



All Round Australian Insulation for Ceilings, Roofs, Walls & Floors

Original concertina design with unique zigzag profile has many applications. Under hot roofs, reduces 80°C radiation loads in attics and on airconditioning ductwork.

CONCERTINA FOIL BATTS™



THE RADIANT HEAT BARRIER

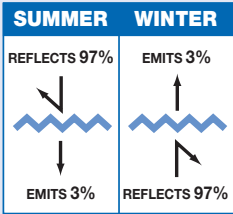
For enquiries:
Austwide: (03) 9532 5855
Displays at major building centres
www.concertinafoilbatts.com



Aluminium Concertina FOIL BATTS, laid directly over existing bulk insulation, easily installed, without stapling. Downward triangular airspaces constantly reducing summer radiation.



Basic properties of double-sided aluminium foil against radiant heat



- Stops summer radiant heat
- Reflects 97% - Emits 3%
- Reduces ceiling temperatures
- Reduces cooling costs
- Vermin free & fire safe
- Compact, lightweight, easy to store and transport
- Safe, clean, non-irritant



Airspace formed with house wrap foil - approx 3% summer heat emitted. Fibre batts touch foil and conduct summer heat.

DUCTWORK

Concertina Foil Batts provide a radiant barrier around air-conditioning ductwork reducing cooling costs

TIMBER FLOOR (ground)

Enclosed building perimeter (e.g. brick veneer) and one FOIL BATT between floor joists
Winter = Total R3.0 heat flow down
Summer = Total R1.5 heat flow up

CEILING

FOIL BATTS laid over R2.5 bulk insulation (timbers visible) and foil sarking under metal roof
Summer = Total R4.9 heat flow down
Winter = Total R4.4 heat flow up

WALLS

Brick Veneer or Clad Wall Outer wrap of FOIL (double-sided anti glare) and one FOIL BATT between studs
Winter = Total R2.6 heat flow out
Summer = Total R2.3 heat flow in

CONCERTINA FOIL BATTS – PRICE LIST

May 1, 2016

WALLS (HEIGHT)	FOIL BATTS		NO. PER PACK	WEIGHT (kg)	M ² COVERAGE PER PACK – EXPANDED – (INCLUDES TIMBERS)	RETAIL PRICE (AUSTRALIA)		+ GST	
	PACK HEIGHTS (mm)	CENTRES (mm)				PER M ² (approx)	PER PACK		
2400	1200	450			13.50#				
	1200	600			18.00#				
2400 AND 2550-2700	1350	450*	25	3.00	15.20	\$6.72	\$102.14		
	1350	600	25	4.00	20.25	\$6.72	\$136.08		
FLOORS (P) PERFORATED FOR DRAINAGE	1350	450(P)	25	3.00	15.20	\$6.72	\$102.14		
CEILINGS 600 CENTRES	1350	425	30	3.50	17.20	\$6.72	\$115.58		
STAPLER	Lightweight plastic gun + 5000 galvanised staples (ALLFIX 20S-8mm Tel: 1300-255349 *alternate ARROW JT21)						\$25.00		

* Suitable for RETROFIT existing floors

for calculating 2.4m wall height

CONCERTINA FOIL BATTS – QUANTITY GUIDE *SEE INSTALLATION INSTRUCTIONS

WALLS (expanded)	FLOORS (expanded)	A) CEILINGS (laid △)	B) ROOFS - CEILINGS (expanded)
1. Check wall height and stud centres	1. 1350 x 450 (P) • made to order 600 (P)	1. 1350 x 600 – 450 & 900 centres 1350 x 425 – 600 centres	1. 1350 x 450 – 450 centres 1350 x 600 – 600 centres
2. Wall area less doors & windows = Net Area (m ²)	2. Floor area + 5% overlapping = Net Area (m ²)	2. Ceiling area + 1/3 extra = Net Area (m ²)	2. Surface area + 5% overlapping = Net Area (m ²)
Number of packs required = Net Area (m²) divided by coverage per pack (m²)			

A) FOIL BATTS - LAID between ceiling joists over existing fibrous insulation or directly on ceiling. Unique △ triangular airspaces are formed with upward reflective surfaces and constant low emitting downward foil surfaces in summer. Allow 1/3 more material to create triangular airspaces.

- 450 centres – use 1 1350x600 size (end to end overlaps)
- 600 centres – use 2 1350x425 size (end to end overlaps + side by side overlaps)
- 900 centres – use 2 1350x600 size (end to end overlaps + side by side overlaps)

B) FOIL BATTS - EXPANDED and stapled taut between roofing or ceiling rafters.

COOLING DUCTWORK
450 & 600 CF Batts
Stapled together typical combination

RENSHADE – PERFORATED ALUMINIUM FOIL FOR WINDOWS

1.35 x 5 / 10 / 20m	\$14.35/m ²	=	\$97 / \$194 / \$388	PER ROLL + GST
40 Velcro spots per 5m roll – \$5 per packet		BLIND MANUFACTURE – contact Wren for referral names		

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*Founding Member AFIA - Aluminium Foil Insulation Assoc. Inc (Vic.1998)

www.afia.com.au

CONCERTINA FOIL BATTS - KEY POINTS

ENERGY SMART INSULATION

Aluminium CONCERTINA FOIL BATTS stop 97% of radiant heat transfer which is the predominant flow of heat loss and gain in dwellings in Australia. 1995 Australian Energy Award winning FOIL BATTS create optimum comfort levels and save money by reducing energy consumption for home heating and cooling.

EFFECTIVE & EFFICIENT - WINTER & SUMMER

*R-value = resistance to the flow of heat

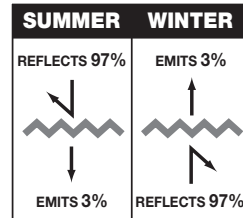
CONCERTINA FOIL BATTS thermal efficiency is based on high reflectivity and low emissivity. Aluminium foil with adjoining airspaces will reflect 97% of radiant heat and emit/re-radiate as little as 3% from the opposite surface.

- FOIL BATTS have double-sided aluminium surfaces – house wrap foil has only one bright surface.
- FOIL BATTS when stapled create uniformly deep airspaces which achieve uniform "R" values, ie better thermal performance than dished foil between wall studs or draped over floor joists.
- FOIL BATTS do not absorb or store summer heat and will reduce ceiling and wall temperatures.
- FOIL BATTS in walls permit house wrap foil to function – fibre batts touch inward facing aluminium foil surface causing heat flow by conduction, a major problem in summer.
- FOIL BATTS do not absorb moisture, unlike in bulk insulation which causes a reduction in R-value.
- FOIL BATTS in walls cannot slump by gravity as can fibre batts.
- Bulk insulations are tested only at a maximum temperature of 33° C when typical summer roof space temperatures are 50-70° C. Bulk works best in ceilings to stop the escape of convected winter heat.
- FOIL BATTS laid on top of bulk fibre insulation will protect it from the intense summer radiant heat.

Triangular foil airspaces are formed which are:

Summer upside is *reflective* and downside is *low emitting*

Winter downside is *reflective* and upside is *low emitting*



INNOVATIVE DESIGN

- FOIL BATTS have a unique revolutionary zigzag profile which expands or contracts to suit variations in stud and joist centre spacings and permits a gluing bond for studs and tops of floor joists.
- FOIL BATTS replace the need for R1.5-2.0 batts in framed walls and under timber floors.
- FOIL BATTS laid in ceilings is a unique triangular foil insulation having two functioning foil surfaces. Roll foil laid flat directly onto ceilings or over existing insulation has only one upward facing aluminum surface and lower thermal efficiency than FOIL BATTS.

WATERPROOF LAMINATION

100% waterproof lamination bond.

EASY TO INSTALL - BEST D.I.Y. INSULATION

FOIL BATTS are available in 4 sizes and are 10% adjustable to suit normal variations in wall stud and floor or ceiling joist centres eg 450mm wide FOIL BATT can expand to 480mm.

WALLS – expanded, snipped to fit and stapled between studs - one FOIL BATT per cavity.

FLOORS – expanded, stapled between joists and overlapped approx 50mm. Perforation holes for drainage.

CEILINGS – laid in concertina triangle form on top of fibre insulation or directly on ceilings overlapped approx. 50mm, no stapling or snipping necessary.

ROOF – expanded, stapled between rafters and overlapped. Attic extensions - use two FOIL BATTS.

Tools required: staple gun and cutting snips. Installation instructions are supplied with packs.

NO HEALTH RISK - NON ALLERGENIC

FOIL BATTS are clean, easy to handle, safe to install, non irritant to eyes, skin or lungs and comply with the Asthma Foundation BREATHE EASY Low allergy home design. No protective clothing, no gloves or masks are required during installation.

FIRE SAFE

FOIL BATTS are self-extinguishing and recorded a 4 zero rating, the best possible result under AS 1530.3, Early Fire Hazard Test.

LIGHTWEIGHT - COMPACT - EASY TO TRANSPORT & STORE

A pack of FOIL BATTS weighs 3-4Kg. Average cover of 15 sq m.

FOIL BATTS are approx 50 times more compact than bulk insulation.

An average house load of FOIL BATTS fits into the boot of your car.

VENTILATION AND BREATHING OF TIMBERS

FOIL BATTS have clearly formed airspaces allowing exterior timber walls and timber flooring to adequately breathe. Timber is a living organic material that has the ability to expand and contract by absorbing and releasing moisture vapour, which must not be impeded.

Weatherboard or fibre cement clad walls: Important to waterproof the frame with 'breather' (pin-prick holes) anti-glare foil house wrap which allows vapour movement into the stud cavity and disperse into the FOIL BATT airspaces. *Breathing* is impossible with combination foil wraps and fibre batts or styrene board insulation which is a total vapour barrier because it is plastic.

Timber floors: Need to *breathe* downwards particularly when top surface is polyurethane-sealed.

FOIL BATTS have perforation holes for drainage, have unsealed overlaps for breathing and are endorsed as the most suitable floor insulation by the Timber Promotion Council (Vic.) and recommended by the Timber Advisory Centre in Blackburn, Melbourne – see letter on website, Testimonials-floors.

ELECTRICAL

Refer to: DESIGN DRAWINGS & INSTALLATION INSTRUCTIONS for detailed explanation.

RODENT & PEST RESISTANT

FOIL BATTS do not absorb or retain heat and therefore do not create warm cosy nesting environments for rodents and pests. FOIL BATTS under timber floors do not provide a firm stable base.

THERMAL PERFORMANCE

CONCERTINA FOIL BATTS conform to AS/NZS 4859.1 (2002) Amendment 1(2006) "Materials for Thermal Insulation", referenced in the National Construction Code NCC - "Energy Efficiency Measures".

'Declared' Total R-values are calculated for the building element (walls, floors, ceilings, roof) and will fluctuate depending on installation, orientation and prevailing climatic conditions. All values have been computed and certified by James M Fricker Pty Ltd (MIEAust, MAIRAH, CPEng), endorsed by a recognised laboratory R&D Services (USA).

DUST

Dust is most unlikely to affect the R-value of any reflective insulation airspace cavity apart from upward facing bright foil. FOIL BATTS laid in ceilings with triangular profile are unique because any possible dust settles in valleys as well as downward foil airspaces are permanently maintained and therefore thermally effective. Roll foil laid flat over fibre insulation has one operating upward foil surface and any downward foil surface is immediately ineffective because of conduction.

In walls the thermal performance of all foil insulations are totally unaffected by dust. Always remember that outer facing surfaces of roll foil under roofs and in walls are commonly non-reflective for safety reasons and so dominant thermal performance comes from the opposite inward facing aluminium surface, but there must be an airspace e.g. roof foil sarking and wall foil wraps. R-value calculations make allowance for dust on the top surfaces of horizontal and sloping reflective foil insulation.

AFIA - ALUMINIUM FOIL INSULATION ASSOCIATION Inc. (Vic 1998)

www.afia.com.au AFIA Founding Member – Wren Industries.

AFIA is represented on Standards Australia Committee BD/58 and Building Codes Aust. Committees.

Concertina FOIL BATTS and RENSHADE - A Great Combination

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