



SH/ARMAFLEX

PROFESSIONAL HEATING AND
PLUMBING SOLUTION



- Complete system solution
- Fast return on investment

- Outstanding energy saving
- Range meets energy regulations



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.

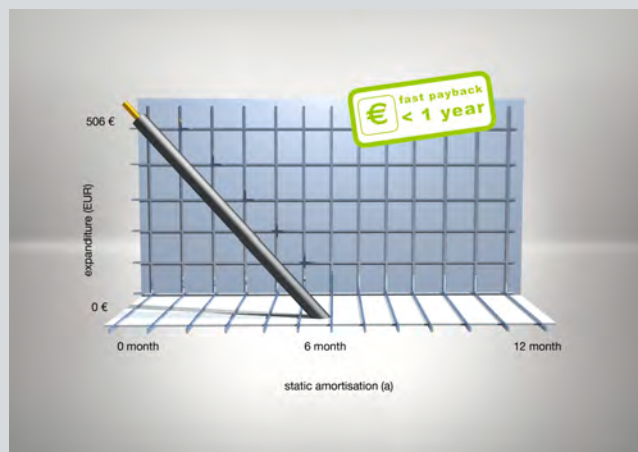


INVESTMENT PAYBACK

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 in combination with Armaflex SF990 adhesive such as LEED. Type III Environmental Product Declaration (EPD): Declaration number "EPD-ARM-20150107-IBB1-DE", Institut Bauen und Umwelt e.V. (IBU)
Remarks	Declaration of Performance is available in accordance with Article 7(3) of Regulation (EU) No 305/2011 on our homepage: www.armacell.com/DoP

Property	Value/Assessment	Test ^{*1}	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.) min. service temperature as usual in heating and plumbing systems	EU 5662	Tested acc. to EN 14706, EN 14707 and EN 14304
Thermal Conductivity			
Thermal Conductivity	ϑ_m 40 °C $\lambda =$ 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) $[36 + 0,1 \cdot \vartheta_m + 0,0008 \cdot (\vartheta_m - 40)^2] / 1000$	EU 5662	Declared acc. to EN ISO 13787 Tested acc. to EN 12667 and EN ISO 8497
Fire performance			
Reaction to fire	tubes up to 45 mm B _L -s3, d0 tubes > 45 mm C _L -s3, d0 sheets 10 mm C-s3, d0 sheets 20 mm D-s3, d0 tape B-s3, d0	EU 5662	Classified acc. to EN 13501-1 Tested acc. to EN 13823 and EN ISO 11925-2
Other Fire Class	FM-approved up to 45 mm 4924-Pipe and Duct Insulation	D 5607	Tested according to UBC26-3
Practical Fire Behaviour	Self-extinguishing, does not drip, does not spread flames		
Fire resistance of structural element	EI 30 - EI 90	EU 5662 EU 5584	Classified acc. to EN 13501-2 Tested acc. to EN 1366-3
Other technical features			
Dimensions and tolerances	In accordance with EN 14304, table 1	EU 5662	Tested acc. to EN 822, EN 823, EN 13467
UV resistance ²	Protection against UV-radiation is necessary.	TB 142	
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	D 5932	Tested acc. to EN ISO 846 (VDI 6022)

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. If Armaflex is applied under UV-radiation the material must be protected within 3 days with a covering.

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

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 Customer Service Center before insulating stainless steels.

SH/Armaflex tubes



Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	[DE] Field of application C + D according to EnEV			[DE] Field of application B according to EnEV		
		Insulation thickness [mm]	Code	m/carton	Insulation thickness [mm]	Code	m/carton
12	13,0 - 14,5	11,0	SH-10X012	180	11,0	SH-10X012	180
15	16,0 - 17,5	11,0	SH-10X015	150	11,0	SH-10X015	150
18	19,0 - 20,5	11,0	SH-10X018	130	11,0	SH-10X018	130
20	21,0 - 22,5	11,0	SH-10X020	100	11,0	SH-10X020	100
22	23,0 - 24,5	11,0	SH-10X022	100	11,0	SH-10X022	100
25	26,0 - 27,5	11,0	SH-10X025	80	11,0	SH-10X025	80
28	29,0 - 30,5	11,0	SH-10X028 ¹	80	19,0	SH-19X028 ²	48
32	33,0 - 35,0	10,0	SH-10X032	70	19,0	SH-19X032	32
35	36,0 - 38,0	10,0	SH-10X035	70	19,0	SH-19X035	40
40	41,0 - 42,5	10,0	SH-10X040 ●	60	-	-	-
42	43,5 - 45,5	10,0	SH-10X042	60	24,0	SH-24X042	24
48	49,5 - 51,5	10,0	SH-10X048	50	26,0	SH-24X048	24
50	51,0 - 52,5	10,0	SH-10X050	44	-	-	-
54	55,0 - 57,0	10,0	SH-10X054	44	31,0	SH-32X054	12
60	61,5 - 63,5	10,0	SH-10X060	40	32,0	SH-34X060	10
64	65,0 - 67,5	9,0	SH-09X064	36	-	-	-
76	77,0 - 79,5	9,0	SH-09X076	28	44,0	SH-44X076	8
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	[DE] Field of application A according to EnEV					
		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 ³	32	-	-	-
28	29,0 - 30,5	39,0	SH-36X028	18	-	-	-
35	36,0 - 38,0	38,0	SH-36X035	16	-	-	-
42	43,5 - 45,5	50,0	SH-46X042	8	-	-	-
48	49,5 - 51,5	53,0	SH-46X048	8	-	-	-

● Item not in stock. Delivery on request. [MTO]

¹ Only for steel pipe

² Only for copper pipes

³ 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	[DE] Field of application C + D according to EnEV			[DE] Field of application B according to EnEV		
		Insulation thickness [mm]	Code	m/carton	Insulation thickness [mm]	Code	m/carton
12	13,0 - 14,5	11,0	SH-10X012-A	180	11,0	SH-10X012-A	180
15	16,0 - 17,5	11,0	SH-10X015-A	150	11,0	SH-10X015-A	150
18	19,0 - 20,5	11,0	SH-10X018-A	130	11,0	SH-10X018-A	130
20	21,0 - 22,5	11,0	SH-10X020-A ●	100	11,0	SH-10X020-A ●	100
22	23,0 - 24,5	11,0	SH-10X022-A	100	11,0	SH-10X022-A	100
25	26,0 - 27,5	11,0	SH-10X025-A ●	80	11,0	SH-10X025-A ●	80
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	-	-	-
42	43,5 - 45,5	10,0	SH-10X042-A	60	24,0	SH-24X042-A	24
48	49,5 - 51,5	10,0	SH-10X048-A	50	26,0	SH-24X048-A ●	24
50	51,0 - 52,5	10,0	SH-10X050-A ●	44	-	-	-
54	55,0 - 57,0	10,0	SH-10X054-A	44	-	-	-
60	61,5 - 63,5	10,0	SH-10X060-A	40	-	-	-

SH/Armaflex tubes self-adhesive



Length 2,0 m, with tangential cut

Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	[DE] Field of application A according to EnEV					
		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 ⁴	32	-	-	-

Length tolerance for tubes ± 1,5 %

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

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

• Item not in stock. Delivery on request. [MTO]

⁴ For steel pipes

SH/Armaflex tubes endless



Pipe max. Outside-Ø [mm]	Inner Ø min/ max mm	[DE] Field of application D + C + B according to EnEV		
		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 ⁵	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

⁵ 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