# FOR SAFETY, EFFICIENCY & BETTER INDOOR AIR QUALITY
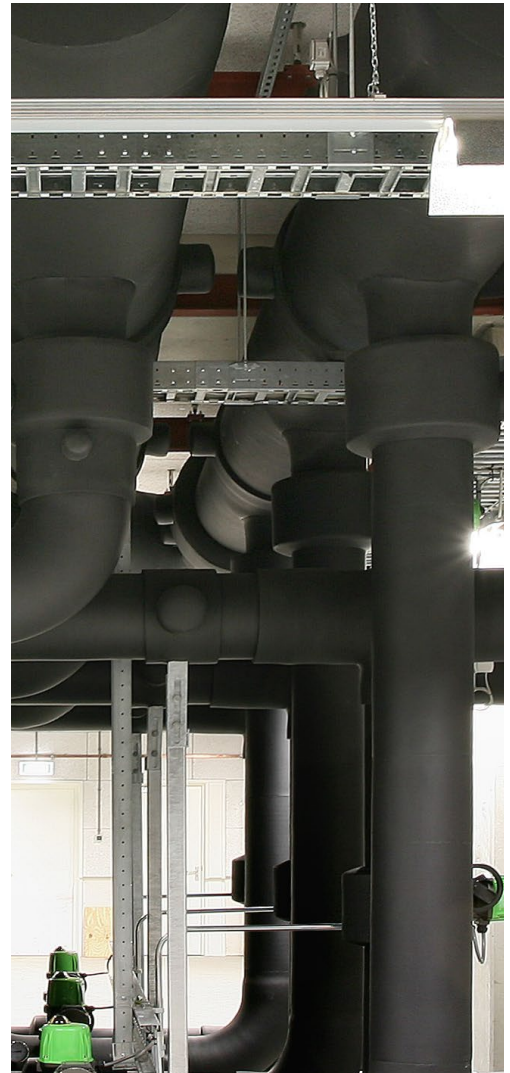
# ArmaFlex® Class 0

The trusted insulation system
for HVAC applications

// Class 0 fire classification according to BS476 Parts 6 and 7
// Reduces mould and bacteria growth with Microban®
   antimicrobial product protection, unique to Armacell
// Effectively reduces thermal and energy loss

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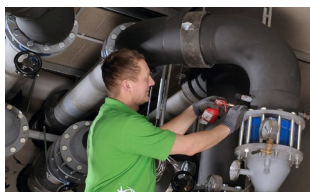
## armacell®
### ArmaFlex®

# ArmaFlex Class 0

Your trusted insulation system for HVAC applications. Conserves energy and reduces heat loss. Class 0 fire classification according to BS476 Parts 6 and 7. Certified by leading international fire safety agencies. Fibre-free. Infused with Microban antimicrobial protection for even better indoor air quality.

Energy efficient

Easy to install

Better air quality

## // Excellent 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.

## // Closed-cell structure
Minimises moisture permeation to ensure long-term protection against corrosion under insulation. Removes the need for an additional water vapour barrier.

## // Energy efficient
Low thermal conductivity minimises energy losses to give long term energy savings.

## // Microban protection
When microbes come into contact with the insulation surface, Microban penetrates the cell wall of the micro-organism, disabling its ability to function, grow and reproduce.

## // 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 0

| | |
|---|---|
| Brief description | ArmaFlex Class 0 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 | ArmaFlex sheets is infused with Microban antimicrobial protection to provide additional assurance against mould and bacteria growth. |
| Applications | Thermal insulation/protection of pipes, air ducts and vessels (including elbows, fittings, flanges etc.) in hot and cold water services, chilled water lines, heating systems, air conditioning ductwork and refrigerated pipework, installed in commercial, industrial, residential and public buildings to control condensation, protect against frost and reduce energy loss. |
| 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 | Range | | Minimum [°C] | | Maximum [°C] | |
| | Full range | | -50 | | +105 | |
| | Remarks | | +85 °C if sheet or tape is glued to the object with its whole surface. | | | |
| **Thermal conductivity** | | | | | | |
| Declared thermal conductivity | $\theta_m$ | -20 °C | +/-0 °C | +20 °C | +40 °C | GB/T 10295, GB/T 10296, ASTM C518, EN ISO 8497 |
| | $\lambda_d \leqslant$ [W/(m·K)] | 0.032 | 0.034 | 0.036 | 0.039 | |
| **Resistance to water vapour** | | | | | | |
| Water vapour diffusion resistance factor | $\mu \geqslant 10{,}000$ | | | | | GB/T 17146-1997, DIN EN 13469, DIN EN 12086 |
| Water vapour permeability | $\leqslant 1.96 \times 10^{-11}$ g/(m·s·Pa) | | | | | |
| **Resistance to water** | | | | | | |
| Water absorption by vacuum | $\leqslant 10\%$ | | | | | GB/T 17794 |
| Water absorption by volume | $\leqslant 0.2\%$ | | | | | ASTM C209, ASTM C1763 |
| **Fire performance** | | | | | | |
| Surface spread of flame | Class 1 | | | | | BS 476 Part 7 |
| Fire propagation for products | Class 0 | | | | | BS 476 Part 6 |
| Burning behaviour of building materials and products | Class B1 | | | | | GB 8624 |
| Flammability of plastic materials | V-0 rating | | | | | UL 94 |
| FM Approved | Yes | | | | | FM 4924 |
| Practical fire behaviour | Does not generate flaming droplets. | | | | | |
| Surface flammability | Marine application: Low flame spread material | | | | | IMO 2010 FTP Code |
| Other fire class | Registered by the Fire Services Department of Hong Kong for the entire range of thickness. Product conforms to the requirements for building products under the Fire Safety and Shelter Department, Singapore. | | | | | |
| **Mechanical properties** | | | | | | |
| Resilience after compression relief | $\geqslant 70\%$ | | | | | GB/T 6669 |
| **Weather and UV resistance** | | | | | | |
| 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 and environment** | | | | | | |
| Antimicrobial behaviour | Built-in Microban antimicrobial product protection in sheets. | | | | | |
| Environmental aspect | Zero ODP and GWP. Complies with Restriction of Hazardous Substances Directive (RoHS). | | | | | |
| Environmental Product Declaration (EPD) | Type III EPD: Declaration number 4789125188.101.1, UL Environment. | | | | | |
| Fungal growth | No fungal growth is observed. | | | | | ASTM G21 |
| Health aspects | Free of fibre and formaldehyde. Low volatile organic compounds (VOC) and total aldehyde. GREENGUARD Gold for even lower VOC and total chemical emissions. | | | | | UL2818 |
| Green building assessment | Singapore Green Building Product Certified: "Excellent" rating. | | | | | |
| **Other technical features** | | | | | | |
| Chemical resistance | Excellent resistance to ozone, oil and chemicals (consult product test list). | | | | | |
| 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.

## Tube - standard (2.0m length)

| Insulation inner diameter [mm] | Cu pipe outer diameter [inch] | Fe pipe outer diameter [mm] | Nominal diameter [DN] | 6mm | | 9mm | | 13mm | | 19mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Item | Carton content [m] | Item | Carton content [m] | Item | Carton content [m] | Item | Carton content [m] |
| 6 | 1/4 | | | | | COB-09X006 | 312 | COB-13X006 | 180 | COB-19X006 | 96 |
| 10 | 3/8 | | 6 | | | COB-09X010 | 264 | COB-13X010 | 144 | COB-19X010 | 84 |
| 12 | 1/2 | | | | | COB-09X012 | 220 | COB-13X012 | 128 | COB-19X012 | 84 |
| 15 | 5/8 | 14 | 8 | | | COB-09X015 | 180 | COB-13X015 | 112 | COB-19X015 | 70 |
| 20 | 3/4 | | | | | COB-09X020 | 144 | COB-13X020 | 90 | COB-19X020 | 60 |
| 22 | 7/8 | 22 | 15 | | | COB-09X022 | 128 | COB-13X022 | 90 | COB-19X022 | 60 |
| 25 | 1 | 25 | | COB-06X025# | 144 | COB-09X025 | 108 | COB-13X025 | 80 | COB-19X025 | 50 |
| 28 | 1-1/8 | 28 | 20 | | | COB-09X028 | 98 | COB-13X028 | 72 | COB-19X028 | 50 |
| 32 | 1-1/4 | 32 | | | | COB-09X032# | 84 | COB-13X032 | 64 | COB-19X032 | 40 |
| 35 | 1-3/8 | | 25 | | | COB-09X035 | 82 | COB-13X035 | 58 | COB-19X035 | 40 |
| 38 | 1-1/2 | 38 | | | | COB-09X038# | 72 | COB-13X038# | 54 | COB-19X038# | 36 |
| 42 | 1-5/8 | | 32 | | | COB-09X042 | 64 | COB-13X042 | 48 | COB-19X042 | 36 |
| 45 | 1-3/4 | | | | | | | | | COB-19X045# | 30 |
| 48 | 1-7/8 | | 40 | | | COB-09X048# | 56 | COB-13X048 | 42 | COB-19X048 | 30 |
| 54 | 2-1/8 | | | | | COB-09X054# | 54 | COB-13X054 | 42 | COB-19X054 | 30 |
| 57 | 2-1/4 | 57 | | | | | | COB-13X057# | 36 | COB-19X057# | 28 |
| 60 | 2-3/8 | | 50 | | | COB-09X060 | 54 | COB-13X060 | 36 | COB-19X060 | 24 |
| 67 | 2-5/8 | | | | | | | COB-13X067# | 36 | COB-19X067# | 22 |
| 76 | 3 | 76 | | | | | | COB-13X076 | 32 | COB-19X076 | 16 |
| 89 | 3-1/2 | 89 | 80 | | | | | COB-13X089 | 24 | COB-19X089 | 12 |
| 108 | 4-1/4 | 108 | | | | | | COB-13X108# | 16 | COB-19X108# | 10 |
| 114 | 4-1/2 | 114 | 100 | | | | | COB-13X114 | 16 | COB-19X114# | 10 |
| 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.

## Sheet - continuous roll

| Insulation thickness [mm] | 1.22m width | | | 1.50m width | | |
|---|---|---|---|---|---|---|
| | Item | Length [m] | Carton content [sqm] | Item | Length [m] | Carton content [sqm] |
| 9 | | | | COB-09150/E | 10 | 15.0 |
| 13 | COB-13122/E | 8 | 9.76 | COB-13150/E | 8 | 12.0 |
| 16 | | | | COB-16150/E# | 7 | 10.5 |
| 19 | COB-19122/E | 6 | 7.32 | COB-19150/E | 6 | 9.0 |
| 25 | COB-25122/E | 4 | 4.88 | COB-25150/E | 4 | 6.0 |
| 30 | | | | COB-30150/E | 3 | 4.5 |
| 32 | | | | COB-32150/E | 3 | 4.5 |
| 40 | COB-40122/E | 3 | 3.66 | | | |
| 50 | COB-50122/E | 2.5 | 3.05 | | | |

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

**Tube - standard (2.0m length)**

| Insulation inner diameter [mm] | Cu pipe outer diameter [inch] | Fe pipe outer diameter [mm] | Nominal diameter [DN] | 25mm | | 32mm | | 40mm | | 50mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Item | Carton content [m] | Item | Carton content [m] | Item | Carton content [m] | Item | Carton content [m] |
| 6 | 1/4 | | | COB-25X006 | 60 | COB-32X006# | 40 | | | | |
| 10 | 3/8 | | 6 | COB-25X010 | 54 | COB-32X010 | 36 | COB-40X010 | 24 | | |
| 12 | 1/2 | | | COB-25X012 | 48 | COB-32X012 | 32 | COB-40X012 | 24 | | |
| 15 | 5/8 | 14 | 8 | COB-25X015 | 40 | COB-32X015 | 32 | COB-40X015 | 22 | | |
| 20 | 3/4 | | | COB-25X020 | 36 | COB-32X020 | 24 | COB-40X020 | 18 | COB-50X020# | 12 |
| 22 | 7/8 | 22 | 15 | COB-25X022 | 36 | COB-32X022 | 24 | COB-40X022 | 18 | COB-50X022# | 12 |
| 25 | 1 | 25 | | COB-25X025 | 32 | COB-32X025 | 22 | COB-40X025# | 18 | | |
| 28 | 1-1/8 | 28 | 20 | COB-25X028 | 32 | COB-32X028 | 22 | COB-40X028 | 16 | COB-50X028 | 12 |
| 32 | 1-1/4 | 32 | | COB-25X032 | 32 | COB-32X032 | 20 | | | | |
| 35 | 1-3/8 | | 25 | COB-25X035 | 30 | COB-32X035 | 18 | COB-40X035 | 12 | COB-50X035 | 10 |
| 38 | 1-1/2 | 38 | | COB-25X038# | 24 | COB-32X038# | 16 | COB-40X038# | 12 | | |
| 42 | 1-5/8 | | 32 | COB-25X042 | 24 | COB-32X042 | 16 | COB-40X042 | 12 | COB-50X042 | 8 |
| 45 | 1-3/4 | | | | | COB-32X045# | 12 | | | | |
| 48 | 1-7/8 | | 40 | COB-25X048 | 20 | COB-32X048 | 12 | COB-40X048 | 12 | COB-50X048 | 8 |
| 54 | 2-1/8 | | | COB-25X054 | 20 | COB-32X054 | 12 | COB-40X054# | 10 | COB-50X054# | 8 |
| 57 | 2-1/4 | 57 | | COB-25X057# | 16 | COB-32X057# | 12 | | | | |
| 60 | 2-3/8 | | 50 | COB-25X060 | 20 | COB-32X060 | 12 | COB-40X060 | 10 | COB-50X060 | 8 |
| 67 | 2-5/8 | | | COB-25X067 | 14 | COB-32X067 | 10 | COB-40X067# | 8 | COB-50X067# | 6 |
| 76 | 3 | 76 | | COB-25X076 | 16 | COB-32X076 | 10 | COB-40X076 | 8 | COB-50X076 | 4 |
| 89 | 3-1/2 | 89 | 80 | COB-25X089 | 12 | COB-32X089 | 8 | COB-40X089 | 8 | COB-50X089 | 4 |
| 108 | 4-1/4 | 108 | | COB-25X108 | 8 | COB-32X108# | 6 | COB-40X108# | 6 | COB-50X108# | 4 |
| 114 | 4-1/2 | 114 | 100 | COB-25X114 | 6 | COB-32X114# | 6 | COB-40X114 | 4 | COB-50X114 | 4 |
| 140 | | | 125 | COB-25X140# | 6 | | | COB-40X140# | 4 | COB-50X140 | 4 |
| 168 | | | 150 | COB-25X168# | 6 | | | COB-40X168# | 4 | COB-50X168 | 4 |

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

**ArmaFlex Class 0 Accessories**

| Item | Carton content | Article description |
|---|---|---|
| AS-ATAPECOB-9M | 24 rolls | ArmaFlex Class 0 insulation tape (3mm thickness x 50mm width x 9.14 m) |

**Accessories**

| Item | Carton content | Article description |
|---|---|---|
| AS-AD5201E | 4 x 3.78 litre cans | ArmaFlex 520 adhesive |
| CLEANER/1,0 | 4 x 1.0 litre cans | Solvent-free cleaner for use with ArmaFlex adhesive |
| CUTTING-SET | 1 | ArmaFlex cutting set (3 knives and 1 sharpening stone) |