BORAL PLASTERBOARD
Build something great™

IntRwall®

SEPARATING PLASTERBOARD WALLS FOR APARTMENT BUILDINGS

www.boral.com.au/intrwall

PB206 June 2012

Boral's Purpose …

to create sustainable solutions for a worldwide building and construction industry.

Boral is a leading Australian supplier of building and construction materials, operating also throughout Asia and in the Unites States.

Boral offers a wide range of building solutions for the residential, commercial and infrastructure sectors, including Bricks, Roof Tiles, Plasterboard, Concrete, Asphalt and many others. Information on the full range of Boral products can be found at www.boral.com.au

Boral Plasterboard specialises in the manufacture, distribution and installation of plasterboard based wall and ceiling systems. In Australia, Boral operates plasterboard manufacturing facilities in New South Wales, Queensland and Victoria. Boral Plasterboard also operates Australia-wide distribution network of about 100 company owned stores and independent resellers.

Striving to create sustainable building solutions for a worldwide building and construction industry, Boral aims to reduce the impact of its operations on the environment and to make a positive difference to the communities in which it operates.

Boral Plasterboard prides itself on its leadership in the area of lightweight building solutions.

Among the successful solutions pioneered by the company over the years are: Partiwall® and IntRwall® separating wall systems, OutRwall® and Fireclad® fire rated exterior wall systems, CinemaZone® acoustic walls and ceilings for home cinemas, and many others.

Boral Plasterboard's Product and Systems Development (PSD) team boasts unrivalled expertise in lightweight fire rated and acoustic systems, and routinely works with customers to select and, if required, tailor solutions for specific projects.

Together with the TecASSIST® customer help line, Boral Plasterboard's PSD team is well positioned to provide technical support to projects of any size and complexity.

For expert advice on lightweight Building Systems, contact Boral TecASSIST® 1800 811 222.

Boral Plasterboard plant at Pinkenba, Queensland, uses recycled water in the manufacturing process to reduce the dependence on public water resources.

Contents

Introduction

Boral IntRwall® is the next generation of the highly successful Eurekawall® separating wall system for apartment buildings. Based on the same panelised construction principles, Boral IntRwall® represents the latest advancement in lightweight fire and acoustic rated technology, offering reduced construction costs compared to Eurekawall®, without compromising on performance.

The system has been designed for maximum flexibility allowing building designers to select appropriate acoustic and fire rated walls to meet their design specifications. IntRwall® systems have been developed for use in Class 2 and 3 buildings.

Features and Benefits

- A simple, cost-effective, panelised lightweight system that can easily be installed by a plastering contractor.
- The readily available components are easy to handle and install and don't require heavy lifting.
- Simple assembly means faster construction than Eurekawall® and easier inspection of acoustic and fire sealing.
- The plastering contractor installs all components promoting better coordination of site work.
- Services can be easily incorporated in the wall cavities.
- The systems 50IW13S13, 50IW13FS13F and 50IW13AS13A, have a narrow footprint allowing an increased usable area as compared to concrete and masonry walls with equivalent fire and acoustic ratings.
- Acoustic ratings up to $R_w + C_{tr} = 56$dB, meeting and exceeding BCA requirements.
- Fire ratings up to FRL -/120/120, meeting and exceeding BCA requirements.
- If required, the stud centres can be reduced so that the system can be used in areas subject to higher than normal pressures.
- Single layer of Shaftliner™ can be used to achieve FRL -/60/60.
- IBS rod in top track not required for FRL -/60/60 systems.

Performance

Fire

The IntRwall® system 50IW13F has been fire tested at CSIRO's laboratories at North Ryde in Sydney and system 50IW13S13 has been tested at Warrington Fire Research facility in Melbourne. The performance of other IntRwall® systems have been appraised in CSIRO's assessment number FCO-2110, FSV 0883, FCO-2256, FCO-2434, FCO-2660 and Warrington's assessment number WFRA 40970, WFRA 41038.

Structural

The IntRwall® system has been tested in Boral Plasterboard's NATA accredited laboratory in Port Melbourne and satisfies the requirements of the BCA Specification C1.8 to a **maximum height of 3.0m**. For greater wall height refer to Boral Plasterboard for advice. Systems 50IW13 and 50IW13F meet the serviceability requirements of the BCA Clause 3.2 'Walls of shafts and fire-isolated exits generally' (max deflection L/240 @ 350Pa, lateral pressure). Other IntRwall® systems meet the requirements of the BCA Clause 3.4 'Walls Generally' (max deflection L/240 @ 250Pa, lateral pressure).

For limiting heights of independent studs in IntRwall® systems refer to Boral Selector+ Plasterboard Systems, Section C (page C2.6 or C2.10 as appropriate)

Table 1: **Allowable Internal Pressure On Wall Systems**

IntRwall® Systems Max Height 3.0m	Pa							
	250	350	500	600	700	800	900	1000
50IW13 50IW13F	✓	✓	–	–	–	–	–	–
50IWS13 50IW13S13 50IW13FS13F 50IW13AS13A	✓	✓	–	–	–	–	–	–
50IWFR10S13A	✓	✓	–	–	–	–	–	–
50IWF13S13 50IWF13FS13F 50IWF13AS13A	✓	✓	–	–	–	–	–	–
25IWS13S13 25IWS13AS13A 25IWS13WS13W 25IWS20S20	✓ S	✓ S	✓ S	✓ S	✓ S	✓ S	✓ S	✓ S
50IWS13S13 50IWS13AS13A 50IWS13FS13F 50IWS13WS13W	✓ S	✓ S	✓ S	✓ S	✓ S	✓ S	✓ S	✓ S

S - Non fire rated steel "C" studs to be designed to support required internal pressures

In high-rise apartment construction, confirmation of internal design pressures should be obtained from the project Structural Engineer, especially where there are large openings such as sliding glass doors onto balconies. Consult Boral Plasterboard for stud sizes, heights and spacing for design pressures other than those specified.

» Introduction

Thermal

Thermal resistance (R values) of inter-tenancy walls are taken into account in assessing energy rating of single occupancy units in accordance with Part J of the BCA.

Total R values of IntRwall® systems provided in this manual have been assessed by James M. Fricker in Melbourne based on AS/NZS 4859.1:2002/Amdt 1 2006, Materials for the Thermal Insulation of Buildings (James M. Fricker Report i274a 2008).

For more information on calculation of Total R values of IntRwall® systems please contact Boral TecASSIST® 1800 811 222.

Acoustic

The IntRwall® system has been the subject of a series of acoustic tests at the CSIRO Acoustic Laboratory at Highett, Victoria. Acoustical Opinions have been determined by Heggies Pty Ltd.

The range of Boral IntRwall® systems fulfil the minimum acoustic isolation requirements of the BCA: R_w = 45dB, R_w = 50dB and $R_w + C_{tr}$ = 50dB. The 'Discontinuous Construction' requirement of the BCA, where impact sound insulation is required, is satisfied by the IntRwall® systems as they are designed with a minimum 20mm cavity between the Shaftliner™ panel and the stud framing.

Sound Insulation Rating of Services

If services (duct, soil, waste or water supply pipe) are to be located within the IntRwall® system, and the adjacent dwelling is a habitable room (other than a kitchen), check correct system selection to ensure minimum BCA requirement $R_w + C_{tr}$ = 40dB is achieved.

All Boral IntRwall® systems achieve minimum $R_w + C_{tr}$ = 25dB, where the separation of services to the adjacent room is a kitchen or non-habitable room.

Limitations

Not suitable for use in lift shafts or in other similar situations subjected to cyclical loading.

Independent studs in the IntRwall® system have been designed for 250Pa pressures only, for other imposed loads (including shelf loads) refer to Structural Engineer for details.

Systems with a single layer of Shaftliner™ not to be used for corridor walls. Penetrations in Shaftliner™ panels are not permitted. Contact Boral Plasterboard for further information.

To ensure compliance with performance requirements under the Building Code of Australia, it is recommended that the Boral IntRwall® systems are installed using the components and accessories specified and in accordance with the instructions outlined in this brochure. Material substitution may affect the performance of the IntRwall® systems.

Construction

Materials

It is recommended that all materials, unless otherwise indicated, are supplied by Boral Plasterboard and installed in accordance with current printed instructions. Apart from Shaftliner™ and plasterboard, all materials should be delivered in their original unopened packages and stored clear of the ground in an enclosed shelter, providing protection from damage and exposure to the elements. Damaged or deteriorated materials must not be used and should be removed from site.

The following materials are used in constructing IntRwall® systems:

- Boral Shaftliner™ plasterboard – 25mm thick x 600mm wide
- approved fire grade sealant
- Boral plasterboard as specified
- steel studs, tracks and angles as shown below
- screws and appropriate anchors
- jointing paper tape and compounds
- insulation as required.

Rondo Deflection Head Track

- 51DT75 (50mm flange) 0.75mm BMT galvanised mild steel
- 25mm (30mm min flange) Deflection Head Track requires special order.

Angle

(Rondo PN 553) 35 x 35 x 0.70mm BMT galvanised mild steel

I Stud

(25IS55 and 51IS55) 0.55mm BMT galvanised mild steel

Approved Sealants

The following Fire grade sealants can be used in the installation of IntRwall®:

Table 2: **Approved Fire Grade Sealants List**

Product Name	Product Brand
Fyreflex sealant	Grinnel
Promaseal Mastic	Promat
Lorient Fire Sealant	Lorient
Multiflex	Pyropanel
Fireban 1	Bostik
Firesound	HB Fuller

Additional Details Available

In addition to installation details shown in this manual, the following details are available from Boral Plasterboard:

- project specific inter tenancy wall configurations and specifications
- access panels and horizontal joints
- cable tray penetration through panel.

Construction Notes

- Builder or contractor to confirm with building designer prior to construction that the selected wall systems meet all design specifications.
- All dimensions to be confirmed by builder or contractor prior to construction.
- The stability of walls during construction shall be the builder's or contractor's responsibility.
- All gypsum linings application and finishing to conform to AS/NZS 2589:2007 Gypsum linings - Application and finishing.
- All cold form steel construction to conform to AS/NZS 4600:2005 Cold-formed steel structures.
- Any damaged steel members are not to be corrected and reused as the structural integrity of members may have been impaired or lost.
- Details published in this brochure should not be modified unless approved by Boral Plasterboard prior to construction.

IntRwall® System Specification

Although the system label contains information about the basic system, it does not provide a full description of the system as required for the purposes of project specification.

For a full and unambiguous description of a Boral Plasterboard system, the label must be accompanied by the performance specification, which may include:

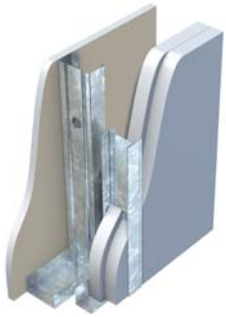
- fire resistance level (FRL)
- acoustic isolation rating (R_w or R_w+C_{tr})
- acoustic impact noise isolation rating ($L_{n,w}+C_I$)
- design lateral pressure
- any imposed loads
- maximum (or minimum) wall width
- maximum wall deflection
- expected soffit deflection.

To adequately specify a system, the system label and performance specification should be accompanied by additional information such as:

- stud size
- wall height
- type and location of acoustic/thermal insulation
- number, location and size of noggings and fixing plates
- requirement for special head details
- additional furring channels
- the required level of finish
- the presence within the system of other items eg protective steel mesh or sheet.

IntRwall® Systems

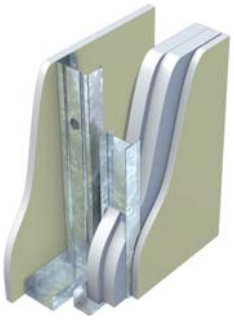
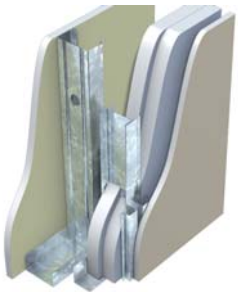
Table 3: **Wall Systems**

Assembly	System Reference	Nom Width (mm)	Stud Size (mm)	Pbd Weight (kg/m²)	Fire	Acoustic Ratings			Total *R* Value (m²K/W)
					FRL Basis	R_w	R_w+C_{tr}	Insulation	
	**50IW13** - 2x25mm Shaftliner™ panels - 1x13mm Regular plasterboard to one side - I studs @ 600mm ctrs	64	51IS55	49.6	Nil	35	32	Nil CSIRO TL402-abcd	0.6
	50IW13F - 2x25mm Shaftliner™ panels - 1x13mm Firestop® plasterboard to one side - I studs @ 600mm ctrs *Increase FRL with IBS rod in deflection head track	64	51IS55	51.5	-/60/60 FCO 2660 -/90/90* FSV 0883	36	33	Nil	0.6
	**50IWS13** - 2x25mm Shaftliner™ panels - 1x13mm Regular plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max engineer to design (min 20mm gap between I studs and C studs)	148	51IS55 + min 64mm steel stud	49.6	Nil	45 50	— 40	Nil 50G14 or 50P14	0.7 2.0 or 1.8

- For explanation of System Reference notation refer Section B1 of Boral Selector+ Plasterboard Systems.
- For Limiting Heights of steel C Studs refer Section C of Boral Selector+ Plasterboard Systems.
- Insulation abbreviation: XXGYY = Glasswool insulation in format of thickness (mm), G (Glasswool), Density (kg/m³). XXPYY = Polyester insulation in format of thickness (mm), P (Polyester), Density (kg/m³).

» IntRwall® Systems

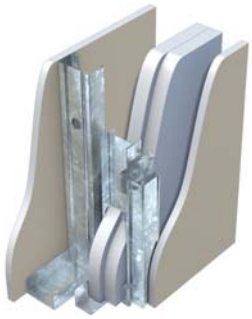
Table 3: **Wall Systems**

Assembly	System Reference	Nom Width (mm)	Stud Size (mm)	Pbd Weight (kg/m²)	Fire FRL Basis	Acoustic Ratings R_w	R_w+C_{tr}	Insulation	Total *R* Value (m²K/W)
	**50IW13S13**								
	- 2x25mm Shaftliner™ panels - 1x13mm Regular plasterboard to one side - 1x13mm Regular plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 20mm gap between I studs and C studs) *Increase FRL with IBS rod in deflection head track	161	51IS55 + min 64mm steel stud	58.2	-/60/60 FCO-2660 -/90/90* WFRA 40970 WFRA 41038 FCO-2256	45 50 55 CSIRO TL402-abcd	— 42 48	Nil 50G14 or 50P14 75G14	0.8 2.1 or 1.9 2.7
	As above (min 36mm gap between I studs and C studs)	177				47 58	— 50	Nil 90G16 or 100P14	0.8 3.2 or 2.8
	50IW13FS13F								
	- 2x25mm Shaftliner™ panels - 1x13mm Firestop® plasterboard to one side - 1x13mm Firestop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max - engineer to design (min 20mm gap between I studs and C studs) *Increase FRL with IBS rod in deflection head track	161	51IS55 + min 64mm steel stud	62.0	-/90/90 FCO-2660 -/120/120* FCO-2434	46 54 CSIRO TL418-abcd 58 CSIRO TL418-abcd	— 45 49	Nil 75P9 75P14	0.8 2.1 2.4
	As above (min 36mm gap between I studs and C studs)	177				47 58	— 50	Nil 90G11 or 75P14	0.8 2.9 or 2.4
	50IW13AS13A								
	- 2x25mm Shaftliner™ panels - 1x13mm ENVIRO Soundstop® plasterboard to one side - 1x13mm ENVIRO Soundstop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max - engineer to design (min 20mm gap between I studs and C studs) *Increase FRL with IBS rod in deflection head track	161	51IS55 + min 64mm steel stud	63.4	-/60/60 FCO-2660 -/90/90* WFRA 40970	48 58 57 CSIRO TL418-fg 60 CSIRO TL439b	— 50 49 52	Nil 70G14 or 75P14 75P14 100P14	0.8 2.6 or 2.4 2.4 2.5
	**50IWFR10S13A**								
	- 2x25mm Shaftliner™ panels - 10mm Regular plasterboard to one side on 13mm recessed face furring channels - 1x13mm ENVIRO Soundstop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 49mm gap between I studs and C studs) **IBS rod required in deflection head track**	200	51IS55 + min 64mm steel stud	59.0	-/60/60 FCO-2256	44 57 CSIRO TL439e 57	— 50 50	Nil 100P14 stud side only 90G16 stud side only	0.9 3.0 3.4

- For explanation of System Reference notation refer Section B1 of Boral Selector+ Plasterboard Systems.
- For Limiting Heights of steel C Studs refer Section C of Boral Selector+ Plasterboard Systems.
- Insulation abbreviation: XXGYY = Glasswool insulation in format of thickness (mm), G (Glasswool), Density (kg/m³). XXPYY = Polyester insulation in format of thickness (mm), P (Polyester), Density (kg/m³).

» IntRwall® Systems

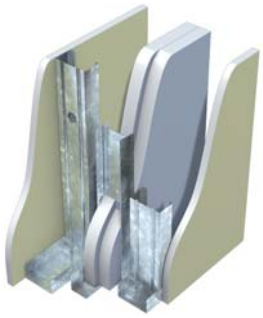
Table 3: **Wall Systems**

Assembly	System Reference	Nom Width (mm)	Stud Size (mm)	Pbd Weight (kg/m²)	Fire FRL Basis	Acoustic Ratings R_w	R_w+C_{tr}	Insulation	Total *R* Value (m²K/W)
	**50IWF13S13** - 2x25mm Shaftliner™ panels - 1x13mm Regular plasterboard to one side on 28mm furring channel - 1x13mm Regular plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 20mm gap between I studs and C studs) *Increase FRL with IBS rod in deflection head track	189	51IS55 + min 64mm steel stud	58.2	-/60/60 FCO-2660 -/90/90* FSV-0883 FCO-2256	40 50	— 42	Nil 50G14 or 50P14 stud side only	1.0 2.3 or 2.1
	As above (min 50mm gap between I studs and C studs. Nom 50mm cavity on furring channel side)	240				61	50	90G16 or 100P14 in stud cavity. 50G11 or 50P14 in furring cavity	4.4 or 4.0
	50IWF13FS13F - 2x25mm Shaftliner™ panels - 1x13mm Firestop® plasterboard to one side on 28mm furring channel - 1x13mm Firestop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 20mm gap between I studs and C studs) *Increase FRL with IBS rod in deflection head track	189	51IS55 + min 64mm steel stud	59.8	-/90/90 FCO-2660 -/120/120* FSV-2434	43 53	— 43	Nil 75P14 stud side only CSIRO TL418-e	1.0 2.5
	As above (min 50mm gap between I studs and C studs. Nom 50mm cavity on furring channel side)	240				62	50	90G11 or 100P14 in stud cavity. 50G11 or 50P14 in furring cavity	4.1 or 3.9
	50IWF13AS13A - 2x25mm Shaftliner™ panels - 1x13mm ENVIRO Soundstop® plasterboard on 28mm furring channels to one side - 1x13mm ENVIRO Soundstop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max - engineer to design (min 20mm gap between I studs and C studs) *Increase FRL with IBS rod in deflection head track	211	51IS55 + min 64mm steel stud	63.4	-/60/60 FCO-2660 -/90/90* WFRA 40970	44 61	— 50	Nil 90G16 or 100P14 in stud cavity. 50G11 or 50P14 in furring cavity	1.0 4.1 or 3.5
	As above (min 50mm gap between I studs and C studs. Nom 50mm cavity on furring channel side)	240				62	50	70G11 or 75P14 in stud cavity. 50G11 or 50P14 in furring cavity	3.6 or 3.4

- For explanation of System Reference notation refer Section B1 of Boral Selector+ Plasterboard Systems.
- For Limiting Heights of steel C Studs refer Section C of Boral Selector+ Plasterboard Systems.
- Insulation abbreviation: XXGYY = Glasswool insulation in format of thickness (mm), G (Glasswool), Density (kg/m³). XXPYY = Polyester insulation in format of thickness (mm), P (Polyester), Density (kg/m³).

» IntRwall® Systems

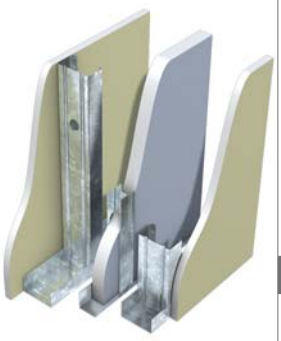
Table 3: **Wall Systems**

Assembly	System Reference	Nom Width (mm)	Stud Size (mm)	Pbd Weight (kg/m²)	Fire FRL Basis	Acoustic Ratings R_w	R_w+C_{tr}	Insulation	Total *R* Value (m²K/W)
	**50IWS13S13** - 2x25mm Shaftliner™ panels - 1x13mm Regular plasterboard to one side on separate steel stud frame - 1x13mm Regular plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max - engineer to design (min 20mm gap between I studs and C studs both sides)	245	51IS55 + min 64mm steel stud	58.2	-/90/90 WFRA 40970	36 55 62 CSIRO TL402-efghi 61	— 41 48 50	Nil 50G14 or 50P14 one side only 75G14 both sides 90G16 or 100P14 both sides	1.0 2.3 or 2.1 4.8 5.2 or 4.4
	50IWS13AS13A - 2x25mm Shaftliner™ panels - 1x13mm ENVIRO Soundstop® plasterboard to one side on separate steel stud frame - 1x13mm ENVIRO Soundstop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 20mm gap between I studs and C studs both sides)	245	51IS55 + min 64mm steel stud	63.4	-/90/90 FSV 0883	40 63	— 50	Nil 70G14 or 75P14 both sides	1.0 4.5 or 4.1
	As above (min 26mm gap between I studs and C studs both sides	257				68 Renzo Tonin & Assoc TD252-01F02	56	90G11 both sides	4.9
	50IWS13FS13F - 2x25mm Shaftliner™ panels - 1x13mm Firestop® plasterboard to one side on separate steel stud frame - 1x13mm Firestop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 20mm gap between I studs and C studs both sides)	245	51IS55 + min 64mm steel stud	62.0	-/120/120 FCO-2434	40 62	— 50	Nil 90G14 or 100P14 both sides	1.0 5.0 or 4.4
	50IWS13WS13W - 2x25mm Shaftliner™ panels - 1x13mm Wet Area Board™ to one side on separate steel stud frame - 1x13mm Wet Area Board™ to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max - engineer to design (min 20mm gap between I studs and C studs both sides)	245	51IS55 + min 64mm steel stud	59.8	-/90/90 WFRA 40970	39 61	— 50	Nil 90G16 or 100P14 both sides	1.0 5.2 or 4.4

- For explanation of System Reference notation refer Section B1 of Boral Selector+ Plasterboard Systems.
- For Limiting Heights of steel C Studs refer Section C of Boral Selector+ Plasterboard Systems.
- Insulation abbreviation: XXGYY = Glasswool insulation in format of thickness (mm), G (Glasswool), Density (kg/m³). XXPYY = Polyester insulation in format of thickness (mm), P (Polyester), Density (kg/m³).

» IntRwall® Systems

Table 3: **Wall Systems**

Assembly	System Reference	Nom Width (mm)	Stud Size (mm)	Pbd Weight (kg/m²)	Fire FRL Basis	Acoustic Ratings R_w	Acoustic Ratings R_w+C_{tr}	Acoustic Ratings Insulation	Total *R* Value (m²K/W)
	**25IWS13S13** - 1x25mm Shaftliner™ panels - 1x13mm Regular plasterboard to one side on separate steel stud frame - 1x13mm Regular plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 46mm gap between I studs and C studs both sides)	271	25IS55 + min 64mm steel stud	37.7	-/60/60 FCO-2256	37 61	— 50	Nil 90G16 or 100P14 both sides	0.9 5.7 or 5.0
	25IWS13AS13A - 1x25mm Shaftliner™ panels - 1x13mm ENVIRO Soundstop® plasterboard to one side on separate steel stud frame - 1x13mm ENVIRO Soundstop® plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 36mm gap between I studs and C studs both sides)	251	25IS55 + min 64mm steel stud	42.9	-/60/60 FCO-2256	39 62	— 50	Nil 90G16 or 100P14 both sides	0.9 5.6 or 4.7
	25IWS13WS13W - 1x25mm Shaftliner™ panels - 1x13mm Wet Area Board™ to one side on separate steel stud frame - 1x13mm Wet Area Board™ to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 36mm gap between I studs and C studs both sides)	251	25IS55 + min 64mm steel stud	39.3	-/60/60 FCO-2256	38 61	— 50	Nil 90G16 or 100P14 both sides	0.9 5.7 or 4.7
	25IWS20S20 - 1x25mm Shaftliner™ panels - 2x10mm Regular plasterboard to one side on separate steel stud frame - 2x10mm Regular plasterboard to other side on separate steel stud frame - I studs @ 600mm ctrs max - C studs @ 600mm ctrs max – engineer to design (min 26mm gap between I studs and C studs both sides)	245	25IS55 + min 64mm steel stud	47.7	-/60/60 FCO-2256	40 64	— 50	Nil 90G11 or 100P14 both sides	1.0 4.9 or 4.6

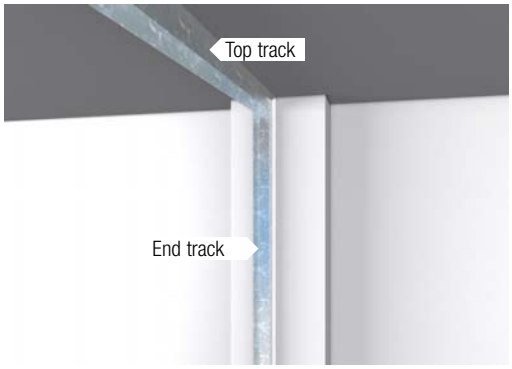
Note:

Systems shown on this page are not to be used for corridor walls. Penetrations in Shaftliner™ panels are not permitted.

Contact Boral Plasterboard for further information.

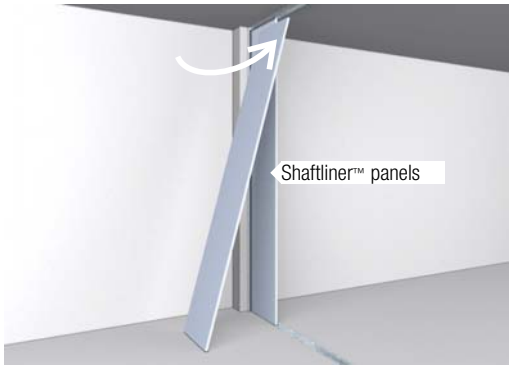
- For explanation of System Reference notation refer Section B1 of Boral Selector+ Plasterboard Systems.
- For Limiting Heights of steel C Studs refer Section C of Boral Selector+ Plasterboard Systems.
- Insulation abbreviation: XXGYY = Glasswool insulation in format of thickness (mm), G (Glasswool), Density (kg/m³). XXPYY = Polyester insulation in format of thickness (mm), P (Polyester), Density (kg/m³).

IntRwall® Recommended Installation Sequence



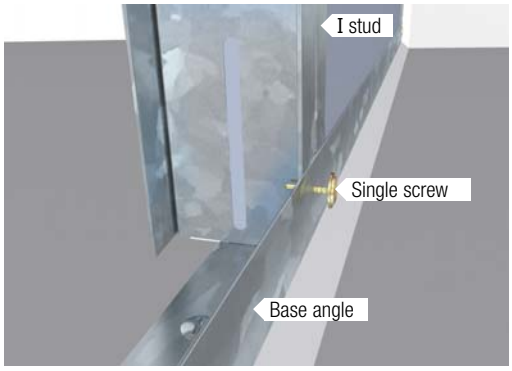
Step 1

- Install top and wall tracks and bottom angle.
- Seal junctions between angle, tracks and abutting surfaces with approved fire grade sealant.



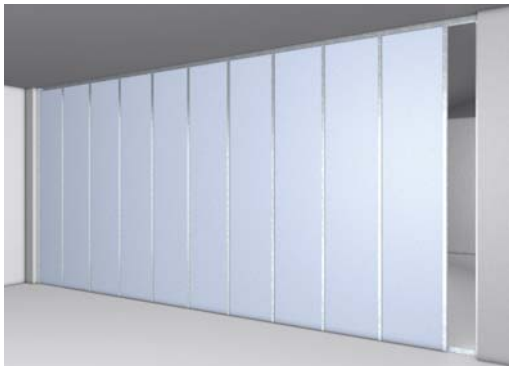
Step 2

- Fit the first Shaftliner™ panel into the top track. Slide it hard into the wall track
- Fit the second Shaftliner™ panel into the top track and wall tracks.



Step 3

- Fit the first I stud into the top track and slide it hard over the edges of installed Shaftliner™ panels.
- Screw fix the I stud into the bottom angle.

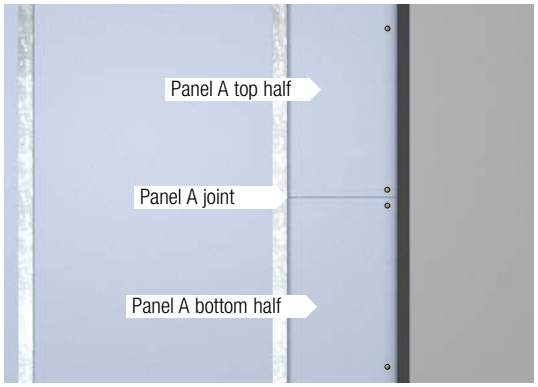


Step 4

- Repeat steps 2 and 3 of the sequence to install the rest of Shaftliner™ panels and I studs up to the last I stud.

Step 5

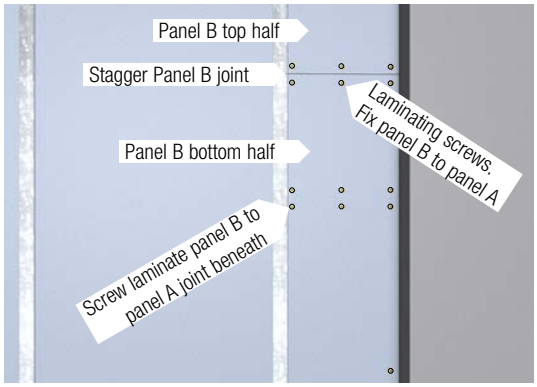
- Install wall angle in line with the bottom angle.
- Seal junction between angle and abutting surfaces with approved fire grade sealant.



Step 6

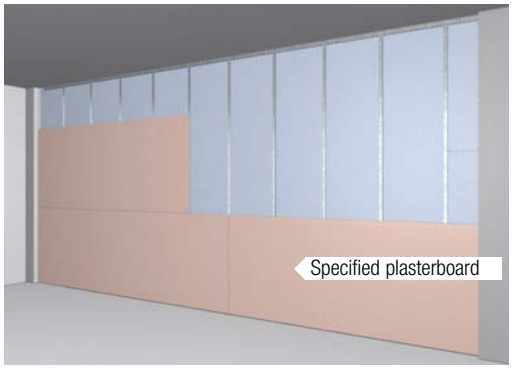
- Install end panels A (as shown on page 16).

» IntRwall® Recommended Installation Sequence



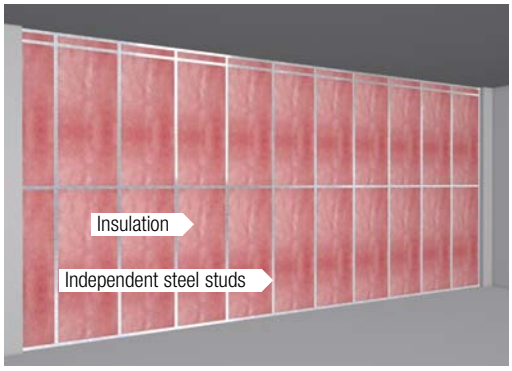
Step 7

- Install end panels B (as shown on page 16).



Step 8

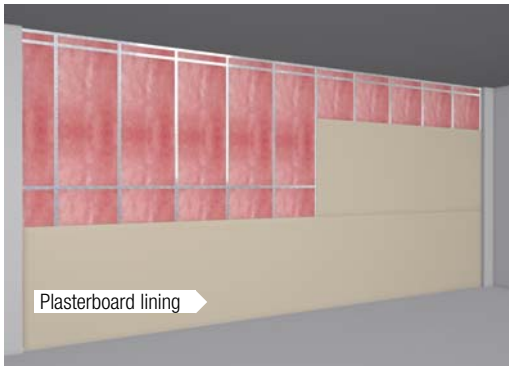
- Install plasterboard lining on one side of Shaftliner™ panels as specified (direct fixed to I studs, on furring channels or on free-standing steel frame).



Step 9

- Install free standing steel C stud frame on the other side leaving 20mm minimum gap to I studs.
- Fit acoustic insulation between steel C studs as required.

Note: *Independent stud framing installation refer to Boral standard details.*



Step 10

- Screw fix specified plasterboard to steel C studs (or furring channels)
- Seal gaps around the perimeter of specified plasterboard lining with approved acoustic sealant.

IntRwall® Installation Details

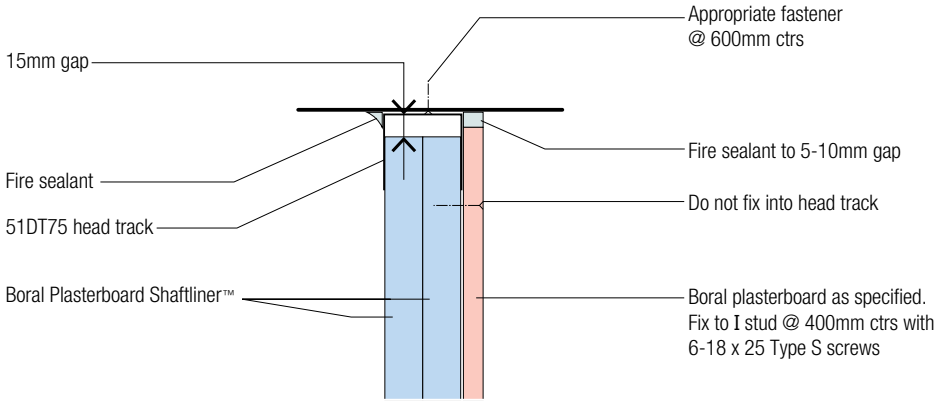


Figure 1: **Head Detail – FRL -/60/60**

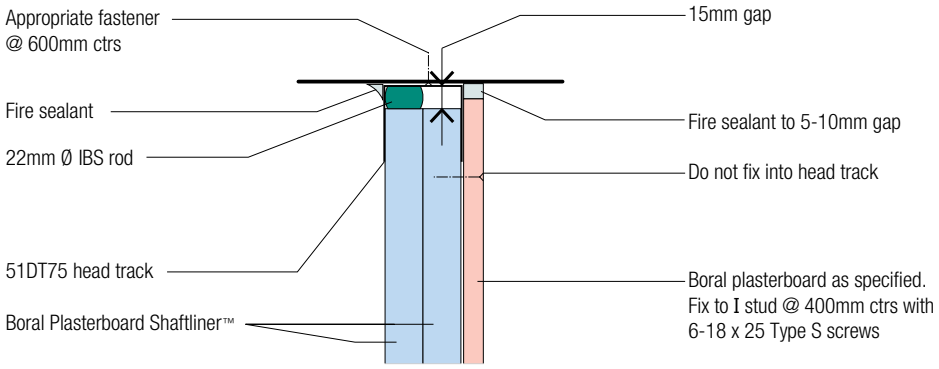


Figure 2: **Head Detail – Increasing FRL -/60/60 to -/90/90**

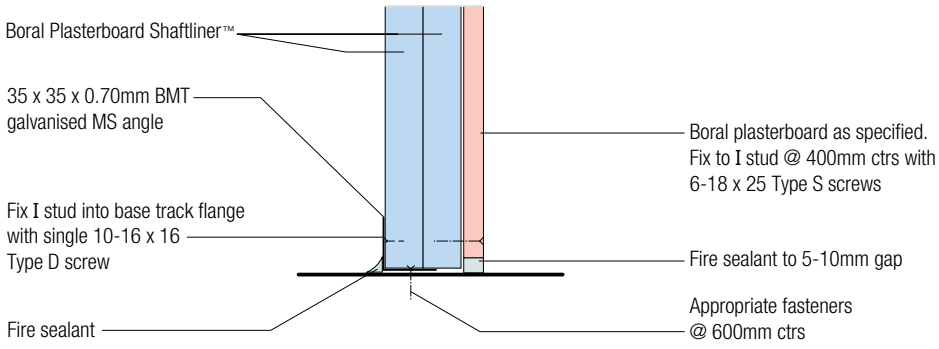


Figure 3: **Base Detail – Typical**

» IntRwall® Installation Details

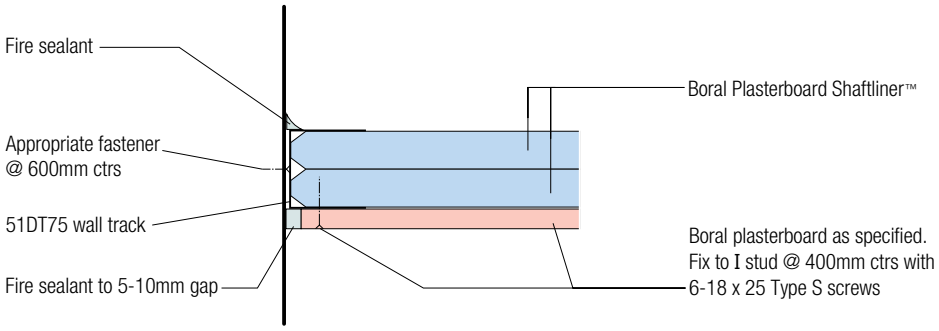


Figure 4: **Wall/Column Track Detail**

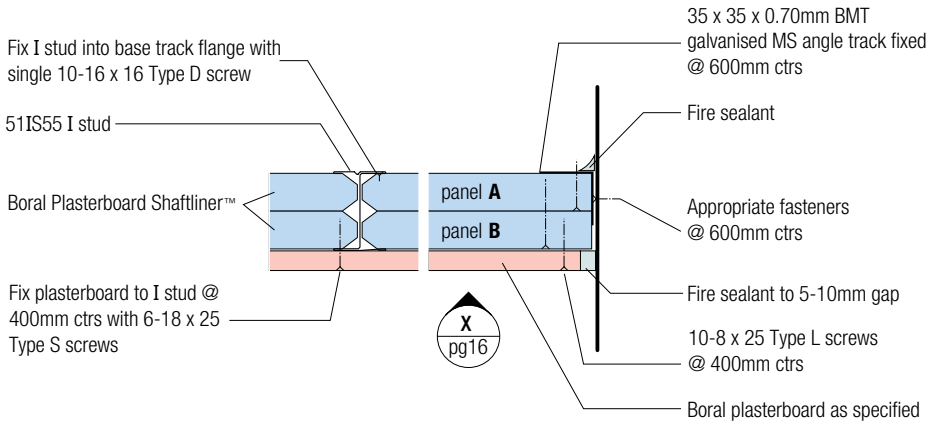


Figure 5: **End Panel to End Wall Track Detail**

» IntRwall® Installation Details

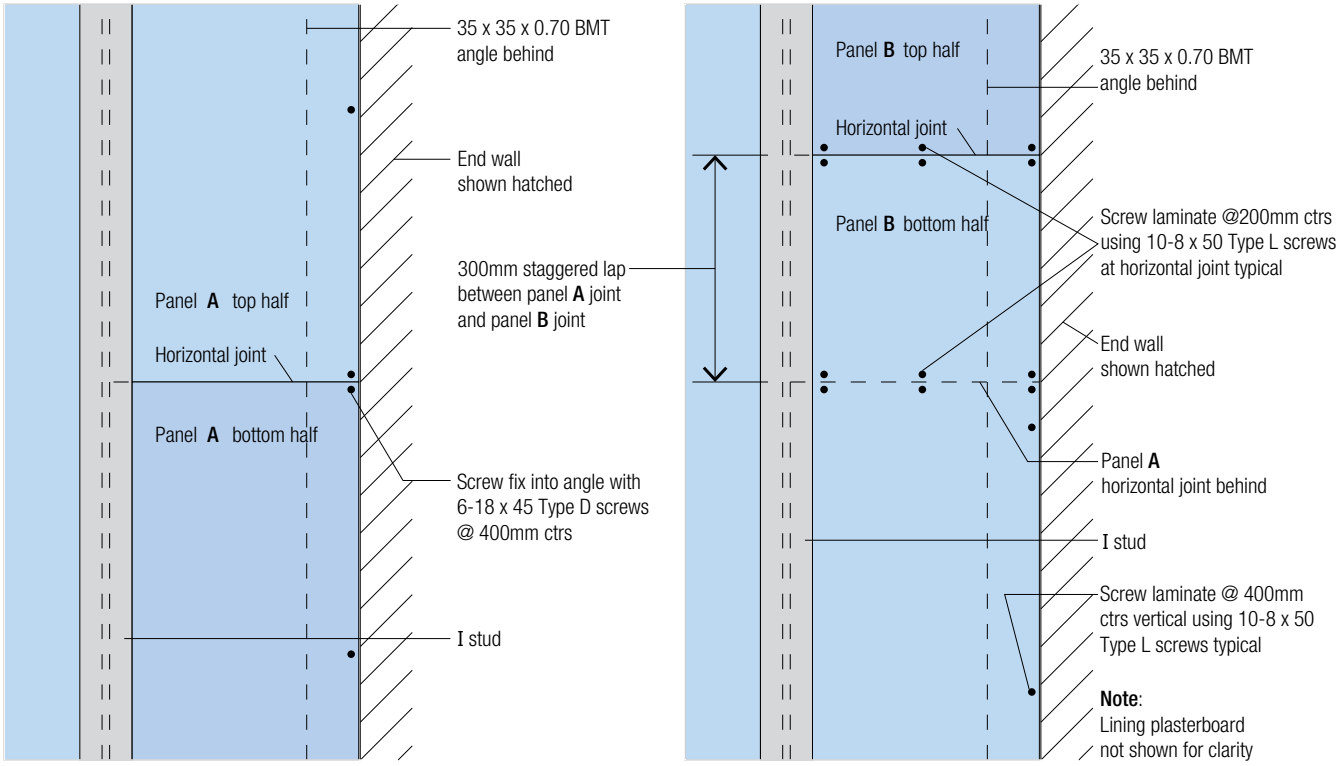


Figure 6: **Elevation at 'X'** (refer page 15)

Installation of End Panel

1. Cut Shaftliner™ panel A at mid-height and install bottom half, screw fix to wall angle with 6 - 18 x 45 Type D screws @ 400mm centres.
2. Install top half of panel **A** screw-fix to wall angle with 6-18 x 45 type D screws @ 400mm centres.

   Note: *Top half of panel to sit directly on bottom half panel.*
3. Cut panel **B** in two pieces. Ensure 300mm stagger with Panel **A** horizontal joint.
4. Install top half of panel **B** into top track and last I stud. Ensure to leave 15mm gap in top track.
5. Install bottom half of panel **B**. Ensure top half of panel sits directly on bottom half panel.
6. Screw laminate together all horizontal panel joints and vertical edges as indicated.
7. Install specified Boral plasterboard lining or, install furring channels as specified prior to lining wall. Fix to I studs @ 400mm ctrs typical.

» IntRwall® Installation Details

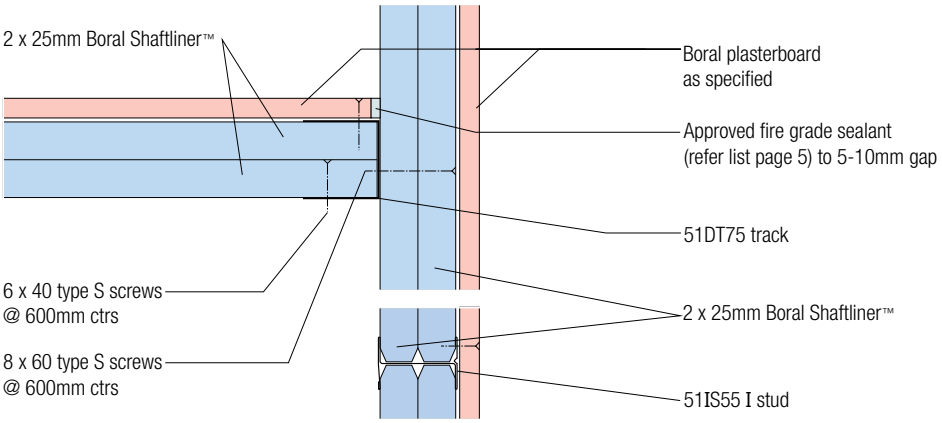


Figure 7: **Panel T-Junction Detail**

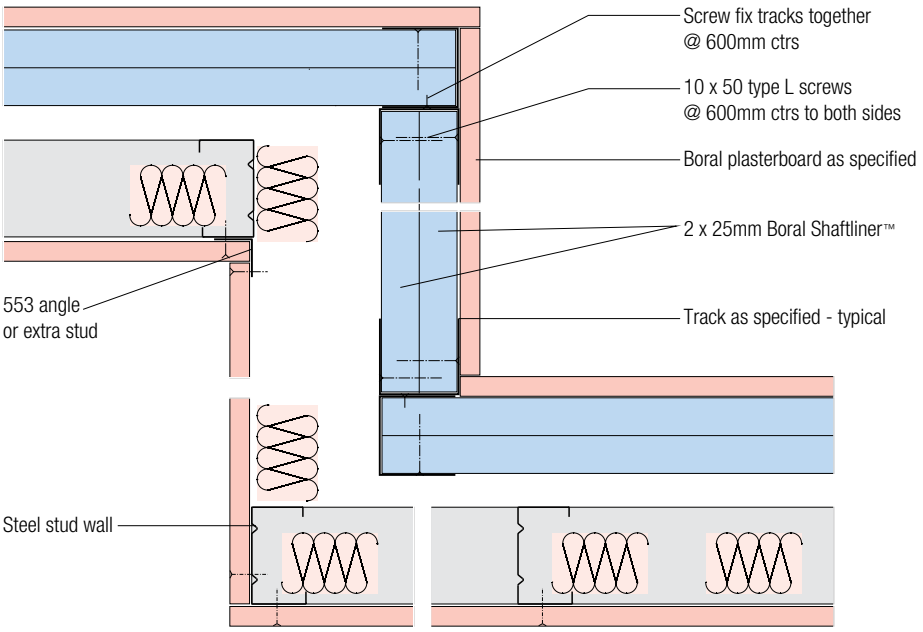


Figure 8: **Panel Change of Direction Detail**

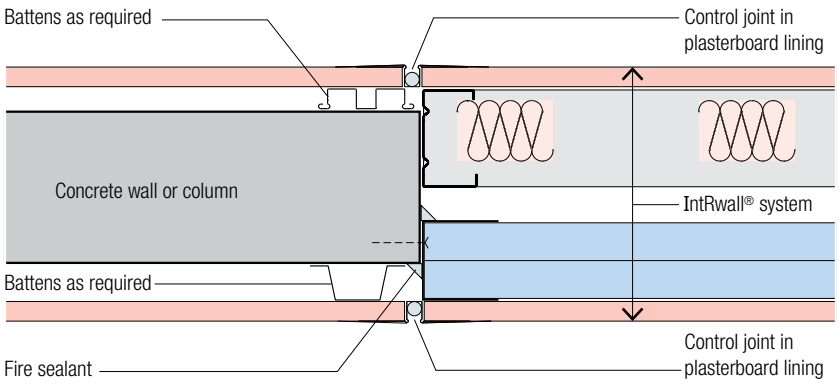


Figure 9: **IntRwall® to Wall/Column Detail**

» IntRwall® Installation Details

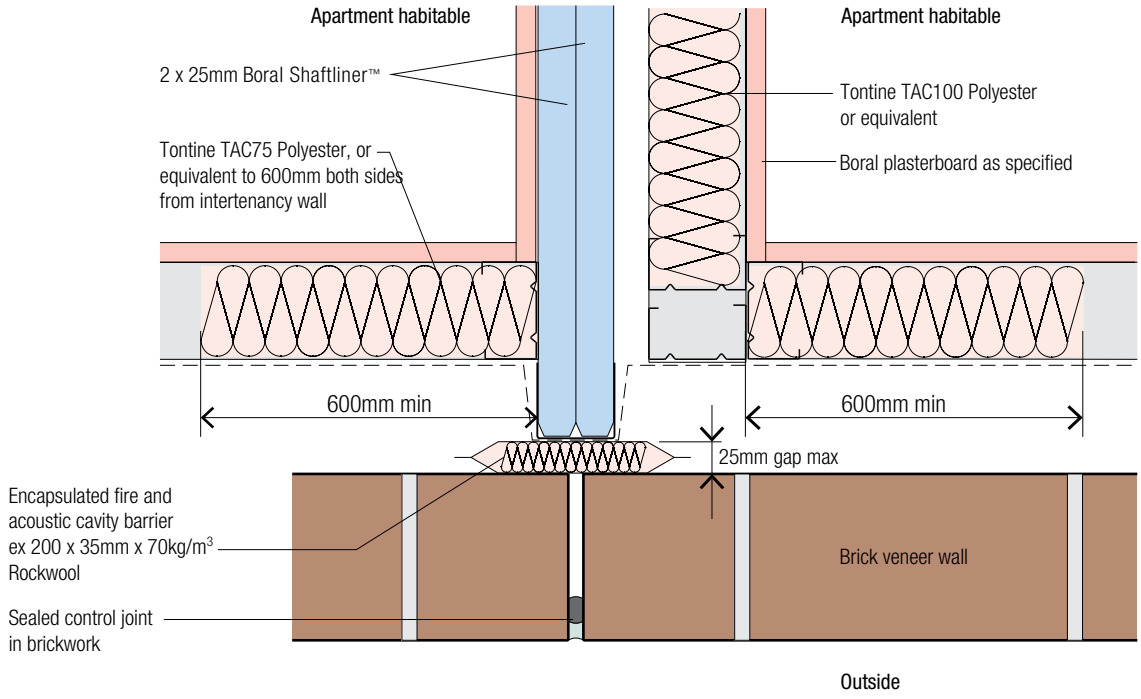


Figure 10: **Panel to External Wall Junction Detail**

- *Flanking due to adjacent penetrations in external walls may reduce the R_w of the wall unless special acoustic treatment is undertaken.*
- *UNO details and construction to be to standard Boral Plasterboard fire rated/non fire rated wall system details as appropriate.*

» IntRwall® Installation Details

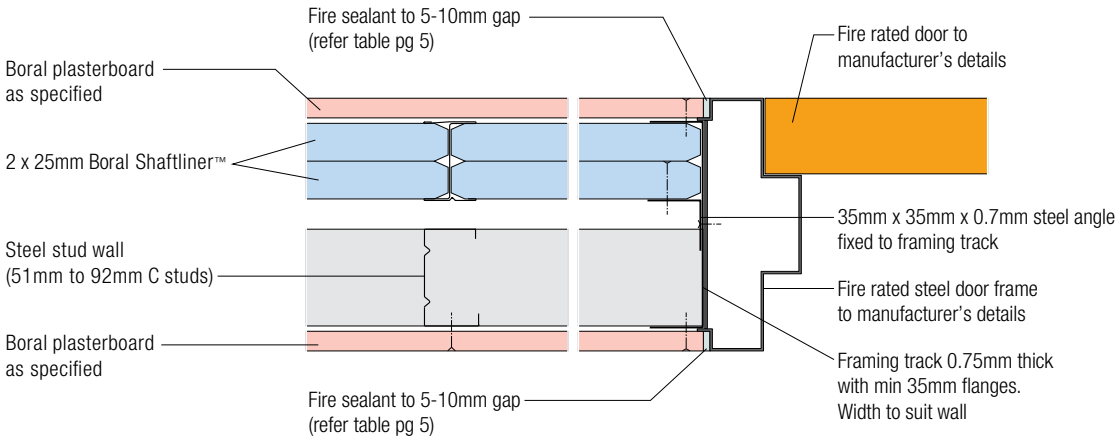


Figure 11: **Shaftliner™ Panels to Door Junction Detail 1**

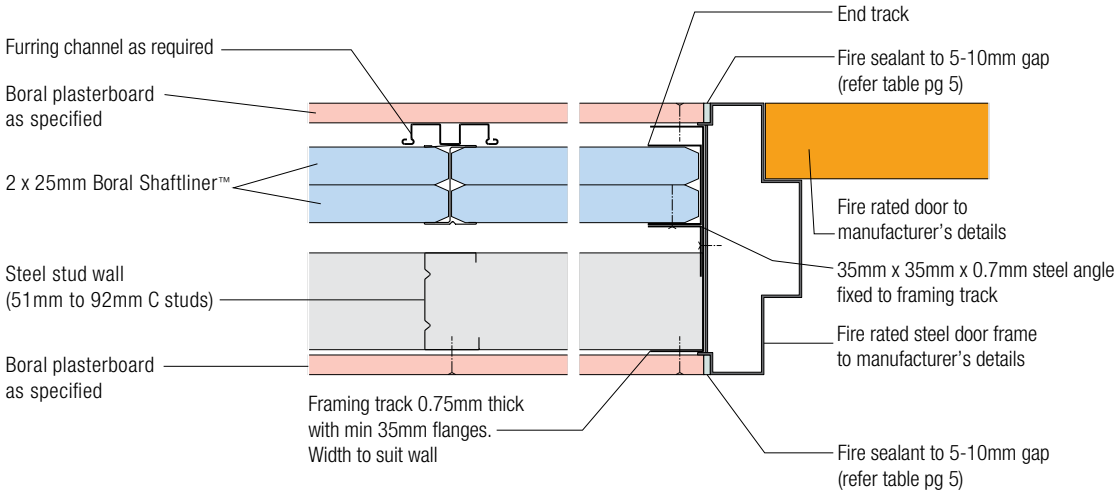


Figure 12: **Shaftliner™ Panels to Door Junction Detail 2**

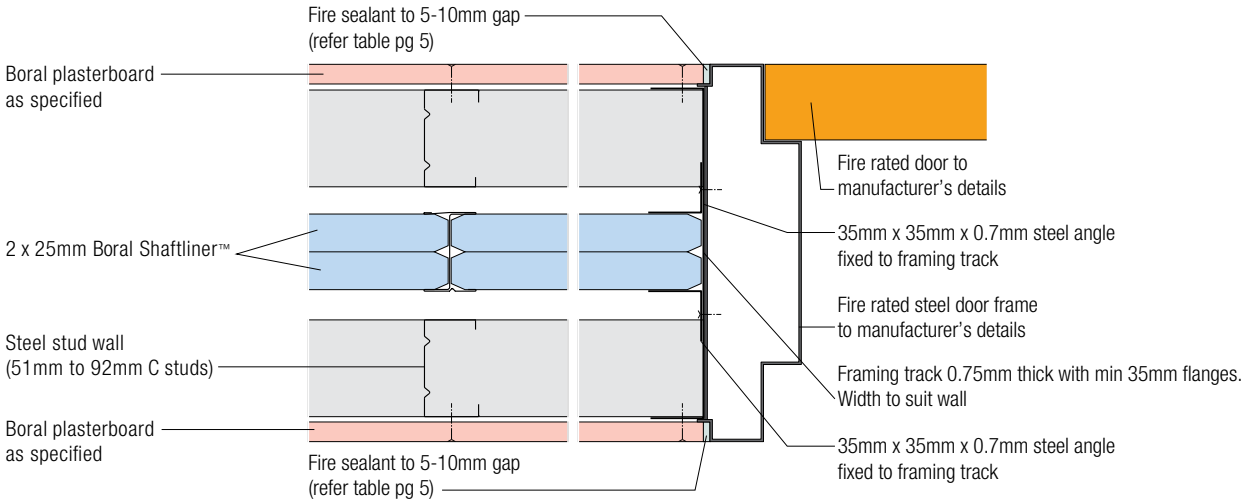


Figure 13: **Shaftliner™ Panels to Door Junction Detail 3**

» IntRwall® Installation Details

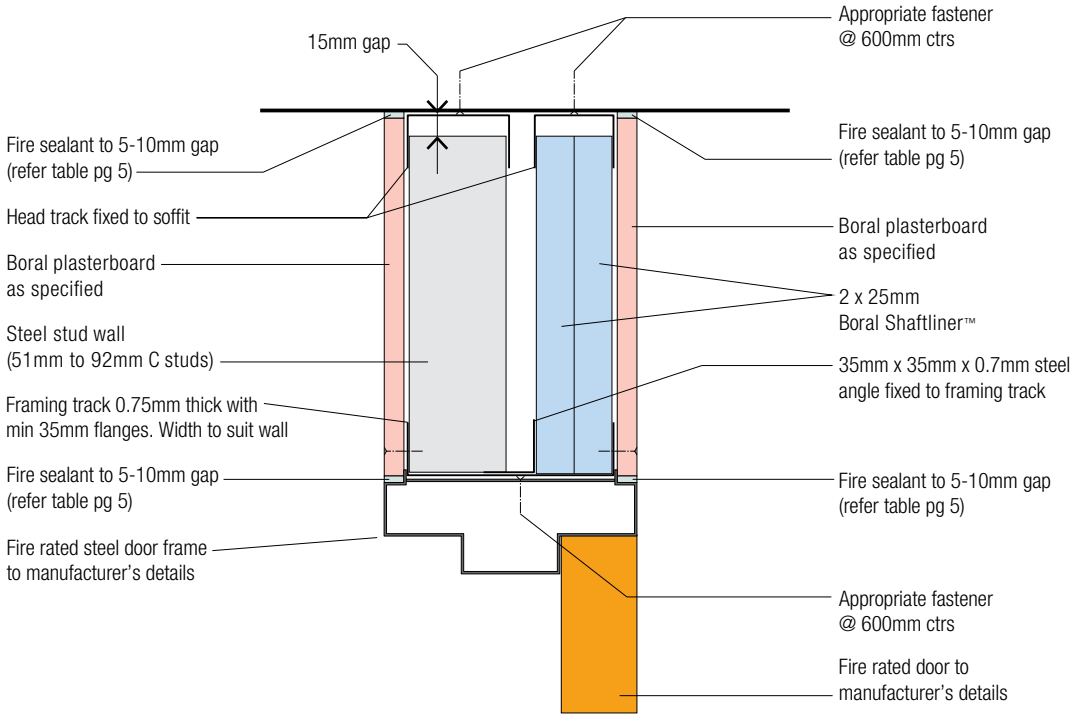


Figure 14: **Typical Door Head Detail**

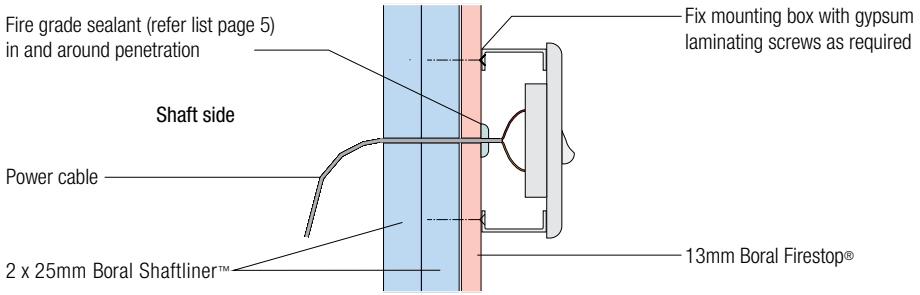


Figure 15: **Non Fire Rated GPO Detail**

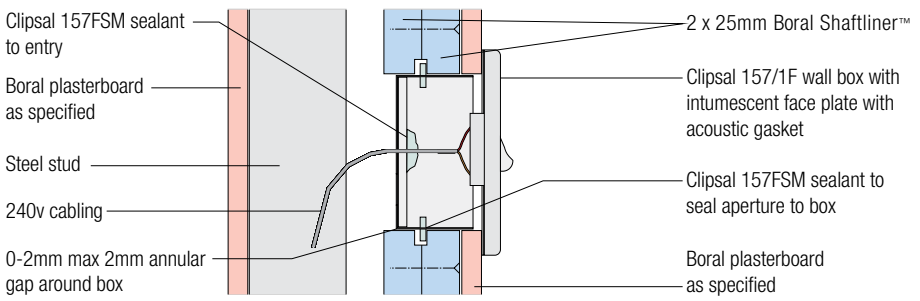


Figure 16: **Fire Rated GPO Detail**

» IntRwall® Installation Details

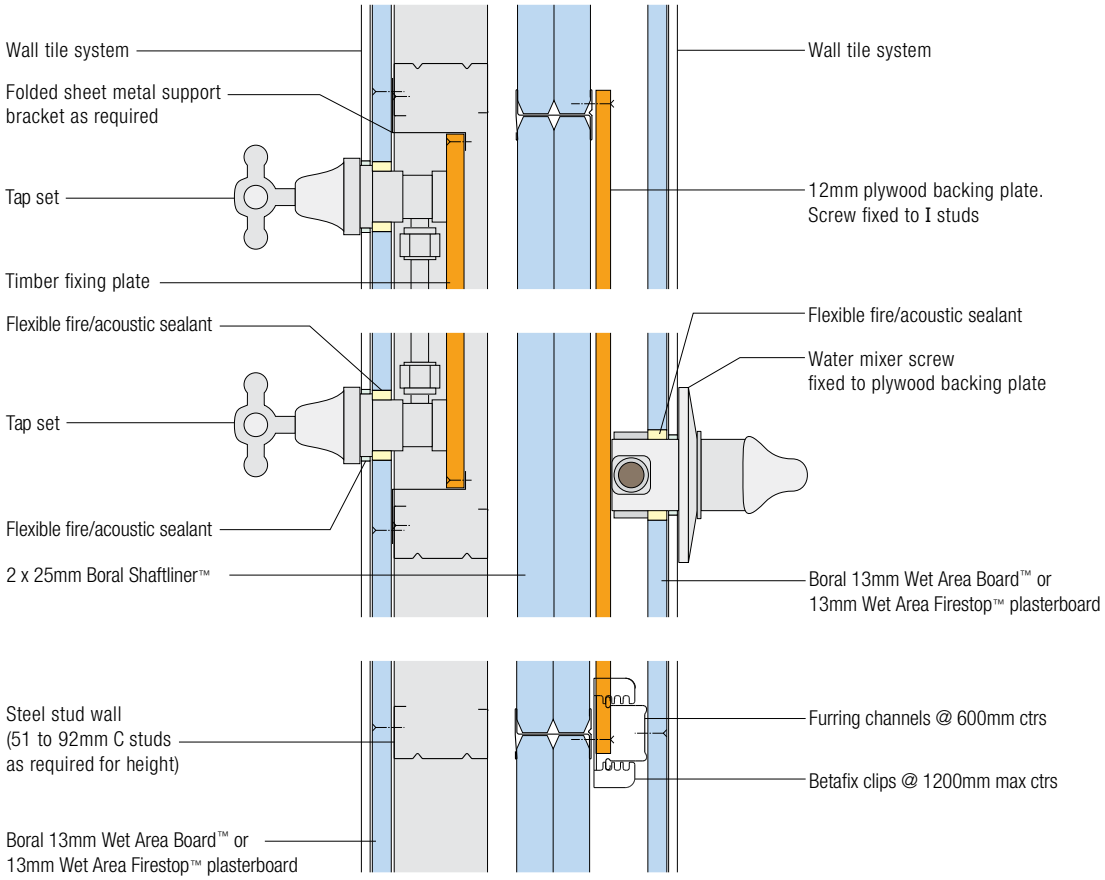


Figure 17: **Plumbing Details – FRL -/60/60**

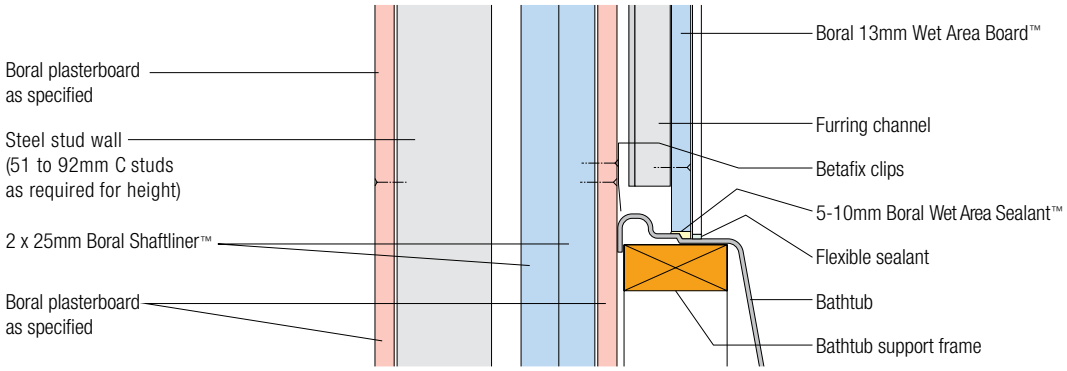


Figure 18: **Bathtub Detail**

Note: *Refer IntRwall® Systems on page 9 for plasterboard linings type to achieve required fire and acoustic performance.*

» IntRwall® Installation Details

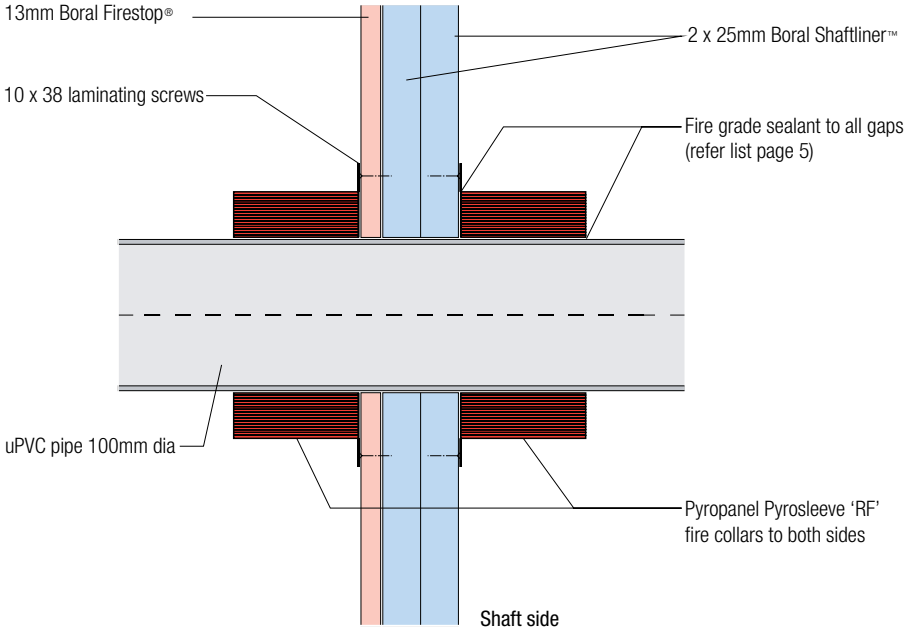


Figure 19: **Up to 100mm Dia uPVC Pipe Penetration Through Panel FRL -/120/90**

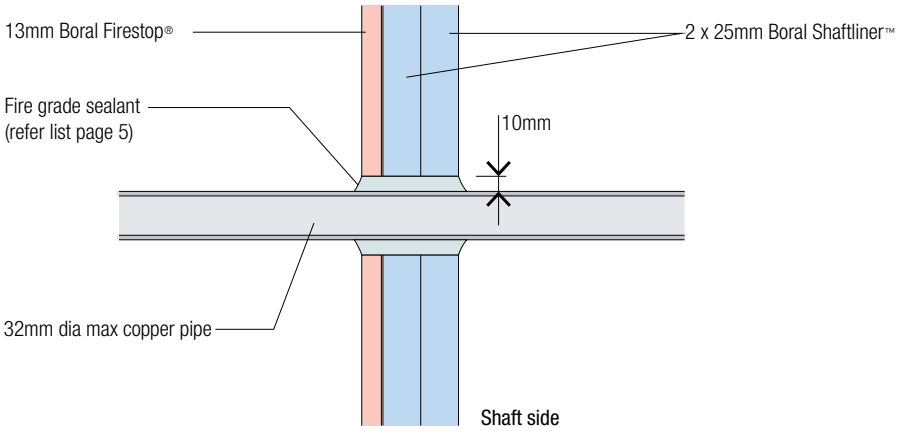


Figure 20: **Up to 32mm Dia Copper Pipe Penetration Through Panel FRL -/120/-**

» IntRwall® Installation Details

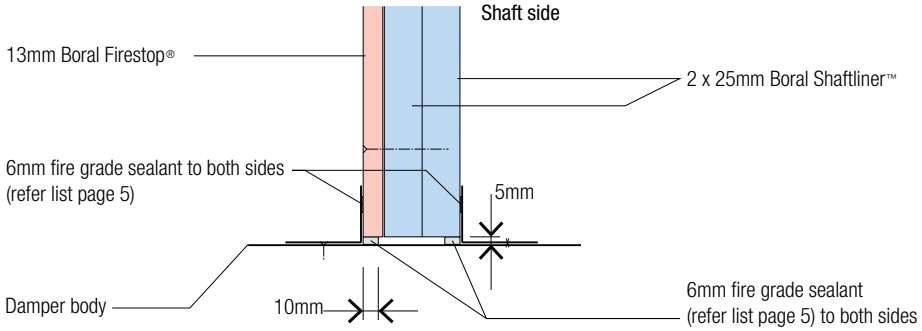


Figure 21: **Damper Penetration – Above FRL -/120/-**

- *Where required, width of Shaftliner™ panels adjacent to penetrated panel to be reduced to allow placement of damper.*
- *I studs not to be cut.*

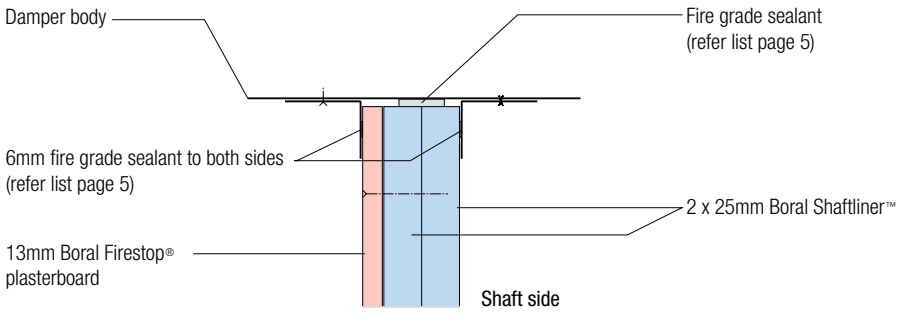


Figure 22: **Damper Penetration – Below FRL -/120/-**

- *Where required, width of Shaftliner™ panels adjacent to penetrated panel to be reduced to allow placement of damper.*
- *I studs not to be cut.*

Sustainability

Boral Plasterboard aims to minimise the environmental impact of its operations and to make a positive difference to the environment and communities in which it operates. Plasterboard is manufactured from abundant natural gypsum resources and 100% recycled paper liner.

Plasterboard waste can be recycled back into new plasterboard or used as a soil conditioner. Please contact Boral Plasterboard regarding waste collection services available in your region.

Health and Safety

For information regarding the safe use of Boral Plasterboard products and accessories please refer to instructions on the product packaging or contact your local Boral Plasterboard Sales Office or TecASSIST® for a current copy of the Material Safety Data Sheet.

Technical Enquiries 1800 811 222

TecASSIST® provides technical advice to builders, architects, contractors, engineers, regulators and home owners throughout Australia.

Our friendly team can offer both practical and design input at all levels of the plasterboard industry. Get your next project off on the right track by contacting TecASSIST® weekdays 8.30am - 4.30pm AEST on 1800 811 222 or www.boral.com.au/tecassist.

Sales Enquiries 1800 003 377

ACT	7 Barrier Street, Fyshwick 2609	F: (02) 6280 5816
New South Wales	3 Thackeray Street, Camellia 2142	F: (02) 9638 5557
Northern Territory	Coonawarra Road, Winnellie 0820	F: (08) 8984 3778
Queensland	22 Kirra Street, Pinkenba 4008	F: (07) 3115 7321
South Australia	39 Burleigh Avenue, Woodville North 5012	F: (08) 7002 6381
Tasmania	93 Albert Road, Moonah 7009	F: (03) 6278 9865
Victoria	251 Salmon Street, Port Melbourne 3207	F: (03) 9214 2192
Western Australia	41 Rudderham Drive, North Fremantle 6159	F: (08) 6226 9833
Export Department	251 Salmon Street, Port Melbourne 3207	F: (03) 9214 2192
		T: (03) 9214 2121
		E: tecexport@boral.com.au

www.boral.com.au/intrwall