



# CHOICE SOLUTIONS



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# 2XR

**EXTRUDED POLYSTYRENE**

## Product Guide

Australia - New Zealand



**XCELERATE YOUR THERMAL RATE**



# Choice Solutions' 2XR Extruded Polystyrene (XPS)

Our **2XR** is the highest quality insulation board produced by ultramodern extrusion facilities for both domestic and industrial purposes.

**2XR** Extruded Polystyrene has been tried and tested for over 5 years and performs extremely well.

Manufacturing of **2XR** is of a consistent high quality due to production being maintained by continuous computer monitoring.

The guaranteed excellent mechanical, physical and chemical properties, ensure that it comes up to the domestic and international standards, including KSM 3808 and JIS A 9511.

Available in widely varying sizes including:

- lengths from 1,200mm~8,000mm
- widths from 600~1,200mm
- thickness from 0~200mm

Can be transported and stocked without damage due to our sophisticated whole-body packaging in anti-weathering film.

A high compressive strength. In spite of its light weight, it can withstand heavier loads than many other types of insulation materials.

Because of this high compressive strength, it can resist mechanical stresses both during and after construction.



■ Keeping the warmth in and the cold out

**CHOICE SOLUTIONS' 2XR** is equally suitable for insulating a new construction or upgrading existing buildings effectively and efficiently.

- Flat and pitched roofs
- Roof gardens
- Car park decks and soffits
- Cold stores and warehouses
- Cavity walls

**2XR** provides an effective thermal insulation in buildings. Our Extruded Polystyrene has a closed-cell structure that gives a maximum resistance to water and moisture penetration. Hence, its long term performance in the thermal efficiency remains unaffected by moisture.



**2XR** has excellent insulating properties and its durability will outlive the building, therefore save you energy and provide you with maximum thermal comfort.



**2XR** is light weight for easy handling.



**2XR** can be easily cut with a knife or a saw.



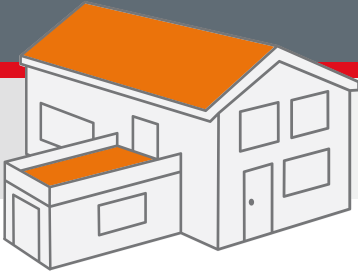
**2XR** has a high compressive strength which makes it very suitable as insulation under concrete floors and other trafficable areas.



**2XR** contains fire-retardant additive to inhibit accidental ignition from a small scale fire.



**2XR**, when used in an "Inverted Roof" design, gives extra protection to the waterproofing membrane from mechanical wear and tear during construction as well as from "thermal shock", thus prolonging the life expectancy of the waterproofing membrane.



### 2XR CUBER SL: inverted roof

Code	Dimensions mm	Thickness mm	Boards per pack	m <sup>2</sup> /per pallet	m <sup>2</sup> /per pack	Edge profile
P110101	1250 x 600 (0,75 m <sup>2</sup> )	30	14 boards per pack	126,00	10,50	
P110102		40	10 boards per pack	90,00	7,50	
P110103		50	8 boards per pack	72,00	6,00	
P110104		60	7 boards per pack	63,00	5,25	
P110105		80	5 boards per pack	45,00	3,75	
P110107 (*)		100	4 boards per pack	36,00	3,00	

### 2XR CUBER CR

Code	Dimensions mm	Thickness mm	Boards per pack	m <sup>2</sup> /per pallet	m <sup>2</sup> /per pack	Edge profile
P110301	1250 x 600 (0,75 m <sup>2</sup> )	30	14 boards per pack	126,00	10,50	
P110302		40	10 boards per pack	90,00	7,50	
P110303		50	8 boards per pack	72,00	6,00	
P110304 (*)		60	7 boards per pack	63,00	5,25	
P110305 (*)		80	5 boards per pack	45,00	3,75	
P110306 (*)		100	4 boards per pack	36,00	3,00	

### 2XR CUBER TR: pitched roof board, grooved surface

Code	Dimensions mm	Thickness mm	Boards per pack	m <sup>2</sup> /per pallet	m <sup>2</sup> /per pack	Edge profile
P110202	1250 x 600 (0,75 m <sup>2</sup> )	40	10 boards per pack	90,00	7,50	
P110203		50	8 boards per pack	72,00	6,00	
P110204 (*)		60	7 boards per pack	63,00	5,25	
P110207 (*)		80	5 boards per pack	45,00	3,75	
P110208 (*)		100	4 boards per pack	36,00	3,00	

(\*) Made to order  
Other thickness may be available upon request

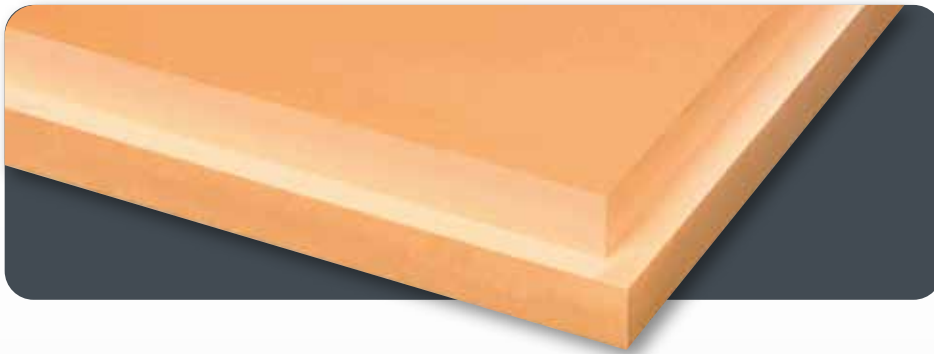
### Technical information

Product name	Thermal conductivity (W/m.K) 10°C	Compressive strength 10% (Kpa)	Reaction to fire	Water absorption (%)	Thickness tolerance (mm)	Surface
2XR CUBER SL	0,029	300	E	≤ 0,7	+2/-2 (< 50 mm) +3/-2 (≥ 50 mm)	Skin
2XR CUBER CR	0,029	250	E	≤ 0,7	+2/-2 (< 50 mm) +3/-2 (≥ 50 mm)	Skin
2XR CUBER TR	0,029	300	E	≤ 0,7	+2/-2 (< 50 mm) +3/-2 (≥ 50 mm)	Skin, grooved

### Thermal properties

Thickness (mm)	30	40	50	60	80	100
R Value	1,00	1,35	1,70	2,05	2,75	3,45

**2XR CUBER SL**



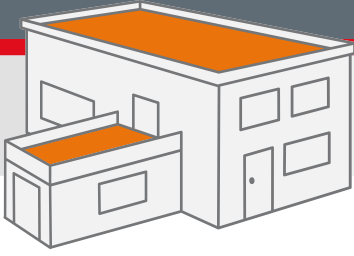
**2XR CUBER CR**



**2XR CUBER TR**



*higher R values and compressive strengths available*



### FLAT ROOFS

**CHOICE SOLUTIONS 2XR CUBER** flat roof insulation is specifically designed for these applications.

Choosing the right style and materials for your roof greatly depends on the buildings functionality, economical aspects as well as structural design. Regardless of specific demands, flat roofs will meet the building physics and construction requirements as well as pitched roofs.

**CHOICE SOLUTIONS 2XR CUBER** flat roof insulation meets and exceeds all current standards and regulations of thermal insulation for flat roofs and roofs with varying pitch. It provides a long term reliable protection against the effects of weather, whilst ensuring creative building design.

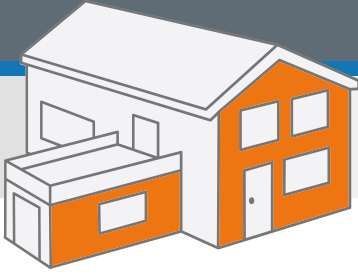
The alternative to the warm roof (with its roof sealing above the insulation) is the cold roof insulation which allows developers to invert the layers, it is a **no. 1 choice** by a growing number of designers and architects.





The thermal insulation of inverted roofs is subject to high compressive stress caused by rainwater, the soil of the roof's greening, or the loads of traffic on parking decks or roof terraces. Therefore, it must exhibit high resistance to moisture and decay. Since it is already being stressed during installation, e. g., by construction workers and light machinery such as wheelbarrows, and because it is installed directly below the covering or the ground, it must ensure high compressive strength. Moreover, it has to provide solid and long-lasting thermal insulation to fulfill the actual functions of an inverted roof.

**2XR CUBER** is sturdy and easy to handle. It meets all of the requirements mentioned above. During the extrusion process of the thermal insulation boards, a clean, even, and compressed foam membrane is formed on the surface, which makes the boards resistant to the effects of the weather. The boards feature a rebate edge profile all around, so as to avoid the formation of cold bridges when they are joined.



## 2XR MUR wall insulation

### 2XR MUR CW

Code	Dimensions mm	Thickness mm	Boards per pack	m <sup>2</sup> /per pallet	m <sup>2</sup> /per pack	Edge profile
P111101	2600 x 600 (1,56 m <sup>2</sup> )	30	14 boards per pack	262,08	21,84	
P111102		40	10 boards per pack	187,20	15,60	
P111103		50	8 boards per pack	149,76	12,48	
P111110 (*)		60	7 boards per pack	131,04	10,92	
P111107 (*)		80	5 boards per pack	93,60	7,80	

### 2XR MUR CB: External Thermal Insulation Composite Systems (ETICS)

Code	Dimensions mm	Thickness mm	Boards per pack	m <sup>2</sup> /per pallet	m <sup>2</sup> /per pack	Edge profile
P111301	1250 x 600	30	14 boards per pack	126,00	10,50	
P111302 (*)	(0,75 m <sup>2</sup> )	40	10 boards per pack	90,00	7,50	

(\*) Made to order  
Other thickness may be available upon request

### Technical information

Product name	Thermal conductivity (W/m.K) 10°C	Compressive strength 10% (Kpa)	Reaction to fire	Water absorption (%)	Thickness tolerance (mm)	Surface
2XR MUR CW	0,029	250	E	≤ 0,7	+2/-2 (< 50 mm) +3/-2 (≥ 50 mm)	Skin
2XR MUR PM	0,029	250	E	≤ 0,7	+2/-2 (< 50 mm) +3/-2 (≥ 50 mm)	Skin
2XR MUR CB	0,029	250	E	≤ 0,7	+2/-2 (< 50 mm)	planed, grooved

### Thermal properties

Thickness (mm)	30	40	50	60	80	100
R Value	1,00	1,35	1,70	2,05	2,75	3,45

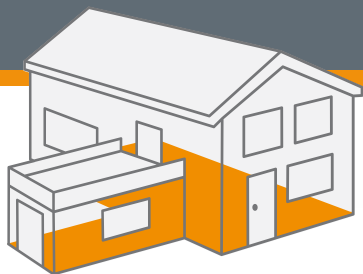
#### 2XR MUR CW / 2XR MUR PM



#### 2XR MUR CB







## 2XR TERRA 300: floor insulation

Code	Dimensions mm	Thickness mm	Boards per pack	m <sup>2</sup> /per pallet	m <sup>2</sup> /per pack	Edge profile
P112101	1250 x 600 (0,75 m <sup>2</sup> )	30	14 boards per pack	126,00	10,50	
P112102		40	10 boards per pack	90,00	7,50	
P112103		50	8 boards per pack	72,00	6,00	
P112104		60	7 boards per pack	63,00	5,25	

## 2XR TERRA 500: floor insulation - high loading situations

Code	Dimensions mm	Thickness mm	Boards per pack	m <sup>2</sup> /per pallet	m <sup>2</sup> /per pack	Edge profile
P112201 (*)	1250 x 600 (0,75 m <sup>2</sup> )	40	10 boards per pack	90,00	7,50	
P112202 (*)		50	8 boards per pack	72,00	6,00	

(\*) Made to order  
Other thickness may be available upon request

## Technical information

Product name	Thermal conductivity (W/m.K) 10°C	Compressive strength 10% (Kpa)	Reaction to fire	Water absorption (%)	Thickness tolerance (mm)	Surface
2XR TERRA 300	0,029	300	E	≤ 0,7	+2/-2 (< 50 mm) +3/-2 (≥ 50 mm)	Skin
2XR TERRA 500	0,029	500	E	≤ 0,7	+2/-2 (< 50 mm) +3/-2 (≥ 50 mm)	Skin

## Thermal properties

Thickness (mm)	30	40	50	60	70
R Value	1,00	1,35	1,70	2,05	2,55

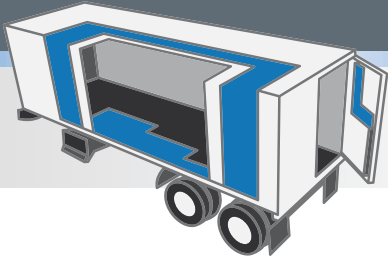
### 2XR TERRA 300



### 2XR TERRA 500



**higher R values and compressive strengths available**



## STANDARD DIMENSIONS

PRODUCT	DIMENSION / mm length x width . thickness	DENSITY	COMPRESSION RESISTANCE
<b>VIB</b>	2500 x 600 x (30...100) 2500 x 1200 x (30...100)	<b>40 kg/m<sup>3</sup></b>	<b>400 KP<sub>a</sub></b>
<b>coolcore CTG</b>	2500 x 600 x (30...150) 2500 x 1200 x (30...150)	<b>35 kg/m<sup>3</sup></b>	<b>300 KP<sub>a</sub></b>
<b>BLOCK</b>	200 x 1000 x 105 3000 x 1250 x 105 2000 x 500 x 200 2500 x 600 x 150	<b>35 kg/m<sup>3</sup></b>	<b>300 KP<sub>a</sub></b>

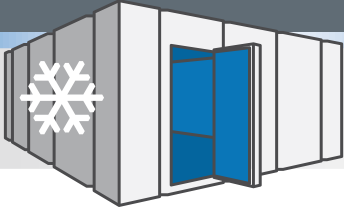
## NON-STANDARD DIMENSIONS

LENGTH / mm	WIDTH / mm	THICKNESS / mm
2000 - 6000	800 - 1200 - 1250	30...105
2000 - 4000	600	30...150

## DIMENSIONS

PRODUCT	DIMENSION / mm length x width (thickness)	DENSITY	COMPRESSION RESISTANCE
<b>coolcore CT-T sandwich panel</b>	5000mm x 1200 x (50, 75, 100 & 150)	<b>35 kg/m<sup>3</sup></b>	<b>300 KP<sub>a</sub></b>



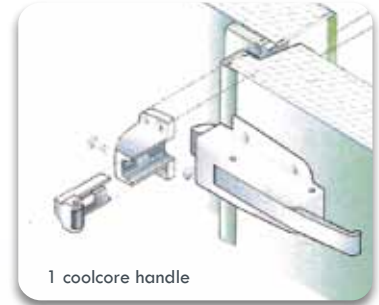


### COOLCORE FREEZER DOOR SET:

These heavy-duty custom made freezer doors come with a chrome plated malleable iron Latch Handle, a die cast body and Strike with a polished chrome finish; the Push Handle safety release is a composite material which is frost-free.



1 coolcore handle



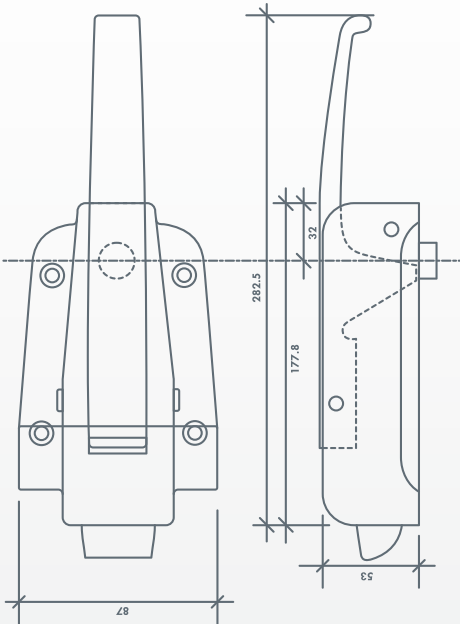
1 coolcore handle



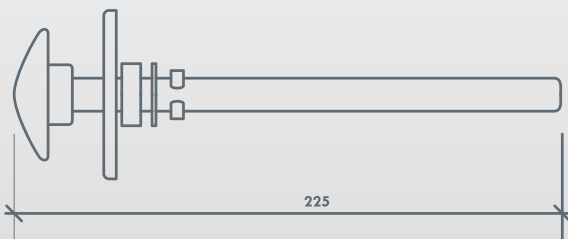
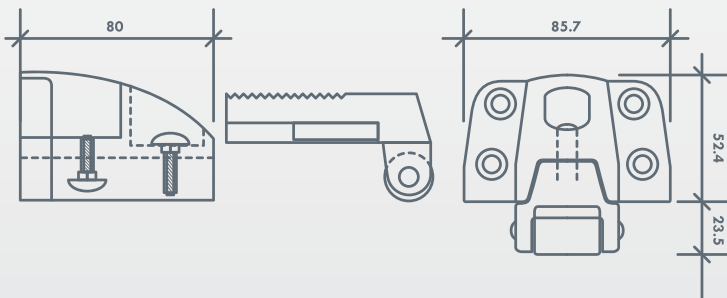
2 coolcore plunger

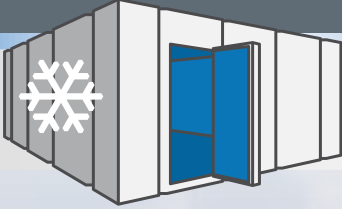


2 coolcore plunger



coolcore hinge





## CHOICE SOLUTIONS BRINGS TO YOU THE AMTEC REPORT

Insulation values are USA R values

### AMTECS MFG GROUP (USA) FREEZER/COLD STORE BUYERS GUIDE

There are three types of insulation materials widely used in the Cold-storage industry today. Polyurethane (PU), Expanded Polystyrene (EPS) and Extruded Polystyrene (XPS). All are Plastics/Polymers foamed and filled with a gas in their tiny cells, below is a report on each products characteristic.

#### 1. Polyurethane (PU)

Polyurethane is among many other things used as packaging foam and in the construction of walkthrough outside residential and commercial doors. A 4 inch thick Poured in place high quality closed cell Polyurethane has a high initial R value of 32 (@ 20°F) and the 90 day aged R-value is 24 **but is less capable of moisture resistance and R-value retention. It can lose as much as 75% of its R-value to as low as (R-6) over the life of the product.** It is formed with a Fluorine gas compound and it is lighter than air and expands when heated, it breaks the tiny cell walls and escape in to the atmosphere replacing air. As the gas escapes the R value goes down proportional to the quantity of open cells. This is called "Thermal Drift". The thermal drift could tip over if moisture migrates into these open Cells. That is why some older walk-ins consume 4 times the energy and some worse cases, even need an additional refrigeration system to bring down the temperature.

**OLDER WALK-INS CONSUME 4 TIMES THE ENERGY AND SOME WORSE CASES, EVEN NEED AN ADDITIONAL REFRIGERATION SYSTEM TO BRING DOWN THE TEMPERATURE.**



## 2. Expanded Polystyrene (EPS)

This has been used as a reliable insulation material that has a lower up front cost but also has a lower initial 90 day aged R-value than the other two insulating foams (The higher the R-value the more resistance to heat flow thus less energy used). Its R-value is 4.75 per inch or R-19 for a four-inch panel. **It has a moderate resistance to moisture penetration, which lowers the insulation R-value and has moderate ability to keep its R-value throughout the years.** That is why the local fabricators have to use 6~7 inch thick walls to comply with the new DOE Regulations (EISA).

## 3. Extruded Polystyrene (XPS)

This insulation has been used in insulating underground concrete foundations and floors for many years. It has a high initial R value of 32.4 @ 20° F and R-29 @40°F but the aged R-value is 24 **and has a great moisture resistance and ability to retain around 75% of its R-value at R-24 over the life of the product. It has up to 4 times the strength of polyurethane and expanded polystyrene.** It is better than expanded polystyrene (EPS) and polyurethane (PU) insulation if overall performance is considered. **It is an insulation that will continue to pay dividends in energy savings for as long as you own the walk-in.** The thermal drift in this material is less than 25% so this is considered the ultimate Choice of the Walk-in Industry today.

21/10/11





# CHOICE SOLUTIONS

*energy conservation products for domestic & industry*

You can reach us at the contact below to make an appointment

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email	<b><a href="mailto:mark@choicesolutions.net.au">mark@choicesolutions.net.au</a></b>
website	<b><a href="http://www.choicesolutions.net.au">www.choicesolutions.net.au</a></b>

Contact us quickly to  
find out more



*“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”*

*— World Commission on Environment & Development*



**2WR**  
EXTRUDED POLYSTYRENE



**CHOICE**  
SOLUTIONS



**XCELERATE YOUR THERMAL RATE**