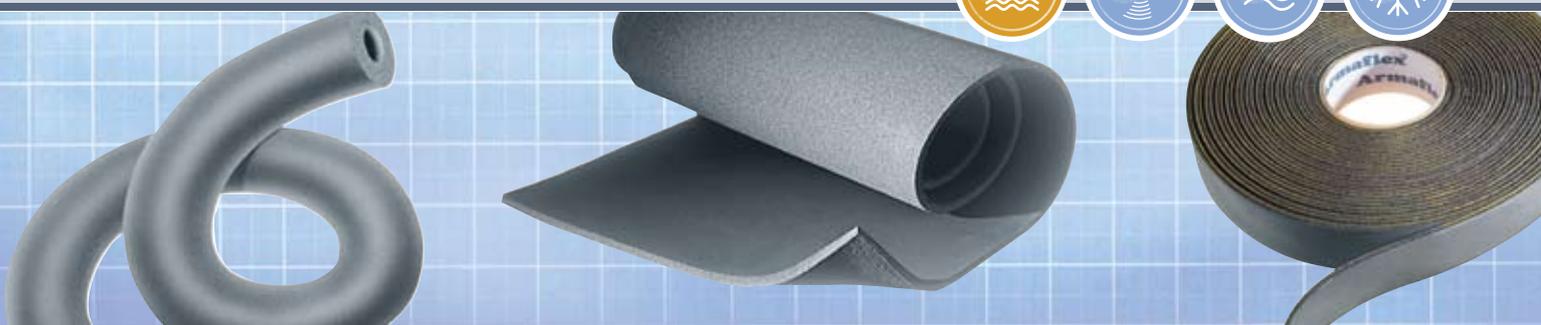


Class 0 Armaflex®

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**The Professional Insulation with Double Performance:  
Reliable Condensation Control and Effective Energy Saving**

- » Built-In Vapour Barrier Prevents Condensation
- » Long-Term Thermal Performance / Energy Conservation
- » Ease Of Application



# Class O Armaflex®



Armaflex is a flexible, closed cell, elastomeric, nitrile rubber insulation. It is a highly efficient method of insulating hot and cold water services, chilled water lines, heating systems, air conditioning ductwork and refrigerated pipework for Frost Protection, Energy Conservation and Condensation Control. Armaflex is dust free, fibre free, CFC and HCFC free with an ODP of zero which means an environmentally friendly product.

## Class O Armaflex

Armaflex is a highly flexible elastomeric material which is quick and easy to install and available in both tube and sheet form. It has a closed cell structure which has a built in vapour barrier with a high resistance to water vapour transmission enabling the insulation material to maintain a higher level of energy conservation efficiency.

In tube form, installation of Class O Armaflex can be carried out as the job progresses by sleeving onto pipes or if insulating an existing installation pre-slit material is available, which can be snapped on and sealed using an Armaflex adhesive. Class O Armaflex tube is available in 2 metre lengths. In sheet form, Class O Armaflex is the ideal choice for insulating tanks, ductwork, large pipes or irregular shapes.

One metre wide continuous rolls are available for economic material usage. All sheet material is available with or without a self-adhesive backing.

Class O Armaflex has an excellent fire safety performance achieving BS476 part 6 1989 for low fire propagation, producing minimal contribution to the overall heat release, and BS476 part 7 1997 for zero surface spread of flame. Class O Armaflex pipe supports are recommended for use where thermal bridging may occur. This is particularly important on refrigeration and chilled water pipes where there is a possibility of condensation taking place, particularly between the pipe and its fixing. In heating installations the use of pipe supports will generally improve energy conservation.

# Energy Efficiency - Condensation Control

## We are investing in the future

Armacell's research and development has always received substantial investment and the research not only promotes good mand I values, but we are continually developing new improved products. Quality assurance and health& safety issues are becoming increasingly more important. We develop environmentally-friendly product processing, test various material compositions and research options for improved recycling. These are investments which both support the preservation of our environment and form the basis for ecologically-valuable products.



## FM Approval

Armacell has contracted with Factory Mutual Research Corporation for the ongoing testing and supervision of Class O Armaflex Pipe and Sheet Insulations. The contract provides specifiers and owners with assurance that Class O Armaflex consistently meets or exceeds key physical properties.

$\mu \geq 10000$   
 $\lambda_{0^{\circ}} \leq 0.035$   
CFC Free  
HCFC Free



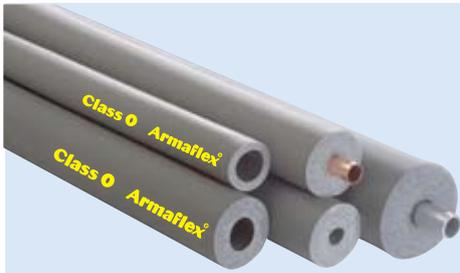
## FMRC Supervision Test Methods.

Under the supervision agreement, thermal conductivity is tested according to ASTM C 518, and water vapor transmission according to ASTM E 96. The evaluation of fire performance is accomplished through a series of end use simulation tests. Class O Armaflex Pipe Insulation is evaluated according to the FMRC Pipe Chase Test while Class O Armaflex Sheet Insulation is evaluated according to UBC Standard 17-5 Room Fire Test and the FMRC Flammability Test.

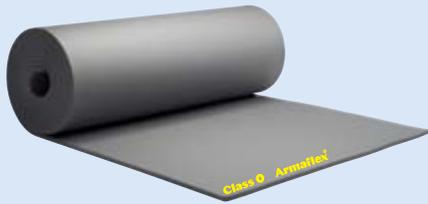
## Technical competence and ecological value

The most important properties of low temperature insulation are; the prevention of the build up of condensation and; the minimising of energy loss during the entire lifetime of use. In the past, the increase of thermal conductivity in the course of years of operation due to moisture absorption had not been taken into consideration when selecting and specifying low temperature insulation. Consequently, not only was the energy loss higher, but the surface temperature also lowered. If this temperature fell below the temperature of dew point, condensation formed. Prevention of the formation of condensation is therefore determined by two factors. Low  $\lambda$  value and high  $\mu$  value. Class O Armaflex has a low thermal conductivity  $\lambda$  value of 0.035 at 0° C and a high  $\mu$  value of 10000 minimising long term heat gain and reducing energy costs.

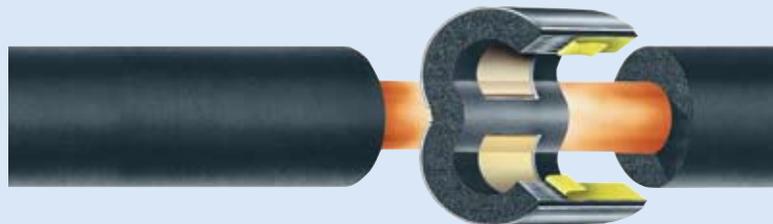
## -Frost Protection – Fire Resistance



In tube form, installation of Class O Armaflex can be carried out as the job progresses by sleeving onto pipes or by insulating an existing installation pre-slit material is available, which can be snapped on and sealed using an Armaflex adhesive. Class O Armaflex tube is available in 2 metre lengths.



In sheet form, Class O Armaflex is the ideal choice for insulating tanks, ductwork, large pipes or irregular shapes, continuous sheet are 1 metre wide rolls for economic material usage.



**Class O Armaflex pipe supports** are recommended for use where thermal bridging may occur. This is particularly important on refrigeration and chilled water pipes where there is a possibility

of condensation taking place, particularly between the pipe and its fixing. In heating installations the use of pipe supports will generally improve energy conservation.

### Product Range:

- Tube 
- Continuous Tube 
- Pipe Support 
- Continuous Sheet 
- Tape, self-adhesive 

### Accessories

#### Armaflex Adhesives

For use with Armaflex, Pipe Supports and Armaflex to provide a seal with a performance at least equal to the materials. Available as **Armaflex Standard Adhesive**, **Armaflex 520** - a low viscosity formulation - and **Armaflex Nonflam** for use in environmentally sensitive areas.

#### Armaflex Gluemaster

Suitable for use with all adhesives and significantly increases the speed of installation. Replacement brushes available.

#### Armaflex Special Cleaner

Use to clean Armaflex insulation and other surfaces, as necessary, prior to the application of adhesive or paint, also to clean Armaflex adhesive from brushes and other equipment.  
**Code:AS - CLEAN1L**

#### Self-Adhesive Tape

Self adhesive tape which may be used for insulating difficult shapes or areas not easily accessible, having a minimum thickness of 3mm  
**Code:AS - ATAPE30M**

#### Armaflex Slitting Knife

A useful tool for slitting Armaflex tube in one quick, simple operation. Replacement blades available.  
**Code:AS - KNIFE**

#### Armafinish CO Paint

Protective water-based paint for use on Armaflex installed outdoors. Provides a tough flexible film which is resistant to UV radiation, ozone and many aggressive chemicals.  
**Code:AS - PAINT2.5LW**  
**Code:AS - PAINT10LW**

### The competitive advantages of specifying Class O Armaflex

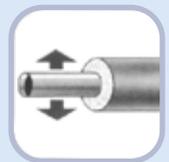
- Lightweight and flexible means easy and speedy installation with low maintenance, resulting in time and cost savings
- Wide range of tube and sheet sizes available
- The low thermal conductivity,  $\lambda$  0.035W/(m.k) at 0° C, and good acoustic performance provide double benefits with one insulation system
- Closed cell structure provides a built-in vapour barrier
- A high,  $\mu$  10000, resistance to water vapour transmission and water ingress, gives long term insulation efficiency for condensation control
- Low Toxicity Index for added safety assurance
- Class O fire category means low fire propagation index, producing minimal contribution to overall heat release, and a zero surface spread of flame for a high degree of fire protection and safety
- Dust, fibre, CFC and HCFC free with an Ozone Depletion Potential of zero
- Excellent resistance to the effects of ozone, oil, chemicals, extreme weather conditions and wear & tear



Fire performance



Condensation control



Energy conservation



Frost protection

Armaflex with a high moisture resistance factor of  $\mu$  10000 for increased resistance to water vapour transmission-minimising long term heat gain over the lifetime of the insulation and reducing overall energy costs



Class O Armaflex Technical Data	
<b>Temperature range</b>	Minimum line temperature -40°C* Maximum line temperature +105°C Flat surfaces and tape +85°C
<b>Thermal Conductivity</b> (mean temperature) BS874 Part 2 1986	0 +20 +40 °C 0.035 0.037 0.039 W/(m·k)
<b>Water vapour permeability</b> Moisture Resistance factor BS EN ISO 9346:1996 BS4370 Part 2 1973	$\mu > 10,000$ $1.8 \times 10^{-14} \text{ kg}/(\text{m}\cdot\text{s}\cdot\text{Pa})$ 0.13 $\mu\text{g}/(\text{m}\cdot\text{h})$
<b>Water absorption</b> , by volume after 28 days	0.9% average, 1.5% maximum
<b>* Fire performance</b> , surface spread of flame, BS476 Part 7 1997	Class 1
<b>* Fire propagation</b> , BS476 part 6 1989 Total Index of Performance(I) Sub index(i)	Less than 12 Less than 6
<b>Reaction to fire</b>	Self-extinguishing, does not drip
<b>Noise reduction</b>	Acoustic level to 30 dB(A)
<b>Resistance to building materials</b>	Very good
<b>Resistance to chemicals</b>	Consult product test list
<b>Health Aspects</b>	Dust & Fibre Free
<b>Dimensions</b>	Standard tube 2m lengths
Outdoor applications should be painted with Armafinish CO paint to the recommended thickness. Two or more coats may be required.	

**Armaflex is ideal for all thermal and acoustic insulation required on:**

- Chilled water lines
- Hot and cold water services
- Heating systems
- Air conditioning ductwork
- Refrigeration pipework and ancillary equipment
- Drainage pipe / rain water pipe

\* If lower temperatures, down to -200°C, are involved please consult our sales.

\* This meets the 1991 Building Regulations (England and Wales) and the Building Standards (Scotland) Regulations 1990 for the Class O fire category.

All statements and technical information are based on results obtained under typical conditions. It is the responsibility of the recipient to verify with us that the information is appropriate for the specific use intended by the recipient.

## Tube Size Range

Copper Tube			Iron & Steel Pipe		Minimum ID Armaflex	D Nominal Thickness 6mm	F Nominal Thickness 9mm	H Nominal Thickness 13mm	M Nominal Thickness 19mm	R Nominal Thickness 25mm	T Nominal Thickness 32mm	U Nominal Thickness 40mm	V Nominal Thickness 50mm	Continuous Sheet	
NB in	Nom OD in	Nom OD mm	NB in	Nom OD mm	Min ID mm	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Nominal Thickness mm	Sheet Size Width x Length mm
	1/4	6			6.5	CO-D-006	CO-F-006	CO-H-006	CO-M-006	CO-R-006	-	-	-	6	1,000 x 15,000
	3/8	10			10.5	CO-D-010	CO-F-010	CO-H-010	CO-M-010	CO-R-010	CO-T-010	CO-U-010	-	9	1,000 x 10,000
3/8	1/2	12			12.5	CO-D-012	CO-F-012	CO-H-012	CO-M-012	CO-R-012	CO-T-012	CO-U-012	CO-V-012	13	1,220 x 8,000
1/2	5/8	15			16.0	CO-D-015	CO-F-015	CO-H-015	CO-M-015	CO-R-015	CO-T-015	CO-U-015	CO-V-015	19	1,220 x 6,000
5/8	3/4				20.0	CO-D-020	CO-F-020	CO-H-020	CO-M-020	CO-R-020	CO-T-020*	CO-U-020*	CO-V-020*	25	1,220 x 4,000
3/4	7/8	22	1/2	21.3	22.5	CO-D-022	CO-F-022	CO-H-022	CO-M-022	CO-R-022	CO-T-022	CO-U-022	CO-V-022	32	1,220 x 3,000
1	1 1/8	28	3/4	26.9	29.0	CO-D-028	CO-F-028	CO-H-028	CO-M-028	CO-R-028	CO-T-028	CO-U-028	CO-V-028	40	1,220 x 3,000
1 1/4	1 3/8	35	1	33.7	35.5		CO-F-035	CO-H-035	CO-M-035	CO-R-035	CO-T-035*	CO-U-035*	CO-V-035*	50	1,220 x 2,500
1 1/2	1 5/8	42	1 1/4	42.4	43.5		CO-F-042	CO-H-042	CO-M-042	CO-R-042	CO-T-042*	CO-U-042*	CO-V-042*		
			1 1/2	48.3	49.0		CO-F-048	CO-H-048	CO-M-048	CO-R-048	CO-T-048*	CO-U-048*	CO-V-048*		
2	2 1/8	54			55.0		CO-F-054	CO-H-054	CO-M-054	CO-R-054	CO-T-054*	CO-U-054*	CO-V-054*		
			2	60.3	61.0		CO-F-060	CO-H-060	CO-M-060	CO-R-060	CO-T-060*	CO-U-060*	CO-V-060*		
2 1/2	2 5/8	67			68.0			CO-H-067	CO-M-067	CO-R-067	CO-T-067*	CO-U-067*	CO-V-067*		
2 13/16	3	76.1	2 1/2	76.1	77.0			CO-H-076	CO-M-076	CO-R-076	CO-T-076*	CO-U-076*	CO-V-076*		
			3	88.9	90.0			CO-H-089*	CO-M-089	CO-R-089*	CO-T-089*	CO-U-089*	CO-V-089*		
4	1 1/4	108			109.0				CO-M-108*	CO-R-108*	CO-T-108*	CO-U-108*	CO-V-108*		
			4	114.3	115.5				CO-M-114*	CO-R-114*	CO-T-114*	CO-U-114*	CO-V-114*		
			5	139.7	142.0				CO-M-140*	CO-R-140*	CO-T-140*	CO-U-140*	CO-V-140*		
			6	165.2	168.0					CO-R-168*	CO-T-168*	CO-U-168*	CO-V-168*		

<b>Armaflex Tape self-adhesive</b>	
Width: 50mm	
Thickness: 3mm	
Length: 9.14m	

If any other size request, please contact sales

\*Delivery quoted on request.