

# InsulCore®

A GREENER SMARTER SOLUTION  
Keeping You Cool In Summer and Warm In Winter

## InsulCore®

InsulCore® protects you from fire, water, sound, mold, is healthier and more sustainable

- > Non Toxic
- > Non Combustible
- > Healthier
- > Delivers more comfort to Residential and Commercial Buildings
- > Delivers more cost saving

Fire



Water



Noise



Mold



## InsulCore® (Mineral Wool) Rigid Insulation

The age of Zero Net Energy Homes and push from governments around the world to reduce household and retail use of electricity is upon us all.

On average 38% of a households yearly incomes are going towards maintaining a comfortable level of living environment throughout the home. Given this it is important to look towards materials that can immediately reduce household cost as well as deliver a higher level of protection from fire, mould and air bourn contaminates.

InsulCore® (mineral wool) ridged insulation gives back to the environmentally sustainable goals of the building and construction industry in taking the waste cement product and recycling this as well as natural rock into one of the world highest performing thermal and acoustic insulation materials. The average fiberglass insulation product contains 20 to 30 percent recycled content, InsulCore® mineral based insulation consists of 75 percent recycled content or greater, making it a more eco-friendly choice for those concerned about recycling.

Quality recyclable and natural materials are sources, mixed with coke and slags, then melted in a furnaces that reach temperatures of 1800 °C. The molten is then applied directly onto a series of rotating wheels where it is woven into wool like layers that are folded to create a multilayered matt before being pressed and then cured in temperature controlled ovens. After the curing process is completed the matts are then cut to customers requirements, packaged and dispatched.



## Fire Performance

InsulCores® ridged insulation has been the primary cavity insulation for major fire and acoustic ceiling, wall and flooring system for the past 10yrs and has assisted in delivering fire and acoustic protection systems that deliver from 60min to 240min FRLs solutions with temperatures exceeding 1400deg C / 2552 deg F.

The higher melting point of InsulCore® makes InsulCore® a more effective product for the protection against fire than that of fiberglass batts.



## Sound Attenuation

InsulCore® Fire and Acoustic Insulation can deliver superior sound isolation through walls floors and ceiling system. While both fiberglass and InsulCore® (mineral wool) insulation can help block noise, InsulCores® greater density and weight make it a slightly better sound blocker than fiberglass.

The DOE (department of energy) reports that the density of fiberglass insulation at 0.5 to 1.0 pounds per cubic foot / 0.22 to 0.45kg per tp 16kg per cubic meter, compared to 1.7 pounds per cubic foot / 27.23kg per cubic meter of mineral wool / rock wool (InsulCore®). The higher density allows for the InsulCore® mineral wool to reduce sound transmission through a wall by around 10 decibels, while fiberglass insulation reduces sound transmission by as few as 4 decibels, or as many as 10, depending on the material and how it is installed.

The following requirements give an insight as to the level of noise reduction expected, and what is required when designing a building envelope.

- ANSI S12.60, section 5.4, provides minimum OITC ratings for walls and roofs from 30 to 56, correlated to varying outdoor noise levels. This is used in LEED for school buildings, which also includes a maximum background noise level of 45 dB.

- 2015 IGCC requires an OITC rating of 40, or an STC rating of 50 for the building envelope, wall and roof- ceiling assemblies when they are in close proximity to high noise sources.

- Housing and Urban Development (HUD) goals include a maximum interior equivalent day-night noise level of 45 dB.

- LEED® v4 has introduced new requirements to earn points for healthcare buildings. Buildings are able to earn up to 2 points for minimizing the effects of exterior noise in healthcare facilities

## Superior Thermal R-Value Performance

The importance of thermal co-efficiency in building and construction is recorded as the R-Value. The R-Value of a product represent the thermal resistance of a wall or other structure to withstand the elements of heat and cold. The greater the recorded R-value of the insulated materials being used results in the systems overall resist to thermal transfer.



## Fire Performance

InsulCore® has been extensively tested under AS1530.1 and EN13501.1 standards for non-combustibility and offers a higher level of protection and density to traditional fibreglass, which helps to improve fire resistance. InsulCores® Mineral Base Insulation can withstand temperatures up to 983deg C / 1800deg F

## Sound Attenuation

InsulCore® Fire and Acoustic Insulation can deliver superior sound isolation through walls floors and ceiling system. While both fiberglass and InsulCore® (mineral wool) insulation can help block noise, InsulCores® greater density and the weight makes it a better sound blocker.

## Superior Thermal R-Value Performance

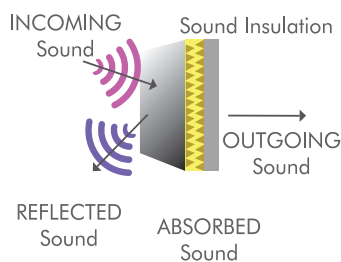
Mineral Wool (InsulCore®) and Rockwool products have an R-value of 3.0 to 3.3 per inch / per 25.5mm making it a better insulator than fiberglass, whereas fiberglass insulation offers an R-value of 2.2 to 2.7 per inch / per 25.5mm, according to the U.S. Department of Energy

## Packaging

InsulCore® products are clearly branded with the InsulCore® logo and carry technical handling information visible on the shrink wrap films as bales or packed in pallets as appropriate or as requested by the sandwich panel manufacturer. Corner protectors are available upon request.

## Product Declaration

Free from: Asbestos and Formaldehyde  
No: HCFCs, CFCs, HFCs



## Product Data:

### MSDS, STORAGE AND HANDLING OF InsulCore® MINERAL (Rockwool) PRODUCTS:

InsulCore® insulation products are safe in use. When handling, installing or removing the products they may result in some dust and airborne fibre being created. It is recommended to minimise eye or skin exposure and inhalation during handling, installation and removal. Once installed, the products do not release harmful dust or fibres or pose health issues to the surrounding environment. Observe good personal cleanliness, by washing hands, arms and face before eating. To reduce the spread of residual dust or fibres created during installation it is recommended to remove personal protective equipment before entering habitable areas.

### HAZARD IDENTIFICATION STATEMENT OF HAZARDOUS NATURE:

InsulCore® Mineral (Rockwool) is Classified as Non-Hazardous according to the criteria of the Australian Safety and Compensation Council ASCC (formerly NOHSC) Approved Criteria For Classifying Hazardous Substances [NOHSC: 1008] 3rd Edition. InsulCore® Mineral (Rockwool) Insulation is classified as Non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods.

### PERSONAL PROTECTION EQUIPMENT:

Observe practices that allow for good personal comfort and cleanliness by washing off exposed skin with soap and water on completion of installation.

To minimise the potential of discomfort caused during installation the installers should wear:

- long-sleeved shirt with button top collar,
- trouser / overalls,
- dust cap / hat,
- ventilated dust mask,
- protective ventilated non fogging dust resistant goggles / glasses, conforming to AS/NZS 1336 standards
- gloves that conform to AS/NZS 2161 standards
- Wash cloths regularly. Keep work cloths separate from all other clothing when washing

\*If dust is generated in poorly-ventilated areas, an approved particulate respirator conforming to AS/NZS 1715 and 1716 standards is highly recommended.

**HAZARDOUS REACTIONS:** None known

### FLAMMABLE MATERIALS:

- Flash Point: Not applicable
- Flash Point Method: Not applicable
- Temperature: Not applicable
- FR GROUP RATING: A1 (non-combustible)

### STORAGE:

Store flat on pallets so as to assure the materials are not subject to exposure to mud, water, foreign matter or chemicals. Always store in a dry area under cover area. Avoid packaging being stored in direct sunlight or exposed to inclement weather.

### PRODUCT RANGE AND SIZES:

InsulCore® (Mineral Wool) Insulation					
Thickness / Density	Size	Sqr Mtr Per Pc	Sqr Mtr Per 40ft HQ	Sqr Mtr Per Pac	Est R-V
50mm @ 80kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	1.5
50mm @ 140kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	1.5
75mm @ 80kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	1.7
75mm @ 140kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	2.1
90mm @ 80kgm <sup>3</sup>	600mm x 1200mm	0.72	720	2.88sqr mtr	2.1
90mm @ 140kgm <sup>3</sup>	600mm x 1200mm	0.72	720	2.88sqr mtr	2.5

InsulCore® (Mineral Wool) Foil Faced Insulation (Special Orders)					
Thickness / Density	Size	Sqr Mtr Per Pc	Sqr Mtr Per 40ft	Sqr Mtr Per Pac	Est R-V
50mm @ 80kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	1.5
50mm @ 140kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	1.5
75mm @ 80kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	1.7
75mm @ 140kgm <sup>3</sup>	600mm x 1200mm	0.72	864	2.88sqr mtr	2.1
90mm @ 80kgm <sup>3</sup>	600mm x 1200mm	0.72	720	2.88sqr mtr	2.1
90mm @ 140kgm <sup>3</sup>	600mm x 1200mm	0.72	720	2.88sqr mtr	2.5



# CERTIFICATE

Material Fire Test Certificate

IGNL-1006-01 101R00

Date of Test 18 May 2018  
ISSUED 18 January 2019  
EXPIRY 17 January 2023

Trade Name  
InsulCore

### Product Description

The sponsor described the tested specimen as a non-combustible rockwool insulation being 75mm thick.

The test specimens are cylindrical and each have –

- (a). Nominal thickness: 75 mm (cut to form 50mm for the test)
- (b). Nominal mass: 15g
- (c). Colour: Brown

### Test Procedure

Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials.

### Observation

#### Test Results

Mean furnace thermocouple temperature rise $\Delta T_f$ :	6.72°C
Mean specimen centre thermocouple temperature rise $\Delta T_c$ :	30.78°C
Mean specimen surface thermocouple temperature rise $\Delta T_s$ :	3.58°C
Mean duration of sustained flaming:	0 seconds
Mean mass loss:	1.68 %

### Combustibility

The material is NOT deemed COMBUSTIBLE according to the test criteria specified in clause 3.4 of as 1530.1- 1994.

### Notes

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

AS 1530.1-1994:  
COMBUSTIBILITY TEST  
FOR MATERIALS

PRESENTED TO

ResCom Building Products  
Pty Ltd  
8 Piper Street  
Caboolture QLD 4510

TEST BODY

Ignis Labs Pty Ltd  
ABN 36 620 256 617  
(02) 8111 2909  
mail@ignislabs.com.au  
www.ignislabs.com.au  
PO Box 5174  
Bradston ACT 2612



Benjamin Hughes-Brown, Chartered Professional Engineer IntPE(Aust)

CPEng, NER (Fire Safety / Mech) 2530291, RPED11496, SPB-C10-1875, EF-39394,  
MPE Safety (LWS), BEng (UTS), GradDiplomaFire (LWS), DipEngPhis (UTS), DipEng (ICT)



Test Report

No. SDHL1608015089FB

Date: Aug.24, 2016

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### TESTS AND RESULTS

#### Test Conducted:

This test is conducted as per EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements-Part 1: Classification using data from reaction to fire tests.

And the test methods as following:

1. EN ISO 1182:2002 Reaction to fire tests for products-Non-combustibility test.
2. EN ISO 1716:2010 Reaction to fire tests for products-Determination of the gross heat of combustion. (Calorific Value).

#### Test Results:

Test method	Parameter	Number of tests	Results
EN ISO 1182	$\Delta T$	5	8.3°C
	$\Delta m$		6.2%
	$t_f$		0s
EN ISO 1716	For substantial components: Heat of Combustion -PCS	3	0.6MJ/kg

#### Remark:

$\Delta T$  – temperature rise [°C];  $\Delta m$  – mass loss [%];  $t_f$  – duration of sustained flaming [s]  
PCS – gross heat of combustion [MJ/kg or MJ/m<sup>2</sup>]

#### Classification and direct field of application

This classification has been carried out in accordance with EN 13501-1:2007+A1:2009.

#### Classification:

The product, "Rock wool", classification is as following.

**Reaction to fire classification: A1**



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InsulCore® Group 1 Non Combustible Mineral Wool is manufactured under strict ISO & QA Standards to deliver the highest quality and performance and is available for manufacture and delivery to all major global cities: Customised Orders Available On Request: Increased densities, thicknesses, width and length available