

SH/Armaflex®

THE PROFESSIONAL HIGH
PERFORMANCE INSULATION FOR LONG
TERM ENERGY SAVING TRUSTED SINCE
40 YEARS



- Reduction of up to 85% of energy losses
- With Microban® antimicrobial product protection
- Self-adhesive tubes now with improved tangential cut
- Self-adhesive tubes with tangential cut for improved adhesion security

- Outstanding thermal conductivity for improved energy savings and CO₂ reduction
- Conforming to energy saving regulations
- FM approved
- Excellent fire rating classification

EPD
Environmental Product Declaration

Microban®
antibacterial protection

FM
APPROVED

SH/ARMAFLEX ACTIVE MICROBAN® ANTIMICROBIAL PROTECTION

When microbes come in contact with the insulation surface, MICROBAN® protection penetrates the cell wall of the microorganism, disabling its ability to function, grow and reproduce. Because the protection is built in during the manufacturing process, it will not wash off or wear away. This gives products with MICROBAN® technology an added level of protection against mould and mildew, thus positively contributing to the indoor air quality of the surrounding ambients. Insulation material equipped with MICROBAN® is therefore the ideal long-term solution for sanitary and heating systems in public buildings such as schools, hospitals, elderly homes, offices and airports.



ENERGY SAVINGS

Since the European Energy Performance of Buildings Directive (EPBD), the requirements of energy efficiency for both new and refurbished buildings increased. With this, the energy consumption levels became more visible and transparent to owners, tenants and users through a building certification, as an indispensable part of the building documentation. Correct insulation of heating and sanitary pipes is critical for the optimum energy performance of a building - which is ensured by the use of the SH/Armaflex range.



INVESTMENT PAYBACK

The static amortisation of the initial costs by using SH/Armaflex 25 mm is less than one year.

- compared to initial situation of noninsulated pipes
- domestic hot water and heating (70/55 °C)
- pipe lines located in unheated area
- fuel costs 0,55 € / liter

Payback time in less than 6 months!



COMPLETE SYSTEM

Armacell offers a complete carefully considered and coordinated system solution for any professional insulation challenge: SH/Armaflex standard, self-adhesive and endless tubes and sheets, tape and accessories. Armafix X pipe supports to avoid thermal bridging, Armaflex Protect fire barrier as well as Armaprotect 1000 firestop filler.

The wide range of specially developed accessories such as the new generation of adhesives and the Armaflex Toolbox for applying Armaflex insulation materials make installation even easier.



Technical Data - SH/Armaflex

Brief description	Highly flexible closed-cell extruded insulation material with low thermal conductivity to minimise energy losses on heating and plumbing installations.
Material type	Elastomeric foam based on synthetic rubber. Factory made flexible elastomeric foam (FEF) according to EN 14304.
Colour	grey
Material Special Information	Self-adhesive coating: pressure-sensitive adhesive coating on modified acrylate basis with mesh structure, covered with polyethylene foil. Traces of silicon can be found on the protection paper/foil used to protect self-adhesive closures.
Applications	Insulation / protection of pipes (heating, domestic hot and cold water, sewage water, drain water) and other heating and plumbing installations to optimally prevent heat losses and save energy.
Special Features	SH/Armaflex is a closed cell insulation material for heating and plumbing systems. Its water vapour diffusion resistance value is sufficient to comply with the condensation control requirements for these applications and especially for cold water pipelines.
Safety and Environment	Meets the requirements for sustainable construction such as LEED in combination with Armaflex SF990 VOC free adhesive . Type III Environmental Product Declaration (EPD): Declaration number "EPD-ARM-20150060-IBB1-DE", Institut Bauen und Umwelt e.V. (IBU)
Remarks	EC Certificate of Conformity no. 0543 of Güteschutzgemeinschaft Hartschaum e.V. , Celle Certificate of Constancy of Performances no 0552 of Güteschutzgemeinschaft Hartschaum e.V. , Celle

Property	Value/Assessment			Test ³	Super- vision ⁴	Special Remark
Temperature Range						
Temperature Range	max. service temperature ¹	+110 °C	(+85 °C If sheet or tape is glued to the object with all over surface coverage.)	EU 5315 EU 5316	○/●	Tested acc. to EN 14706, EN 14707 and EN 14304
	min. service temperature	as usual in heating and plumbing systems				
Thermal Conductivity						
Thermal Conductivity	ϑ_m	40	°C	$\lambda =$	EU 5627 EU 5654 EU 5316	○/● Declared acc. to EN ISO 13787 Tested acc. to EN 12667 and EN ISO 8497
	tubes SH-10x12 up to SH-10x60	$\lambda \leq 0,036$	W/(m · K)	$[32 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m - 40)^2]/1000$		
	all other tubes	$\lambda \leq 0,040$	W/(m · K)	$[36 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m - 40)^2]/1000$		
	sheets	$\lambda \leq 0,040$	W/(m · K)	$[36 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m - 40)^2]/1000$		
Fire performance						
Reaction to fire ²	tubes up to 45 mm	B _L -s3, d0		EU 5627 EU 5654	○/●	Classified acc. to EN 13501-1 Tested acc. to EN 13823 and EN ISO 11925-2
	tubes > 45 mm	C _L -s3, d0				
	sheets 10 mm	C-s3, d0				
	sheets 20 mm	D-s3, d0				
	tape	B-s3, d0				
Other Fire Class	FM-approved			FM: D 4713, D 5607		
Practical Fire Behaviour	Self-extinguishing, does not drip, does not spread flames					
Acoustic Performance						
Reduction of structure-borne sound transmission	Insulation effect ≤ 28 dB(A)			D 3660		Tested acc. to DIN 52219 and EN ISO 3822-1
Other technical features						
Dimensions and tolerances	In accordance with EN 14304, table 1			EU 5315 EU 5316	○/●	Tested acc. to EN 822, EN 823, EN 13467
Storage & Shelf life	Tapes and tubes, self-adhesive: 1 year					Can be stored in dry, clean rooms at normal relative humidity (50 % to 70 %) and ambient temperature (0 °C - 35 °C)
Antimicrobial behaviour	In-built Microban® active antimicrobial protection: No fungal growth observed					
AGI Designation Code	tubes 10/2:10/60	36.12.02.06.01				
	other tubes	36.12.04.07.01				
	sheets	36.07.04.06.01				

1. Shall the insulation be glued with its whole surface directly onto the object and the surface temperature of the object exceeds +85 °C, (a base layer of) HT/Armaflex substrate should be used.

2. The reaction to fire classification is valid on metal surfaces.

*1 Further documents such as test certificates, approvals and the like can be requested using the registration number given.

*2 ●: Official supervision by independent institutes and /or test authorities
○: Own in-factory quality monitoring

All data and technical information are based on results achieved under typical application conditions. Recipients of this information should, in their own interest and responsibility, clarify with us in due time whether or not the data and information apply to the intended application area. Installation instructions are available in our Armaflex installation manual. Please consult our sales representatives before insulating stainless steels. Armaflex 520 adhesive and Clipse must be used to guarantee proper installation. For outside use, Armaflex should be protected with Armafinish Paint or Arma-Chek covering within 3 days of installation.

SH/Armaflex tubes



Length 2,0 m

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	9,0 mm insulation thickness			11,0 mm insulation thickness		
		Insulation thickness [mm]	Code	m/carton	Insulation thickness [mm]	Code	m/carton
12	13,0 - 14,5	-	-	-	11,0	SH-10X012	180
15	16,0 - 17,5	-	-	-	11,0	SH-10X015	150
18	19,0 - 20,5	-	-	-	11,0	SH-10X018	130
20	21,0 - 22,5	-	-	-	11,0	SH-10X020	100
22	23,0 - 24,5	-	-	-	11,0	SH-10X022	100
25	26,0 - 27,5	-	-	-	11,0	SH-10X025	80
28	29,0 - 30,5	-	-	-	11,0	SH-10X028	80
32	33,0 - 35,0	-	-	-	10,0	SH-10X032	70
35	36,0 - 38,0	-	-	-	10,0	SH-10X035	70
40	41,0 - 42,5	-	-	-	10,0	SH-10X040	60
42	43,5 - 45,5	-	-	-	10,0	SH-10X042	60
48	49,5 - 51,5	-	-	-	10,0	SH-10X048	50
50	51,0 - 52,5	-	-	-	10,0	SH-10X050	44
54	55,0 - 57,0	-	-	-	10,0	SH-10X054	44
60	61,5 - 63,5	-	-	-	10,0	SH-10X060	40
64	65,0 - 67,5	9,0	SH-09X064	36	-	-	-
76	77,0 - 79,5	9,0	SH-09X076	28	-	-	-
89	90,5 - 93,5	9,0	SH-09X089	24	-	-	-
108	109,5 - 113,0	9,0	SH-09X108	20	-	-	-
114	116,0 - 120,0	9,0	SH-09X114	20	-	-	-

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	13,0 mm insulation thickness			19,0 mm insulation thickness		
		Insulation thickness [mm]	Code	m/carton	Insulation thickness [mm]	Code	m/carton
12	13,0 - 14,5	-	-	-	19,0	SH-19X012	72
15	16,0 - 17,5	-	-	-	19,0	SH-19X015	72
18	19,0 - 20,5	-	-	-	19,0	SH-19X018	66
20	21,0 - 22,5	-	-	-	19,0	SH-19X020	60
22	23,0 - 24,5	-	-	-	19,0	SH-19X022	60
25	26,0 - 27,5	-	-	-	19,0	SH-19X025	50
28	29,0 - 30,5	-	-	-	19,0	SH-19X028	48
32	33,0 - 35,0	-	-	-	19,0	SH-19X032	32
35	36,0 - 38,0	-	-	-	19,0	SH-19X035	40
40	41,0 - 42,5	-	-	-	19,0	SH-19X040	32
42	43,5 - 45,5	-	-	-	19,0	SH-19X042	32
48	49,5 - 51,5	-	-	-	19,0	SH-19X048	30
50	51,0 - 52,5	-	-	-	19,0	SH-19X050	26
54	55,0 - 57,0	-	-	-	19,0	SH-19X054	26
60	61,5 - 63,5	-	-	-	19,0	SH-19X060	24
76	77,0 - 79,5	13,0	SH-13X076	24	19,0	SH-19X076	18
89	90,5 - 93,5	13,0	SH-13X089	18	19,0	SH-19X089	16
114	116,0 - 120,0	13,0	SH-13X114	12	-	-	-

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	24,0 mm insulation thickness			32,0 mm - 39,0 mm insulation thickness		
		Insulation thickness [mm]	Code	m/carton	Insulation thickness [mm]	Code	m/carton
15	16,0 - 17,5	27,0	SH-24X015	36	-	-	-
18	19,0 - 20,5	26,0	SH-24X018	36	-	-	-
20	21,0 - 22,5	26,0	SH-24X020 ●	36	-	-	-
22	23,0 - 24,5	26,0	SH-24X022	36	-	-	-
25	26,0 - 27,5	25,0	SH-24X025 ●	32	-	-	-
28	29,0 - 30,5	25,0	SH-24X028 ¹	32	39,0	SH-36X028	18
32	33,0 - 35,0	24,0	SH-24X032	24	-	-	-
35	36,0 - 38,0	24,0	SH-24X035	24	38,0	SH-36X035	16
42	43,5 - 45,5	24,0	SH-24X042	24	-	-	-
48	49,5 - 51,5	26,0	SH-24X048	24	-	-	-
54	55,0 - 57,0	-	-	-	31,0	SH-32X054	12
76	77,0 - 79,5	-	-	-	44,0	SH-44X076	8

SH/Armaflex tubes



Length 2,0 m

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	46,0 mm - 53,0 mm insulation thickness					
		Insulation thickness [mm]	Code	m/carton			
42	43,5 - 45,5	50,0	SH-46X042	8	-	-	-
48	49,5 - 51,5	53,0	SH-46X048	8	-	-	-

Length tolerance for tubes ± 1,5 %

Thickness tolerance
 9 mm - 18 mm: ± 1,5 mm
 19 mm - 31 mm: ± 2,5 mm
 >31 mm: ± 3,0 mm

Remark
 Remark Up to 10% of the carton contents can also be delivered with tubes in 1 m length.
 For carton contents below 20 m a single 2 m tube can be replaced by two 1 m tubes.

Regulations
 Pipe diameter copper pipe acc. DIN EN 1051
 Pipe diameter steel pipe acc. DIN 2440, 2441, 2448, 2458

• Item not on stock. Delivery on request.

¹ For steel pipes

SH/Armaflex tubes self-adhesive



Length 2,0 m, with tangential cut

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	11,0 mm insulation thickness			19,0 mm insulation thickness		
		Insulation thickness [mm]	Code	m/carton	Insulation thickness [mm]	Code	m/carton
12	13,0 - 14,5	11,0	SH-10X012-A	180	-	-	-
15	16,0 - 17,5	11,0	SH-10X015-A	150	19,0	SH-19X015-A	72
18	19,0 - 20,5	11,0	SH-10X018-A	130	19,0	SH-19X018-A	66
20	21,0 - 22,5	11,0	SH-10X020-A •	100	19,0	SH-19X020-A •	60
22	23,0 - 24,5	11,0	SH-10X022-A	100	19,0	SH-19X022-A	60
25	26,0 - 27,5	11,0	SH-10X025-A •	80	19,0	SH-19X025-A •	50
28	29,0 - 30,5	11,0	SH-10X028-A	80	19,0	SH-19X028-A	48
32	33,0 - 35,0	10,0	SH-10X032-A	70	19,0	SH-19X032-A •	32
35	36,0 - 38,0	10,0	SH-10X035-A	70	19,0	SH-19X035-A	40
40	41,0 - 42,5	10,0	SH-10X040-A •	60	19,0	SH-19X040-A •	32
42	43,5 - 45,5	10,0	SH-10X042-A	60	19,0	SH-19X042-A	32
48	49,5 - 51,5	10,0	SH-10X048-A	50	19,0	SH-19X048-A •	30
50	51,0 - 52,5	10,0	SH-10X050-A •	44	19,0	SH-19X050-A •	26
54	55,0 - 57,0	10,0	SH-10X054-A	44	19,0	SH-19X054-A	26
60	61,5 - 63,5	10,0	SH-10X060-A	40	19,0	SH-19X060-A •	24

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	24,0 mm insulation thickness					
		Insulation thickness [mm]	Code	m/carton			
15	16,0 - 17,5	27,0	SH-24X015-A	36	-	-	-
18	19,0 - 20,5	26,0	SH-24X018-A	36	-	-	-
20	21,0 - 22,5	26,0	SH-24X020-A •	36	-	-	-
22	23,0 - 24,5	26,0	SH-24X022-A	36	-	-	-
25	26,0 - 27,5	25,0	SH-24X025-A •	32	-	-	-
28	29,0 - 30,5	25,0	SH-24X028-A ²	32	-	-	-
32	33,0 - 35,0	24,0	SH-24X032-A •	24	-	-	-
35	36,0 - 38,0	24,0	SH-24X035-A •	24	-	-	-
42	43,5 - 45,5	24,0	SH-24X042-A	24	-	-	-
48	49,5 - 51,5	26,0	SH-24X048-A •	24	-	-	-

Length tolerance for tubes ± 1,5 %

Thickness tolerance
 9 mm - 18 mm: ± 1,5 mm
 19 mm - 31 mm: ± 2,5 mm

Remark
 Remark Up to 10% of the carton contents can also be delivered with tubes in 1 m length.
 For carton contents below 20 m a single 2 m tube can be replaced by two 1 m tubes.

Regulations
 Pipe diam copper pipe acc. DIE EN 1057
 Pipe diam. Steel pipe acc. DIN EN 10255

• Item not on stock. Delivery on request.

² For steel pipes

SH/Armaflex tubes endless



Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	Insulation thickness [mm]	Code	m/carton
15	16,0 - 17,5	11,0	SH-10X015/E	35
18	19,0 - 20,5	11,0	SH-10X018/E	30
22	23,0 - 24,5	11,0	SH-10X022/E	25
28	29,0 - 30,5	11,0	SH-10X028/E ³	20

Length tolerance for tubes

± 1,5 %

Thickness tolerance

10 mm: ± 1,5 mm

Regulations

(1) Pipe diam copper pipe acc. DIN EN 1057

(2) Pipe diam. Steel pipe acc. DIN EN 10255

(3) only for steel pipe

³ Only for steel pipe

SH/Armaflex sheets



Length 2,0 m, Width 0,5 m

Code	Insulation thickness [mm]	m ² /carton
SH-10-99	10,0	13
SH-20-99	20,0	7

Length tolerance for sheets

±1,5 %

Thickness tolerance for sheets

10 mm: ±1,5 mm

20 mm: ±2,0 mm

Reaction to fire

SH 10 mm sheet: C-s3,d0

SH 20 mm sheet: D-s3,d0

SH/Armaflex tapes self-adhesive



Code	Width [mm]	Length [m]	Thickness [mm]	Rolls/carton
SH-TAPE	50,0	15	3	12
SH-TAPE/6	50,0	15	3	6
SH-TAPE/PVC	25,0	10	3	72