

# PIPE

## INSULATION

[www.thermotec.com.au](http://www.thermotec.com.au)

GREEN STAR  
COMPLIANT

**Domestic**  
**Commercial**  
**Industrial**

 australia pty ltd.  
**thermotec**



Made in Australia

## THE COMPANY

Thermotec Australia was established in 1987 and has since then become Australia's number one direct extruded closed cell polyethylene foam manufacturer. In addition to a full range of pipe insulation the company also manufactures and supplies:

- **Foam Sheet** – Quick and easy insulation for tanks, equipment, spas, large diameter piping etc
- **Ductwrap** – 4-Zero fire performance insulation for air conditioning ductwork.
- **E-Therm** – Semi rigid insulation fixed to underside of roof to reduce heat build up. Innovative and safe, domestic and commercial thermal insulation.

## PROJECTS

Thermotec pipe insulation has over the past 20 years been used on many hundreds of projects including:

### Apartments

Rockdale Gardens, The Lumina, Forum West, Shore Apartments, The Cove, Jacksons Landing, Meriton Apartments – *Hurstville, George St, Arncliffe, Moore Park, Chaswood, Parramatta.*

### Hospitals

St George, Westmead, Macquarie, New Mater, Kareena, Liverpool, King George V, Royal North Shore, Royal Prince Alfred, Fairfield, Batemans Bay, Moruya, Bowral, Port Macquarie, Concord, Brisbane Waters, Shellharbour, Rylestone and St Vincents Private.

### Other

Hotels, office towers, retirement villages, shopping centres, casinos, theatres, schools, universities. Thermotec pipe insulation has also been used to insulate process lines, refrigeration piping, post-mix lines, etc.

## THERMOTEC PIPE INSULATION

**Choose the right product for your application.**

Thermotec's range of pipe insulation products have been developed to provide installers with the right product for the application at hand.

All grades of Thermotec pipe insulation have similar performance in relation to operating temperature; thermal conductivity; non-toxicity and moisture absorption.

Fire performance, noise attenuation, chemical resistance, size, wall thickness and cost are factors which will usually lead to the selection of a specific grade of Thermotec pipe insulation.

### THERMOTEC 4-ZERO 4Z



Incorporating a factory applied reinforced aluminium covering for optimum fire and thermal performance in accordance with AS 1530.3.

### THERMOTEC SEALED TUBE L/Z



Economic alternative to Quick Seal grade insulation particularly suitable where pipework is insulated prior to installation.

### THERMOTEC QUICK SEAL W/Z



Performed quick to install pipe insulation incorporating unique press seal fastener for quick and easy application on installed pipework.

## OPERATING TEMPERATURE RANGE

-40°C + 90°C

## THERMAL CONDUCTIVITY

The thermal conductivity of Thermotec pipe and sheet insulation is 0.032W/mK at a mean temperature of 23°C, when tested in accordance with ISO 8302-1 991. This low thermal conductivity (k value) combined with negligible moisture absorption provide Thermotec polyethylene foam products with excellent insulating properties.

## FIRE PERFORMANCE

The Building Code of Australia 2010, C1.10 sets out requirements in relation to the Early Fire Hazard Properties of Materials indices which materials must meet for use in Class 2 to 9 buildings:

"If the Spread of Flame index is greater than 5, the Smoke Developed index must not be greater than 8. In any case the Spread of Flame must not be greater than 9"

Table 1 shows that Thermotec Quick Seal, Sealed Tube, etc performed far better than required by the Building Code of Australia.

| Table 1               | FIRE PERFORMANCE OF THERMOTEC FOAM |            |
|-----------------------|------------------------------------|------------|
| Spread of Flame Index | 0                                  | Range 0-10 |
| Smoke Developed Index | 3                                  | Range 0-10 |

Should the specifier require optimum 4-Zero fire performance Thermotec 4-Zero pipe insulation is available. This pipe insulation has a factory applied reinforced aluminium foil facing and is, like all other grades of Thermotec pipe insulation, quick to apply, clean and completely safe to handle.

Table 2 shows 4-Zero test results when tested in accordance with AS 1530.3 'Early Fire Hazard Properties of Materials.'

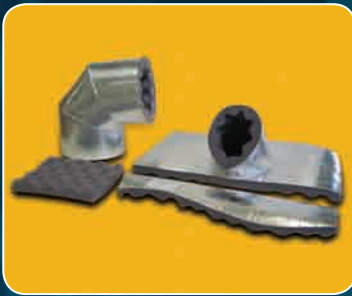
| Table 2               | FIRE PERFORMANCE OF THERMOTEC 4-ZERO |            |
|-----------------------|--------------------------------------|------------|
| Ignitability Index    | 0                                    | Range 0-20 |
| Spread of Flame Index | 0                                    | Range 0-10 |
| Heat Evolved Index    | 0                                    | Range 0-10 |
| Smoke Developed Index | 0-1                                  | Range 0-20 |

## TOXICITY

In the event of a fire in a building it is an established fact that many deaths are caused by asphyxiation as a result of toxic smoke emitted from the various materials used in buildings.

Independent tests have revealed that whilst little or no smoke is developed if the product ignites, importantly the smoke developed during complete combustion is non toxic being 99% CO<sub>2</sub> and H<sub>2</sub>O.

## THERMOTEC ACOUSTIC NU-WRAP



Thermotec Acoustic Nu-Wrap is available to provide optimum sound reduction for waste, stormwater and copper pipework to comply with BCA requirements. Available in pre-cut sections to fit plumbing fittings and pipe sizes.

## THERMOTEC POLYTUBE



Thin walled green coloured pipe insulation for domestic applications and dead legs on recirculating hot water systems.

## THERMOTEC THERMALAG



Foam sheet cut to predetermined width to exactly fit large diameter pipe. Grooved on inside to eliminate tension and facilitate quick and easy application. Available in standard and 4-Zero finish.

## FPI PIPE INSULATION



- High-density fibreglass incorporating a factory applied reinforced aluminium covering for optimum fire performance in accordance with AS 1530.3.
- Available in full range of pipe sizes and wall thicknesses
- Operating temperature from -10°C to +480°C

## HEAT LOSS

The prime purpose for insulating hot water systems is to reduce the amount of energy and therefore cost required to maintain a given water temperature level. The optimum insulation thickness will depend on many factors including the pipe diameter, water temperature, water velocity, air temperature, and air velocity.

Thermotec is able to advise you as to the projected heat loss in a particular situation. The answer is only a telephone call away.

Advise us the details of the particular application (pipe length, water temperature, etc) and we will tell you

- the total expected heat loss over the length of the pipe
  - a) with no insulation, and
  - b) with alternative thickness of Thermotec pipe insulation
- the exit water temperature and the water temperature decrease

For refrigeration applications heat gain information is similarly available.

## OPTIMUM THICKNESS

While additional insulation thickness will provide added insulation benefit this has to be offset against additional cost of thicker insulation.

As a general guide, **the initial 10mm of insulation will provide 69% saving in heat loss** as compared with a non insulated pipe. Additional insulation thickness will result in less heat loss but the relative heat loss saving of each millimetre of insulation will diminish.

| Wall Thickness | NOMINAL R-VALUES |
|----------------|------------------|
| 10mm           | R0.31            |
| 15mm           | R0.47            |
| 20mm           | R0.63            |
| 25mm           | R0.80            |
| 30mm           | R1.00            |

## GREENSTAR COMPLIANCE ODP EMI-9

Please note that the manufacturing procedures for all types of Thermotec Thermal Insulation, and Thermotec's Acoustic Insulation comply with ODP (EMI-9). Thermotec Thermal Insulation & Thermotec Acoustic Insulation and Tapes, avoids the use of ozone depleting substances in both manufacture and composition.

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## MOISTURE ABSORPTION

Because Thermotec polyethylene foam has a closed cell structure it is virtually impervious to moisture absorption, and therefore is extremely effective as a vapour barrier, eliminating the need for costly additional cladding. This also makes Thermotec suitable for insulation of buried pipes. This is very important, particularly in regions where high sustained relative humidity levels are present, because an increase in water content in any insulation will increase the k value substantially.

Independent NATA laboratory test shows that after 4 days complete submersion in water, Thermotec pipe absorbs less than 1.6% by volume. Tests per DIN 53434 shows that after 28 days the absorption rate remains at <2% by volume.

## CHEMICAL RESISTANCE

Thermotec closed cell polyethylene foam is essentially inert and will not react with most acids, alkalis, petrol, diesel or oil.

Detailed Chemical and Physical Properties of the material are available on request.

## SIZES & DIMENSIONS

All grades except Polytube available in full range of diameters to suit most copper, PVC, galvanised steel and stainless steel pipe sizes. Polytube available diameters are 13mm, and 20mm and wall thickness of 6mm.

Sealed tube, Quickseal available wall thickness of 10mm, 15mm and 20mm. 4-Zero also available in 25mm and 30mm wall thickness.

## WARRANTY NOTICE

Whilst all reasonable care is taken in compiling technical data relating to the company's products, all recommendations or suggestions regarding the use of such products are made without guarantee since the conditions of use are beyond the control of the company. It is the customer's responsibility to satisfy themselves that the product is fit for the purpose for which they intend to use it and that the actual conditions of use are suitable. Further the company reserves the right to alter or amend the product without notice in such a way that will not adversely affect its intended purpose or application.



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