

# *E-flex*

***UV resistant Insulation for all applications***

***Solar Hot Water – Refrigeration***  
***Air-conditioning – General Plumbing***



A flexible closed cell EPDM foam material suitable for use on hot and chilled water lines with outstanding ultraviolet and weather resistance. This product is highly flexible and provides a neat appearance when fitted to exposed water lines.

Material:	EPDM closed cell foam	
Density:	60kg/m <sup>3</sup> nominal	
Service Temperature:	-57C to +150C continuous (180C intermittent)	
Thermal Conductivity:	W/m.K 0.036 @ 24C	
Ozone Resistance:	Excellent	
UV Resistance:	Excellent	
Weather Resistance	Excellent	
Flexibility:	Excellent	
Flammability:	AS1530.3	
	Ignitability	0 (range 0-20)
	Spread of flame	0 (range 0-10)
	Heat evolved	0 (range 0-10)
	Smoke developed	5 (range 0-10)

Suitability:

**Meets AS/NZS2712:2007**

Where piping is exposed to the weather, the insulation shall be of a weather-resistant type  
or surrounded by a weather-resistant enclosure

- Hot & cold water lines – general plumbing
- Solar Hot Water – all application interior & exterior
- Refrigeration
- Air Conditioning
- LP Steam & Condensate lines – up to 150C
- Exceeds BCA R0.30 (13mm wall = R0.36)

PHYSICAL PROPERTIES*	THERMOTEC E-FLEX					TEST METHOD*	INSTITUTE
Material	EPDM blend with additive					-	
Cell Structure	Complete closed cell					-	
Density lbs /ft <sup>3</sup> (g/cm <sup>3</sup> )	3 ~ 5 (0.048 ~ 0.080) **					ASTM D 1667	PSB corp.
Thermal Conductivity BTU.in/ft <sup>2</sup> hr. °F ( W / mK )	-4°F (-20 °C)	32 °F (0 °C)	75 °F (24 °C)	90 °F (32 °C)	104 °F (40 °C)	ASTM C177 JIS A 1412 DIN 52613	FIW Munchen
	0.22 0.031	0.23 0.033	0.25 0.036	0.26 0.037	0.27 0.038		
Service Temperature	up to 150 °C operating continuous					becomes hard at -57 °C but can be used even at -200 °C	
	up to 180 °C operating intermitant						
Water Vapor Permeability (kg/Pa.s.m)	0.10 perm-in (0.15 x 10 <sup>-12</sup> )					ASTM C 355 ASTM E96	PSB corp.
Moisture Resistance ( μ Value)	μ not less than 10,000					DIN 52615	PSB corp.
Water Absorption ( weight % )	not more than 3%					ASTM D 1056	PSB corp.
Ozone Resistance	Non crack					ASTM D 1171	PSB corp.
Ageing Resistance at 160 °C, 150 hrs.	Non crack					ASTM C 537	Cerisie, Italy
Ultra-Violet Resistance	Non crack					ISO 4892-2	Cerisie, Italy
Heat Stability (% shrinkage) at 200 °F and 220 °F for 7 days	3.5 and 4.5 respectively					ASTM C 534	PSB corp.
Flammability	Class VO					UL - 94	PSB corp.
	Self-extinguishing					ASTM D635	PSB corp.
	Class 1					BS 476 Part 7-1987	PSB corp.
	Class 0					BS 476 Part 6-1987	PSB corp.
	Class M1					AFNOR NF P92 501	CREPIM
Nitrosamine Contents	No detected					BS EN 12868	PSB corp.
Fungus Resistance	Passed					ASTM G21	PSB corp.
Noise Reduction	36.3 db					DIN 52219	IBP, German
Flexibility	Excellent						



# MATERIAL SAFETY DATA SHEET

## E-flex Insulation

Prepared 02/2011

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NSW 2212  
AUSTRALIA  
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### 1. PRODUCT IDENTIFICATION

Name: E-flex – EPDM Closed Cell Elastomeric Thermal

### 2. CHEMICAL NAME

Ethylene propylene diene monomer blended compound

**3. PRODUCT CONTENT** Ethylene propylene diene monomer /  
Terpolymer rubber blended foam product

This product is classified as a manufactured "article". The product is formed to a specific shape or design during manufacture and has the end use of a thermal insulation used for hot and cold pipes. Can also be manufactured as a sheet product for thermal insulation of ductwork etc.

### 4. COMPOSITION / INFORMATION ON INGREDIENTS

Ethylene propylene diene monomer  
Formal Name: EPT/EPDM  
Chemical Family: Synthetic Rubber  
Chemical Formula:  $(C_2 H_4)_x (C_3 H_7)_y (C_5 H_8)_z$   
An appropriate container for reuse or disposal  
CAS No.: 25038-36-2

Aluminum Tryhydrate Chemical  
Name: Aluminum  
Tryhydrate/Aluminum Hydroxide  
Formal Name: Aluminum Oxide Trihydrate  
Chemical Formula:  $Al (O H)_3$   
CAS No.: 21645-51-2

Carbon Black  
Chemical Name: Carbon black  
Formal Name: Furnace Black  
Chemical Family: High – Purity Colloidal  
Carbon  
Chemical Formula: C  
CAS No. 1333-86-4

### 5. FIRE FIGHTING MEASURES

Extinguishing Media: Carbon Dioxide, ABC dry chemical, water spray and foam. Specific hazards with regard to fire fighting measures:  
Approach from upwind side. Avoid breathing smoke, fumes or vapors on downwind side. Firefighters wear protective clothing, especially eye protection and self contained breathing apparatus.  
Hazardous Combustion Products:  
May generate Carbon Monoxide, Carbon Dioxide, low molecular weight alcohols, aldehydes and acids.

### 6. ACCIDENTAL RELEASE MEASURES

Steps if materials released/spilled:  
Land spill: Not applicable  
Water spill: Product is insoluble.  
Neutralizing Agent: N/A

### 7. HAZARDOUS IDENTIFICATION Health Hazards Inhalation:

No significant signs of any adverse health hazards are expected to occur as a result of inhalation exposure.  
Eye Contact: No significant signs of any adverse health hazards are expected to occur as a result of eye contact.  
Skin Contact: No significant signs of any adverse health hazards are expected to occur as a result of skin contact.  
Ingestion: Practically non-toxic

### 8. FIRST AID MEASURES

Inhalation: Not required under normal use. If irritation persists, remove from exposed area.  
Eye Contact: Not required under normal use. Flush with water until all traces of this material are gone. Seek medical attention if irritation persists.  
Skin Contact: Not required under normal use.

Ingestion: If illness or adverse symptoms develop, obtain medical attention.

### 9. DISPOSAL CONSIDERATION

Waste material may be disposed of in an approved landfill or other Federal or State approved methods.

### 10. OTHER INFORMATION

The information supplied herein is related to material specified and may not be valid if used in combination with other materials or processes. Further, the information contained here is believed to be reliable and based on correct state of our knowledge; however, no guarantees of any kind can be given as to its accuracy.



# Certificate of Approval

This certificate confirms that the company below complies with the following standard:

Company Name	Thermotec Australia Pty Ltd
Company Other Name	
Client ID	101081
Certification Standard	AS/NZS 2712-2007 : Solar and heat pump water heaters - Design and construction
Scope of Certification	Refer to Certification Schedule for details - Type 5 Approval
Type of Certification	Product Conformance

#### CERTIFICATE DATES:

Certification Review Date	15/12/2009
Certification Expiry Date	15/12/2014
Certificate Issue Date	22/03/2010
Certificate Last Update Date	

#### APPROVED COMPANY/SITE ADDRESS:

168 Carrington Street Revesby 2212 NSW Australia

The use of the Accreditation Mark indicates accreditation by the Joint Accreditation System of Australia and New Zealand in respect to those activities covered by JAS-ANZ accreditation.

Refer to [www.jas-anz.org/register](http://www.jas-anz.org/register) for verification.



This certification remains valid until the above mentioned expiry date and subject to the organisation's continued compliance with the certification standard, and Global-Mark's Terms and Conditions.

This Certificate of Approval remains the property of Global-Mark Pty Ltd, Company Number: ACN.108-087-654



Certification Manager



*This Certificate of Conformance has been issued to confirm that;*

## **THERMOTEC AUSTRALIA PTY LTD**

**ABN 77 003 205 605**

**168 Carrington Street, Revesby, NSW 2212, Australia.**

is entitled to use the PAS-Mark as shown above, on products manufactured under the Rules & Requirements of the Product Assessment Scheme, a program assessed by Certification Solutions International Pty Ltd to ensure the manufacturing process has the capability to consistently produce products in compliance with:

### **AS/NZS 4859.1:2002 – Materials for the thermal insulation of buildings – General criteria and technical provisions.**

**(Including Amendment 1)**

<b>Assessment ID No:</b>	CSI- 7122	<b>Certification date:</b>	12 April 2012
<b>Issue date:</b>	13 April 2012	<b>Expiry date:</b>	21 April 2013
<b>Certificate No:</b>	7122-2012-04-C1-Rev1		

*This certificate shall be read in conjunction with the accompanying Product Compliance Schedule. Subject to the client complying with the Product Assessment Scheme, Rules & Requirements, this certificate shall be renewed annually.*

  
**Azma Khan**  
Managing Director  
Certification Solutions  
International Pty Ltd



The current validity of this document should be checked by contacting [admin@csi-certification.com](mailto:admin@csi-certification.com) PASF\_014 I1R3