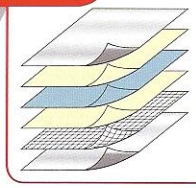
INSULATION & PACKAGING DISTRIBUTORS CC

SPUNSULATION HEAVY INDUSTRIAL

HEAVY INDUSTRIAL



Industrial Spunsulation is utilised in factories and warehouses that are constructed with open steel framed roofs and no ceilings are used.

- Aluminium
- Bonding Layer
- Spunbond
- Reinforcing Scrim

Area per roll:	50m²
Length:	33.33m
Width:	1.5m
Mass:	11.7kg
Grammage:	220g/m²

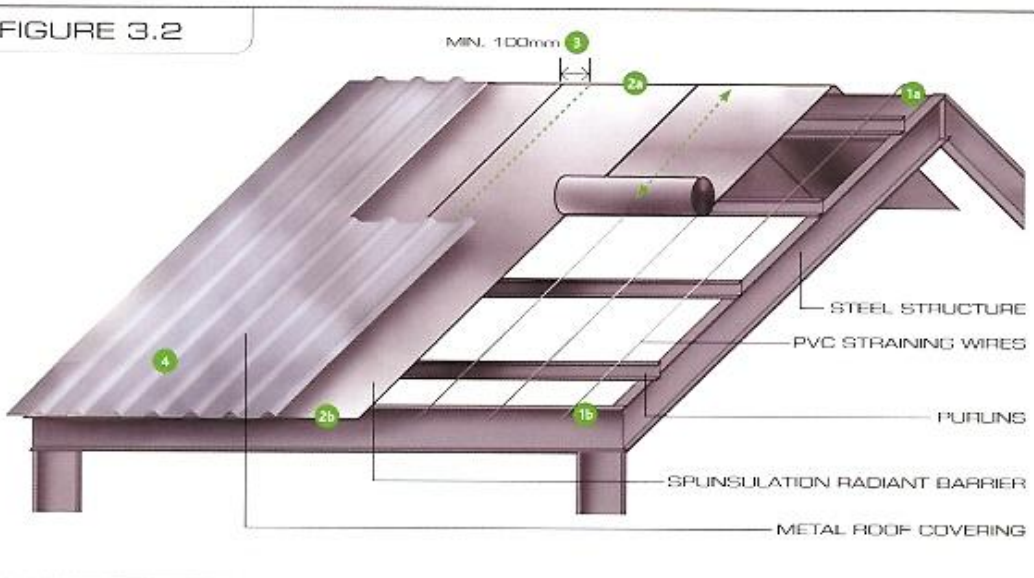
INSTALLATION GUIDE

Industrial Installation

INSTRUCTIONS

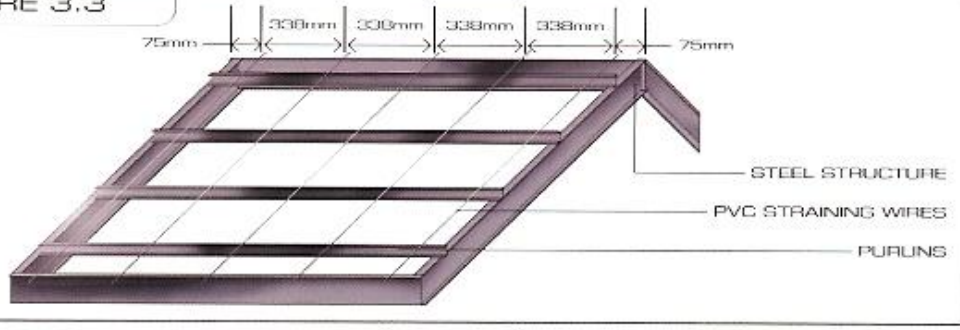
1. Polyvinyl chloride (PVC) coated straining wires are secured from the top apex purlin (1a), over intermediate purlins to the bottom eave purlin at 338 mm centers (1b). The first straining wire is secured 75 mm away from the gable end. All wires are evenly tensioned ensuring that cut ends face downwards. **Note:** All other applications to comply with the National building regulations and codes of practice.
2. The Spunsulation Radiant Barrier is laid over the straining wires ensuring that it is squared off to the membrane that has markers at 75mm and 100mm and is secured to the apex purlin using double-sided tape (2a). The membrane is evenly tensioned and secured to the eaves purlin again using double sided tape (2b).
3. All subsequent layers of Spunsulation Radiant Barrier are to be fixed as above with and not less than 100 mm overlap over the previous sheet. Straining wires must be positioned at the centre of the overlaps and not less than 50 mm from the sheet edges.
4. Roof sheeting is installed as soon as possible of Spunsulation Radiant Barrier has been installed.

FIGURE 3.2



DIAGRAMATIC REPRESENTATION OF STEPS TO LAYING SPUNSULATION

FIGURE 3.3



GUIDE TO SETTING OUT WIRE SPACINGS

HEAVY INDUSTRIAL		Tensile Strength:	MD 300 N/50mm (EN12311-1)	Surface Emissivity:	3% (ASTM E 408)
			CD 240 N/50mm (EN12311-1)	Reflectivity:	97% (ASTM E 408)
		Elongation:	MD 15% (EN12311-1)	Water vapour transmission:	-
Building Regulation			CD 15% (EN12311-1)	Fire Performance:	B/B1/2/H Sans 428
Requirements:	A13(1)(a): Materials	Dimensional Stability:	<1.5%		(Sans 10177-9;
Certification:	Agrement 2009/353	Resistance to tearing:	MD 250N (EN12310-1)		Sans 10177-10;
Material:	PP Al Laminate	(nail shank)	CD 270N (EN12310-1)		Sans 10177-11)

THE SCIENCE BEHIND SPUNSULATION

Radiant Barrier

In order to be classed as a radiant barrier, the product should reflect between 95% and 97% of all radiant energy. This means that the radiant barrier would have an emissivity of between 0.05 and 0.03.

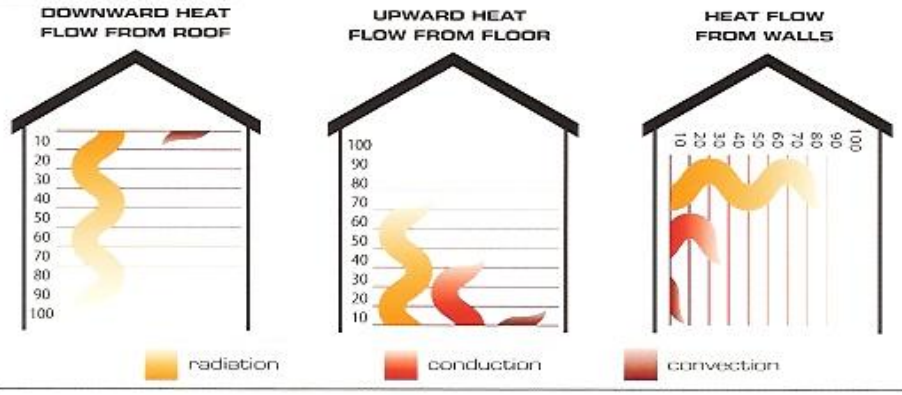
EMISSIVITY OF BUILDING MATERIALS

MATERIAL SURFACE	Asphalt	ALUMINIUM FOIL	Brick	Concrete	Glass	Fibreglass/ Cellulose	Wood	Silver	Enamel Paint (black/white)	Lacquer Paint (black/white)
EMISSIVITY	0.90-0.98	0.03-0.05	0.93	0.85-0.95	0.95	0.8-1.0	0.90	0.20	0.91	0.80

To understand the relevance of this, we need to look at the different types of heat transfer that occur, namely CONDUCTION, CONVECTION and THERMAL RADIATION.

Thermal radiation is responsible for between 90% and 93% of radiant heat that is transferred in a downward flow from the roof, and up to 80% of the heat transfer through side walls of the building. [Fig. 1.1] while conduction and convection play a nominal role.

FIGURE 1.1

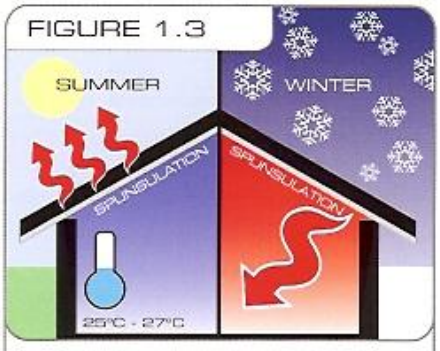


Spunsulation Radiant Barriers reduce energy costs by reflecting radiant heat energy by utilising the amazing reflective properties of aluminium. This works well (but oppositely) in both summer and winter months by keeping the heat from moving through the barrier [Fig. 2.2]. Spunsulation Radiant Barriers are not like bulk insulation, which slows down or resists heat transfer because of its mass.

FIGURE 1.2

A building without radiant barrier will gain heat in summer and lose heat in winter, adding to heating and cooling bills.

FIGURE 1.3



A building with a Spunsulation Radiant Barrier installed prevents heat from entering in summer and keeps in heat during winter, which saves money on heating and cooling bills.