



**Thermal Cladding**  
Solutions

## **THERMAL CLADDING SOLUTIONS: TCS-PV-S**

**AUSTRALIA'S FIRST ULTRALIGHTWEIGHT  
MULTIPURPOSE, ONE COAT, SMOOTH  
FINISH THERMAL RENDER FOR BOTH  
INTERNAL AND EXTERNAL USE.**

## **TCS-PV-S**

AT THERMAL CLADDING SOLUTIONS, WE ARE PROUD TO ANNOUNCE THAT NOT ONLY IS OUR SYSTEM TCS-PV-S THE FIRST OF ITS KIND IN AUSTRALIA, IT IS THE ONLY MULTI-PURPOSE SINGLE-COAT SMOOTH INSULATION RENDER IN THE WORLD AVAILABLE WITH THERMAL INSULATION TECHNOLOGY.

WE WARMLY INVITE YOU TO EXPLORE THIS OUSTANDING SUSTAINABLE PRODUCT FOR USE ON YOUR NEXT BUILDING PROJECT.

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## PRODUCT OVERVIEW

Thermal Cladding System's (TCS) TCS-PV-S is Australia's only multi-purpose single coat insulation render with a thermal insulation feature.

It is an ultra-light-weight (up to 6 time lighter than a conventional plaster), hydrophobic, high crack & corrosion resistant , UV reflective, ready-to-use powder-mix product.

TCS-PV-S simply replaces the conventional 3-coat plaster systems. It can be applied up to 25mm thickness at a time, providing substantial cost and labour savings of up to 65% when compared to other plaster systems on the market.

This system is 99% inorganic and contains 40% post-consumer recycled content which makes it a true green product. TCS-PV-S is an A1 non-flammable material, it does not burst into flame or emit any toxic gas when exposed to fire,. It allows your building to breathe while preventing mold and moisture from occurring.

## APPLICATION & PREPARATION

**TCS-PV-S CAN BE QUICKLY AND EASILY APPLIED BY  
YOUR CHOICE OF TROWEL OR PLASTER MIXER**

### AREAS

TCS-PV-S can be used on new and renovation projects, and applied on various substrates including: OSB, plywood, concrete, cinder blocks, bricks, dense glass, dry wall, sheetrock, EPS, XPS, plastic, wood and steel structures.

### THICKNESS

The minimum thickness over any substrate is 10 mm. Some assemblies may require specific minimum thicknesses. TCS-PV-S can be applied up to 25mm thickness in a single coat .

### TEMPERATURE

Application temperature must be between + 5 Degrees Celsius and + 35 Degrees Celsius. Try to avoid application under extreme wind, cold or direct sunlight conditions.



## **SURFACE PREPARATION**

The application surface must be structurally sound, clean, free of dust, mold, dirt, silicones and paint products. The application surface needs to be smooth and free from defects. Major cracks, holes or voids should be prepared prior to application. The surface shall be wet especially on highly porous and absorbing surfaces or at high temperatures.

**FOR BEST RESULTS:  
ONCE THE SURFACE AND  
MIXTURE HAVE BEEN  
CORRECTLY PREPARED,  
TCS-PV-S SHOULD BE  
APPLIED WITHIN TWO (2)  
HOURS**

Make sure clean equipment for preparation and mixing is used.

**IMPORTANT NOTE:** The whole bag must be used to ensure proper consistency.

## PACKING AND STORAGE

**TCS-PV-S IS AVAILABLE IN 20 KG BAGS .  
THEY ARE DELIVERED IN 27 BAGS PER  
PALLET. THE TCS-PV-S BAGS SHOULD BE  
STORED IN A DRY, NON-HUMID  
ENVIRONMENT, WHERE THE STORAGE  
SPACE TEMPERATURE IS NO LOWER THAN 5  
DEGREES CELSIUS.**

### 01

#### MIXING

Pour a TCS-PV-S 20kg bag into a mixing container, followed by 15 litres of water and mix between 10 to 12 minutes.

1. Add approximately 2/3 of the required water (10L) into the container then empty the whole bag and start the mixing process.
2. About 3 minutes after step 1, add the remaining 1/3 of water (5L) and continue mixing for 7 to 9 minutes.

A plastering machine can be used.

Mixing should be done mechanically at a low speed until the mixture reaches a homogenous consistency.

Note: Additional water can be added with a limit of 0.5L

### 02

#### COVERAGE

A 20kg bag of TCS-PV-S covers 10.0 m<sup>2</sup> at 5mm thickness.

Coverage may vary due a number of factors including but not limited to:

- Ambient temperature
- surface temperature
- surface porosity
- mixing methods
- application methods
- amount of water
- wall type
- metal lath type.

### 03

#### APPLICATION

Gauge sticks (long, narrow strip of aluminium bars) at desired thickness should be placed on the surface at equal distances to control the thickness and consumption of the material.

Prepared material should be applied between these sticks using a steel trowel or plastering machine then levelled with a straight edge.

Various finishes can be achieved with different techniques, which gives you the flexibility to get creative!

## IMPORTANT INFO

### HEALTH AND SAFETY

TCF-PV-S may be an irritant to eyes and skin when exposed. Wear appropriate dust, skin and eye protection. In case of eye contact, flush immediately with water and consult a physician. Wash hands with soap and water after use. Keep out of reach of children. For more information on handling this product refer to its Material Safety Data Sheet (MSDS). The most current MSDS and Product Data Sheet (PDS) can be obtained from TCS.

### QUALITY MANAGEMENT

TCS Green Building materials are produced under ISO 9001:2008 and ICC-ES AC10\* Quality Standards.

### WARRANTY

TCS'S TCF is warranted to perform in accordance with the product specification when used pursuant to the application instructions. This warranty is limited to and shall not exceed the total amount paid by the buyer for the product here under. In no event shall Thermal Cladding Systems PTY LTD be liable for any loss of profits, special or consequential damages in respect to any claim.

The foregoing warranties are in lieu of all other warranties express or implied including those concerning suitability for a particular use. This product data sheet has been prepared in good faith on the basis of information available at the time of publication, it is intended to provide users with information about the guidelines for the proper use and application of the covered product(s) under normal environmental and working conditions.



## TECHNICAL DATA

DRY DENSITY	400 kg/m <sup>3</sup> + 10%
FIRE CLASS	A1
ADHESIVE TENSILE STRENGTH	>0.30 n/mm <sup>2</sup>
THERMAL CONDUCTIVITY	≤0.08 w/mk
CAPPILLARY WATER ABSORPTION	W1—0.10 kg/m <sup>2</sup> min 0.5
WATER VAPOUR PERMIABILITY	6.4 μ
PRESSURE RESISTANCE	CS II—2.0 n/mm <sup>2</sup>
MATERIAL COMSUMPTION	4.0 kg/m <sup>2</sup> — 10mm
WATER CONSUMPTION	14 -15 Lt
SHELF LIFE	12 Months

# STANDARDS

ASTM E96/E96M-10	STANDARD TEST METHOD FOR WATER VAPOR TRANSMISSION OF MATERIALS, PROCEDURE A, DESICCANT METHOD	PASS
ASTM C518-10	STANDARD TEST METHOD FOR STEADY-STATE THERMAL TRANSMISSION PROPERTIES BY MEANS OF THE HEAT FLOW METER	PASS
ASTM B117-09	STANDARD PRACTICE FOR OPERATING SALT SPRAY (FOG) APPARATUS	PASS
ASTM E136-12	STANDARD TEST METHOD FOR BEHAVIOR OF MATERIALS IN A VERTICAL TUBE FURNACE AT 750 C DEGREES	PASS
ASTM G21-13	STANDARD PRACTICE FOR DETERMINING RESISTANCE OF SYNTHETIC POLYMERIC MATERIALS TO FUNGI	PASS
EN 13501-1:2007	RESPOND TO FIRE	PASS
EN 1745:2004	HEAT CONDUCTIVITY	PASS
EN 1015-18:2004	WATER VAPOR PERMEABILITY OF HARDENED PLASTER AND MASONRY MORTAR	PASS
EN 1015-18:2004	DETERMINATION OF WATER SUCTION COEFFICIENT DURING CAPILLARY EFFECTS OF HARDENED MORTAR	PASS
EN 1015-12:2000	RESISTANCE TO STICK TO LOWER LAYER OF HARDENED MORTAR	PASS
EN 1015-11:2000	PRESSURE RESISTANCE OF HARDENED MORTAR	PASS
EN 1015-10:2001	DRY POROUS UNIT VOLUME MASS OF HARDENED MORTAR	PASS
EN 1015-3:2000	DETERMINATION OF FRESH MORTAR CONSISTENCY	PASS
EN 998-1:2006	MARKING AND LABELING	PASS
AS 1530.1:1994	METHODS FOR FIRE TESTS ON BUILDING MATERIALS, COMPONENTS AND STRUCTURE	PASS
AS 5113:2016	FIRE PROPOGATION TESTING AND CLASSIFICATION OF EXTERNAL WALLS OF BUILDINGS	PASS

## APPROXIMATE COVERAGE & CONSUMPTION

THICKNESS (mm)	AREA (m <sup>2</sup> /20kg Bag)	CONSUMPTION (Kg/m <sup>2</sup> )
5	10.00	2.00
10	5.00	4.00
15	3.33	6.00
20	2.50	8.00

## COMPARISON CHART

	CONVENTIONAL RENDER	EIFS	TCS-PV-X
ONE COAT APPLICATION	X	X	YES
SINGLE DAY APPLICATION	X	X	YES
LOW LABOUR COST	X	X	YES
TROWEL OR SRAY ON	X	X	YES
ULTRA LIGHT WEIGHT	X	X	YES
LESS SCAFFOLD EXPENSES	X	X	YES
EASY TO APPLY	X	X	YES
WATER RESISTANT	X	X	YES
CORROSION RESISTANT	X	X	YES
VAPOUR PERMEABLE	YES	X	YES
FIREPROOF	X	X	YES
THERMAL INSULATION	X	YES	YES
CONTINUOUS INSULATION	X	X	YES
RECYCLED CONTENT	X	X	YES
SANDABLE	X	X	YES
V.O.C FREE	YES	X	YES
U.V. REFECTIVE	X	X	YES
IDEAL FOR RESORATION	X	X	YES
ACOUSTIC INSULATION	X	X	YES
LESS FREIGHT EXPENSES	X	X	YES

 <b>ONE COAT APPLICATION</b>  <b>3 IN 1</b> SCRATCH, BROWN & FINISH COAT	<b>ONE COAT APPLICATION</b> CAN BE APPLIED IN A SINGLE PASS OF UP TO 1" THICKNESS <b>3 IN 1</b> REPLACES THE TRADITIONAL 3 COAT STUCCO PROCESS PRE-MIXED MATERIAL PROVIDING CONSISTENT RESULTS	 <b>64% LOWER LABOR COST</b>  <b>LESS SCAFFOLD EXPENSES</b>	<b>66% LOWER LABOR COST</b> LESS FATIGUE INCREASED PRODUCTIVITY EASY HANDLING & INSTALLATION <b>LESS SCAFFOLD EXPENSES</b> GREAT SAVINGS ON SCAFFOLDING
 <b>R 2.2/INCH</b>  <b>CONTINUOUS INSULATION</b>	<b>R VALUE</b> PROVIDES R 2.2 PER INCH IMPROVES OVER ALL WALL PERFORMANCE REDUCES ENERGY COSTS <b>CONTINUOUS INSULATION</b> HELPS ELIMINATING THERMAL BRIDGES MEETS ADVANCING ENERGY CODES	 <b>LESS FREIGHT EXPENSES</b>  <b>UP TO 7 TIMES MORE COVERAGE</b>	<b>LESS FREIGHT EXPENSES</b> GREAT FUEL AND FREIGHT SAVINGS TRUCKS CAN CARRY UP TO 5 TIMES MORE PRODUCT PER LOAD <b>7 TIMES MORE COVERAGE</b> INCREASE SPREAD YIELD UP TO 700% 84LB BAG COVERS 70 SQ FT AT 3/8"
 <b>ULTRA LIGHT-WEIGHT</b>	<b>ULTRA LIGHT-WEIGHT</b> THE WORLD'S LIGHTEST STUCCO REDUCES THE DEAD LOAD ON STRUCTURES LESS FATIGUE ON LABOR FORCE	 <b>DIRECT APPLICATION ON VARIOUS SUBSTRATES</b>	<b>DIRECT APPLICATION ON VARIOUS SUBSTRATES</b> IT CAN BE EASILY APPLIED ON OSB, PLYWOOD, CONCRETE, BRICKS, CINDER BLOCKS, DENS GLASS, DRYWALL, SHEETROCK, EPS, XPS, ICF, PLASTIC AND METAL SUBSTRATES
 <b>THERMAL INSULATION</b>  <b>U.V. REFLECTIVE</b>	<b>THERMAL INSULATION</b> REDUCES THE RATE OF HEAT TRANSFER PERFORMS JUST LIKE FOAM & FIBERGLASS SAVES ENERGY AND IMPROVES INDOOR COMFORT <b>U.V. REFLECTIVE</b> REDUCES THE AIR CONDITIONING LOADS LOWERS SURFACE TEMPERATURE	 <b>HIGH CRACK RESISTANT</b>  <b>CORROSION RESISTANT</b>	<b>HIGH CRACK RESISTANT</b> HIGH CRACK RESISTANT <b>CORROSION RESISTANT</b> RESISTANT AGAINST DEGRADATION DUE TO MOISTURE, SALT SPRAY, OXIDATION OR EXPOSURE TO A VARIETY OF ENVIRONMENTAL FACTORS
 <b>FIREPROOF</b>	<b>FIREPROOF</b> CLASS 1 FIRE RESISTANT CAN RESIST UP TO 2200 F DOESN'T EMIT TOXIC GAS OR BURST INTO FLAME WHEN EXPOSED TO FIRE CAN BE USED IN A FIRE RESISTANT ASSEMBLY	 <b>IDEAL FOR RESTORATION</b>	<b>IDEAL FOR RESTORATION</b> IDEAL FOR RENOVATION OF EXISTING AND HISTORICAL STRUCTURES CAN BE USED TO REPAIR CONVENTIONAL STUCCO
 <b>WATER RESISTANT</b>	<b>WATER RESISTANT</b> HYDROPHOBIC RESISTS WIND DRIVEN RAIN RESISTS HYDROSTATIC WATER PRESSURE	 <b>SUITABLE FOR PRECAST</b>  <b>SANDABLE</b>	<b>SUITABLE FOR PRECAST</b> EASY TO FORM, IDEAL FOR PRECAST MOLDING ULTRA LIGHT-WEIGHT <b>SANDABLE</b> SMOOTH FINISHES ARE ACHIEVABLE JUST IN SECONDS
 <b>MOLD RESISTANT</b>  <b>VAPOR PERMEABLE</b>	<b>MOLD RESISTANT</b> DOES NOT ALLOW MOISTURE PENETRATION, THUS PREVENTING THE GROWTH OF MOLD/ MILDEW <b>VAPOR PERMEABLE</b> PERMITS THE DIFFUSION OF WATER VAPOR THAT MAY CONDENSE IN THE WALL STRUCTURE	 <b>SOUND INSULATION</b>	<b>SOUND INSULATION</b> EXCELLENT SOUND INSULATION PROPERTIES ABSORBS MID/HIGH FREQUENCY REFLECTIONS UP TO 32 DB
 <b>EASY TO APPLY</b>	<b>EASY TO APPLY</b> NO SPECIAL EXPERIENCE NEEDED JUST ADD WATER AND APPLY	 <b>GREEN BUILDING MATERIAL</b>  <b>V.O.C. FREE</b>	<b>GREEN BUILDING MATERIAL</b> INORGANIC & NON-TOXIC CONTAINS RECYCLED INGREDIENTS <b>V.O.C. FREE</b> PROVIDES A BETTER INDOOR ENVIRONMENT SAFER FOR LABOR FORCE
 <b>SINGLE DAY APPLICATION</b>  <b>TROWEL OR SPRAY-ON</b>	<b>SINGLE DAY APPLICATION</b> SCRATCH, BROWN AND FINISH IN SINGLE APPLICATION <b>TROWEL OR SPRAY-ON</b> CAN BE APPLIED BY TROWEL OR SPRAY-ON CAN BE APPLIED FROM 1/8" UP TO 1" THICKNESS WITH ONE PASS	 <b>40% RECYCLED CONTENT</b>  <b>LEED FRIENDLY</b>	<b>40% RECYCLED CONTENT</b> CONTAINS 40% POST-CONSUMER RECYCLED CONTENT <b>LEED FRIENDLY</b> QUALIFIES FOR LEED POINTS MEMBER OF USGBC





# CONTACT US

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