

ROXUL
Firesafe Insulation



Energy Saver Cavity Wall Insulation

ES1, ES2

Energy Saver Cavity Wall Insulation for residential and commercial construction (A system used and proven for over 25 years in Europe)

BCA Requirements

Recent energy efficiency amendments to the Building Code of Australia (BCA) nominated minimum thermal performance levels for walls and ceilings of residential buildings. There was no minimum requirement stated for cavity brick wall construction. It was the view of the BCA Committee that the added thermal mass offered by cavity brick walls contributed sufficiently to the overall energy efficiency of the house to avoid the need to treat cavity walls. However, this approach conflicts with the practice of energy efficient housing design. Previous Australian standards relating to *Thermal Insulation of roof/ceiling and walls in dwellings* (AS 2627.1) recognized the need for energy efficiency and nominated an ADDED R-value in cavity walls of R 1.0 (for the Perth metropolitan area) and R 1.5- R 2.0 (for regional areas).

Isolating Internal Thermal Mass

The correct use of Thermal Mass moderates internal temperatures by averaging day/night (diurnal) extremes. The best place for Thermal Mass is inside an insulated building envelope. Roxul Energy Saver Cavity Wall Insulation (CWI) is ideally suited to assist with the isolation of the internal wall from the influence of the external walls' temperature fluctuations.

Thermal Performance

Roxul CWI provides the following thermal performance when installed in a cavity wall.
The Thermal Resistance ($m^2 K/W$) of a standard 50mm cavity insulated with Roxul CWI is R1.20.

Moisture Absorption

Roxul CWI is made with a water-repellent formulation which prevents the migration of water from the outer brick to the inner brick wall. The capability is tested in a total immersion procedure according to BS 2972.

Non-combustible

Roxul CWI is certified as non-combustible when tested to BS 476 pt 4 and AS 1530 Pt 1. This ensures that there will be no physical or chemical change when exposed to a naked flame.

Service to the Owner Builder.

AIS Home Insulation provides a supply and installation service for the builder in the Perth and South West areas. When CWI is required, it is impracticable and unreasonable to expect bricklayers to provide the installation service for cavity insulation boards and foils whilst ensuring that the proper R-value is delivered.

AIS Home Insulation can be brought to the site when required, at the completion of the roofing frame and after the wiring has been completed. Roxul CWI can be injected into the cavity via the gap at the top of the brick work or through a 25mm hole where required, without any delays or impeding productivity on the building site.



Wall Construction	Brick / Energy Saver / Brick / Plaster		
	"U" (W/m^2K)	"R" (m^2K/W)	Heat Flow Reduction
Uninsulated	1.56	0.64 ⁽¹⁾	
Insulated ES2 (mm)	Total Combined Wall Values		
R1.20⁽²⁾ 50	0.57	1.74⁽²⁾	63%
R1.78 ⁽²⁾ 75	0.43	2.32 ⁽²⁾	72%

(1) BCA 3.12.1.4(e)

(2) Nominal

BENEFITS OF ROXUL® ENERGY SAVER CAVITY WALL INSULATION

- Contributes significantly to achieving a high home energy rating
- **Completely water repellent** whilst allowing the cavity to breathe
- Improves sound performance properties of the wall
- Reduces heat flow through sun-prone walls in summer
- Assists with thermal mass of cavity walls to provide greater winter comfort
- Completes the building insulation envelope
- Installed in existing walls easily
- Made from 100% recycled material

Compliance and Performance

Thermal Resistance..('R' value).....Installed at 40-45kg/m³ R 1.20 m² K / W
~ 50mm thickness

AS 1530 Pt 3..... Early Fire HazardBCA Compliant

Ignition index (0-20)0
Heat developed index (0-10)0
Flame spread index (0-10)0
Smoke developed index (1-10)0

AS 1530 Pt 1..... CombustibilityNon-combustible

BS 2972 Water absorptionWater-repellent

ASTM C 1104 Water vapour absorption≤ 0.02 (vol %)

Health and Safety

International Agency for Research of Cancer (IARC) has reclassified Rock (stone) wool, based on over 30 years of exhaustive research, as Category 3 "not classified as carcinogenic to humans." Modern Rock (stone) wool is neither carcinogenic nor does it cause serious lung diseases. There is no (or minimal) risk of exceeding the occupational exposure limits.

Rock (stone) wools are **NOT** classified as hazardous according to the criteria of Australia's National Occupational Health and Safety Commission. (NOHSC).

Should handling of Rock (stone) wools' result in any temporary itching discomfort then it is suggested to wear a good dust mask, goggles, gloves and a loose fitting long sleeve clothing to minimise direct skin contact. A liberal application of talcum powder to susceptible areas will contribute to reducing further itching discomfort.

Characteristics of Roxul Cavity Wall Insulation

Roxul CWI is a loose stonewool insulation manufactured by firing volcanic rock with coke at 1600°C resulting in a melted stream which is spun into a fibre and bonded with heat-curing resins. Stonewool fibre has unique properties which make it an ideal insulation for building insulation applications.

Corrosion Resistance

Roxul CWI is not capable of causing or aiding the corrosion of copper pipe, steel pipe or any steel roofing or wall components. The product is chemically inert and slightly alkaline with a pH of 7-8 and has soluble chloride content of less than 6 p.p.m. Roxul CWI is water-repellent (will not 'wick' moisture across a wall cavity) and absorbs less than 0.02% moisture from a saturated atmosphere.

For further information and technical advice on insulation contact:

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