



ENGINEERED TO
PREVENT CONDENSATION

ArmaFlex® 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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ArmaFlex®

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 permeation 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

Free of fibre and 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.
Colour	Black.
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.
Installation	Please refer to the ArmaFlex installation manual for advice. ArmaFlex can be used together with ArmaFlex 520 adhesive and ArmaFix® pipehangers for a complete insulation system.

Property	Value/Assessment						Standard/Test method
Temperature range							
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				
Thermal conductivity							
	0m	-20	+/-0	+20	+40	[°C]	GB/T 10295,GB/T10296
	λ ≤	0.032	0.034	0.036	0.039	[W/(m·K)]	ASTM C518, EN ISO 8497
Water vapour diffusion resistance							
Water vapour diffusion resistance factor	μ ≥ 10,000						DIN EN 13469, DIN EN 12086, GB/T 17146-1997
Water vapour permeability	≤ 1.96 x 10 ⁻¹¹ g/(m·s·Pa)						
Fire performance and approvals							
Surface spread of flame	Class 1						BS 476 Part 7:1997
Flammability	V-0 rating						UL 94
	FM-Approved						FM 4924
Practical fire behaviour	Does not generate flaming droplets.						
Others	Product conforms to requirements for building products under the Fire Safety and Shelter Department of Singapore.						
Other technical features							
Resilience after compression relief	≥ 70%						GB/T 6669-2001
Water absorption by vacuum	≤ 10%						GB/T 17794
Chemical resistance	Please consult product test list.						
UV resistance	For UV protection, ArmaFinish Paint or Arma-Chek® covering system is required. For outside use, ArmaFlex should be protected within three days of installation.						
Health aspects	Free of fibre and formaldehyde. Low Volatile Organic Compounds (VOC), low total aldehyde. GREENGUARD Gold for even lower VOC and total chemical emissions.						UL2818-2013
Environmental aspect	Zero ODP and GWP. Singapore Green Building Product Certified: "Excellent" rating. Type III Environmental Product Declaration (EPD): Declaration number 4786944121.101.1, UL Environment.						
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..

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				
	[6 mm]	[m]		[9 mm]	[m]		[13 mm]	[m]		[19 mm]	[m]	[mm]	[inch]	[mm]	[DN]
C1-D-015#		264	C1-F-006		324	C1-H-006		180	C1-M-006		112	6	1/4		
			C1-F-010		264	C1-H-010		144	C1-M-010		100	10	3/8		6
			C1-F-012		220	C1-H-012		128	C1-M-012		90	12	1/2		
			C1-F-015		180	C1-H-015		128	C1-M-015		80	15	5/8	14	8
C1-D-020		220	C1-F-020		144	C1-H-020		90	C1-M-020		72	20	3/4		
C1-D-022		180	C1-F-022		128	C1-H-022		90	C1-M-022		60	22	7/8	22	15
C1-D-025		144	C1-F-025		108	C1-H-025		82	C1-M-025		50	25	1	25	
			C1-F-028		98	C1-H-028		72	C1-M-028		50	28	1-1/8	28	20
			C1-F-032		84	C1-H-032		64	C1-M-032		40	32	1-1/4	32	
			C1-F-035		82	C1-H-035		58	C1-M-035		36	35	1-3/8		25
			C1-F-038#		72	C1-H-038		54	C1-M-038		34	38	1-1/2	38	
			C1-F-042		60	C1-H-042		48	C1-M-042		30	42	1-5/8		32
			C1-F-045#		50	C1-H-045		40	C1-M-045		24	45	1-3/4		
			C1-F-048#		50	C1-H-048#		40	C1-M-048		24	48	1-7/8		40
			C1-F-050#		40	C1-H-050#		32	C1-M-050		24				
			C1-F-054		40	C1-H-054		36	C1-M-054		24	54	2-1/8		
			C1-F-057#		40	C1-H-057#		32	C1-M-057#		22	57	2-1/4	57	
			C1-F-060		32	C1-H-060		28	C1-M-060		20	60	2-3/8		50
									C1-M-064#		16	64			
						C1-H-067		24	C1-M-067#		16	67	2-5/8		
						C1-H-076		22	C1-M-076		14	76	3	76	
						C1-H-080		18	C1-M-080#		14	80	3-1/8		
						C1-H-089		18	C1-M-089		12	89	3-1/2	89	80
						C1-H-108#		16	C1-M-108		10	108	4-1/4	108	
						C1-H-114		16	C1-M-114#		10	114	4-1/2	114	100
									C1-M-133#		6	133	5-1/4		
									C1-M-140#		6	140			125
												168			150

#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.

Rolls (Width: 1.22m)

Item	Insulation thickness	Length	Carton content
	[mm]	[m]	[sqm]
C1-32122CS-3	32	3	3.66
C1-38122CS-3	38	3	3.66
C1-50122CS-3	50	3	3.66

#Made to order. Minimum order quantities and different lead times may apply.
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Rolls (Width: 1.22m)

Item	Insulation thickness	Length	Carton content
	[mm]	[m]	[sqm]
C1-03122CS-15	3	15	18.30
C1-06122CS-15	6	15	18.30
C1-09122CS-15	9	15	18.30
C1-13122CS-15	13	15	18.30
C1-19122CS-15	19	15	18.30
C1-25122CS-15	25	15	18.30

#Made to order. Minimum order quantities and different lead times may apply.
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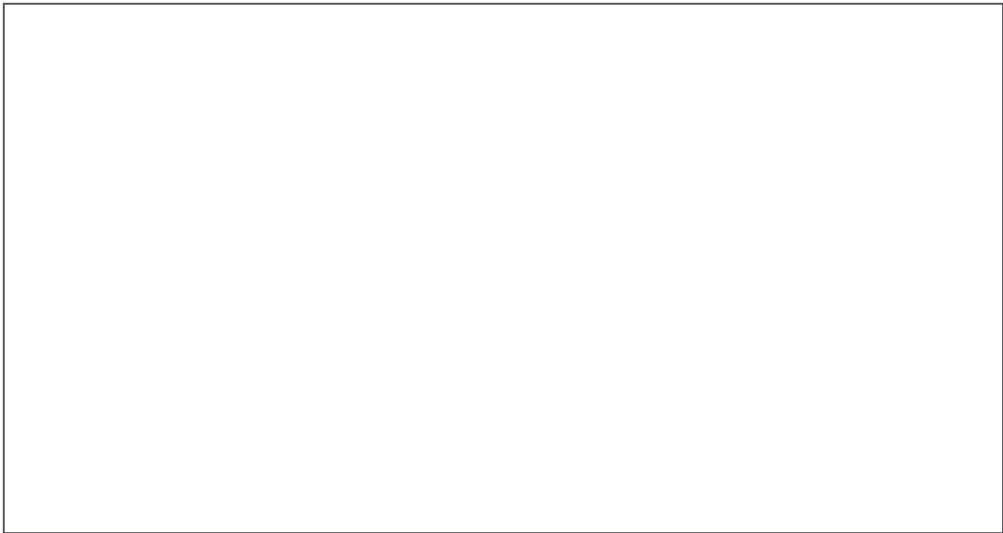
Tubes (Length: 2.0m)

R-series (engineered wall)			T-series (engineered wall)			U-series (non-engineered wall)			V-series (non-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				
	[25 mm]	[m]		[32 mm]	[m]		[38 mm]	[m]		[50 mm]	[m]				
												6	1/4		
C1-R-010		60	C1-T-010 [#]		32							10	3/8		6
C1-R-012		56	C1-T-012		32							12	1/2		
C1-R-015		48	C1-T-015		32	C1-U-015		22				15	5/8	14	8
C1-R-020		40	C1-T-020		24	C1-U-020		22	C1-V-020 [#]		12	20	3/4		
C1-R-022		40	C1-T-022		24	C1-U-022		18	C1-V-022		12	22	7/8	22	15
C1-R-025		36	C1-T-025		24	C1-U-025		18	C1-V-025 [#]		12	25	1	25	
C1-R-028		32	C1-T-028		22	C1-U-028		16	C1-V-028		12	28	1-1/8	28	20
C1-R-032		24	C1-T-032		20	C1-U-032		16	C1-V-032 [#]		10	32	1-1/4	32	
C1-R-035		24	C1-T-035		18	C1-U-035		12	C1-V-035		10	35	1-3/8		25
C1-R-038		24	C1-T-038		16	C1-U-038		12	C1-V-038 [#]		8	38	1-1/2	38	
C1-R-042		22	C1-T-042		16	C1-U-042		12	C1-V-042		8	42	1-5/8		32
C1-R-045		20	C1-T-045		12	C1-U-045 [#]		12	C1-V-045 [#]		8	45	1-3/4		
C1-R-048		20	C1-T-048		12	C1-U-048		12	C1-V-048		8	48	1-7/8		40
C1-R-050		20	C1-T-050		12	C1-U-050 [#]		12	C1-V-050 [#]		8				
C1-R-054		20	C1-T-054		10	C1-U-054		10	C1-V-054		8	54	2-1/8		
C1-R-057 [#]		16	C1-T-057 [#]		10				C1-V-057 [#]		8	57	2-1/4	57	
C1-R-060		16	C1-T-060		10	C1-U-060		10	C1-V-060		8	60	2-3/8		50
C1-R-064 [#]		14	C1-T-064 [#]		10							64			
C1-R-067 [#]		14	C1-T-067		8	C1-U-067		8	C1-V-067		6	67	2-5/8		
C1-R-076		12	C1-T-076		8	C1-U-076		8	C1-V-076		4	76	3	76	
C1-R-080 [#]		12	C1-T-080 [#]		8	C1-U-080 [#]		8	C1-V-080 [#]		4	80	3-1/8		
C1-R-089		12	C1-T-089		8	C1-U-089		8	C1-V-089		4	89	3-1/2	89	80
C1-R-108 [#]		8	C1-T-108 [#]		6	C1-U-108 [#]		6	C1-V-108 [#]		4	108	4-1/4	108	
C1-R-114		6	C1-T-114 [#]		4	C1-U-114		4	C1-V-114		4	114	4-1/2	114	100
C1-R-133 [#]		6	C1-T-133 [#]		4							133	5-1/4		
C1-R-140 [#]		4	C1-T-140 [#]		4	C1-U-140 [#]		4	C1-V-140 [#]		4	140			125
C1-R-168 [#]		4	C1-T-168 [#]		4	C1-U-168 [#]		4	C1-V-168 [#]		4	168			150

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Accessories

Item	Carton content	Article description
AS-ATAPEC1T-9M	24 rolls	ArmaFlex Class 1 insulation tape (3mm thickness x 50mm width x 9.14 m)
AS-AD-5201E	4 x 3.78 litre cans	ArmaFlex 520 adhesive
CLEANER/1,0	4 x 1.0 litre cans	ArmaFlex cleaner
CUTTING-SET	1	ArmaFlex cutting set (3 knives and 1 sharpening stone)



//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.

All data and technical information are based on results achieved under the specific conditions defined according to the testing standards referenced. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant building regulations lies with the customer. Armacell takes every precaution to ensure the accuracy of the data provided in this document and all statements, technical information and recommendations contained within are believed to be correct at the time of publication. By ordering/receiving product you accept the **Armacell General Terms and Conditions of Sale** applicable in the region. Please request a copy if you have not received these.

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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 3,100 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

For more information, please visit:
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