European law No. 396 of 30/12/2006)

REACH

Substances of Very High Concern (SVHC)

Substance Name (REACH SVHC)	Name IUPAC	EC No.	CAS No.
Trirhyl arsenate	Trietil arseniato	427-700-2	15606-95-8
Anthracene	—	204-371-1	120-12-7
4,4 ³ -Diaminodiphenylmethane (MDA)	—	202-974-4	101-77-9
Dibutyl Phthalate (DBP)	—	201-557-4	84-74-2
Cobalt dichloride	—	231-589-4	7646-79-9
Diarsenic pentaoxide	1,3 - Dioxodiarsoxane 1,3 - Dioddido	215-116-9	1303-28-2
Diarsenic trioxide	Dioxodiarsoxane	215-481-4	1327-53-3
Sodium dichromate	Bicromato di sodio	234-190-3	10588-01-9 7789-12-0
Musk xylene 5 - tert - butyl - 2,4,6 - trinitro-m-xylene	1-tert-butil, 5-dimetil, 2, 4, 6 trinitrobenzene	201-394-4	81-15-2
Bis (2-ethylhexyl) phthalate (DEHP)	—	204-211-0	117-81-7
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified	—	247-148-4 221-695-9	25637-99-4 3194-55-6
Alpha-Hexabromocyclododecane	—	221-695-9 247-148-4	134237-50-6
Beta-Hexabromocyclododecane	—	221-695-9 247-148-4	134237-51-7
Gamma-Hexabromocyclododecane	—	221-695-9 247-148-4	134237-52-7
Alkanes, C10-13, chloro (short chain chlorinated paraffins)	—	287-476-5	85535-84-8
Bis (tributyltin) oxide (TBTO)	Hexa-n-Butyldistannoxan	200-268-0	56-35-9
Lead hydrogen arsenate	Piombo arseniato idrogeno	232-064-2	7784-40-9
Benzyl butylphthalate (BBP)	—	201-622-7	85-68-7

Union Foam S.p.A confirms that their products comply with the REACH regulations according to EU Guideline 1907/06. Union Foam S.p.A as a manufacturer of products is in the sense of the REACH Regulation a “downstream user” ; due to this fact the company is not subject to the registration duty under REACH. Union Foam also declares that their suppliers comply with REACH regulations and that the whole range of Union Foam product items is SVHC free.



**Insulation materials.
Our world.
For a better world.**



advanced elastomeric thermal and acoustic insulation materials

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