

AEROFLEX®

Closed Cell Elastomeric Thermal Insulation (made from E.P.D.M. - Ethylene Propylene Diene Monomer)

Aeroflex Tube and Sheet Insulation is a flexible, closed cell and lightweight elastomeric material designed for insulating cooling and heating lines. The closed cell structure of Aeroflex provides many advantages over most rigid insulations for cooling and heating lines such as:

- Moisture & vapour resistance without using additional vapour barriers.
- Stable thermal conductivity (K. value) during service due to its dense surface skins and closed cell characteristics.
- Flexible which makes installation work easy and neat.
- Outstanding ultraviolet and weather resistance.

Aeroflex prevents heat gain and condensation problems on chilled water and refrigerant pipelines and also prevents heat loss from hot water plumbing, liquid and dual temperature piping. It is also an ideal insulation for frost control on cold water plumbing.

Aeroflex Tube Insulation

Aeroflex Closed Cell Tube Insulation is easily installed to pipe or tubing. The factory-applied coating of talcum powder on the thick and smooth inner skin helps facilitate and speed up pre-assembly lines. When applied to existing lines, tubing should be slit length-wise and snapped into place. Slitting can be done on the job easily with razors, blades, knives or shears. Cut edges and joints can be sealed with Aeroseal Adhesive (neoprene base contact cement)

Aeroflex Standard Sheet

The standard sheet is available in sizes of 0.91m x 1.2m with the wall thickness from 6mm upto 25mm. It prevents heat loss and condensation on large pipelines, tanks, chillers, air ducts and other irregular shaped vessels.

Aeroflex Continuous Sheet Roll

Aeroflex sheet insulations are also available in continuous roll form. Continuous sheet rolls are available from 10mm to 50mm thickness at 1 metre wide and 3 to 30 metres long. All insulation sheets are made from the same materials as Aeroflex tubing.

Temperature Range

Aeroflex tubes and sheet insulate and prevent condensation when used in operating temperatures down to -57°C and insulate against heat loss upto 125°C . The thermal efficiency and water vapour permeability of Aeroflex will not be affected within these recommended operating temperature ranges.

Moisture Resistance

The Closed Cell Structure protects against moisture and eliminates the need for a vapour barrier in most applications. However, under severe conditions of high humidity (90% RH and above), high temperature (32°C and above) and low ventilation such as underground piping, "Aerocoat" (Acrylic Emulsion Paint) is recommended for use as an additional vapour barrier coating.

Thermal Efficiency

Aeroflex Insulation is made from high quality synthetic elastomers, has low density and a closed cell structure. The products, therefore have a stable low K Factor of 0.034 – 0.040 (-20 to $+40^{\circ}\text{C}$ mean temperature) which can save energy consumption on any heating and cooling lines.



AEROFLEX

Fire Rating

Aeroflex to Australian Standard AS1530.3 - 1999

| | |
|-------------------------|------------------|
| Ignitability Index - | 0 (range 0 – 20) |
| Spread of Flame Index - | 0 (range 0 – 10) |
| Heat Evolved Index - | 0 (range 0 – 10) |
| Smoke Developed Index - | 3 (range 0 – 10) |

To be read in conjunction with the Building Code of Australia.

Anti Vibration and Resonance

The high elasticity of Aeroflex insulation minimizes the vibrations and resonance of chilled water and hot water pipelines during operation.

Neat Appearance

The flexibility and smooth surface of Aeroflex offers a neat-finished appearance even at joints, tees and elbows. No decorative or protective coating is required for either indoor or outdoor installations.

Flexibility and Space Saving

The flexibility of Aeroflex enables quick and easy installation on bent or irregular piping. Due to its low and stable thermal conductivity, Aeroflex requires a thinner wall than other rigid insulations. Therefore, less space is needed for Aeroflex.

Other Advantages

Aeroflex can be safely handled without causing skin irritations or health hazard. It has superior resistance to fungus growth, vermin or rodent attack and other chemicals such as acids or alkalis. This makes Aeroflex ideal for protecting piping from corrosion caused by atmospheric agents and industrial ambience. Aeroflex is cured through a special vulcanisation process that will prevent any corrosion to metals. This means stainless & copper pipes will not become discoloured or brittle.

Specifications

| Average Physical Properties * | Aeroflex Insulation | | | | | | Test Method ** |
|---------------------------------------|---|-------|-------|-------|-------|-------|--|
| Cell Structure | Closed Cell | | | | | | - |
| Density (gm/cm ³) | 0.06 - 0.10 *** | | | | | | ASTM D 1667 |
| Thermal Conductivity | Temp (°C) | -20 | 0 | 24 | 32 | 40 | ASTM C 177 JIS A 1412 – 1989 DIN 52613 |
| | K Value (W/m.K) | 0.034 | 0.035 | 0.038 | 0.039 | 0.040 | |
| Service Temperature Limit **** | -57 °C to 125 °C | | | | | | |
| Water Vapour Permeability (Kg/m.s.Pa) | 0.15 perm – in. (0.22 x 10 ⁻¹²) | | | | | | ASTM C 355, E 96 ***** |
| | μ ≥ 4,000 | | | | | | DIN 52615 |
| Water Absorption (% by Weight) | 3 | | | | | | ASTM D 1056 |
| Ozone Resistance | Excellent | | | | | | ASTM D 1171, D 1149 |
| Thermal Stability (% shrinkage) | 7 days 93 °C | 5 | | | | | ASTM C 534 |
| | 7 days 104 °C | 6 | | | | | |
| Flammability and Smoke Density ***** | Self-extinguishing | | | | | | ASTM D 635 |
| | Class V 0 | | | | | | UL – 94 |
| | Class 5.3 | | | | | | EMPA ***** |
| | Non-Flammable | | | | | | JIS K 6911 |
| Weather and Ultraviolet Resistance | Good | | | | | | - |
| Copper Corrosion | Negligible | | | | | | - |
| Odour | Negligible | | | | | | - |
| Flexibility | Excellent | | | | | | - |
| Elongation | Excellent | | | | | | - |

Note: * The physical properties of Aeroflex Closed Cell Insulation represent typical average values obtained in accordance with accepted test methods.

** Also tested by other standards: DIN, JIS, SISIR and others.

*** For thicknesses ranging from 25mm and above, density 0.05 – 0.08 gm/cm³.

**** At –57 °C Aeroflex Closed Cell Insulation becomes harder and as temperature drops below –57 °C it becomes increasingly brittle. However this hardening characteristic does not affect thermal efficiency and water vapour permeability. On the heating cycle, Aeroflex Closed Cell Insulation will withstand temperatures up to 125 °C. For butt joint and seams contacted with Aeroseal Adhesive, the limited temperature is up to 100 °C.

***** Water vapour permeability of Aeroflex insulation is tested according to ASTM E 96 procedure E-Desiccant method at 37.8 °C.

***** Aeroflex Closed Cell Insulation is made of specially compounded elastomeric materials for self-extinguishing. The flammability of this insulation has been tested by exposing samples of 6" x 2" x ½" thickness to the procedures of ASTM D 635 test method entitled "Flammability of Plastics and Cellular Plastics". During this test, the sample is positioned horizontally. And for the procedure of UL – 94 the sample size of ½" x ½" x 5" is positioned vertically. This test method is not intended as a criterion of fire hazard. It can be of considerable value in comparing flammability to different materials.

***** EMPA: Swiss Federal Laboratories for Materials Testing and Research.

AEROFLEX

Closed Cell Sheet Insulation

Insulation Sheet

| Airefrig Part Number | Sheet Size (length x width x thickness) | Sheets per Carton | List Price Excl GST |
|----------------------|---|-------------------|---------------------|
| P5802 | 1200mm x 910mm x 6mm | 24 | \$31.80 |
| P5803 | 1200mm x 910mm x 9mm | 16 | \$44.65 |
| P5804 | 1200mm x 910mm x 13mm | 12 | \$52.91 |
| P5806 | 1200mm x 910mm x 20mm | 8 | \$77.51 |
| P5808 | 1200mm x 910mm x 25mm | 6 | \$105.19 |



Insulation Rolls

| Airefrig Part Number | Thickness | Roll Sizes (Metres) | List Price Excl GST |
|----------------------|-----------|---------------------|---------------------|
| MSR10 | 10 mm | 1 x 15 | \$531.10 |
| MSR13 | 13 mm | 1 x 11 | \$556.05 |
| MSR20 | 20 mm | 1 x 7 | \$491.61 |
| MSR25 | 25 mm | 1 x 5 | \$502.00 |
| MSR32 | 32 mm | 1 x 4 | \$599.80 |
| MSR50 | 50 mm | 1 x 2 | \$442.66 |



Tapes – Paints – Anti-Vibration

Tapes

| Airefrig Part Number | Description | List Price Excl GST |
|----------------------|--|---------------------|
| AEROTAPE | Aerotape Foam Tape 50mm x 9.0 Metres | \$23.27 |
| AIRTAPE | Everseal Cork Tape 50mm x 9.0 Metres | \$27.00 |
| PROTAPE25MM | Tape 25mm x 0.6mm x 25 Metres | \$36.46 |
| PROTAPE50MM | Tape 50mm x 0.6mm x 25 Metres | \$71.66 |
| ALUTAPE63 | Foil Tape 63mm x 45 Metres | \$22.44 |
| ALUTAPE75 | Foil Tape 75mm x 45 Metres | \$32.48 |
| VAPASTOP | Aluminium Reinforced Tape 72mm x 50 Metres | \$55.30 |



Adhesive and Paints

| Airefrig Part Number | Description | List Price Excl GST |
|----------------------|---|---------------------|
| AA2M | Aeroseal Adhesive & Brush 200 grm | \$19.94 |
| AA7M | Aeroseal Adhesive 700 grm | \$38.85 |
| AA2MTFHT | Aeroseal HT (+150 °C) Adhesive & Brush 200 grm (Toluene Free) | \$19.94 |
| AA7MTFHT | Aeroseal HT (+150 °C) Adhesive & Brush 700 grm (Toluene Free) | \$38.85 |
| AEROCOAT4L | Aerocoat Plastic Paint Black 3.8 Litre | \$372.56 |
| AEROCOATBLK | Aerocoat Plastic Paint Black 950 mls | \$110.07 |
| AEROCOATBLU | Aerocoat Plastic Paint Blue 950 mls | \$110.72 |
| AEROCOATGRN | Aerocoat Plastic Paint Green 950 mls | P.O.A. |
| AEROCOATRED | Aerocoat Plastic Paint Red 950 mls | \$110.07 |
| AEROCOATWHT | Aerocoat Plastic Paint White 950 mls | \$110.07 |
| AEROCOATYEL | Aerocoat Plastic Paint Yellow 950 mls | P.O.A. |

