



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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 **armacell**[®]
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							
	θm	-20	+/-0	+20	+40	[°C]	GB/T 10295, GB/T 10296 ASTM C518, EN ISO 8497
	λ ≤	0.032	0.034	0.036	0.039	[W/(m·K)]	
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 [6 mm]	Carton content [m]	Item	Average insulation thickness [9 mm]	Carton content [m]	Item	Average insulation thickness [13 mm]					Carton content [m]	Item	Average insulation thickness [19 mm]	Carton content [m]
			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-D-015#		264	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 [mm]	Length [m]	Carton content [sqm]
C1-32122CS-3	32	3	3.66
C1-38122CS-3	38	3	3.66
C1-50122CS-3	50	3	3.66

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Rolls (Width: 1.22m)

Item	Insulation thickness [mm]	Length [m]	Carton content [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

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Self-adhesive option available upon request. Minimum order quantities and different lead times may apply.

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 [25 mm]	Carton content [m]	Item	Average insulation thickness [32 mm]	Carton content [m]	Item	Average insulation thickness [38 mm]				
									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
C1-R-020		40	C1-T-020		24	C1-U-020		22	C1-V-020#		12
C1-R-022		40	C1-T-022		24	C1-U-022		18	C1-V-022		12
C1-R-025		36	C1-T-025		24	C1-U-025		18	C1-V-025#		12
C1-R-028		32	C1-T-028		22	C1-U-028		16	C1-V-028		12
C1-R-032		24	C1-T-032		20	C1-U-032		16	C1-V-032#		10
C1-R-035		24	C1-T-035		18	C1-U-035		12	C1-V-035		10
C1-R-038		24	C1-T-038		16	C1-U-038		12	C1-V-038#		8
C1-R-042		22	C1-T-042		16	C1-U-042		12	C1-V-042		8
C1-R-045		20	C1-T-045		12	C1-U-045#		12	C1-V-045#		8
C1-R-048		20	C1-T-048		12	C1-U-048		12	C1-V-048		8
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
C1-R-057#		16	C1-T-057#		10				C1-V-057#		8
C1-R-060		16	C1-T-060		10	C1-U-060		10	C1-V-060		8
C1-R-064#		14	C1-T-064#		10						8
C1-R-067#		14	C1-T-067		8	C1-U-067		8	C1-V-067		6
C1-R-076		12	C1-T-076		8	C1-U-076		8	C1-V-076		4
C1-R-080#		12	C1-T-080#		8	C1-U-080#		8	C1-V-080#		4
C1-R-089		12	C1-T-089		8	C1-U-089		8	C1-V-089		4
C1-R-108#		8	C1-T-108#		6	C1-U-108#		6	C1-V-108#		4
C1-R-114		6	C1-T-114#		4	C1-U-114		4	C1-V-114		4
C1-R-133#		6	C1-T-133#		4						4
C1-R-140#		4	C1-T-140#		4	C1-U-140#		4	C1-V-140#		4
C1-R-168#		4	C1-T-168#		4	C1-U-168#		4	C1-V-168#		4

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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.



ติดต่อเรา

บริษัท 3ที อินซูเลชั่น จำกัด

20/8 หมู่ 10 ต.กาญจนนาภิเษก อ.คลองข่อย อ.ปากเกร็ด จ.นนทบุรี 11120

Tel. 02-159-0601, 02-159-0601-2

Email : sales@3t-insulation.com

line official : @3t-insulation

