Installation and Technical Manual











Congratulations on choosing

Configuration INSULATED WALL SYSTEM

for your development.

TUFFWALL is used as an alternative to brickwork and other wall products to achieve the structure, rendered finish and high thermal rating which today's home owner demands. With expanded polystyrene (EPS) at it's core, the TUFFWALL Insulated Wall System with it's Fire, Water and Wind national accreditations delivers a rendered wall finish in your choice of colour, with the peace of mind only TUFFWALL can deliver.

TUFFWALL is a thermal lightweight cladding system which is strong and durable and allows for any creative design and execution in line with building specifications.

TUFFWALL Insulated Wall System begins with pre-rendered flat panels which once installed, the TUFFTEX Render Application System is applied. This consists of layered render and texture to complete the system. This system is widely recognised as Exterior Insulated Finishing System (EIFS) and is growing in demand for many reasons:

3,000 colours

Allows for any textured finish including a choice of over 3,000 colours. High thermal rating reducing heating costs in winter and cooling costs in summer.

High Thermal Rating

DIY Option

Step-by-step installation manual with support from TUFFTEX.

Lightweight

Lightweight and prefinished therefore allowing speedy installation which reduces construction and scaffolding costs.

National Accreditations

Nata approved, including

- BAL-29 Fire Rating
- N5-C2 Wind Loading
- Weather Proofing Verification V2.2.1

Manufactured locally

Manufactured locally at the plant in Malaga WA tailored for WA weather conditions

Showroom

Showroom at Malaga HQ or visit our display at Home Base Subiaco

TUFFTEX developed

All TUFFWALL elements and the complete process are TUFFTEX developed products including the panel and render application system

Choice

1200mm x 2400mm TUFFWALL Panels available in 50mm, 75mm or 100mm thickness.





TUFFWALL Insulated Wall System

Prior to installation checklist:

- Read and understand this manual and the details relevant to your design project
- Check that construction complies with the BCA local standards and that the lightweight framing is in line with the national code AS1684-2010
- Flashings and waterproofing materials are in line with the BCA requirements
- Any external wall mounted items that are over 5kg in weight to be allowed for in frame construction
- Check that all details for double and triple storey buildings are taken into account with particular attention to the waterproofing and structure

PRODUCTS REQUIRED FOR THE TUFFWALLING COMPLETE SYSTEM:

- TUFFWALL Panels
- TUFF-Mesh
- TUFF-Expanding Foam
- TUFF-Fix External Fixings
- TUFF-Washers
- TUFF COAT AC Acrylic Render
- TUFFWALL Render

- TUFF-Bead External Corner Beads
- TUFF-Trim Stopper Bead
- TUFF PRIMER
- TUFFTEX COARSE
- TUFF Shield Texture Paint

Safety and Handling:

Use of PPE is recommended



Throughout the handling of the TUFFWALL panels, care should be taken to prevent any damage to them. Be careful in windy conditions as they may get unsettled and move around hazardously. Do not store in direct sunlight for prolonged periods of time as the exposed edges of the TUFFWALL panels can require a light sanding prior to the speciality render application.

Warranty Information:

TUFFTEX provides a 7 year product warranty on all TUFFWALL panels and all TUFFTEX acrylic rendering products. Seperate installation and application warranties would be attained by the respective trades.

Step by step installation of the TUFFWALL Insulated Wall System

- 1) Prior to fitting and TUFFWALL panels, check that the frames are straight, flashings and windows are installed to the BCA local standards.
- 2) Tools required are diamond blade power saw, adjustable torque power drill, spirit level, straight edge, string line, reusable foam gun, rasping tool, knife and all relevant PPE.
- **3)** Measure up the framing to minimise offcuts. Cut, fix and glue together all TUFFWALL panels direct to the substrate provided in a horizontal, staggered brickwork layout.
- 4) Using the expandable foam, glue all horizontal and vertical edges to each adjoining panel including each of the staggered corners top and bottom
- 5) Class 3 or 4 external fixings with speciality PVC Tuff-washers should be inserted at 300mm spacing's with <600mm stud centres. Once the TUFFWALL panel is in place with 2 fixings a string line can be utilised to assist set out where the fixings spacing's follow the studs.
- 6) All corners should be butt jointed, staggering the height of the wall.
- 7) Install TUFFWALL panels flush to all doors and windows with sill areas requiring a +/-20mm sloping fall which can be achieved with a stringline and Stanley knife to peel back the TUFFWALL first coat then use a rasping tool to complete the fall. Once completed apply an uninterrupted bead of solvent free mastic to the internal junction of the frame and panel.
- 8) Once installed the TUFFWALL panels are complete. To finish off, remove any expanded foam by scraping the wall flat ready for the speciality TUFFTEX render application.

Install tools required:

Cutting horse, hand saw, power saw, foam gun, mastic gin, string line, pencil, tape measure, knife, tin snips, staple gun, hand drill and med clamps

Step by step instruction of the TUFFWALL Acrylic Rendering System

- 1) Prior to beginning the TUFFWALL speciality render application, the contractor should inspect the panels and determine that the surface is clean, dry, free of dust and mildew and identify all expansion joins and openings are ready and correct. They also should ensure that all areas are taped off correctly and use plastic drop sheets and over openings where required to minimize any residual mess.
- 2) Measure and fit to all openings and corners, alloy or stainless steel beads with solvent free adhesive ensuring that all sills have a fall forward on them.
- **3)** Using TUFFTEX Tuff-mesh 200mm 160gsm joining tape to enforce to all joins and corners and where any bare EPS is prevalent once installed use TUFFWALL cladding system acrylic render with a trowel to a maximum of +/-2mm skim coat over the mesh.
- 4) Once dry apply to a thickness of +/- 5mm the TUFFTEX, TUFFBuild speciality dry bag render coat following instructions carefully. Note to achieve best results float the wall and once touch dry take away any high points and leave to dry, then apply a 2nd tight skim coat of TUFF Build to smoothen off ready for the texture application.
- 5) Use TUFFTEX TUFF Primer to seal and undercoat the TUFFBuild Render application with a roller to the wall cutting in where possible, allow drying time.
- 6) Once dry apply from the range of TUFFTEX acrylic finishes tinted to your choice of colours to complete the TUFFWALL Insulated Wall System.



Rendering tools required:

Mixing drill, buckets, sponge, render float, edge rule, rubbing stone, paint roller and sleeve, steel trowel, texture float, tape, window plastic, tin snips, caulking gun.

For instructions on mixings and handling and safety instructions please visit the TUFFTEX website and download the approved technical manual. If using other approved acrylic systems please see the manufacturer's details for application specifications





Frame Fixing Detail

The layout of the TUFFWALL panels is to be a staggered, horizontal layout which end butt at each corner section to a brickwork pattern. Centres should be no greater than 600mm with 20 speciality class 4 external fixings in each 1200x2400 panel.

Where panels are not centred with the timber studs of the framework, timber or metal back blocks will need to be installed in order to secure those areas of concern.

Alloy or stainless steel stopper beads are required to be installed to the bottom of the wall prior to the speciality render application.





Installation to Openings Detail

To install TUFFWALL panels to all openings where possible, cut a right-angle in the panels in order to minimise joining at the corners. Once fitted tight to the jams or windows and the sills, use a string line and knife to cut a +/- 20mm slope in the panels and rasp out ready for the speciality render application. 200mm 160gsm fiberglass joining mesh is required at all TUFFWALL joins, including a 300mm butterflied section at every corner opening - this is part of the speciality render application, along with alloy or stainless steel external beads installed with solvent free adhesive.





Direct Fix to Masonry Walls Detail

TUFFWALL panels are extremely versatile and can be installed to a variety of surfaces including timber and metal framing. Existing concrete or brickwork areas require masonry fixings and TUFFTEX acrylic render as the adhesive can be direct fixed to the areas required. Once installed the speciality render system including the external alloy or stainless steel beads, 200mm 160gsm fiberglass joining mesh and TUFFTEX acrylic textures is ready to be applied.



Ground Junction Detail 1

First floor ground details can vary depending on the slab detail of each project. The following details show how TUFFWALL install contractors would install at each level.



Ground Junction Detail 2

Frame flush with slab detail







Internal and External Corner Fixing Detail

TUFFWALL panels can be installed to stepped out areas of design and when utilising the energy efficient system to its full potential other composite materials can become obsolete. These external details are how TUFFWALL install contractors would fix onsite and the subsequent framing details required to do so.



First Floor Overhang Detail

TUFFWALL panels are extremely versatile and can be installed to a variety of surfaces including timber and metal framing. Existing concrete or brickwork areas require masonry fixings and TUFFTEX Acrylic Render as the adhesive and can be direct fixed to the areas required. Once installed the Speciality Render System including the external alloy or stainless steel beads, 200mm 160gsm fiberglass joining mesh and TUFFTEX acrylic textures is ready to be applied.





TUFFWALL panels are perfect and extremely

popular for lightweight top floor construction. The next two details are an example of how you can finish top floors off then joining to a composite material on the ground floor.





These external details are how TUFFWALL install contractors would fix onsite and the subsequent framing details required to do so.





When finishing TUFFWALL panels to eaves junctions, the contracted installers would flush to the box eaves then render to get a neat acrylic finish to the panels.



wall and flashing

Corrugated or tilled roof

Roof Junction Detail

It's important to get the render lines correct at this visual point as well as having a working waterproofing membrane intact. Ask the professional team at TUFFTEX on aesthetically pleasing options and how to get the best bottom edges for your next projects.







Negative Eave Detail









Horizontal Expansion Joint Detail

It is a requirement of the NCC to install expansion joins when using the TUFFWALL panels. Prior to construction, consult with your designer on where the expansion joints will be placed ahead of time, and they can be left visible or hidden behind a corbel.



Vertical Expansion Joint Detail

It is a requirement of the NCC to install expansion joins when using the TUFFWALL panels. Prior to construction, consult with your designer on where the expansion joints will be placed ahead of time, and they can be left visible or hidden behind down pipes.









STEP BY STEP GUIDE

1

Prior to installation of the TUFFWALL Insulated Wall System be sure to have all waterproofing membranes in place and tape off any openings including windows ~ doors and flashing details.

2 3

TUFFWALL panels come in 1200mm x 2400mm easy to measure, mark and cut panels. Be sure to measure from the wall area carefully and transfer level to the panel for cutting.



Installing TUFFWALL panels once cut to size is easy and care must be taken via the technical specifications regarding spacing's and placement. Be sure to measure twice and cut once to ensure a solid substrate to begin the TUFFWALL rendering process.



Each TUFFWALL panel must be glued together using an expanding foam adjoining each sidewall of the panels.

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All corners and window require meshed beads to be installed to promote a clean and level edge. Be sure to use only alloy or stainless steel beads with 160gsm fibreglass mesh along with spirit levels to ensure a clean and durable render base.





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Using 200mm 160gsm fibreglass mesh tape to all joins prior to TUFFWALL eps rendering system.

10

Using the TUFFWALL eps renders range, point and render all openings and meshed areas. Create a sloping fall forward to all sills.

11

TUFFWALL eps render is to be applied to all walls completely covering the entire substrate – this application is to be finished flat and left to dry before the final TUFFTEX acrylic coats.

12

Once dry apply the Tufftex TUFF Primer undercoat to all areas, this can be tinted to the final chosen colour to assist in colour consistency on completion.

13

TUFFWALL final texture coat known as TUFFTEX can be either COARSE or SAND finish. Using professional techniques to ensure a high quality finish, apply the TUFFTEX chosen texture to the primed and rendered substrate.

14

Float up the final pass to achieve the desired aggregate finish. TUFFSheild Texture Paint (TP) can now be roller applied to complete the ultimate in durable, protective system.



TUFFWALL Insulated Wall System is not only a fast and efficient building method that is backed up via TUFFTEX's 25 years building experience but with the unlimited range of colours and finishes available creates a safe and aesthetically appealing home.







Manufacturer's Details TUFFTEX - 3 Hunt Street, Malaga, Western Australia 6090 Telephone +61 8 9248 8788 | info@tufftex.com.au O Telephone ... tufftex.com.au