SuperlonFR®

Flexible Insulation

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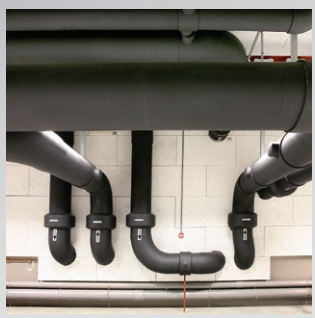
SuperlonFR® Flexible Insulation for Energy Saving



Superlon FR is a fire rated yet flexible and lightweight elastomeric nitrile rubber material designed for thermal insulation.

Suplerlon 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	u > 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

and 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

SuperlonFR® Flexible Insulation for Energy Saving

Superlon FR is the 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	⅜	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 ⅜	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 ⅞				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			
	Minimum material R-value		
Location	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.

and Condensation Control

Superlon FR pipe insulation is easy and fast to install.

The material's flexibility allows it to ready 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	⅜	210282	30	1.4						
12	½	210283	30	1.4	210301	16	1.9			
15	⅝	210284	25	1.3	210302	16	1.8	210325	10	2.3
20	¾	210285	25	1.2	210303	15	1.7	210326	10	2.1
22	⅞	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 ⅛	210287	16	1.1	210306	12	1.5	210329	10	1.9
32	1 ¼	210273	16	1.0	210307	12	1.5	210330	10	1.8
35	1 ⅜	210288	16	1.0	210308	12	1.4	210331	10	1.8
40	1 ½	210274	15	1.0	210309	12	1.4	210332	8	1.7
42	1 ⅝	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 ⅛	210291	9	0.9	210312	8	1.3	210335	8	1.6
60	2 ⅜	210275	9	0.9	210313	8	1.3	210336	6	1.5
67	2 ⅝	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 ⅛	210294	5	0.8	210316	5	1.2	210339	5	1.4
89	3 ½	210295	4	0.8	210317	5	1.2	210340	4	1.4
101	3 ⅞	210296	4	0.8	210318	5	1.1	210341	4	1.4
114	4 ½	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			
	Minimum material R-value		
Location	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.

SuperlonFR® Flexible Insulation for Energy Saving

Superlon FR SELF-SEAL in pre-slit pipe sections with self-adhesive joining tape.

Specially developed to provide insulation where fast, secure installation is required and ideal for applications where working space is severely restricted. Superlon FR Self-Seal is easily applied by fitting the insulation and peeling back the self adhesive tape.

Pipe Insulation											
Insulation ID		9mm Wall		13mm Wall		19mm Wall		25mm Wall		32mm Wall	
mm	inch	Cat No	Lengths per carton	Cat No	Lengths per carton	Cat No	Lengths per carton	Cat No	Lengths per carton	Cat No	Lengths per carton
10	⅜	210015	70	210030	44	210050	50	210135	60		
12	½	210016	55	210031	35	210051	42	210136	60	210160	16
15	⅝	210017	45	210032	32	210052	36	210137	50	210161	16
20	¾	210018	36	210033	30	210053	36	210138	50	210162	15
22	⅞	210019	32	210034	44	210054	30	210139	40	210163	15
25	1	210020	27	210035	40	210055	30	210140	40	210164	12
28	1 ⅛	210021	22	210036	72	210056	30	210141	32	210165	12
32	1 ¼	210022	20	210037	60	210057	20	210142	32	210166	12
35	1 ⅜	210023	40	210038	60	210058	20	210143	32	210167	12
40	1 ½					210059	18	210144	30	210168	12
42	1 ⅝			210040	48	210060	16	210145	24	210169	11
50	2					210061	16	210146	18	210170	8
54	2 ⅛					210062	12	210147	18	210171	8
60	2 ⅜					210063	9	210148	18	210172	8
67	2 ⅝					210065	9	210150	16	210174	7
76	3					210066	8	210151	10	210175	5
80	3 ⅛					210067	7	210152	10	210176	5
89	3 ½					210068	7	210153	8	210177	5

- Ease of application reduces cost and time of installation
- Fast and secure gluing of seams over the entire length of the installation
- Professional finish and good aesthetic appearance from factory pre-slitting
- Indoor Air-Quality friendly: fibre-free, formaldeyhyde-free, low VOCs and non-particulating
- Perfect for use in maintenance applications

and Condensation Control

Superlon FR is available in sheet and roll form for insulation of large pipes, tanks and equipment.

For large pipe diameters and mutli-layered applications, Superlon FR can be applied in sheet form. This is highly suited to insulation of tanks and vessels, or for cutting into formed sections for equipment such as pumps, valves and flanges.

Sheet Insulation							
Cat No	Part No	Description	Nominal Thickness		Sheet Size: m	Sheets per carton	R Value
			mm	inch			
210387	9F090007	Fire Rated Sheet Insulation	9	⅜	1 x 1.5	20	0.25
210388	9F130007		13	½		15	0.36
210389	9F190007		19	¾		10	0.53
210390	9F250007		25	1		8	0.69

Sheet Insulation Rolls						
Cat No	Part No	Description	Nominal Thickness		Roll Size: m	R Value
			mm	inch		
210392	9F090007	Fire Rated Sheet Insulation	13	½	1 x 8	0.36
210393	9F130007		19	¾	1 x 6	0.53
210394	9F190007		25	1	1 x 4	0.69

Continuous Coil Pipe Insulation					
Insulation ID		9mm Wall		13mm Wall	
mm	inch	Cat No	Lengths per carton	Cat No	Lengths per carton
6	¼	210360	70	210370	45
10	⅜	210361	50	210371	35
12	½	210362	45	210372	32
15	⅝	210363	40	210373	32
20	¾	210364	34	210374	28
22	⅞	210365	30	210375	26
25	1	210366	26	210376	20
28	1 ⅛	210367	26	210377	20

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