

ACTROL



**superlonFR**  
*Flexible Insulation*



*Your best solution...*

# superlonFR

## *Flexible Insulation*

*SuperlonFR* is a fire rated yet flexible and lightweight elastomeric nitrile rubber material designed for thermal insulation. SuperlonFR has been tested to AS/NZS 1530.3 - 1999 and satisfies the requirements of the BCA where fire rated insulation is required. SuperlonFR 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. SuperlonFR 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. SuperlonFR 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.

### *Features*

- Complies with Building Code of Australia (BCA) requirements
- Fire rating tested to Australian Standard AS/NZS 1530.3-1999
- Low thermal conductivity (K value), which makes it highly efficient and effective in the insulation of cooling or heating systems.
- Hermetic blister closed cell structure forms an impermeable layer which is in itself a good vapour barrier
- Suitable for application within the temperature range of -40°C to 105°C
- Excellent ozone and ultraviolet resistance
- SuperlonFR is CFC, chlorine and fibre free and does not cause skin allergies

# Specifications

## Pipe Insulation

Insulation Inside Diameter		Copper Tube Outside Diameter		10mm Wall		13mm Wall		19mm Wall		25mm Wall	
mm	Inches	mm	Inches	Cat No.	No. of Pieces Per Carton	Cat No.	No. of Pieces Per Carton	Cat No.	No. of Pieces Per Carton	Cat No.	No. of Pieces Per Carton
6	¼	6	¼	210200	75	210225	100	210250	48		
10	¾	10	¾	210201	50	210226	40	210251	36		
13	½	13	½	210202	45	210227	32	210252	30		
16	⅝	16	⅝	210203	40	210228	28	210253	30		
19	¾	19	¾	210204	30	210229	24	210254	26	210285	20
22	⅞	22	⅞	210205	28	210230	18	210255	24	210286	20
25	1	25	1	210206	21	210231	15	210256	20	210271	18
29	1⅛	29	1⅛	210207	21	210232	15	210257	20	210287	18
32	1¼	32	1¼	210208	42	210233	30	210258	20	210273	16
35	1⅝	35	1⅝	210209	36	210234	30	210259	18	210288	15
38	1½	38	1½	210214	30						
42	1⅝	42	1⅝	210210	30	210235	25	210260	16	210289	12
48	1⅞	48	1⅞	210211	28	210236	20	210261	12		
51	2	51	2	210212	24	210237	20	210262	12	210290	9
54	2⅛	54	2⅛	210213	20	210238	18	210263	12	210291	9
60	2⅜	60	2⅜			210239	18	210264	9		
67	2⅝	67	2⅝			210240	13	210265	8	210292	8
76	3	76	3			210242	12	210267	8		
89	3½	89	3½			210244	12	210269	6		

Pipe Insulation Sold in 2 metre Lengths

Note: All dimensions are nominal

Also available:

**Cat No.** 210199 6mm I.D. x 6mm Wall (125 pieces per carton)

SuperlonFR may be painted with a vinyl lacquer type coating if required for aesthetic reasons.

## Sheet Insulation

Cat. No.	Nominal Thickness		Sheet Size		No. of Sheets Per Carton
	mm	Inches	Metres	Feet	
210381	6	¼	1.22 x 0.914	4 x 3	40
210382	9	¾			26
210383	13	½			20
210384	19	¾			14
210385	25	1			10

## Properties

Average Physical Properties	Rating
Density	0.08 gm/cm <sup>3</sup> (5.4 lb/cuft)
Thermal Conductivity at 10°C mean Temperature	0.0374 W/mK (0.26 BTU in/hr ft <sup>2</sup> °F)
Temperature Limits °C	-40°C to 105°C
Water Absorption (% by weight)	3
Water Vapour Permeability Perm - In. Max	0.2
Ozone Resistance	Excellent

Average Physical Properties	Rating
Thermal Stability 7 Days 95°C (% shrinkage) 7 Days 105°C	4.5 5.5
Spread of Flame	Self Extinguishing
Flexibility	Excellent
Weather and Ultraviolet Resistance	Good
Chemical Resistance	Good
Odour	Negligible
Mildew Resistance	No Fungal Growth

### Test Results of SuperlonFR

Spread of flame index	0
Heat evolved index	0
Smoke developed index	3

- The above average physical properties are values obtained in accordance with accepted test methods.
- At -40°C SuperlonFR closed cell insulation becomes hard and as temperature drops below -40°C will be increasingly brittle. However, this hardening characteristic does not affect thermal efficiency or water vapour permeability and is typical of nitrile rubber materials.
- The results of a fire test may be used to directly assess fire hazard, but it should be recognised that test methods will not provide a full assessment of fire hazards under all fire conditions.

## Thickness Recommendations

### Thickness Recommendations to Control Condensation in Pipe Insulation of Cooling Lines

Design Conditions	Pipe Size	Recommended Thickness: mm			
		Pipeline Temperature			
		15°C	7°C	2.5°C	-18°C
Mild Condition 27°C, 50% RH	10mm ID to 76mm IPS	9	9	9	19
	76mm IPS to 127mm IPS	9	13	13	25
	127mm IPS to 254mm IPS	13	13	13	25
Normal Condition 30°C, 70% RH	10mm ID to 76mm IPS	9	13	13	25
	76mm IPS to 127mm IPS	13	13	13	31
	127mm IPS to 254mm IPS	13	13	19	31
Severe Condition 32°C, 80% RH	10mm ID to 76mm IPS	13	19	19	38
	76mm IPS to 127mm IPS	13	25	25	38
	127mm IPS to 254mm IPS	13	25	31	50
Extremely Severe Condition 32°C, 85% RH	10mm ID to 76mm IPS	13	25	25	38
	76mm IPS to 127mm IPS	19	31	31	50
	127mm IPS to 254mm IPS	25	31	38	50

- Insulation for pipes of 10mm ID to 76mm IPS is available in tubing form with wall thickness of up to 25mm
- Insulation above 76mm IPS is in precut sheets and available up to 38mm thickness
- Superlon thickness recommended within the specified temperature ranges will control condensation on indoor piping under design conditions defined as follows:

MILD – Air Conditioned and arid areas

NORMAL – Maximum severity of most indoor conditions seldom exceed 30°C and 70% RH

SEVERE and EXTREMELY SEVERE – Conditions of high humidity or poorly ventilated areas where temperature may be depressed below the ambient. Under conditions of high humidity, additional thickness of insulation may be required.

### Thickness Recommendations for Insulation of Ductings, Tanks and Equipment of Cooling Systems

Design Conditions	Recommended Thickness: mm				
	Pipeline Temperature				
	15°C	12°C	7°C	2.5°C	-18°C
27°C 50% RH	9	9	13	19	25
30°C 70% RH	13	13	19	25	31
32°C 80% RH	13	19	25	31	50
32°C 85% RH	25	25	31	38	50

All measurements are nominal sizes.

## Accessories

### Insulation Adhesive

An air-drying contact adhesive that is excellent for joining seams and butt joints of SuperlonFR Pipe and Sheet Insulation. The adhesive may also be used to apply SuperlonFR Sheet Insulation to flat or curved metal surfaces.

Cat No.	Size
210109	500ml Tin
210110	1 Litre Tin
210111	4 Litre Tin
210130	25mm Plastic Handled Brush for Adhesive Application

### Foam Insulation Tape

Prevents pipe sweat, can also be used to reduce heat loss on hot pipes below 70°C. Easily cut in pieces and moulded around fittings and valves, saving the higher cost of specially cast forms. Adheres to clean metal surfaces and to itself.

Wrap tape in a spiral around pipe. Butt the edges so that no metal is showing. For quicker application, overlap by approximately 6mm is suggested. Overlap the tape half its width for a double layer application. Avoid single layer butt edge wrapping on dual temperature or heated lines.

Irregular shapes can be insulated by pressing small pieces of tape around fittings.

Cat No.	Nominal Size
210088	3mm thick x 50mm wide 9.14m long roll

## More about SuperlonFR

### *What is SuperlonFR?*

Superlon FR is a rubber insulation material designed and tested to comply with Australian Standard AS-1530 part 3. Australian Standard AS-1530 part 3 is a procedure to test the Ignitability, Spread of Flame, Heat Evolved, and Smoke Developed indices of a material. An AS-1530 compliant material is required to be used in certain situations and or building classes as set out in the Building Code of Australia [BCA].

### *What is the BCA – Building Code of Australia?*

The BCA is a federal document that sets out the minimum building standards required for buildings and other structures throughout Australia and is intended to increase occupant safety within buildings.

All new buildings and major renovations or upgrades must comply with the BCA and any referenced Australian Standards. The BCA refers to various Australian Standards including AS-1530 part 3.

### *Which building classes require FR pipe insulation?*

Section C1.10 "Fire Hazard Properties" sets out the requirements in relation to the fire hazard properties of materials and assemblies used in buildings. All building types are identified in the BCA as Classes 1 to 10.

Standard "Superlon" complies with the general requirements for Class 1,4,5,6,7,8 and 10 buildings.

"Superlon FR" complies with the additional BCA requirements for Class 2, 3 and 9 buildings that are listed in Volume One Section C1.10 clause 4.

These building classes include but are not limited to:

- Buildings containing two or more sole occupancy units
- Residential buildings such as guest houses, motels, hostels, lodging houses, backpackers accommodation
- Residential parts of a school, accommodation for the aged, disabled, or children
- A residential part of a health care building which accommodates staff
- Buildings of a public nature such as a health care building
- An assembly building which is a building where people assemble for; civic, theatrical, social, political or religious purposes; or educational purposes in a school, early childhood centre, preschool, or the like; or entertainment, recreational or sporting purposes; or transit purposes.



### *What does this mean for the installer?*

The installer should comply with the BCA and should refer to the BCA or a qualified building surveyor to ascertain when FR type pipe insulation should be used.

**If in doubt use SuperlonFR pipe insulation.**

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