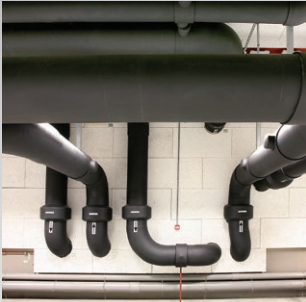




# Flexible Insulation for Energy Saving



fire rated yet flexible and lightweight elastomeric nitrile rubber material designed for thermal insulation.

Superlon FR satisfies the requirements of the Building Code of Australia (BCA) (Vol 1), of the National Construction Code (NCC) 2013. Superlon FR insulation is black in colour and is available in tubing and sheet form. The extruded flexible tubing is specially designed to fit the standard diameters of copper and steel piping. Superlon FR expanded closed cell structure provides the ideal and most efficient vapour barrier for the prevention of condensation or frost formation on cooling systems, chilled water and refrigerant lines. Superlon FR also retards heat loss for hot water plumbing and heating, dual temperature piping and solar systems. It protects pipes by acting as a vibration damper and giving protection against corrosion by atmospheric and industrial environments.

Technical Data		
Material	Foamed nitrile rubber	
Manufactured by	Armacell Australia Pty. Ltd.	
Temperature range	-50°C to +105°C	
Water Vapour Permeability	$\mu > 4,500$	Tested according to EN 13469
Water Absorption	0.2% by volume	Tested according to ASTM C355
Temperature conductivity K-value	At 0°C - 0.034 W/(m.K)	Tested according to ASTM C518
	At 15°C - 0.035 W/(m.K)	
	At 23°C - 0.036 W/(m.K)	
Fire performance	Complies with the fire hazard requirements of the Building Code of Australia	Tested to AS/NZS 1530.3 1999 and ISO 5660
Reaction to fire	Self-extinguishing, does not drip	
Reduction of structure-borne sound transmission	< 28.00 dB (A)	Tested according to EN ISO 3822-1

- Complies with the Building Code of Australia (BCA)
- Fire rating tested to Australian Standard AS/NZS 1530.3.1999
- Closed-cell structure for effective barrier to water vapour
- Low thermal conductivity (K value)
- Long life expectancy for long-lasting protection
- Suitable for applications within the temperature range of -40°C to 105°C
- Superlon FR is free of ozone-depleting gases in manufacture and composition  
Superlon FR is made without CFCs, HCFCs or HFCs
- Does not contain or release fibres that cause skin irritation



## Condensation Control



**R Value** or thermal resistance is a measure of the ability of a material to retard heat flow.

Thermal resistance is used in combination with numerals to designate thermal resistance values. The higher the R-value the higher the insulating value.

There are a number of instances where the R-value is specified for the selection of an insulation material and its thickness. R-values are specified in the Building Code of Australia, and in several Australian and New Zealand standards. In the BCA, the required total R-values for pipe insulation is listed in Specification J5.

Pipe Insulation R-Values							
Nominal Pipe Size [mm]	9mm	13mm	19mm	25mm	32mm	38mm	50mm
6	0.5	0.7	1.2	1.7	2.4	3.0	4.2
10	0.4	0.6	1.0	1.5	2.1	2.6	3.7
12	0.4	0.6	1.0	1.4	1.9	2.4	3.5
15	0.4	0.6	0.9	1.3	1.8	2.3	3.3
20	0.3	0.5	0.9	1.2	1.7	2.1	3.0
22	0.3	0.5	0.8	1.2	1.6	2.0	2.9
25	0.3	0.5	0.8	1.1	1.6	2.0	2.8
28	0.3	0.5	0.8	1.1	1.5	1.9	2.7
32	0.3	0.5	0.8	1.1	1.5	1.8	2.6
35	0.3	0.5	0.7	1.0	1.4	1.8	2.5
40	0.3	0.5	0.7	1.0	1.4	1.7	2.4
42	0.3	0.5	0.7	1.0	1.4	1.7	2.4
50	0.3	0.4	0.7	1.0	1.3	1.6	2.3
54	0.3	0.4	0.7	0.9	1.3	1.6	2.2
60	0.3	0.4	0.7	0.9	1.3	1.5	2.2
64	0.3	0.4	0.7	0.9	1.2	1.5	2.1
67	0.3	0.4	0.7	0.9	1.2	1.5	2.1
76	0.3	0.4	0.6	0.9	1.2	1.5	2.1
80	0.3	0.4	0.6	0.9	1.2	1.4	2.0
89	0.3	0.4	0.6	0.9	1.2	1.4	2.0
101	0.3	0.4	0.6	0.8	1.1	1.4	1.9
114	0.3	0.4	0.6	0.8	1.1	1.3	1.9

Sheet Insulation R-Values							
Thickness	9mm	13mm	19mm	25mm	32mm	38mm	50mm
R-Value	0.25	0.36	0.53	0.69	0.89	1.06	1.39



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## Flexible Insulation for Energy Saving



professional flexible insulation for reliable continuous condensation control.

Insulation thickness should be chosen to meet the BCA's requirements for R-values and energy efficiency. Choice of thickness should also consider condensation control in the intended application, which is determined by the pipe's operating temperature and the local conditions for temperature, humidity and airflow.

Pipe Insulation										
Insulation ID		9mm Wall			13mm Wall			19mm Wall		
mm	inch	Cat No	Lengths per carton	R Value	Cat No	Lengths per carton	R Value	Cat No	Lengths per carton	R Value
6	¼	210200	105	0.4	210225	50	0.7	210250	54	1.2
10	¾	210201	84	0.4	210226	50	0.6	210251	50	1.0
12	½	210202	60	0.3	210227	40	0.6	210252	42	0.9
15	⅝	210203	50	0.3	210228	36	0.5	210253	36	0.9
20	¾	210204	44	0.3	210229	32	0.5	210254	36	0.8
22	⅞	210205	40	0.3	210230	28	0.5	210255	30	0.8
25	1	210206	35	0.3	210231	23	0.5	210256	30	0.8
28	1 ⅛	210207	28	0.3	210232	43	0.4	210257	25	0.7
32	1 ¼	210208	25	0.3	210233	35	0.4	210258	20	0.7
35	1 ⅜	210209	45	0.3	210234	33	0.4	210259	20	0.7
40	1 ½	210214	40	0.3	210241	30	0.4	210266	18	0.7
42	1 ⅝	210210	36	0.3	210235	24	0.4	210260	16	0.7
50	2	210212	25	0.2	210237	20	0.4	210262	16	0.6
54	2 ⅛	210213	25	0.2	210238	20	0.4	210263	12	0.6
60	2 ¾	210215	20	0.2	210239	16	0.4	210264	9	0.6
67	2 ⅝	210216	20	0.2	210240	15	0.4	210265	9	0.6
76	3	210217	16	0.2	210242	14	0.4	210267	8	0.6
80	3 ⅛	210218	18	0.2	210243	12	0.4	210268	7	0.6
89	3 ½				210244	12	0.4	210269	7	0.6
101	3 ¾				210245	8	0.4	210270	6	0.6
114	4 ½				210246	6	0.4	210249	6	0.6

BCA's minimum R-value requirements for cooling water piping systems of not more than 65 kW, capacity

Location	Minimum material R-value		
	Climate zones 1, 2, 3 and 5	Climate zones 4, 6 and 7	Climate zone 8
Located internally	1.0	0.6	0.6
Located within a wall space, an enclosed sub-floor area or an enclosed roof space	1.1	0.7	0.7
Located outside the building or an unenclosed sub-floor or roof space	1.2	0.8	0.8

This table also applies to Refrigerant pipes, where the temperature is > 2°C and ≤ 20°C.



## Condensation Control



pipe insulation is easy and fast to install.

The material's flexibility allows it to readily bend to fit curves or angles in pipework. On large pipes and short-radius bends, it should be miter-cut and installed as 2-part or 3-part bends and glued with nitrile-insulation contact adhesive.

Pipe Insulation										
Insulation ID		25mm Wall			32mm Wall			38mm Wall		
mm	inch	Cat No	Lengths per carton	R Value	Cat No	Lengths per carton	R Value	Cat No	Lengths per carton	R Value
10	3/8	210282	30	1.4						
12	1/2	210283	30	1.4	210301	16	1.9			
15	5/8	210284	25	1.3	210302	16	1.8	210325	10	2.3
20	3/4	210285	25	1.2	210303	15	1.7	210326	10	2.1
22	7/8	210286	20	1.1	210304	15	1.6	210327	10	2.0
25	1	210271	20	1.1	210305	15	1.6	210328	10	2.0
28	1 1/8	210287	16	1.1	210306	12	1.5	210329	10	1.9
32	1 1/4	210273	16	1.0	210307	12	1.5	210330	10	1.8
35	1 3/8	210288	16	1.0	210308	12	1.4	210331	10	1.8
40	1 1/2	210274	15	1.0	210309	12	1.4	210332	8	1.7
42	1 5/8	210289	12	1.0	210310	11	1.4	210333	8	1.7
50	2	210290	9	0.9	210311	8	1.3	210334	8	1.6
54	2 1/8	210291	9	0.9	210312	8	1.3	210335	8	1.6
60	2 3/8	210275	9	0.9	210313	8	1.3	210336	6	1.5
67	2 5/8	210292	8	0.9	210314	7	1.2	210337	5	1.5
76	3	210293	5	0.8	210315	5	1.2	210338	5	1.5
80	3 1/8	210294	5	0.8	210316	5	1.2	210339	5	1.4
89	3 1/2	210295	4	0.8	210317	5	1.2	210340	4	1.4
101	3 7/8	210296	4	0.8	210318	5	1.1	210341	4	1.4
114	4 1/2	210297	4	0.8	210319	4	1.1	210342	3	1.3

Pipe Insulation is sold in 2 meter lengths. All dimensions are nominal.

BCA's minimum R-value requirements for cooling water piping systems of 65kW, – 250kW, capacity			
Location	Minimum material R-value		
	Climate zones 1, 2, 3 and 5	Climate zones 4, 6 and 7	Climate zone 8
Located internally	1.7	1.3	1.0
Located within a wall space, an enclosed sub-floor area or an enclosed roof space	1.8	1.4	1.1
Located outside the building or an unenclosed sub-floor or roof space	1.9	1.5	1.2

This table also applies to Refrigerant pipes, where the temperature is > 2°C and ≤ 20°C.