APRIL 2016
TECHNICAL BROCHURE

GTEK™

PREMIUM GYPSUM TECHNOLOGY

GTEK™ **WET AREA**
GTEK™ **FIRE & WET AREA**

gtekplasterboard.com.au

WET AREA SOLUTIONS

WHY GTEK™?

WITH OUR ALL-AUSTRALIAN GTEK™ RANGE OF INTERIOR LINING PRODUCTS, YOU BENEFIT FROM SUSTAINABLE, QUALITY-TESTED TECHNOLOGY, FULL BGC INTERIOR LINING SYSTEMS COMPATIBILITY AND OUR CLASS-LEADING SERVICE NETWORK.

- **TECHNOLOGY /** Light, modular GTEK™ technology eases installation for seamless results
- **SUSTAINABILITY / GECA certified:** sustainable manufacture means higher Green Star ratings for your building
- **AUSTRALIAN MADE / All-Australian:** closest available links between local manufacture and supply
- **SERVICE /** Vast distribution network assures best-in-class service delivery
- **QUALITY /** Independent testing accords with Australia's toughest build-quality accreditations
- **SYSTEMS /** Full compatibility with extensive BGC interior lining systems range

CONTENTS

GTEK™ WET AREA

GTEK™ Wet Area has been designed and developed for wet area walls in residential and commercial buildings. Suitable for bathrooms, laundries, toilets, cleaning room areas and exterior ceilings such as alfresco areas.

BGC-2014
GECA 04-2011 v2
Panel Boards

GTEK™ Wet Area has a low absorption core that eliminates the probability of water wicking, therefore preventing possible damage to the supporting structure and wall finishes.

What's good about GTEK™ Wet Area:

- Specifically designed for wet areas
- Has a low absorption core
- Light blue face for ease of identification
- Quick and simple to install
- Can be used for exterior ceilings

PRODUCT INFORMATION

GTEK™ Wet Area complies with the requirements of AS2588 'Gypsum Plasterboard'(refer CSIRO Test Report DTS 713).

BGC Plasterboard designed and developed GTEK™ Wet Area for wet area walls in residential and commercial buildings, such as bathrooms, laundries, toilets and cleaning room areas.

GTEK™ Wet Area is to be installed in accordance with AS 2589 "Gypsum Plaster Linings in Residential and Light Commercial Construction - Application and Finishes" and as detailed in AS 3740 "Waterproofing of Wet Areas within Residential Buildings".

GTEK™ Wet Area has a light-blue fungal resistant multi-layered facing board for easy identification. It is available in 10mm and 13mm thicknesses with recessed edges, ready for taping and jointing with proprietary water resistant stopping and setting compounds.

GTEK™ Wet Area has a low absorption core, eliminates the probability of water wicking, therefore preventing possible damage to the supporting structure and wall finishes.

FINISH SELECTION

The selection of plasterboard finish in wet areas depends on the desired tiled surfaces and other wall decorations required. Generally, use Level 4 finishes in wet areas, as detailed in AS 2589.

Where tiles are used, the finish can be of a lower standard and where other decoration is required, the standard is higher. BGC Plasterboard recommends the architect's specifications for the level of finish required.

EARLY FIRE HAZARD INDICES

GTEK™ Wet Area complies with AS 1530.3

- Ignitability Index - 0
- Spread of Flame Index - 0
- Heat Evolved Index - 0
- Smoke Developed Index - 4

FIRE RESISTANCE

Plasterboard is naturally fire resistant and is classified as non-combustible according to the Building Code of Australia (BCA) Section C1.12.

DIMENSIONAL STABILITY

Plasterboard is dimensionally stable when compared to other building materials. Two measures of dimensional stability are:

- Thermal coefficient of linear expansion (a) = 16.7 x 10-6 /°C, measured unrestrained over the temperature range of 3°C - 32°C
- Hygrometric coefficient of expansion 6.5 x 10-6 /%RH, measured unrestrained over the Relative Humidity (RH) range of 10% - 90%

THERMAL PROPERTIES

The R value of plasterboard is a measure of its thermal insulation ability. Higher numbers indicate a better insulator. The 'R' values for plasterboard are:

10mm plasterboard = 0.05Km2/W
13mm plasterboard = 0.05Km2/W
16mm plasterboard = 0.06Km2/W

TABLE 1 – SHEET SIZES

THICKNESS (mm)	WEIGHT (kg/m²)	WIDTH (mm)	SHEET LENGTH (mm)					
			2400	2700	3000	3600	4200	4800
10	7.2	1200	✓	✓	✓	✓	✓	✓
		1350	✓		✓	✓	✓	✓
13	8.8	1200	✓	✓	✓	✓	✓	
		1350			✓	✓	✓	

HANDLING & STORAGE

GTEK™ Wet Area should be stacked flat, up off the ground and supported on level, equally spaced (max 450mm) gluts.

Care should be taken to ensure edges of the Water Resistant Plasterboard are not damaged when handling.

GTEK™ Wet Area should be delivered to site immediately prior to installation to reduce the risk of damage.

INSTALLATION

Install and fix GTEK™ Wet Area sheets horizontally to minimise the number of joints and to minimise light reflections across the joints.

Cut the GTEK™ Wet Area from the face and snap back away from the score, then cut the back paper face toward the front face.

Use a straight edge for neat straight cuts.

FRAMING

Install and fix GTEK™ Wet Area to timber or Cold Formed Steel (CFS) framing or furring channels, which satisfy the BCA requirements and which have been plumbed true and straight.

NOTE:
Timber shall be kiln dried with a moisture content below 16%.

Prior to installing and fixing GTEK™ Wet Area, ensure that the preceding trades have certified, that -

- Structural movement will not occur (or is minimised) at wall-to-wall and floor-to-wall junctions.
- All noggings, trims and the like, are correctly installed and fixed for the bath, basins and other fixtures (Noggings are spaced at 600mm maximum centres for 10mm plasterboard and 800mm maximum centres for 13mm plasterboard).
- All perimeters, corner and control joint flashings are in place and correctly installed.

FIXING

Fix GTEK™ Wet Area sheets horizontally to wall framing and/or metal framing, with the bottom sheets first, at 6-10mm clear of the finished floor.

Set out sheets around all wall openings, with cutouts 200mm horizontally and 250mm vertically, to prevent corner cracking.

For untiled walls space fasteners at 150mm maximum centres on internal and external corners. See Figure 1.

Press sheets firmly against the frame and fasten along one recessed edge at each framing member.

For all wet areas fasten sheets with corrosion resistant Class 3, or better screws, which comply with AS 3566:

For timber-framing plasterboard nails must comply with AS 2334 Steel Nails - Metric series and have a minimum Class 3 or better corrosion resistance.

BGC Plasterboard recommends the use of screw fasteners instead of nails.

TABLE 2-MINIMUM SCREW FASTENER LENGTH AND TYPE

SHEET THICKNESS (mm)	CFS STEEL UP TO 0.55 BMT	CFS STEEL 0.75 TO 1.1 BMT	TIMBER
10	6-9 x 25 NP	6-18 x 25 SDP	25 Type W
13	6-9 x 30 NP	6-18 x 30 SDP	25 Type W

NOTE: When fixing into preservative treated timbers, Class 3 AS 3566.2-2002 coatings of screws and nails are to be used.

TILED AREAS:
Fixings must be mechanical (screws/nails only).

NON-TILED AREAS:
Fixings can be a combination of mechanical (screws/nails) and glue.

TABLE 3 - NON-TILED AREA FIXING

SHEET WIDTH (mm)	WALL	INTERNAL CEILINGS	GARAGE CEILINGS*	EXTERIOR CEILINGS*
Fasteners and Adhesive				
1200	XOOOOX	XOOXXOOX or XOXOXOX	XOXOXOX or XXXXX	XXXXX
1350	XOOOOOX	XOOXXOOX or XOXOXOX	XOXOXOX or XXXXX	XXXXXX
Fasteners only				
1200	XXXX	XXXXX	XXXXX	XXXXX
1350	XXXXX	XXXXXX	XXXXX	XXXXXX

* 13mm GTEK™ Wet Area only to be used

FIGURE 1 – SHEET SET OUT UNTILED AREAS

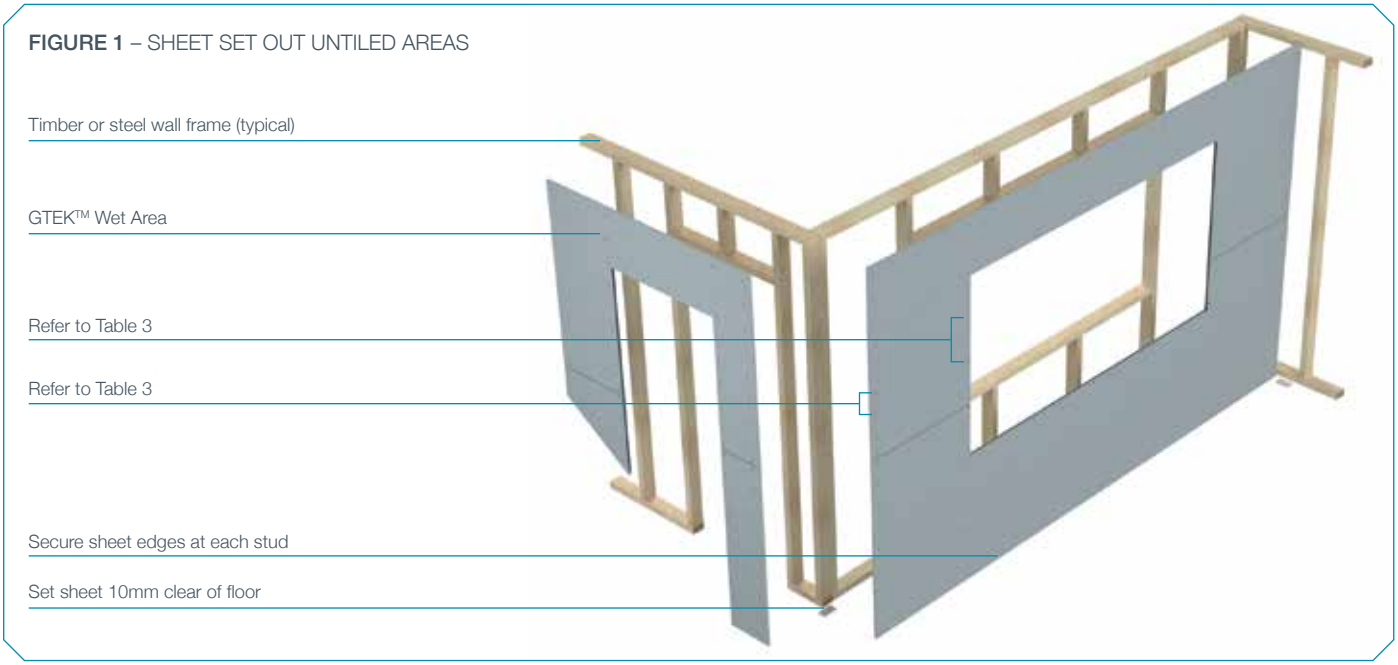


TABLE 4 – FASTENER SPACING IN TILED AREAS

WALL TILE WEIGHT (INCL. TILE ADHESIVE)	MAX. FASTENER SPACING	
	Intermediate Studs	Sheet Ends
No greater than 12kg/m²	200mm	150mm
Greater than 12kg/m² up to 32kg/m²	100mm	100mm

TILED WALLS

Position fasteners between 10mm and 16mm from the edge of the sheets at the correct spacing to carry the loads of the tiles.

For walls with tiles 6.5mm thick or 12.5 kg/m² or less, space fasteners at 200mm maximum centres on the intermediate studs and at 150mm on internal and external corners, butt joints and around openings.

Where tiles are greater than 6.5mm thick and/or up to 32 kg/m², space all fasteners at 100mm maximum centres in the centre of sheets, on internal and external corners, butt joints and around openings.

BGC Plasterboard recommends waterproof membrane be used in wet areas 150mm around bath and 150mm above vanity as shown in figures 13, 14 and 15.

Tile adhesive should be compatible with the waterproofing membrane.

PRE-FORMED SHOWER BASE AND EXTERNAL SHOWER TRAY

Preliminary work and detail fixing out is similar for external shower trays and preformed shower bases, as shown in Figure 2.

Install and fix perimeter-flashing angles, at the wall/ floor junction and pre-formed shower bases or external shower trays, prior to fixing GTEK™ Wet Area.

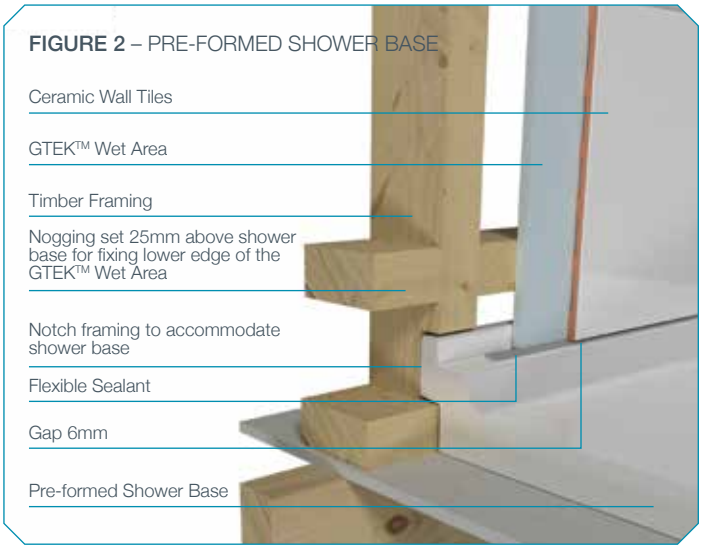
Cut and install PVC corner angle, down inside the pre-formed shower base; Figure 9 and fasten to framing at 600mm centres, in a staggered pattern.

Seal the lower edge of GTEK™ Wet Area sheets, whether cut or not, with a proprietary wet-area acrylic sealant or silicone to prevent potential moisture wicking.

Install and fix sheets to the wall framing 6mm clear of the shower tray up-stand; See Figure 2 and of the mortar bed in the external shower tray.

Caulk the bottom edge of the sheets and the shower base or the mortar bed and around plumbing fixtures with a flexible sealant. See Figures 2 & 3.

FIGURE 2 – PRE-FORMED SHOWER BASE



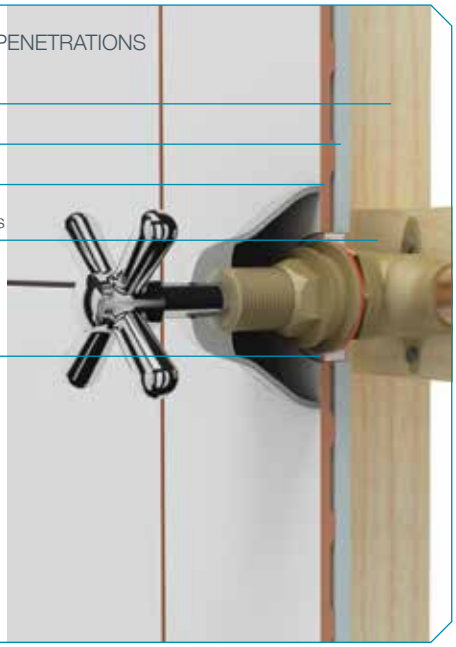
PENETRATIONS

GTEK™ Wet Area must be cut out to leave a 6mm gap all round the fixture. This gap must be filled with a mould resistant flexible sealant.

BGC recommends using a hole saw to make a neat cut out for fittings such as taps, shower roses etc. Do not use a hammer.

Additional framing must be installed as required to properly support all fixtures.

FIGURE 3 – SEALING PENETRATIONS



INSITU SHOWER TRAY

Install and fix perimeter-flashing angles, at the wall/floorjunction.

Cut and install PVC corner angle and fasten to framing at 600mm centres, in a staggered pattern.

Seal the lower edge of water resistant plasterboard sheets, whether cut or not, with a proprietary wet-area acrylic sealant to prevent potential moisture wicking.

Install and fix sheets to the wall framing, as outlined previously, 6mm clear off the floor.

Form a bond-breaker with closed-cell foam backing rod and masking tape at the bottom edge of the plasterboard at wall/floor junction, as shown in Figure 4.

Caulk around plumbing penetrations.

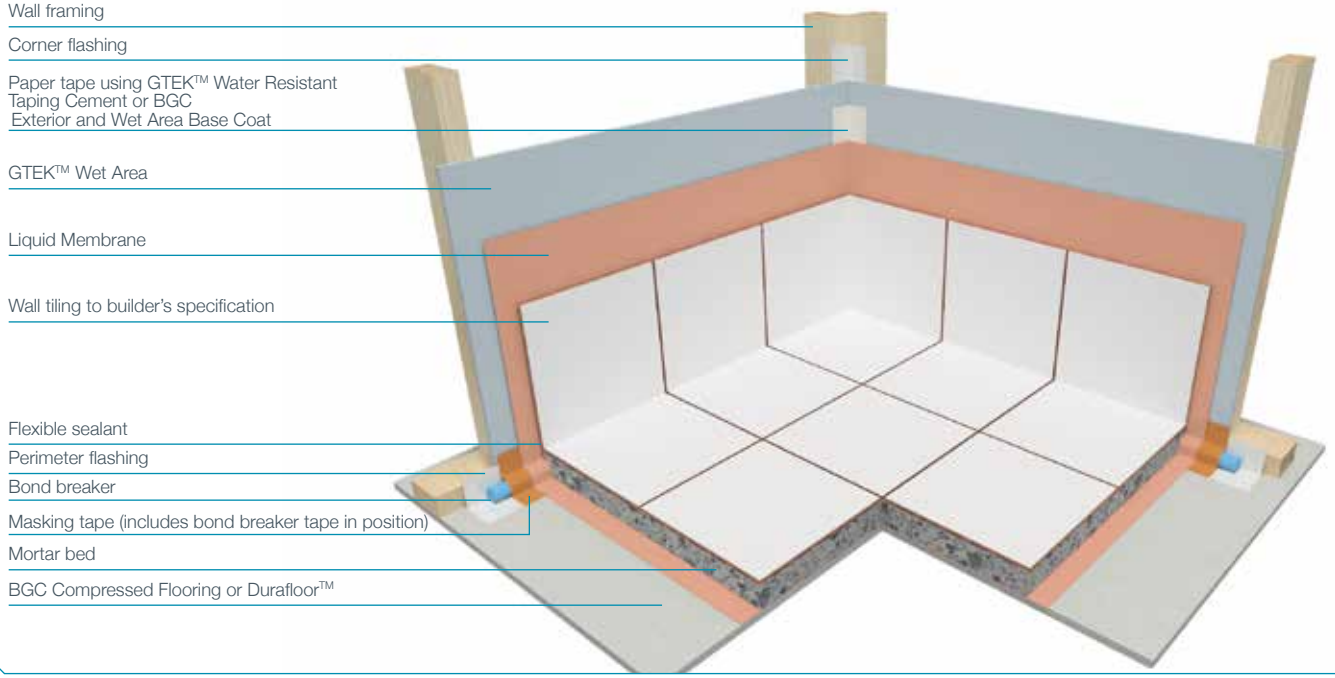
Apply a proprietary liquid membrane material to the face of the plasterboard and floor to form an insitu internal shower tray.

Follow the membrane manufacturer's instructions.

Apply the membrane to the entire shower area to a minimum height of 1800mm from the finished floor surface. The liquid membrane is to extend 75mm minimum each side of the corner to a minimum of 50mm above shower rose.

Note: Use only insitu membrane materials appraised and approved by recognised authorities.

FIGURE 4 – INSITU SHOWER BASE



SHOWER OVER BATH

Preliminary work and fixing out detail is similar for pre-formed shower bases and in part the insitu tray details, see Figure 5.

Cut and install PVC corner angle, down inside the bath up-stand flange and fasten to framing at 600mm centres, in a staggerd pattern, see Figure 6.

Seal the lower edge of water resistant plasterboard sheets, whether cut or not, with a proprietary wet-area acrylic sealant, to prevent potential moisture wicking.

Install and fix sheets to the wall framing, as outlined previously 6mm clear off the bath up-stand.

Caulk the bottom edge of the sheets and the bath edge around plumbing fixtures with a mould resistant flexible sealant.

Apply a proprietary branded liquid membrane 150mm above the bath edge and wall surround, to a minimum height of 1800mm to the entire area above the finished floor level and 75mm each side of the corner to a minimum of 50mm above shower rose, see Figure 5 & 6.

FIGURE 5 – SHOWER OVER BATH

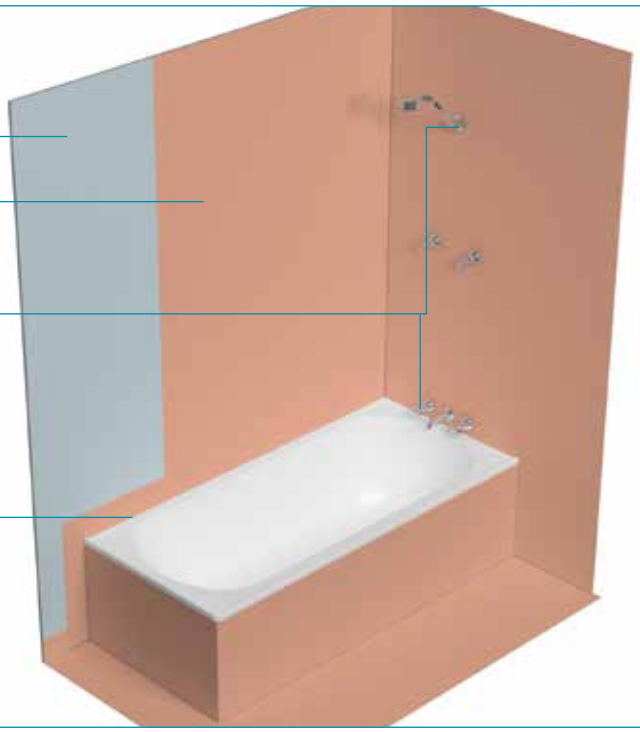
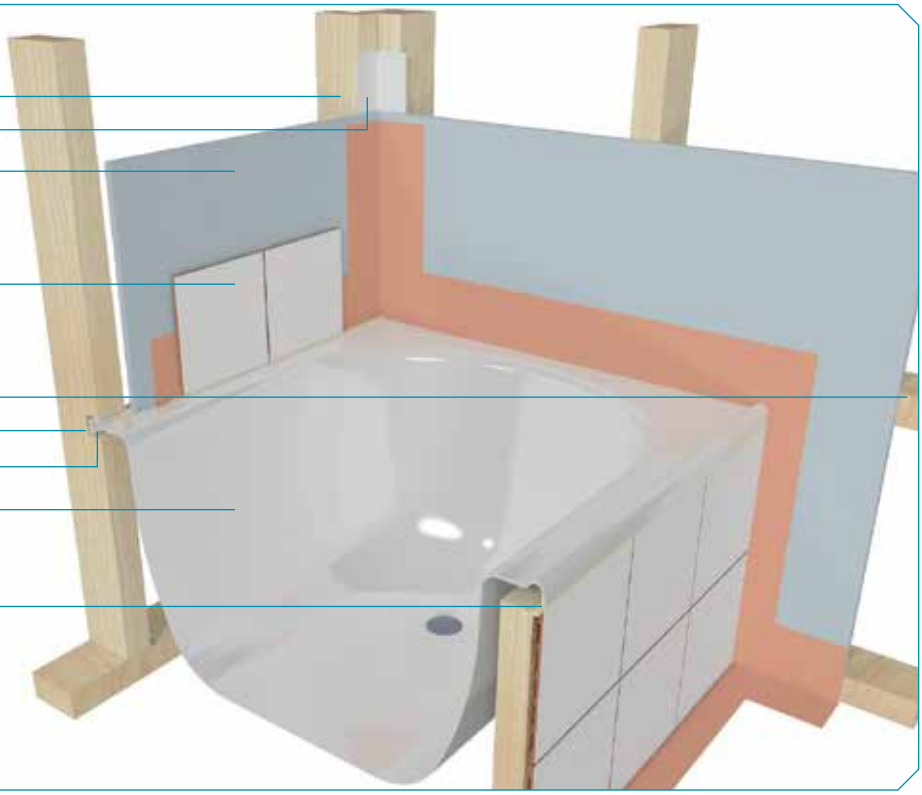


FIGURE 6 – BATH WITHOUT SHOWER



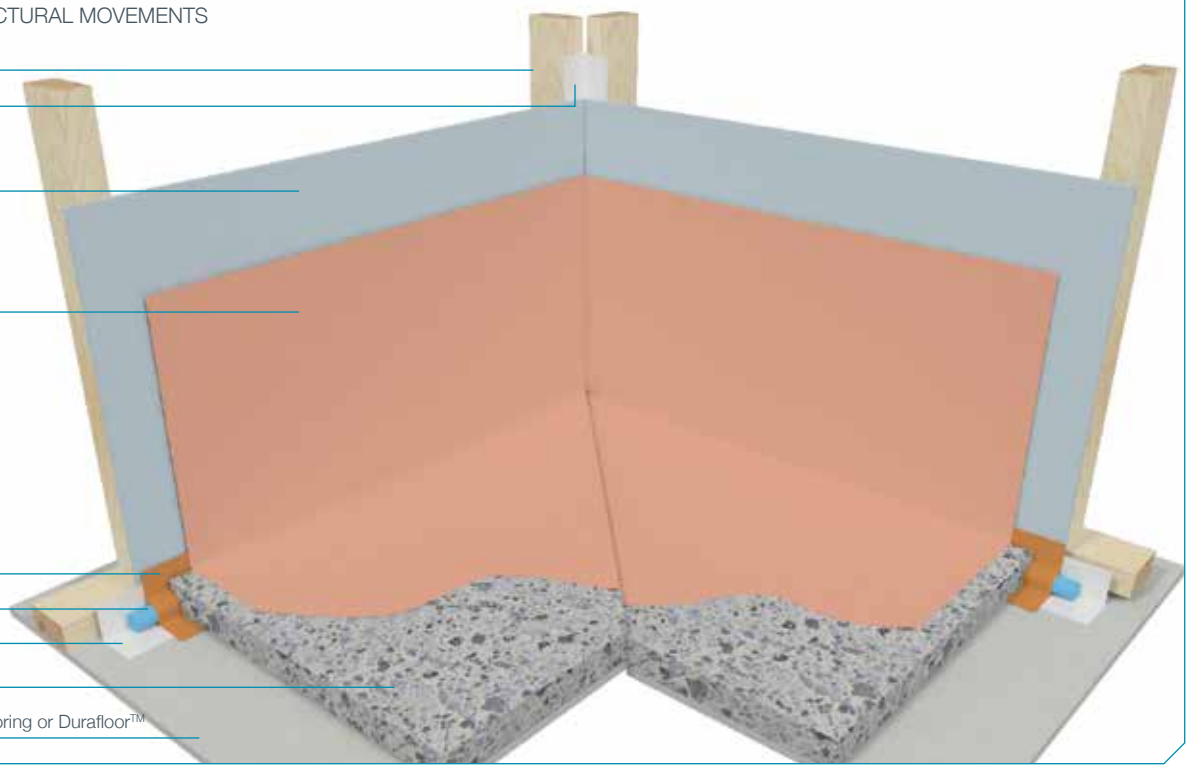
STRUCTURAL MOVEMENTS

Buildings and their component parts move over time due to various factors which may lead to building and or system failures if design, materials and/or installation are not satisfactory.

To minimise the risk of system failure take care when designing, detailing, installing and finishing all aspects of wet areas.

The design of wet areas must take into account any relative movements in the building structure and components, due to loading and temperature and humidity variations and the like. See Figure 7.

FIGURE 7 – STRUCTURAL MOVEMENTS



CONTROL JOINTS

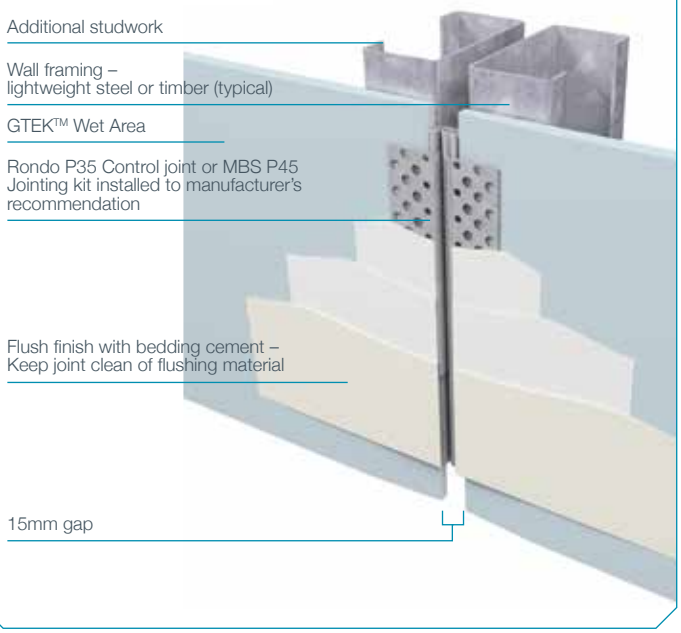
In long runs of wall, control joints should be set at 7.2 metres maximum in non-tiled areas, and at 4.2 metres maximum, in tiled areas or at construction joints, whichever is the lesser. Control joints must allow for the differential expansion and contraction between the structure, wall lining and tiles. Control joints must be constructed with double studs, with a gap to suit the control joint type. Refer Figure 8.

CORNER JOINTING

Corners are set and finished with paper tapes in wet areas for internal corners, or external beads for external corners.

However, in wet area construction, corners above pre-formed shower bases, insitu trays and shower over bath situations require special attention to detail, as noted.

FIGURE 8 – CONTROL JOINTS



VERTICAL CORNER FLASHING

In tiled walls, vertical corner flashings finish inside pre-fabricated shower tray/base, insitu-laid trays or the like. Refer Figure 9.

FIGURE 9 – VERTICAL CORNER FLASHING

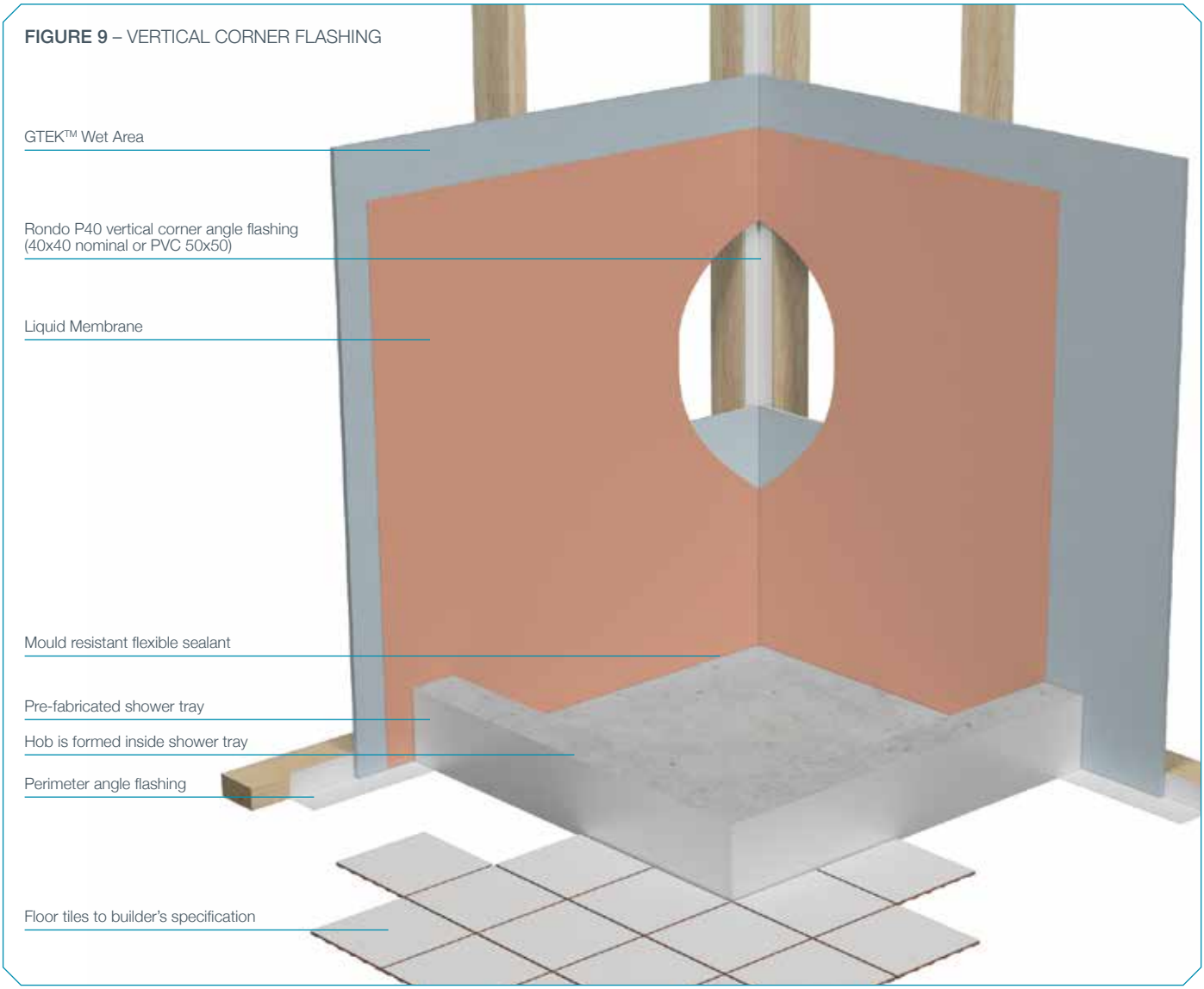
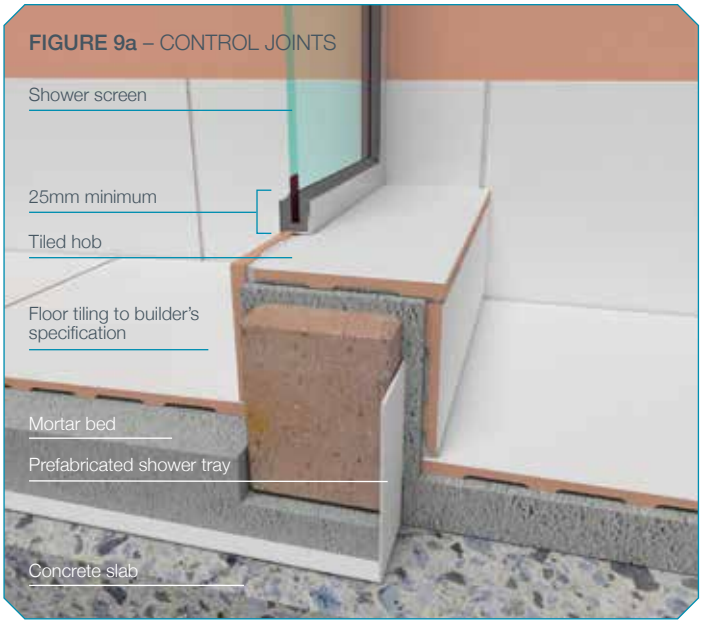


FIGURE 9a – CONTROL JOINTS



NOTE:
GTEK™ Water Resistant Taping Cement to be used under tiled areas only.

BGC Exterior and Wet Area Base Coat may be used in tiled and untiled areas.

GTEK™ Base Coat may be used in tiled and untiled areas.

BGC Exterior and Wet Area Top Coat to be used in untiled areas only.

JOINTING

Wet area plasterboard joints must satisfy the BCA requirements and comply with AS 2589.

All GTEK™ Wet Area joints in wet areas must be set with perforated paper tapes and proprietary branded base and flushing compounds such as GTEK™ Water Resistant Taping Cement, GTEK™ Base Coat, BGC Exterior and Wet Area Base Coat and Top Coat outside tiled areas.

The wet area base-coat system is typically a two-coat system under tiled areas and a three-coat system where tiles are not used. Refer Tables 5, 6 and 7.

All horizontal, vertical and corner joints and fastener points must be stopped and set with the same materials, to ensure water resistance across the wall areas.

The use of correct materials, application and sequencing of taping and jointing is important and any deviation may result in joint failure.

Mixing of different proprietary compounds or application of setting type compounds over acrylic drying compounds may lead to joint failure and will negate any proprietary item warranties.

NOTE: Do not use setting type compounds over water-resistant acrylic drying type compounds.

Do not use self adhesive tapes. Paper Tape only to be used.

TABLE 5 – TILED AREAS

FIRST COAT	TAPE	SECOND COAT	FINISH COAT
GTEK™ Water Resistant Taping Cement or BGC Exterior and Wet Area Base Coat or GTEK™ Base Coat.	Perforated Paper Tape	GTEK™ Water Resistant Taping Cement or BGC Exterior and Wet Area Base Coat or GTEK™ Base Coat.	None Required

TABLE 6 – TILED AREAS – NON-WET AREAS

FIRST COAT	TAPE	SECOND COAT	FINISH COAT
GTEK™ Base Coat.	Perforated Paper Tape	GTEK™ Base Coat.	None Required

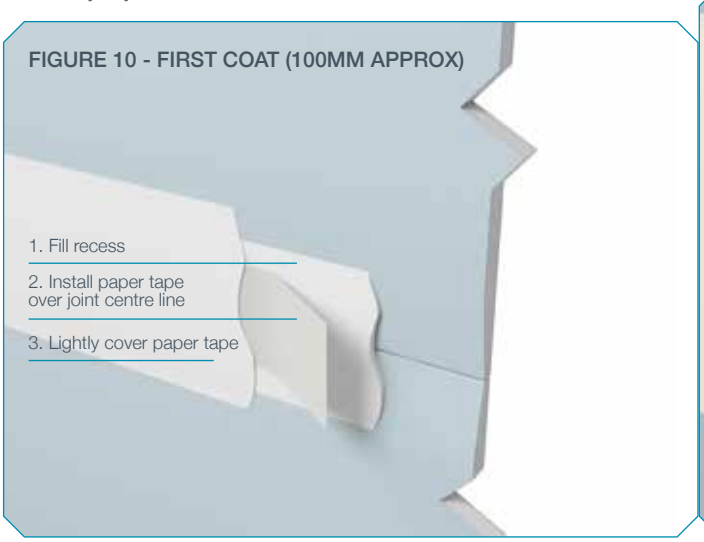
TABLE 7 – NON-TILED AREAS – FINISH COAT

FIRST COAT	TAPE	SECOND COAT	FINISH COAT
BGC Exterior and Wet Area Base Coat or GTEK™ Base Coat.	Perforated Paper Tape	BGC Exterior and Wet Area Base Coat or GTEK™ Base Coat.	GTEK™ Multupurpose Joint Compound or GTEK™ All Purpose Lightweight or GTEK™ Top Coat

FIRST COAT AND TAPE

- Wipe joint recesses with damp cloth to remove dust from plasterboard face.
- Fully fill recess evenly with GTEK™ Water Resistant Taping Cement or GTEK™ Base Coat.
- Centrally bed the paper tape into bed coat and cover lightly with GTEK™ Water Resistant Taping Cement or BGC Exterior and Wet Area Base Coat and allow to fully dry.
- Cover all fastener points with GTEK™ Water Resistant Taping Cement or BGC Exterior and Wet Area Base Coat and allow to fully dry.

FIGURE 10 - FIRST COAT (100MM APPROX)



SECOND COAT

- Apply the second coat of GTEK™ Water Resistant Taping Cement or BGC Exterior and Wet Area Base Coat 180mm wide and feather out the edges and allow to fully dry.
- Apply a second coat to all fastener points, feather out 25mm and allow to fully dry.

FIGURE 11 – (180MM APPROX)

The above is applicable for both tiled and non-tiled areas (Level 4 Finish).

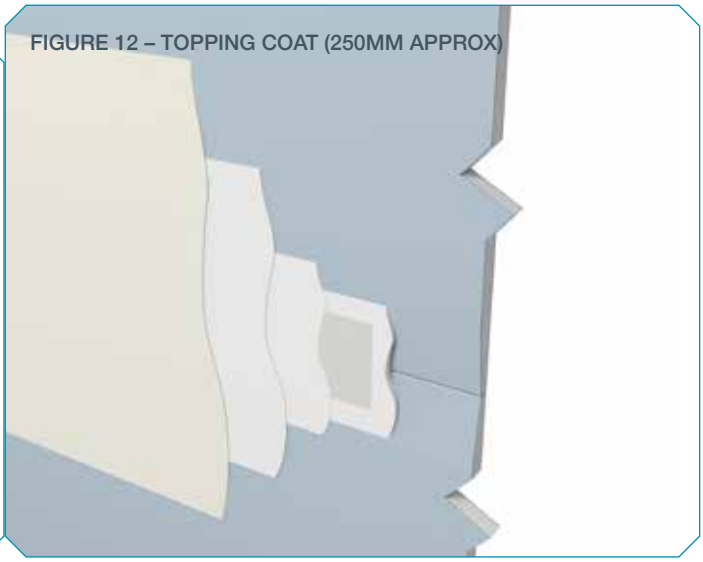
First coat and second coat only required for tiles areas.

FINISH COAT

The finish coat is only required where tiles are not used and another decorative finish is required. Eg Level 4 Finish.

- Apply a 280mm wide approximate, thin finish coat, centrally over the second coat.
- Dampen the outer edges with a sponge to feather out the edges of the finish coat and allow to dry.
- Apply a thin finish coat over all fastener points and feather out 40mm and allow to dry

FIGURE 12 – TOPPING COAT (250MM APPROX)



SANDING AND FINISHING

- Allow joint and fastener point coating compounds to dry for 24 hrs before sanding.
- For tiled areas lightly sand all joints and fastener points, with 150 grit or with 220 sanding mesh, to remove any high spots.
- Wipe off excess dust with a slightly damp cloth prior to the application of tile adhesive, seal coats or decorative finishes.

FIGURE 13 – FINISHING SANDING

AUSTRALIAN STANDARDS

The following tables are the specific requirements for Wet Areas taken from the Australian Standards 3740-2010 and are applicable to areas lined with GTEK™ Wet Area.

WET AREAS

“An area within a building supplied with water from a water supply system and includes bathrooms, showers, laundries and sanitary compartments. Excludes kitchens, bar areas, kitchenettes or domestic food and beverage preparation areas”.

The BCA requires that all wet-area design, construction and materials do not create unhealthy, dangerous conditions, or damage to building components, caused by dampness, water overflow, infiltration or penetration.

FIGURE 14 – WATERPROOFING – SHOWER OVER BATH

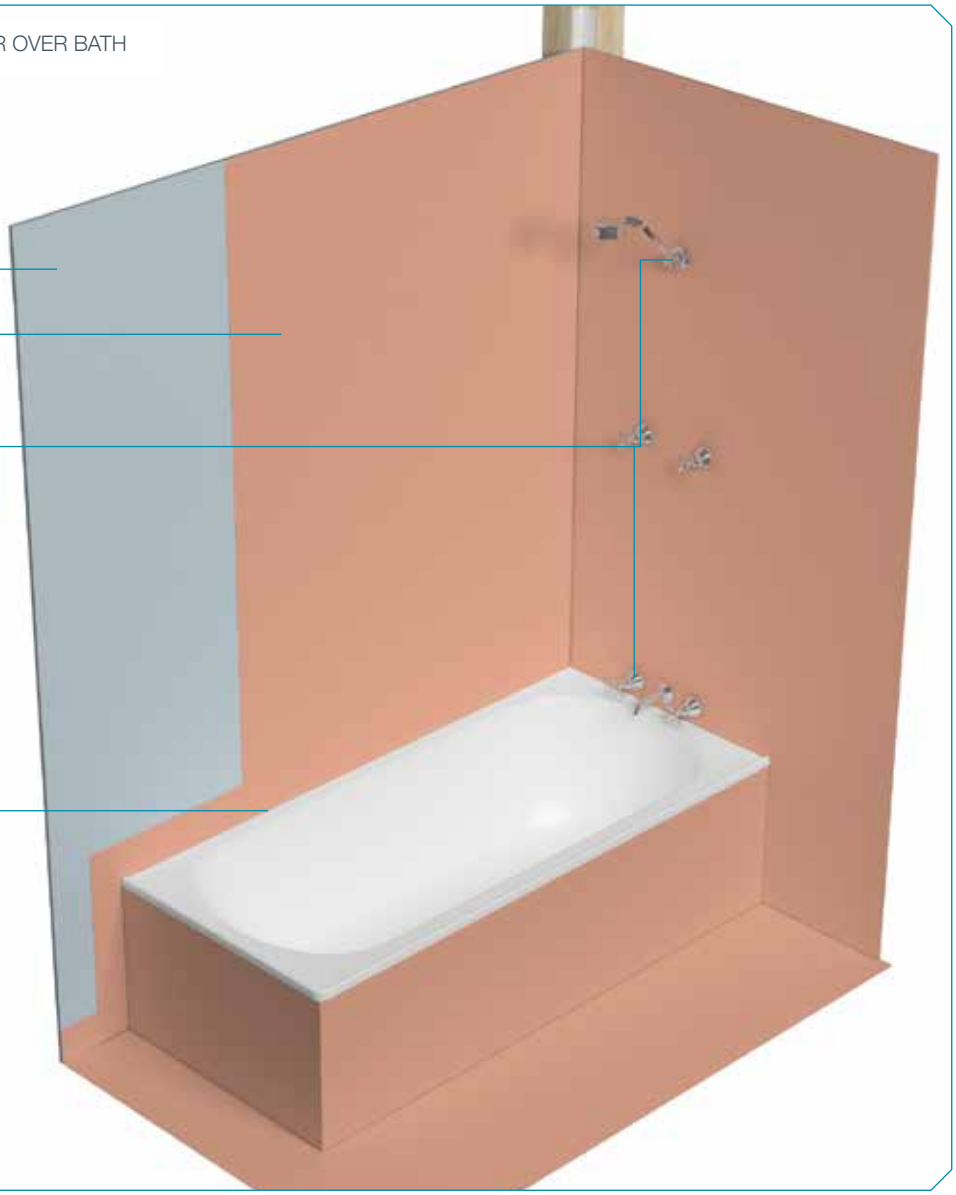


TABLE 8 - DESIGN AND INSTALLATION FOR WET AREA WATERPROOFING AS3740-2010

VESSELS OR AREA WHERE THE FIXTURE IS INSTALLED	LEVEL OF RISK	DESIGN AND INSTALLATION CRITERIA				
		FLOOR	WALLS	JUNCTIONS	PENETRATIONS	FIGURE NO.
Shower area	High	Waterproofed & drained	Water proof	Waterproof	Waterproof*	15
Bathrooms	Medium	Concrete & compressed fibre cement sheet flooring Water resistant‡	N/A	Waterproof¥	N/A	14, 16
Areas adjacent to baths & spas§ (applies to all rooms in which a bath or spa is installed)	Medium	Timber floors including particleboard, plywood & other materials Waterproof	N/A	Waterproof¥	N/A	14, 16
		Concrete & compressed fibre cement sheet flooring Water resistant‡	Water resistant§	Waterproof	Horizontal surface Waterproof* Vertical surface Water resistant	
		Timber floors including particleboard, plywood & other materials Waterproof	Water resistant§	Waterproof	Horizontal surface Waterproof* Vertical surface Water resistant	16
Walls adjoining other vessels (e.g., sink, basin or laundry tubs)	Low	N/A	Water resistant	Waterproof	Horizontal surface Waterproof* Vertical surface Water resistant	
Laundries & WCs	Low	Water resistant‡	N/A	Water resistant¥	N/A	
Bathrooms & laundries requiring a floor waste in accordance with Volume One of the BCA	High	Waterproofed and drained	N/A	Waterproof¥	Waterproof where through the floor, otherwise N/A	

LEGEND:

N/A Not Applicable

* Including mechanical fixings or fasteners through surface materials

¥ Wall/floor junctions only

‡ Where floor waste is provided the floor shall be graded to the waste

§ If a shower is included in a bath, include the requirements for shower area walls

AUSTRALIAN STANDARDS

FIGURE 15 – WATERPROOFING PRE-FORMED SHOWER

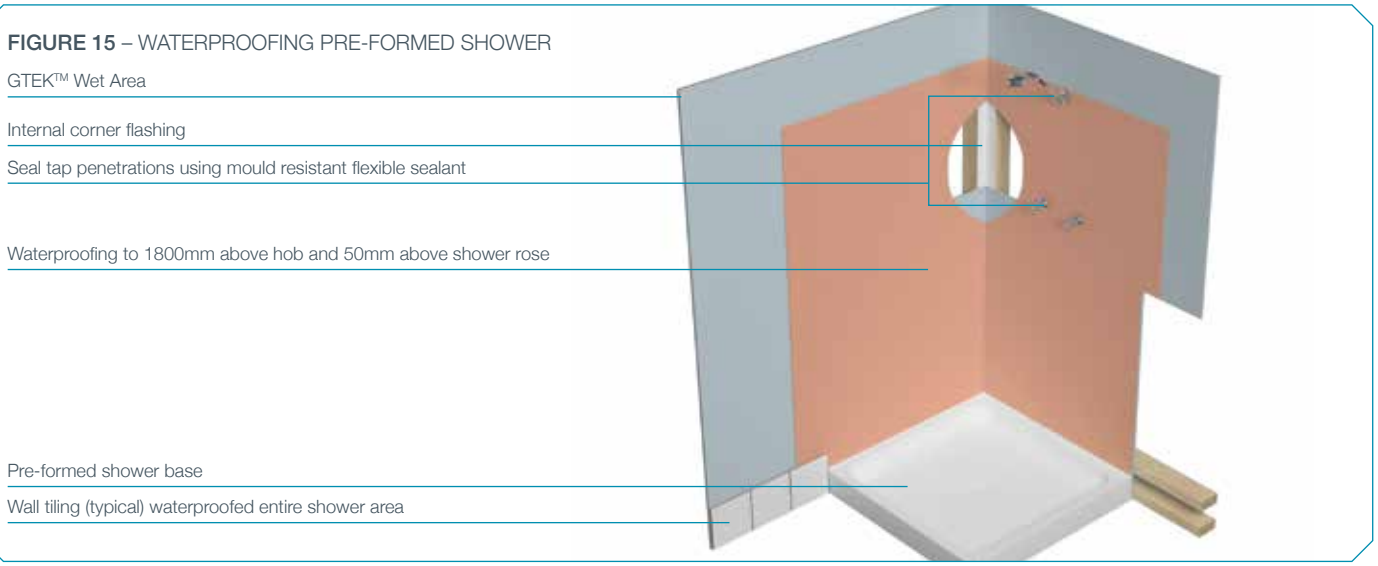


TABLE 9 - GENERAL REQUIREMENTS FOR EXTENT OF APPLICATION AS 3740-2010

VESSELS OR AREA WHERE THE FIXTURE IS INSTALLED	DESIGN AND INSTALLATION CRITERIA				
	FLOORS AND HORIZONTAL SURFACES	WALLS	WALL JUNCTIONS AND JOINTS	PENETRATIONS	FIGURE NO.
Shower area Enclosed & hobbed	Waterproof entire enclosed shower area, including hob	Waterproof to 150mm min. above the shower floor substrate or 25mm min. above the maximum retained water level and the remainder to be water resistant to a height of 1800mm min. from finished floor level	Waterproof internal & external corners & horizontal joints within a minimum height of 1800mm above the floor level with a minimum width of 40mm either side of junction	Seal all penetrations	15
Enclosed & hobless	Waterproof entire enclosed shower area including water stop	Waterproof to 150mm min. above the shower floor substrate and the remainder to be water resistant to a height of 1800mm min. from finished floor level			
Enclosed & stepped down	Waterproof entire enclosed shower area including the stepdown	Waterproof to 150mm min. above the shower floor sub-strate or 25mm min. above the maximum retained water level and the remainder to be water resistant to a height of 1800mm min. from finished floor level			
Enclosed & pre-formed shower base	N/A	Water resistant to a height of 1800mm min. from finished floor level		Seal all penetrations	15

TABLE 9 - CONTINUED

VESSELS OR AREA WHERE THE FIXTURE IS INSTALLED	DESIGN AND INSTALLATION CRITERIA				
	FLOORS AND HORIZONTAL SURFACES	WALLS	WALL JUNCTIONS AND JOINTS	PENETRATIONS	FIGURE NO.
Insert baths	N/A for floor under the bath Waterproof entire shelf area, incorporating a waterstop under the bath lip and project a minimum of 5mm above the tile surface	N/A for wall under the bath Waterproof to 150mm above the lip of the bath*	N/A for wall under the bath*	Seal all tap & spout penetrations where they occur in a horizontal surface	13
Walls adjoining other vessels (e.g., sink, basin or laundry tub)	N/A	Water resistant to a height of 150mm min. above vessel if the vessel is within 75mm min. of the wall	Where the vesel is fixed to a wall, seal edges for extent of vessel	Seal all tap & spout penetrations where they occur in a horizontal surface	
Laundries & WCs	Waterproof entire floor	Seal all wall to floor junctions with a skirting or flashing to 25mm min. above the finished floor level, sealed to the floor	Waterproof all wall to floor junctions, where a flashing is used the horizontal leg shall be a minimum of 40mm	N/A	
Bathrooms & laundries requiring a floor waste in accordance with Volume One of the BCA	Waterproof & drain entire floor	N/A	Seal all wall to floor junctions with a skirting or flashing to 25mm min. above the finished floor level, sealed to the floor	Waterproof where through the floor, otherwise N/A	

LEGEND: N/A - Not Applicable / * If a shower is included in a bath, refer to the requirements for shower area walls & penetrations
¥ Does not apply to joinery fittings such as vanities

FIGURE 16 – WATERPROOFING BATH AND BASIN

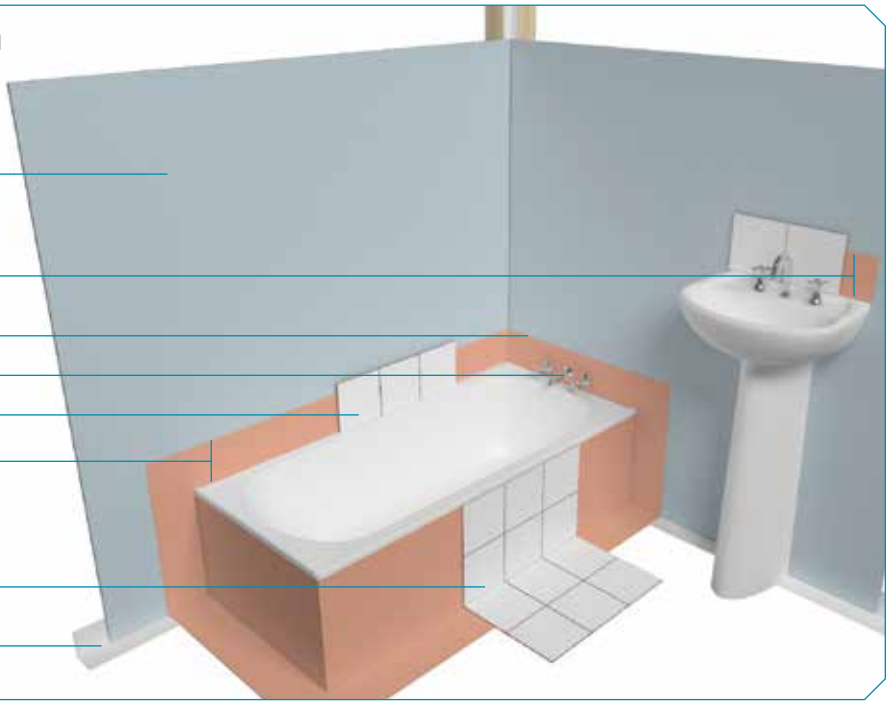


TABLE 9 - CONTINUED

VESSELS OR AREA WHERE THE FIXTURE IS INSTALLED	DESIGN AND INSTALLATION CRITERIA				
	FLOORS AND HORIZONTAL SURFACES	WALLS	WALL JUNCTIONS AND JOINTS	PENETRATIONS	FIGURE NO.
Unenclosed	Waterproof entire shower area	Waterproof to 150mm min. above the shower floor substrate or 25mm min. above the maximum retained water level and the remainder to be water resistant to a height of 1800mm min. from finished floor level	Waterproof internal and external corners and horizontal joints to a minimum height of 1800mm above the floor level with a minimum width of 40mm either side of junction	Seal all penetrations	13
Areas outside the shower area for concrete	Waterproof entire floor	N/A	Waterproof all wall to floor junctions, where a flashing is used the horizontal leg shall be a mini-mum of of 40mm	N/A	13
Areas outside the shower area for timber floors including particleboard, plywood, compressed flooring and other flooring materials	Waterproof entire floor	N/A	Waterproof all wall to floor junctions, where a flashing is used the horizontal leg shall be a minimum of 40mm	N/A	
Areas adjacent to baths and spa*¥ for concrete	Water resistant to entire floor	Water resistant to a height of 150mm min. above vessel and exposed surfaces below vessel lip to floor level*	Seal edges for extent of vessel and junction of bath enclosure with floor. Where the lip of the bath is supported by a horizontal surface this area shall be waterproof for showers over bath and water resist for all other cases	Seal all tap and spout penetrations where they occur in a horizontal surface	
Areas adjacent to baths and spa*¥ for timber floors including particleboard, plywood, compressed flooring and other flooring materials	Waterproof entire floor	Water resistant to a height of 150mm min. above vessel and exposed surfaces below vessel lip to floor level*	Seal edges for extent of vessel and junction of bath enclosure with floor. Where the lip of the bath is supported by a horizontal surface this area shall be waterproof for showers over bath and water resist for all other cases	Seal all tap and spout penetrations where they occur in a horizontal surface	

BGC Plasterboard wishes to acknowledge and recommend treatment and installation of wet areas as per the Australian Standards

EXTERNAL CEILINGS

In view of higher wind loadings and other influences on external ceilings, the industry has upgraded its specifications for these areas as follows:

13mm GTEK™ Wall or 10mm GTEK™ Ceiling is recommended for use in external ceilings in N1 and N2 wind zones only.

Framing members should be spaced at max 450mm centres. In areas where ceiling joists or roof trusses are spaced at more than 450mm, trimming or suitable ceiling battens should be provided at max. 450mm centres. Metal ceiling battens and furring channels should be installed in accordance with manufacturer's specification.

Run plasterboard sheets at right angles to framing members. Provide a min 6mm gap between edges of the plasterboard sheet and adjacent walls, beams, columns and fascias.

Ceiling linings should be fully screw fixed at max 300mm centres, 32mm 'W' types screws should be used for fixing into timber framing. 25mm 'S' or 'D' type screws, as appropriate should be used for fixing into steel framing. External application corrosive resistant screws and protective coated angles should be used within coastal areas.

Back block all joints in ceiling linings as per back blocking specifications.

Control joints should be provided in external ceilings at max 6m centres in both directions.

External ceilings should be painted in accordance with manufacturer's recommendations. Roof sarking and cross flow ventilations to the ceiling cavity can improve long term performance of external ceilings by reducing the possibility of condensation on top of the ceiling lining.

External ceilings require strict adherence to specification. Non-compliance will reflect in the finish.

CONDENSATION

Surface condensation and wind loads can be the main causes of lining board and jointing system failure. Insufficient protection can lead to the plasterboard distorting as well as potential mould attack.

Metal roofing is more susceptible to condensation build up than roofing tiles; if sarking or foil backed insulation is used under metal roofing ensure installation complies with the BCA and relevant Australian Standards.

It is important that ceiling cavity areas are well ventilated to prevent condensation build up. The installation of eave and gable vents, roof ventilatiors etc. can assist in this by providing permanent cross flow ventilation.

Building materials and systems may be adversely affected by these severe environmental and physical conditions, which if not installed correctly can lead to ceiling failure and or collapse.

RECOMMENDED BGC PLASTERBOARD MATERIALS

- 13mm GTEK™ Wet Area
- 10mm GTEK™ Ceiling
- 13mm GTEK™ Wall (preferred)

INSTALLATION

All perimeters must have appropriate framing/noggings etc. in order to support all sheet edges. Perimeters to be screw fixed only at 300mm centres. The perimeter may be fixed out with timber noggings, metal plasterers angle (Rondo P18) or equivalent.

Plasterboard sheets fixed to exterior ceilings must be mechanically fixed with appropriate screws at 300mm centres. Paper tape must be used in conjunction with setting type base products in the joins. Base and topping to comply with ASTM C475. Back block joints in accordance with AS/NZS 2589.

BGC has a range of Exterior Base and Topping compounds that are ideal for flushed joints on exterior walls and ceilings.

Plasterboard sheets to have a minimum 6-10mm space from perimeter walls.

Fascia boards/perimeter beams should continue at least 100mm below the bottom of the plasterboard ceiling or the perimeter wall/ ceiling trim.

Framing centres to be at a maximum of 450mm.

CEILING AREAS

Movement Control (expansion) joints must occur at maximum distances of 6m x 6m in either direction.

Paint with a three coat exterior paint system applied to manufacturer's recommendations.

GARAGE CEILINGS

Garage ceilings are subject to conditions that are more demanding than in any other part of the home. This is the case even when garages are located under the same roof as the rest of the home. Garages have large doors that when open let in rain and strong wind, cars are garaged wet and thet are not normally heated spaces. Garage doors also cause a large amount of constant vibration when in use that can affect board fixing and adhesion. These factors call for a more durable installation to avoid maintenance issues and is suitable for N1 and N2 wind zones only.

Installation requirements for Garage Ceilings

- Fix the ceiling sheets using the screw only method or the 1/3 fixing method
- Provide additional framing around the perimeter by inserting trimmers between ceiling frames or installing a steel angle.
- Fix the perimeter sheets using screws at 300mm max spacing.
- Avoid windy conditions during and immediately after installation to ensure adhesives set intact.
- Back block all plasterboard joints.
- Roll or brush on a high quality sealer undercoat designed for exterior use and use a premium exterior paint system.

CONSIDERATIONS

Before lining the building it is prudent to consider the following design and construction issues:

- Consideration must be given to the framing, this may vary throughout Australia especially in high wind and coastal areas.
- It is highly recommended to batten out the ceiling with Rondo 16mm metal battens or 16mm Furring Channel or 28mm Furring Channel or equivalent. These are to be fixed on the appropriate direct fix clips.
- High-pressure differentials across a wall may cause the wall to bend and move.

Ensure that wall and ceiling areas do not exceed maximum allowable areas, heights or lengths, and provide movement and or relief control joints where necessary.

Decoration is as important as the plasterboard installation and is vital in protecting both plasterboard and the set trowelled areas. The surface of the installed plasterboard ceiling should be decorated with approved 3 coats of exterior grade paint. Please refer to your paint manufacturer for the appropriate grade required.

FIGURE 17 – ALFRESCO COFFER DETAIL

TABLE 10 – RECOMMENDED FIXING & SPACING

Screw fixings:

Plasterboard width	# of Screws	Position of screws.
1200mm	5	Evenly spaced 1 per recess & equally spaced 300mm centres.
1350mm	6	Evenly spaced 1 per recess & equally spaced 270mm centres.

Nail fixings:

Plasterboard width	# of Nails	Position of nails.
1200mm	7	Evenly spaced 1 per recess & equally spaced 200mm centres.
1350mm	9	Evenly spaced 1 per recess & equally spaced 170mm centres.

PAINTING

Roll or brush on high quality sealer undercoat designed for external application. Use only manufacturer's recommended external paint for this application.

Level 4 should be the minimum level finish for plasterboard. Level 5 is recommended when critical lighting conditions apply.

GTEK™ FIRE & WET AREA

GTEK™ Fire & Wet Area is designed for use in wet areas governed by fire resistance limitations (FRLs). Use of GTEK™ Fire & Wet Area typically includes partitioning where FRLs are required in relation to wet areas, such as showers or bathrooms

BGC-2014
GECA 04-2011 v2
Panel Boards

GTEK™ Fire & Wet Area is excellent for walls and ceilings and in residential and commercial applications. For more information on FRLs, please refer to the BCA and our Fire & Acoustic Guide.

What's good about GTEK™ Fire & Wet Area:

- Designed for FRL-specified areas
- Ideal in partitioning situations
- Can be used in ceilings if required
- Quick and easy to install

PRODUCT INFORMATION

GTEK™ Fire & Wet Area is purpose designed as a complete plasterboard wall and lining system, which complies with the requirements of the Building Code of Australia (BCA). GTEK™ Fire & Wet Area has been tested by the CSIRO (Manufacturing & Infrastructure Technology) in accordance with AS 2588 Gypsum Plasterboard; see report DTS698, April 2003.

GTEK™ Fire & Wet Area is to be installed as detailed in AS 2589 'Gypsum Linings – Application and Finishes'.

Support framing must conform to the BCA and Australian Standards, be plumb, true and level, prior to the application of the plasterboard. Refer to section 4.2.2 AS2589.

GTEK™ Fire & Wet Area may be fixed to timber or CFS (Cold-Formed Steel) light-steel framing or masonry, using plasterboard screws, nails and or adhesive. Only screws or nails must be used for tiled areas and over existing lining or vapour barriers and FRL required areas.

FIRE RESISTANCE

Plasterboard is naturally fire resistant and is classified as non-combustible according to the Building Code of Australia (BCA) Section C1.12.

DIMENSIONAL STABILITY

Plasterboard is dimensionally stable when compared to other building materials. Two measures of dimensional stability are listed below:

- Thermal coefficient of linear expansion (a) = 16.7 x 10-6 /°C, measured unrestrained over the temperature range of 3°C - 32°C
- Hygrometric coefficient of expansion 6.5 x 10-6 /%RH, measured unrestrained over the Relative Humidity (RH) range of 10% - 90%

THERMAL PROPERTIES

The R value of plasterboard is a measure of its thermal insulation ability. Higher numbers indicate a better insulator. The 'R' values for plasterboard are:

10mm plasterboard = 0.05Km2/W
13mm plasterboard = 0.05Km2/W
16mm plasterboard = 0.06Km2/W

INSTALLATION

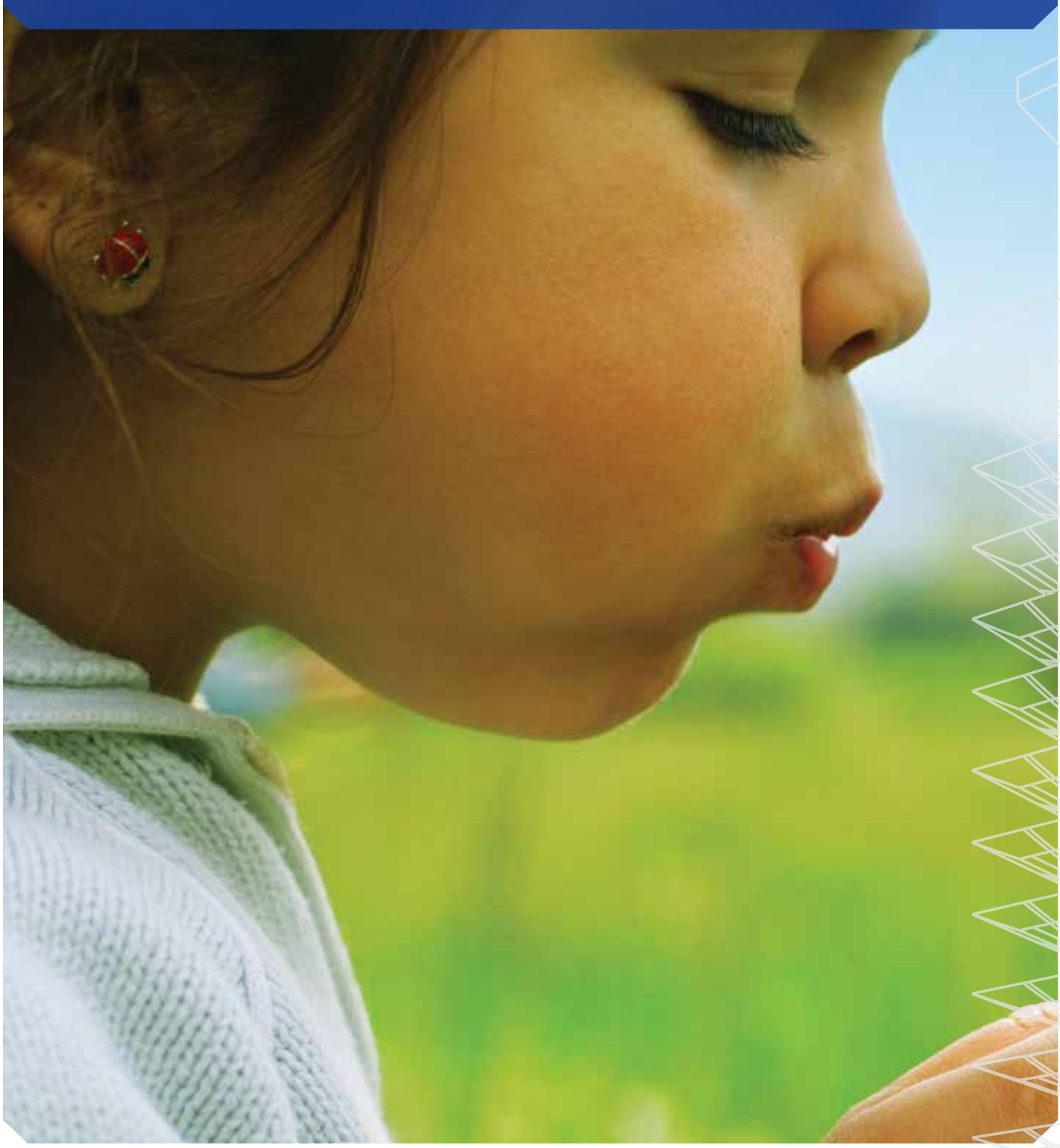
GTEK™ Fire & Wet Area is installed using the same method as standard GTEK™ Wet Area. Please refer to the GTEK™ Wet Area Installations.

Please note GTEK™ Fire & Wet Area is intended to be used in applications where a FRL is required in conjunction with a Wet Area. In this instance please also refer to the GTEK™ Fire and Acoustic Guide.

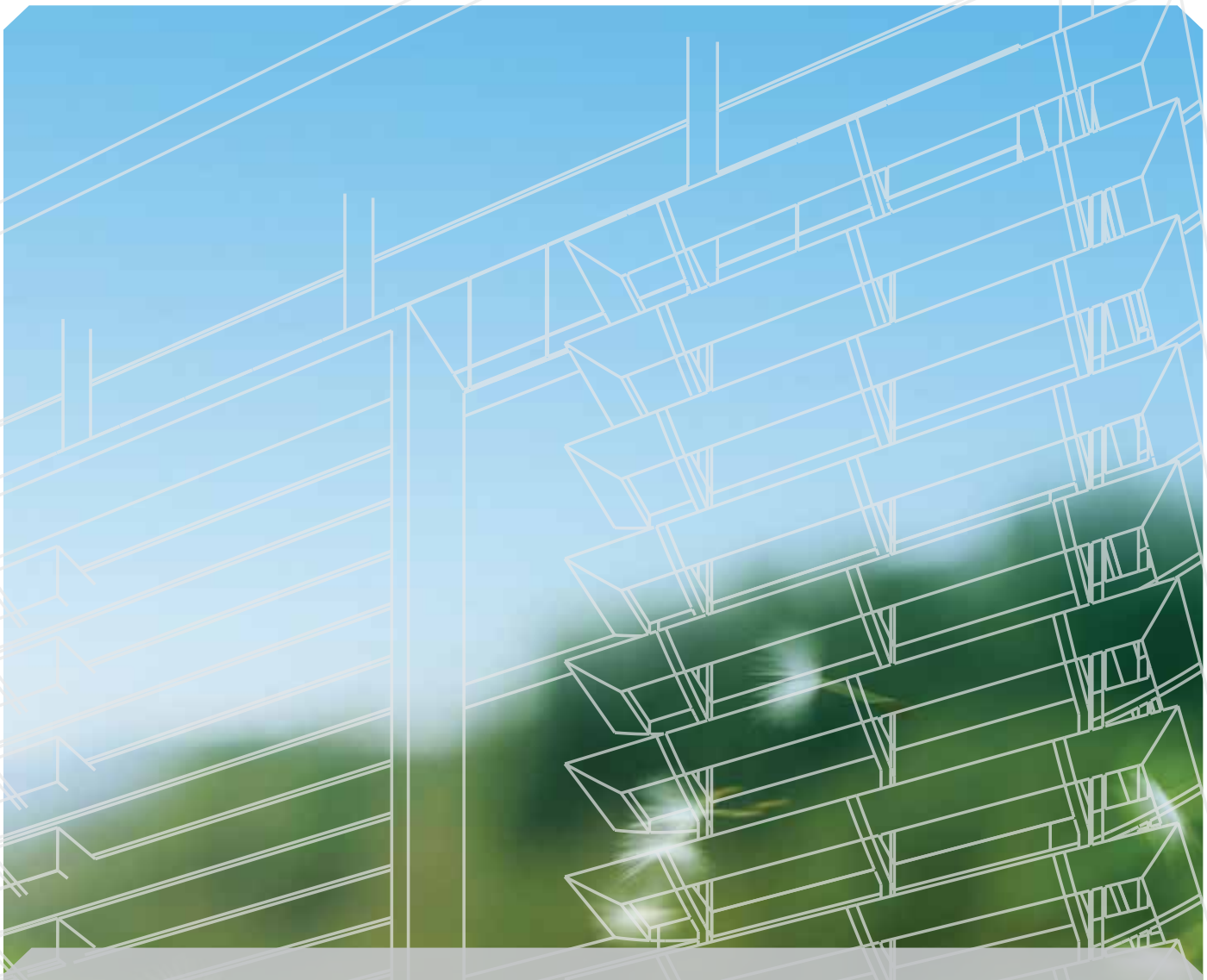
TABLE 11 – SHEET SIZES

THICKNESS (mm)	WEIGHT (kg/m²)	WIDTH (mm)	LENGTH (mm)
			3600
13	10.5	1200	✓
16	12.7	1200	✓

At BGC we care about the environment and now have a range of GECA Certified Plasterboard Products available. As part of our commitment to sustainability we are offering our Environmentally Certified GTEK™ range at no extra cost to you. So now you save money whilst together we save the environment.



BGC-2014
GECA 04-2011 v2
Panel Boards



BGC Plasterboard shares the general community concern for the environment and seeks to reduce its environmental footprint in all aspects of its operations. That means you can specify GTEK™ to help create you next green star rated home or project.

We use up to 15% recycled gypsum in our boards and we use 100% recycled paper lining front and back.

BGC Plasterboard has set prudent environmental targets for waste minimisation and energy and water use, and is an active participant in environmental reporting through the Energy Efficiency, Waterwise and Emissions reporting programs.

Through strict quality control systems, production waste is minimised and wastage is recycled back into new plasterboard.

Good Environmental Choice Australia is an environmental labelling program which aims to provide consumers with the knowledge that the product they are purchasing has met certain environmental performance standards which have been developed and assessed in line with International labelling standards.

Scientifically recognised benchmarks for environmental performance have been developed against which products and services are assessed and evaluated to determine whether the product or service should be awarded the Good Environmental Choice Label. GECA certification is recognised by the Green Building Council of Australia and may assist in achieving up to 3 Green Star points.

All GTEK™ products have been certified by GECA which means that the products and their manufacturing environment have been evaluated and deemed to comply with the strict guidelines set by GECA.

We're proud to wear the Good Environmental Choice label, it shows our products and manufacturing environment comply with GECA's strict guidelines.

Now 'Building it better with BGC' also means building a cleaner and more sustainable environment.

CONTACT

TO CONTACT YOUR NEAREST BGC STOCKIST, PLEASE CALL:

ADELAIDE
TELEPHONE
08 8250 4962

BRISBANE
TELEPHONE
07 3271 1711

MELBOURNE
TELEPHONE
03 9392 9444

PERTH
TELEPHONE
08 9374 2900

SYDNEY
TELEPHONE
02 9771 9660

NEW ZEALAND
TELEPHONE
0011 64 9273 1457

TECHNICAL HELP LINE
1300 652 242

Certified System
Quality
ISO 9001
SAI GLOBAL

BGC-2014
GECA 04-2011 v2
Panel Boards

GTEK™ PRODUCT RANGE

- **GTEK™ Wall** is an interior wall lining system where cost effectiveness and economy of effort are crucial.
- **GTEK™ Curve** flexible plasterboard enables the creative execution of curves on interior walls and ceilings.
- **GTEK™ Ceiling** is a 10mm plasterboard sheet designed specifically for ceiling use where joists are at 600mm.
- **GTEK™ Fire** is used in fire-rated systems, consisting of single or multiple layers of board.
- **GTEK™ Fire & Wet Area** is designed for use in wet areas governed by fire resistance limitations (FRLs).
- **GTEK™ Wet Area** is water-resistant plasterboard for walls in such wet areas as bathrooms, laundries, toilets and cleaning rooms.
- **GTEK™ Sound** is high-density plasterboard specifically designed to reduce unwanted noise detectable through walls and ceilings.
- **GTEK™ Impact** is ideal for high-traffic areas where walls are subjected to regular stress.
- **GTEK™ Total Plus** offers market-leading fire, water, sound and impact resistance, together with GECA certification in recognition of high percentages of recycled materials.
- **GTEK™ Cornice** adds exciting finishing touches to interior wall and ceiling joints in new builds and renovations.

WARRANTY

We warrant that our products are free from defects caused by faulty manufacture or materials for a period of 15 years from the date of purchase. If you acquire any defective products, we will repair or replace them, supply equivalent replacement products or refund the purchase price within 30 days of receiving a valid claim subject to product inspection and confirmation of the existence of a defect by BGC. We will bear the cost of any such repair, replacement or refund.

This warranty is given by:

BGC PLASTERBOARD PTY LTD
Ground Floor, 290 Bushmead Rd,
Hazelmere, WA 6055 Phone: (08) 9374 2900
Fax: (08) 9374 2901

To claim under this warranty, you must provide proof of purchase as a consumer and make a written claim (including any costs of claiming) to us at the address specified above within 30 days after the defect was reasonably apparent, or if the defect was reasonably apparent prior to installation, the claim must be made prior to installation. You may not claim under this warranty for loss or damage caused by:

- faulty or incorrect installation by non-BGC installers (BGC's installation procedures are at **gtekplasterboard.com.au**);
- failure to comply with the Building Code of Australia or any applicable legislation, regulations approvals and standards;
- products not made or supplied by BGC;
- abnormal use of the product; or
- normal wear and tear.

The benefits available under this warranty are in addition to other rights and remedies of the consumer under the law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Design by **The SHAPE Group** www.theshapegroup.com.au

GTEK™ PREMIUM GYPSUM TECHNOLOGY