



ENGINEERED TO  
PREVENT CONDENSATION

# ArmaFlex<sup>®</sup> Class 1

Built-in water vapour barrier to  
reduce risk of corrosion under insulation

- // Class 1 fire classification according to BS476 Part 7
- // Minimise long-term heat gain and reduce energy cost
- // Closed-cell structure increases resistance to water vapour

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 **armacell**<sup>®</sup>  
ArmaFlex<sup>®</sup>

**ENGINEERED TO PREVENT CONDENSATION**

# ArmaFlex Class 1

Built-in water vapour barrier to reduce risk of corrosion under insulation (CUI). Conserves energy and reduces heat loss. Class 1 fire classification according to BS476 Part 7. Certified by leading international fire safety agencies. Fibre-free.

Easy to install



Prevent condensation



Reliable performance



## // Closed-cell structure

Minimises moisture penetration to ensure long-term protection against corrosion under insulation. Removes the need for an additional water vapour barrier.

## // Good fire performance

FM Approved for entire range of insulation thickness. Certified to conform to safety, reliability and performance standards of various local fire safety bodies.

## // Energy efficient

Low thermal conductivity minimises energy losses to give long term energy savings.

## // Environmentally safe

Zero Ozone Depletion Potential and Global Warming Potential; rated "Excellent" by Singapore Green Building Council.

## // Safer indoor air quality

Fibre-free, free of formaldehyde and GREENGUARD® Gold certified for low emissions of volatile organic compounds.

## // Easy-to-install

Highly flexible elastomeric foam that can be installed quickly on irregular shapes and installations in tight spaces.



## TECHNICAL DATA - ARMAFLEX CLASS 1

Brief description	ArmaFlex Class 1 is a flexible insulation material that reliably protects against water vapour ingress due to its closed-cell structure.No additional water vapour barrier is required.
Material type	Elastomeric foam based on synthetic rubber.
Special features	Engineered wall: Increasing insulation wall thickness for tubes ensures that the surface temperature is maintained as the pipe diameter is increased.
Applications	Thermal insulation/protection of pipes, air ducts and vessels (incl. elbows, fittings, flanges etc.) in air conditioning, refrigeration and process equipment to prevent condensation and to save energy. Structure-borne noise reduction in service-water and waste-water installations.
Safety and environment	Type III Environmental Product Declaration (EPD): Declaration number 4786944121.101.1, UL Environment.
Assembly	Please refer to the ArmaFlex installation manual for advice. ArmaFlex can be used together with ArmaFlex 520 adhesive and ArmaFix®pi-phangers for a complete insulation system.

Property	Value/Assessment					Standard/Test method	
<b>Temperature range</b>							
Service temperature	Max. service temperature	+105 °C			+85 °C if sheet or tape is glued to the object with its whole surface.		
	Min. service temperature	-50 °C					
<b>Thermal conductivity</b>							
	θm	-20	+/-0	+40	+70	[°C]	GB/T 10294
	λ ≤	0.032	0.034	0.039	0.042	[W/(m·K)]	GB/T 10296
<b>Water vapour diffusion resistance</b>							
Water vapour diffusion resistance factor	μ ≥ 10,000						GB/T 17146
Water vapour permeability	≤ 1.96 x 10 <sup>-11</sup> g/[m·s·Pa]						GB/T 17146
<b>Fire performance &amp; approvals</b>							
Surface spread of flame	Class 1						BS 476 Part 7:1997
Burning behaviour of building materials and products	Class B1						CQC Fire Safety Performance Certification [25mm thickness specification]
Practical fire behaviour	Does not generate flaming droplets.						
<b>Other technical features</b>							
features UV resistance	For UV protection, ArmaFinish Paint or Arma-Chek® covering system is required. For outside use, ArmaFlex should be protected within 3 days of installation.						
Health aspects	Free of fibre and formaldehyde. Low Volatile Organic Compounds, Low Total Aldehyde. GREENGUARD Gold for even lower volatile organic compounds and total chemical emissions.						UL2818-2013
Density	40 ~ 80 kg/m <sup>3</sup>						GB/T 6343
Dimensional stability, 105 °C, 7 days	≤10%						GB8811
Resilience after compression relief	≥ 70%						GB/T 6669
Ageing Resistance , 150h	Slight shrink , Crack Free , Pinhole Free , No Deformation.						GB/T 16259
Water absorption by vacuum	≤ 10%						GB/T 17794
Corrosion of metals	Up to Standard, No Corrosion.						
Chemical resistance	Please consult product test list.						
Environmental aspect	Zero ODP and GWP.						
Storage	Material shall be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0°C to 35 °C).						
Shelf (storage life)	Self-adhesive sheets, tubes and tapes: 1 year.						

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 our Technical department in due time whether or not the data and information apply to the intended application area. For outside use, ArmaFlex should be protected with ArmaFinish Paint or Arma-Chek® covering within 3 days of installation.

**Tubes (Length: 2.0m)**

D-series (non-engineered wall)			F-series (non-engineered wall)			H-series (engineered wall)			M-series (engineered wall)			Insulation inner diameter	Cu pipe outer diameter	Fe pipe outer diameter	Nominal diameter
Item	Average insulation thickness	Carton content	Item	Average insulation thickness	Carton content	Item	Average insulation thickness	Carton content	Item	Average insulation thickness	Carton content				
	[mm]	[m]		[mm]	[m]		[mm]	[m]		[mm]	[m]	[mm]	[inch]	[mm]	[DN]
C1-D-006#	6.25	612	C1-F-006	9.25	324	C1-H-006	14	180	C1-M-006	17.75	112	6	1/4		
C1-D-010#	6.25	440	C1-F-010	9.25	264	C1-H-010	14	144	C1-M-010	17.75	100	10	3/8		6
C1-D-012#	6.25	352	C1-F-012	9.25	220	C1-H-012	14	128	C1-M-012	17.75	90	12	1/2		
C1-D-015	6.25	264	C1-F-015	9.25	180	C1-H-015	14	128	C1-M-015	17.75	80	15	5/8	14	8
C1-D-020	6.25	220	C1-F-020	9.25	144	C1-H-020	14	90	C1-M-020	18.75	72	20	3/4		
C1-D-022	6.25	180	C1-F-022	9.25	128	C1-H-022	12.75	90	C1-M-022	18.75	60	22	7/8	22	15
C1-D-025	6.25	144	C1-F-025	9.25	108	C1-H-025	12.75	82	C1-M-025	19.25	50	25	1	25	
C1-D-028#	6.25	144	C1-F-028	9.25	98	C1-H-028	13.25	72	C1-M-028	19.75	50	28	1-1/8	28	20
			C1-F-032	9.25	84	C1-H-032	13.25	64	C1-M-032	19.75	40	32	1-1/4	32	
			C1-F-035	9.25	82	C1-H-035	13.75	58	C1-M-035	20.50	36	35	1-3/8		25
			C1-F-038	9.25	72	C1-H-038	13.75	54	C1-M-038	21.00	34	38	1-1/2	38	
			C1-F-042	9.25	60	C1-H-042	14.25	48	C1-M-042	21.00	30	42	1-5/8		32
			C1-F-045	9.25	50	C1-H-045	14.25	40	C1-M-045	21.50	24	45	1-3/4	45	
			C1-F-048	9.25	50	C1-H-048	14.25	40	C1-M-048	22.00	24	48	1-7/8		40
			C1-F-054	9.25	40	C1-H-054	14.25	36	C1-M-054	22.00	24	54	2-1/8		
			C1-F-057	9.25	40	C1-H-057	14.75	32	C1-M-057	22.00	22	57	2-1/4	57	
			C1-F-060	9.25	32	C1-H-060	14.75	28	C1-M-060	22.50	20	60	2-3/8		50
						C1-H-067	14.75	24	C1-M-067	22.50	16	67	2-5/8		
						C1-H-076	14.75	22	C1-M-076	23.00	14	76	3	76	70
						C1-H-089	15.25	18	C1-M-089	24.50	12	89	3-1/2	89	80
						C1-H-108#	15.50	16	C1-M-108#	25.00	10	108	4-1/4	108	
									C1-M-114#	25.50	10	114	4-1/2		100
									C1-M-133#	25.50	6	133	5-1/4	133	
									C1-M-140#	26.00	6	140			125

#Made to order. Minimum order quantities and different lead times may apply.  
 Self-adhesive option available upon request. Minimum order quantities and different lead times may apply.  
 Please confirm with our customer service representative when place an order.  
 Product dimensions are measured in the environment specified by the Chinese standard GB/T 2918.

**Sheets (rolls)**

1.5m width			
Item	Insulation thickness	Carton content	Length
	[mm]	[sqm]	[m]
C1-09150CS	9	15	10
C1-13150CS	13	24	16
C1-16150CS	16	21	14
C1-19150CS	19	18	12
C1-25150CS	25	12	8
C1-30150CS	30	9	6
C1-32150CS	32	9	6

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**Tubes (Length: 2.0m)**

R-series (non-engineered wall)			T-series (non-engineered wall)			U-series (engineered wall)			V-series (engineered wall)			Insulation inner diameter	Cu pipe outer diameter	Fe pipe outer diameter	Nominal diameter
Item	Average insulation thickness	Carton content	Item	Average insulation thickness	Carton content	Item	Average insulation thickness	Carton content	Item	Average insulation thickness	Carton content				
	[mm]	[m]		[mm]	[m]		[mm]	[m]		[mm]	[m]	[mm]	[inch]	[mm]	[DN]
C1-R-010	24.0	60										10	3/8		6
C1-R-012	24.0	56										12	1/2		
C1-R-015	24.0	48	C1-T-015	32.0	32	C1-U-015	40	22	C1-V-015#	50	14	15	5/8	14	8
C1-R-020	24.0	40	C1-T-020	32.0	24	C1-U-020	40	20	C1-V-020	50	12	20	3/4		
C1-R-022	24.0	40	C1-T-022	32.0	24	C1-U-022	40	18	C1-V-022	50	12	22	7/8	22	15
C1-R-025	24.0	36	C1-T-025	32.0	24	C1-U-025	40	18	C1-V-025	50	12	25	1	25	
C1-R-028	24.0	32	C1-T-028	33.5	22	C1-U-028	40	16	C1-V-028	50	12	28	1-1/8	28	20
C1-R-032	26.0	24	C1-T-032	33.5	20	C1-U-032	40	16	C1-V-032	50	10	32	1-1/4	32	
C1-R-035	26.0	24	C1-T-035	35.0	18	C1-U-035	40	12	C1-V-035	50	10	35	1-3/8		25
C1-R-038	26.0	24	C1-T-038	35.0	16	C1-U-038	40	12	C1-V-038	50	8	38	1-1/2	38	
C1-R-042	26.0	22	C1-T-042	36.5	16	C1-U-042	40	12	C1-V-042	50	8	42	1-5/8		32
C1-R-045	26.5	20	C1-T-045	36.5	12	C1-U-045	40	12	C1-V-045	50	8	45	1-3/4	45	
C1-R-048	26.5	20	C1-T-048	37.5	12	C1-U-048	40	12	C1-V-048	50	8	48	1-7/8		40
C1-R-054	27.5	20	C1-T-054	38.0	10	C1-U-054	40	10	C1-V-054	50	8	54	2-1/8		
C1-R-057	27.5	16	C1-T-057	38.5	10	C1-U-057#	40	10	C1-V-057	50	8	57	2-1/4	57	
C1-R-060	28.0	16	C1-T-060	39.0	10	C1-U-060	40	10	C1-V-060	50	8	60	2-3/8		50
C1-R-067	28.0	14	C1-T-067	39.5	8	C1-U-067	40	8	C1-V-067	50	6	67	2-5/8		
C1-R-076	29.0	12	C1-T-076	39.5	8	C1-U-076	40	8	C1-V-076	50	4	76	3	76	70
C1-R-089	29.5	12	C1-T-089	41.5	8	C1-U-089	40	8	C1-V-089	50	4	89	3-1/2	89	80
C1-R-108#	31.0	8	C1-T-108#	42.5	6							108	4-1/4	108	
C1-R-114#	31.5	6	C1-T-114#	43.0	4							114	4-1/2		100
C1-R-133#	31.5	6	C1-T-133#	44.0	4							133	5-1/4	133	
C1-R-140#	32.0	4	C1-T-140#	44.5	4							140			125

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**Accessories**

Item	Carton content	Article description
AS-ATAPEC1T-9M	24 rolls (3mm thickness x 50mm width x 9.14 m)	ArmaFlex Class 1 insulation tape
AS-AD5201G	4 x 3.78 litre cans	ArmaFlex 520 adhesive
IASAD320A5L	4 x 5 litre cans	ArmaFlex 320 adhesive
CUTTING-SET	1 set (3 knives and 1 sharpening stone)	ArmaFlex cutting set

Please confirm with our customer service representative when place an order.



质量跟踪



//Cover Photo (Top)

Pudong International Airport, Shanghai, China

Effective against water vapour ingress without any additional water vapour barrier

Located directly on the coast, the Shanghai Pudong International Airport is exposed to very high humidity levels. Hence, the cooling-water lines of the air-conditioners and the hot-water lines in the arrival and departure building, in the 50,000m2 freight area and in the airport hotel, as well as the air conduits in the terminal building were insulated with ArmaFlex.

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# ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,000 employees and 23 production plants in 15 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for hightech and lightweight applications and next generation aerogel blanket technology.



For more information, please visit:  
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