

**M KEMBLA**  
**Insulation**

**TECHNICAL GUIDE**

**FIRE RATED  
NITRILE RUBBER  
THERMAL  
INSULATION**



BY  **K-FLEX**

## MM KEMBLA INSULATION YOUR COMPLETE INSULATION SOLUTION BACKED BY MM KEMBLA'S QUALITY, RELIABILITY AND SERVICE

MM Kembla has been providing our customers with the highest quality and most reliable products and service for 100 years and is pleased to announce that we have partnered with global insulation leader L'Isolante K-Flex to bring you our new range of flexible elastomeric thermal insulation.

MM Kembla Insulation is a fire rated, multi-purpose flexible elastomeric thermal insulation with a built in vapour barrier and a closed cell structure. This makes MM Kembla Insulation highly resistant to water vapour transmission and enables the product to maintain a high level of energy conservation efficiency.

MM Kembla Insulation is dust, fibre free and is HCFC-CFC free with an Ozone Depletion Potential (ODP) of zero. The impressive technical properties and supporting certifications and accreditations position MM Kembla Insulation as an ideal solution for any commercial, industrial, domestic, and marine and offshore applications. We offer a full comprehensive range that ensures MM Kembla Insulation is your one stop insulation shop for all of your needs.

### WHY USE MM KEMBLA INSULATION: THE KEMBLA DIFFERENCE

- ISO 9001:2000 Registered with over a thousand additional domestic and international certificates
- A wide range of tube and sheet with self adhesive and aluminium foil available
- Light weight and flexible for easy and speedy installation with low maintenance resulting in time and cost savings
- CFC and HCFC free with ozone depletion potential of zero
- Non-corrosive, smoke and fire rated material
- Low thermal conductivity and high  $\mu$  factor for effective control of condensation and insulating against heat loss and heat gain
- FM Approved
- Unrivalled Distribution Footprint
  - National Network of Distribution warehouses that reach every major state and territory
- MM Kembla's National Sales Force
  - providing on the ground support
  - National customer Service Centre
- Backed by MM Kembla's reputation for high quality products, service and customer care for over 100 years.



# TECHNICAL SPECIFICATIONS

MM Kembla Insulation conforms to the requirements of the Building Code of Australia (Vol) 1, of the National Construction Code (NCC) 2015. MM Kembla Insulation is a closed cell extruded nitrile based rubber that exhibits better thermal conductivity as the air inside the closed cells has lower mobility than that produced in open Cells.

Vapour Diffusion into the insulation is much lower allowing the thermal conductivity to be guaranteed longer. MM Kembla Insulation is FM Approved assuring customers that our product has been objectively tested and conforms to the highest national and international standards.

TECHNICAL SPECIFICATION FOR MM KEMBLA INSULATION ST		
Construction	Closed Cell	
Density	45-70kg/m <sup>3</sup>	
Temperature Range	-200 C to +116 C	
Thermal Conductivity	$\lambda=0.034W/(m.k)$ @ +20° C $\lambda=0.032W/(m.k)$ @ 0° C $\lambda=0.028W/(m.k)$ @ +20° C	AS4859.1 EN12667 DIN 52612
Water Vapour Diffusion Resistance Factor	$\mu \geq 10,000$	EN12086 DIN52612
Fire Performance	Class 1 – Complies with the fire hazard requirements of the Building Code of Australia	AS1530.3
Reaction to Fire	Self Extinguishing	
Environmental	Zero Ozone Depleting Potential (ODP), Low VOC	
Fungal / Mold Resistance	Resistant	ASTM G21 Anti Microbial Greenguard Approved
Manufacturer	K-Flex	

## CERTIFICATION AND TESTING

MM Kembla Insulation has been independently tested by NATA accredited laboratories. Our insulation is compliant to the Australian Building Code Boards (ABCB) National Construction Code (NCC) 2015 edition. MM Kembla Insulation also carries a number of international globally recognised certifications.



**Certificate of Conformity**  
 Product Conformity Scheme (PCS)-Type Test Certification

Australian Certification Services Pty Ltd hereby certifies that a sample of the products as identified in the listing below and submitted by:

**Metal Manufactures Ltd**  
 Gloucester Boulevard Port Kembla NSW 2505 AUSTRALIA

Has been examined and found to be in conformity with the requirements of the Standard/s referred to below:

Evaluated to: AS/NZS 4859.1:2002 Materials for the thermal insulation of buildings Part 1: General criteria and technical provisions.

Manufacturer: K Flex Malaysia Sdn Bhd  
 Product Type: Elastomeric Insulation  
 Brand: K Flex ST  
 Product Description: Elastomeric Insulation (Black) Available in Tubes Pre Cut with Adhesive and Sheets Suitable for Use for all Applications Civil and Industrial that Require use of Insulation Material

Temperature Range: -40°C to 85°C  
 Thermal Resistance: 0.4 m<sup>2</sup>K/W  
 AWTA Product Testing (NATA 983/985/1356) Test Report Number 14-002142  
 Date 18/12/2014 (13mm Sheet Insulation) ASTM C538-2010

Issue Date: 25<sup>th</sup> November 2015  
 Initial Issue Date: 30<sup>th</sup> March 2015  
 Expiry Date: 29<sup>th</sup> March 2020

Paul Gray  
 General Manager

Certificate No.: 4022

This certificate remains the property of Australian Certification Services Pty Ltd  
 The Product Conformity Scheme (PCS)-Type Test Certification is a conformity assessment scheme based on ISO 9001:2015 (Clause 8.7)

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**AWTA PRODUCT TESTING**

Australian Product Testing Pty Ltd - Testing to AS/NZS Product Testing  
 A.S.N.Z. 45/03/04 Ltd  
 140 Fogg, 985 Bayswater Road, Bayswater, Victoria 3001  
 P.O. Box 985, South Melbourne, Victoria 3201  
 Phone (03) 9571 2800 Fax (03) 9571 2804

**TEST REPORT**

CLIENT: C. DELANEY, P. GRAY, D. L. ...  
 PROJECT: ...  
 SAMPLE DESCRIPTION: ...  
 TESTS PERFORMED: ...  
 TEST RESULTS: ...

**Certificate of Conformity**  
 Product Conformity Scheme (PCS)-Type Test Certification

Australian Certification Services Pty Ltd hereby certifies that a sample of the products as identified in the listing below and submitted by:

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AS/NZS 4859.1:2002 Materials for the thermal insulation of buildings Part 1: General criteria and technical provisions.

K Flex Malaysia Sdn Bhd  
 Elastomeric Insulation  
 K Flex ST Solar  
 Elastomeric Insulation (Black) Available in Coils, Tubes and Sheets Suitable for Use for Solar Panels, Low Pressure Steam or Industrial Processes up to 150°C

Temp: -50°C to 55°C  
 Cond: 0.4 m<sup>2</sup>K/W  
 AWTA Product Testing (NATA 983/985/1356) Test Report Number 14-002142  
 Date 27/2/2015 (13mm Pipe Insulation) ASTM C538-2010

25<sup>th</sup> November 2015  
 30<sup>th</sup> March 2015  
 29<sup>th</sup> March 2020

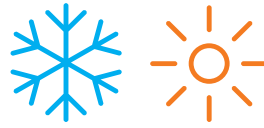
Paul Gray  
 General Manager

Certificate No.: 4023

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MM KEMBLA INSULATION IS A CLOSED CELL INSULATION WITH MANY ADVANTAGES OVER THE TRADITIONAL OPEN CELL AND PRODUCTS MADE OF WOOL OR FIBREGLASS:

- Closed Cell Insulation has a better thermal conductivity, because the air inside of the closed cells has a lower mobility than that produced in open cells.
- Vapour diffusion into the MM Kembla Insulation is much lower, thus the thermal conductivity will be guaranteed for longer.
- The closed cell promotes a natural inhibition of bacterial growth as bacteria cannot spread within the structure.



**VERY LOW THERMAL CONDUCTIVITY ( $\lambda$  FACTOR)**

Thermal Conductivity is a measurement of the ability of a material to transmit heat. MM Kembla Insulation ST thermal conductivity is  $\lambda = 0.032W/(m.K)$  @  $0^\circ C$ . The thermal coefficient is the most important factor in the calculation as it focuses on energy saving. The lower the figure the better the thermal insulation.



**HIGH WATER VAPOUR DIFFUSION RESISTANCE ( $\mu$  factor)**

MM Kembla Insulation ST closed cell elastomeric insulation has a high water vapour diffusion resistance factor  $\mu$ , to minimise water vapour penetration, ensuring excellent long term performance. The higher the resistance to the penetrations of water vapour ( $\mu$ ), the greater the consistency of performance. This is significant when insulating cold items where insulation thicknesses are chosen to achieve a surface temperature above the ambient dewpoint.



**LOW FLAME SPREAD**

When Fire Tested MM Kembla Insulation does not generate flaming droplets and has a low fire propagation index. It is guaranteed to self extinguish in case of a fire and complies with the fire hazard requirements of the Building Code of Australia.

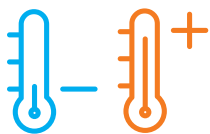


### NON-TOXIC PRODUCTS

Many insulation materials are porous or fibrous. In these types of materials the presence of moisture and organic matter allow the growth of bacteria, mould, and fungi. MM Kembla Insulation is resistant to this and therefore helps contribute to the quality of the air that we breathe. We do our best to ensure that our products do not emit VOC's (volatile organic compounds) and have Zero ODP (Ozone Depletion Potential). Elastomeric Insulation such as MM Kembla Insulation is not made of fibrous material and does not release harmful particles into the air. Therefore our product is ideal for any application in public places such as schools and hospitals.

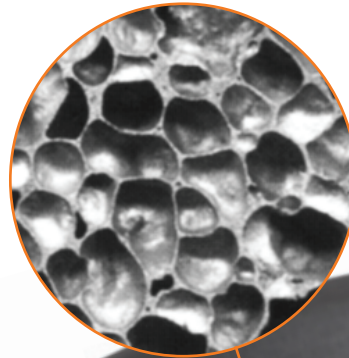
### FLEXIBILITY AND EASE OF USE

The ease of installation of MM Kembla Insulation is one key feature that sets our materials apart from other products on the market. Due to its flexibility and elasticity, MM Kembla Insulation is ideal for a variety of applications. Professionals will appreciate its extreme cleanliness as it does not leave traces and residues behind during installation that can help achieve savings in installation time.



### TEMPERATURE RANGE

MM Kembla Insulation is suitable for applications ranging from -200° C to +116° C. Our strict quality and safety expectations ensure that our material is compatible with applications with the strictest of specifications.



**CLOSED CELL INSULATION**



### MM KEMBLA DIFFERENCE

Established in 1916, we have been providing our customers with the highest quality and most reliable products and services for 100 years. MM Kembla provides you with the security of knowing you are taking no chances.

## PRODUCT RANGE

MM KEMBLA INSULATION ST FIRE RATED - 9MM WT				
Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K40500	6	1/4	9mm	144
K40502	10	3/8	9mm	120
K40504	13	1/2	9mm	90
K40506	15	5/8	9mm	84
K40508	20	3/4	9mm	68
K40510	22	7/8	9mm	64
K40512	25	1	9mm	54
K40514	28	1 1/8	9mm	49
K40516	32	1 1/4	9mm	38
K40518	35	1 3/8	9mm	38
K40520	40	1 1/2	9mm	30
K40522	42	1 5/8	9mm	30
K40526	50	2	9mm	24
K40528	54	2 1/8	9mm	23
K40530	60	2 3/8	9mm	23
K40532	67	2 5/8	9mm	20

MM KEMBLA INSULATION ST FIRE RATED - 13MM WT				
Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K40546	6	1/4	13mm	80
K40548	10	3/8	13mm	76
K40550	13	1/2	13mm	64
K40552	15	5/8	13mm	56
K40554	20	3/4	13mm	52
K40556	22	7/8	13mm	49
K40558	25	1	13mm	40
K40560	28	1 1/8	13mm	39
K40562	32	1 1/4	13mm	29
K40564	35	1 3/8	13mm	29
K40566	40	1 1/2	13mm	24
K40568	42	1 5/8	13mm	24
K40572	50	2	13mm	19
K40574	54	2 1/8	13mm	17
K40576	60	2 3/8	13mm	16
K40578	67	2 5/8	13mm	13
K40582	76	3	13mm	13



MM KEMBLA INSULATION ST FIRE RATED - 19MM WT				
Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K40592	6	1/4	19mm	50
K40594	10	3/8	19mm	40
K40596	13	1/2	19mm	36
K40598	15	5/8	19mm	30
K40600	20	3/4	19mm	30
K40602	22	7/8	19mm	30
K40604	25	1	19mm	25
K40606	28	1 1/8	19mm	24
K40608	32	1 1/4	19mm	20
K40610	35	1 3/8	19mm	18
K40612	40	1 1/2	19mm	16
K40614	42	1 5/8	19mm	16
K40618	50	2	19mm	12
K40620	54	2 1/8	19mm	12
K40622	60	2 3/8	19mm	11
K40624	67	2 5/8	19mm	9
K40628	76	2 3/8	19mm	9
K40630	79	2 5/8	19mm	7

MM KEMBLA INSULATION ST FIRE RATED - 25MM WT				
Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K40640	10	3/8	25mm	30
K40642	13	1/2	25mm	25
K40644	15	5/8	25mm	25
K40646	20	3/4	25mm	20
K40648	22	7/8	25mm	19
K40650	25	1	25mm	20
K40652	28	1 1/8	25mm	16
K40654	32	1 1/4	25mm	12
K40656	35	1 3/8	25mm	12
K40660	42	1 5/8	25mm	11
K40664	50	2	25mm	9
K40666	54	2.125	25mm	9
K40668	60	2 3/8	25mm	9
K40670	67	2 5/8	25mm	6
K40674	76	3	25mm	5

MM KEMBLA INSULATION ST FIRE RATED - 32MM WT				
Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K40692	20	3/4	32mm	16
K40694	22	7/8	32mm	12
K40696	25	1	32mm	12
K40698	28	1 1/8	32mm	12
K40700	32	1 1/4	32mm	9
K40702	35	1 3/8	32mm	9
K40704	40	1 1/2	32mm	8
K40706	42	1 5/8	32mm	8
K40712*	54	2.125	32mm	7
K40714*	60	2 3/8	32mm	5
K40716*	67	2 5/8	32mm	4
K40720*	76	3	32mm	4
K40724*	89	3 1/2	32mm	4
K40728*	114	4 1/2	32mm	3

MM KEMBLA INSULATION ST FIRE RATED - 38MM WT				
Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K40738	20	3/4	38mm	9
K40740	22	7/8	38mm	9
K40742	25	1	38mm	8
K40744	28	1 1/8	38mm	8
K40746*	32	1 1/4	38mm	8
K40748	35	1 3/8	38mm	8
K40752*	42	1 5/8	38mm	6
K40758*	54	2.125	38mm	5
K40760*	60	2 3/8	38mm	4
K40762*	67	2 5/8	38mm	4
K40766*	76	3	38mm	4
K40770*	89	3 1/2	38mm	4
K40774*	114	4 1/2	38mm	3

\* Available on request

PRODUCT RANGE



**MM KEMBLA INSULATION HT  
FIRE RATED - 13MM WT**

Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K40872	13	1/2	13mm	65
K40876	20	3/4	13mm	49

Other sizes available on request.



**MM KEMBLA INSULATION SELF SEAL  
FIRE RATED - 9MM WT**

Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K41056	13	1/2	9mm	90
K41058	15	5/8	9mm	84
K41060	20	3/4	9mm	68
K41062	22	7/8	9mm	64
K41064	25	1	9mm	54
K41066	28	1 1/8	9mm	49
K41068	32	1 1/4	9mm	38
K41070	35	1 3/8	9mm	38

**MM KEMBLA INSULATION SELF SEAL  
FIRE RATED - 13MM WT**

Product Code	Insulation ID		Wall Thickness	Carton Quantity
	mm	inch		
K41102	13	1/2	13mm	64
K41104	15	5/8	13mm	56
K41106	20	3/4	13mm	52
K41108	22	7/8	13mm	49
K41110	25	1	13mm	40
K41112	28	1 1/8	13mm	39
K41114	32	1.25	13mm	29
K41116	35	1.375	13mm	29



**MM KEMBLA INSULATION CONTINUOUS COIL - FIRE RATED - 9MM WT**

Product Code	Insulation ID		Wall Thickness	Carton Mtrs
	mm	inch		
K45940	6	1/4	9mm	80
K45941	10	3/8	9mm	60
K45942	13	1/2	9mm	50
K45943	15	5/8	9mm	40
K45944	20	3/4	9mm	40
K45945	22	7/8	9mm	30
K45946	28	1 1/8	9mm	20

**MM KEMBLA INSULATION CONTINUOUS COIL - FIRE RATED - 13MM WT**

Product Code	Insulation ID		Wall Thickness	Carton Mtrs
	mm	inch		
K45950	10	3/8	13mm	40
K45951	13	1/2	13mm	40
K45952	15	5/8	13mm	30
K45953	20	3/4	13mm	30
K45954	28	1 1/8	13mm	15



**MM KEMBLA INSULATION PRE-CUT INSULATION SHEETS - FIRE RATED**

Product Code	Insulation Thickness		Width x Length	Carton Sheets
	mm	inch		
K45961	10	3/8	1m x 1.22m	26
K45962	13	1/2	1m x 1.22m	20
K45963	20	3/4	1m x 1.22m	14
K45964	25	1	1m x 1.22m	10
K45965	32	1 1/4	1m x 1.22m	8
K45966	40	1 1/2	1m x 1.22m	7
K45967	50	2	1m x 1.22m	4



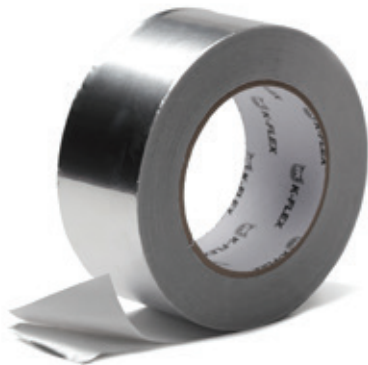
ACCESSORIES



ADHESIVE		
Product Code	Product Description	Carton Quantity
K45970	MM Kembla Adhesive - 1 litre/w brush	6
K45971	MM Kemba Adhesive - 500 ml/w brush	8



INSULATION FOAM TAPE		
Product Code	Product Description	Carton Quantity
K45972	Insulated Tape - 3mm x 48mm x 9.14m	24



ALUMINIUM TAPE		
Product Code	Product Description	Carton Quantity
K45973	Aluminium Foil Tape - 48mm x 45m	24
K45974	Aluminium Foil Tape - 60mm x 45m	20
K45975	Aluminium Foil Tape - 72mm x 45m	16



PIPE SUPPORTS		
Product Code	Product Description	Quantity
Various	13mm WT 10mm ID - 54mm ID	1
Various	19mm WT 10mm ID - 54mm ID	1
Various	25mm WT 10mm ID - 54mm ID	1

## R-VALUES

MM KEMBLA INSULATION ST - R-VALUES								
Nominal Pipe Size		Insulation Thickness (mm)						
inch	mm	9mm	13mm	19mm	25mm	32mm	38mm	50mm
1/4	6	0.50	0.81	1.33	1.90	2.39	3.18	4.23
3/8	10	0.44	0.70	1.14	1.63	2.06	2.75	3.66
1/2	12	0.41	0.65	1.06	1.51	1.90	2.54	3.39
5/8	15	0.39	0.61	1.00	1.42	1.79	2.39	3.19
3/4	20	0.37	0.59	0.95	1.35	1.70	2.27	3.03
7/8	22	0.36	0.57	0.91	1.29	1.63	2.17	2.90
1	25	0.35	0.55	0.88	1.25	1.57	2.09	2.79
1 1/8	28	0.35	0.54	0.86	1.21	1.52	2.02	2.70
1 1/4	32	0.34	0.52	0.83	1.17	1.46	1.95	2.60
1 3/8	35	0.33	0.51	0.81	1.14	1.43	1.90	2.53
1 1/2	40	0.32	0.50	0.78	1.09	1.36	1.81	2.40
1 5/8	42	0.32	0.50	0.78	1.09	1.36	1.81	2.40
2	50	0.32	0.48	0.76	1.06	1.32	1.74	2.31
2 1/8	54	0.31	0.48	0.74	1.03	1.28	1.69	2.24
2 3/8	60	0.31	0.47	0.73	1.01	1.25	1.65	2.18
2 5/8	67	0.31	0.46	0.71	0.99	1.22	1.60	2.12
3	76	0.30	0.45	0.70	0.97	1.19	1.56	2.05
3 1/8	80	0.30	0.45	0.70	0.96	1.18	1.54	2.03
3 1/2	89	0.30	0.45	0.68	0.94	1.15	1.51	1.98
4	101	0.30	0.44	0.68	0.94	1.15	1.51	1.98
4 1/2	114	0.30	0.44	0.66	0.90	1.10	1.43	1.87

R-value or Thermal resistance is a measure of the ability of a material to retard heat flow. The higher the R-value the higher the insulating value. The Building Code of Australia and several Australian standards specify R-values to help determine what insulation material and thickness should be used. The BCA lists the requested R-values for pipe insulation in Specification J5.

For further information please contact your MM Kembla representative, customer service or visit our website.



### MM Kembla Australia

Gloucester Boulevard, Port Kembla NSW 2505 Australia  
 PO Box 21, Port Kembla NSW 2505 Australia  
 T: 1800 804 631 F: 1800 817 846 E: sales@kembla.com.au  
 www.kembla.com.au

### MM Kembla ABN 13 003 762 641

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Technical Bulletin No: D68/17

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 PO Box 51 525, Pakuranga, Auckland 2140 New Zealand  
 T: +64 9 274 0111 F: +64 9 274 0347 E: sales@kembla.co.nz  
 www.kembla.co.nz



**VAPOUR RESISTANT.**  
**FIRE RETARDANT.**  
**ENERGY SAVING.**

**THE FIRE RATED**  
**THERMAL INSULATION**  
**SYSTEM FROM**  
**MM KEMBLA**

BY  **K-FLEX**

 **KEMBLA**  
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[www.kembla.com.au](http://www.kembla.com.au)