JUNE 2013

innova™
INNOVATIVE BUILDING SYSTEMS

STRATUM™
CLADDING SYSTEM

BGC Fibre Cement

AUSTRALIAN OWNED & MANUFACTURED
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JUNE 2013

INTRODUCING INNOVA™

BGC'S STUNNING NEW RANGE OF FACADE, LINING AND FLOORING PRODUCTS, INNOVA™ WILL MOVE YOU TO REASSESS YOUR CONCEPT OF EXCELLENCE IN FACADES AND FLOORING SYSTEMS. DURABLE AND DYNAMIC, FRESH AND CONTEMPORARY, INNOVA™ IS ALREADY TURNING INDUSTRY HEADS. NOW LET THE INNOVA™ RANGE OF CLADDING AND FLOORING PRODUCTS BREATHE NEW LIFE INTO YOUR CREATIVITY AND PROJECT SPECIFICATION.

innova™
INNOVATIVE FACADE SYSTEMS

A VIBRANT, INNOVATIVE ALTERNATIVE TO TRADITIONAL WEATHERBOARDS, BGC STRATUM™ IS AN ENDLESSLY ADAPTABLE TRIO OF PLANK PRODUCTS. CHOOSE ONE STRATUM™ PROFILE AS A STANDALONE, OR MIX'N'MATCH TWO OR THREE TO CREATE EYE-CATCHING AND ORIGINAL INNOVA™ EXTERIOR CLADDING.

STRATUM™ 300MM IS A WIDE PLANK WITH A 16MM HORIZONTAL JOINT; STRATUM™ DUO 300MM IS A WIDE PLANK WITH A 16MM CENTRE GROOVE AND THE LOOK OF TWO SLIMMER PLANKS; STRATUM™ CONTOUR 170MM IS A SLIMMER PLANK WITH A 2MM INDENTATION AT THE TOP.AT THE TOP OF EACH PLANK.

STRATUM™ CLADDING SYSTEM

/ EASY SHIPLAP JOINING
/ FACTORY SEALED, READY FOR PAINTING
/ QUICK, SIMPLE INSTALLATION: MANUAL NAILING, GUN NAILING OR SCREW FIXING
/ OPTIONAL FACE-FIX OR CONCEAL-FIX

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PRODUCT DESCRIPTION

Stratum™ features a shiplap horizontal joining system making it quick and simple to achieve a classic yet contemporary look. With 3 different profiles available, there is sure to be a profile to suit any project.

Stratum™ can be used for exterior cladding on low to medium rise buildings or for a different twist, can be used to create a stunning interior feature wall.

Stratum™ is not subject to timber rot, decay, cracking, twisting or white ant damage and will not support combustion. The result is a safer, more durable cladding that requires minimum maintenance.

ADVANTAGES

/ Shiplap joining system makes Stratum™ planks quick and simple to install
/ Quick and easy to cut, handle and install
/ Acrylic sealed, ready for painting
/ Durable and low maintenance

ENERGY EFFICIENCY CONSIDERATIONS

Energy efficiency requirements have been introduced into the Building Code of Australia (BCA) for both commercial and residential buildings. Thermal heat transfer into and out of the building envelope will effect the running cost of the building and careful consideration of thermal heat transfer needs to be addressed by the architects, engineers and building designers. Thermal bridging through steel framing will diminish the total R-Value; thermal conductance, of the wall. Thermal breaks are required for steel framed buildings and should be installed between the stud sections and the Stratum™ planks. Thermal break tapes should have a minimum R-Value of 0.2.

PRODUCT INFORMATION

Stratum™ is manufactured from Portland cement, finely ground silica, cellulose fibres and water. Panels are cured in a high-pressure steam autoclave to create a durable, dimensionally stable product.

Stratum™ is manufactured to the Australian / New Zealand Standard AS/NZS 2908.2-2000 Cellulose-Cement Products, Part 2: Flat sheets and Stratum™ is classified as Type A-Category 2.

FIRE RESISTANCE

BGC Fibre Cement products have been tested in accordance to Australian Standard AS1530.3.

These tests deemed the following Early Fire Hazard Indices:

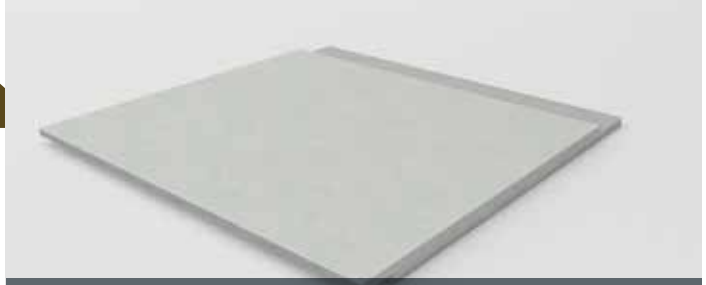
/ Ignitability Index	0
/ Spread of Flame Index	0
/ Heat Evolved Index	0
/ Smoke Developed Index	0-1

PLANK TOLERANCES

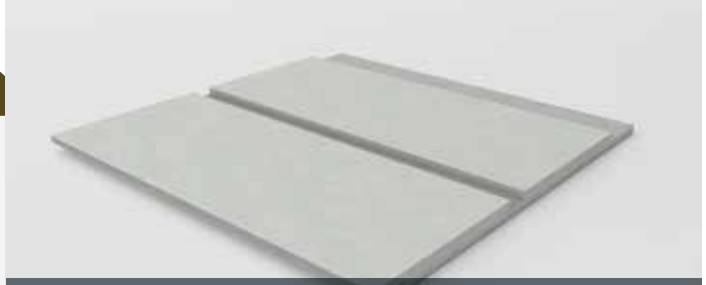
/ Width +0/-1mm
/ Length +0/-2mm
/ Thickness +10%/-0%
/ Diagonals difference (max) 2mm
/ Edge straightness deviation (max) 1mm

PLANK SIZES AND MASS-TABLE 1

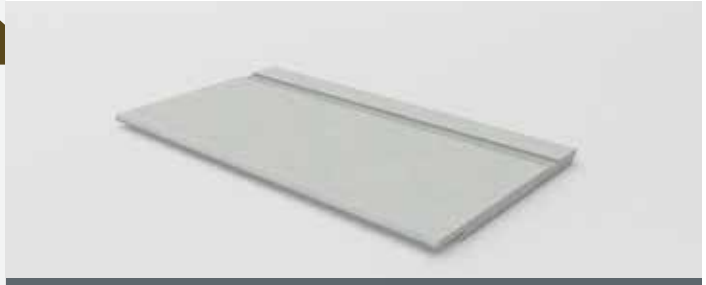
THICKNESS mm	FINISH	MASS KG/LM	WIDTH mm	LENGTH mm
12	Stratum™	4.5	300	4200
	Stratum™ Duo	4.4	300	
10	Stratum™ Contour	2.9	170	



STRATUM™



STRATUM™ DUO



STRATUM™ CONTOUR

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DURABILITY

Stratum's™ physical properties make it a very durable product.

/ Stratum™ is immune to permanent water damage in both short and long-term exposure.
/ Stratum™ will not rot or burn and is unaffected by termites, air, steam, salt and sunlight.
/ Stratum™ is not adversely affected over a temperature range of 0°C to 95°C.

Vapour permeable sarking must be installed under the timber or steel batten in accordance with the AS/NZS 4200.2 – 'Pliable building membranes and underlays – Installation' and the sarking manufacturers' guidelines. The sarking should have the following properties

/ Vapour barrier – low or medium
/ Water barrier – high

Vapour permeable sarking is used to prevent moisture ingress by acting as a drainage plane whilst enabling water vapour build up from inside the frame to escape.

THERMAL CONDUCTIVITY

Stratum™ planks have relatively low thermal conductivity. At Equilibrium Moisture content the approximate thermal conductivity of Stratum™ is; - 0.25 W/m°C.

WEATHER RESISTANCE/FREEZE THAW

Stratum™ conforms to the Building Code of Australia (BCA) requirements for external wall applications.

Stratum™ that is subject to freeze/thaw conditions must be painted. Stratum™ should not be used in situations where it will be in direct contact with snow or ice for prolonged periods.

CUTTING AND DRILLING

Stratum™ may be cut to size on site. If using power tools for cutting, drilling or sanding they must be fitted with appropriate dust collection devices or alternatively an approved (P1 or P2) dust mask and safety glasses shall be worn. It is recommended that work always be carried out in a well ventilated location.

The most suitable cutting methods are:

/ DURABLADE
180mm Diameter.
This unique cutting blade is ideal for cutting Fibre Cement. Can be fitted to a 185mm circular saw, ie Makita or similar. Please ensure safe working practices when using.

/ NOTCHING
Notches can be made by cutting the two sides of the notch. Score along the back edge then snap upwards to remove the notch.

/ DRILLING
Use normal high-speed masonry drill bits. Do not use the drill's hammer function. For small round holes, the use of a hole-saw is recommended. For small rectangular or circular penetrations, drill a series of small holes around the perimeter of the cut out. Tap out the waste piece from the sheet face while supporting the underside of the opening to avoid damage. Clean rough edges with a rasp.

Large rectangular openings are formed by deeply scoring the perimeter of the opening. Next, form a hole in the centre of the opening (refer method above) then saw cut from the hole to the corners of the opening. Snap out the four triangular segments. Clean rough edges with a rasp. (see method above) then saw cut from the hole to the corners of the opening. Snap out the four triangular segments. Clean rough edges with a rasp

HANDLING AND STORAGE

Stratum™ must be stacked flat, up off the ground and supported on equally spaced (max 400mm) level gluts. Care should be taken to avoid damage to the ends, edges and surfaces.

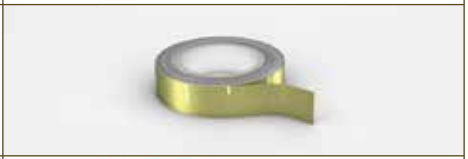
Planks must be kept dry. When stored outdoors it must be protected from the weather. Planks must be dry prior to fixing, jointing or finishing.

COASTAL AREAS

The durability of galvanised nails and screws used for exterior cladding in coastal or similar corrosive environments can be as low as 10 years.

For this reason BGC recommend the use of stainless steel fasteners within 1km of the coast or other large expanses of salt water.

ACCESSORIES AVAILABLE FROM BGC - TABLE 2

INTERNAL ALUMINIUM CORNER FOR STRATUM™ AND STRATUM™ DUO	3000mm x 13mm profile	
EXTERNAL ALUMINIUM CORNER FOR STRATUM™ AND STRATUM™ DUO	3000mm x 13mm profile	
INTERNAL ALUMINIUM CORNER FOR STRATUM™ CONTOUR	3000mm x 16mm profile	
EXTERNAL ALUMINIUM CORNER FOR STRATUM™ CONTOUR	3000mm x 16mm profile	
INTERNAL AND EXTERNAL SNAP ON CORNERS	3000mm	
STARTER STRIP FOR STRATUM™ CONTOUR	3000mm	
EPDM FOAM GASKET STRIP	25m	
BOND BREAKER TAPE	25m	
SEALANT	SIKA FC11 OR SIMILAR	

FASTENERS

STRATUM™ TO TIMBER FRAME

FACE FIXING
2.8 x 50mm Fibre Cement Nail

50mm Cladpast 2.87mm Class 3

50mm Deckfast Type D 2.5mm head

CONCEALED FIXING
40mm Fibre Cement Nail

Paslode ND 50mm 14 Gauge Stainless Steel

STRATUM™ TO STEEL FRAME

FACE FIXING - STEEL FRAME BMT 0.75-1.6mm
32mm Quick drive Screw

Buildex 8 x 18 x 35 SEH Wingteks or similar

FACE FIXING - STEEL FRAME BMT 0.5-0.75mm
Fibre Zip M5 - 18 x 30mm

STRATUM™ PLANK COVERAGE - TABLE 3

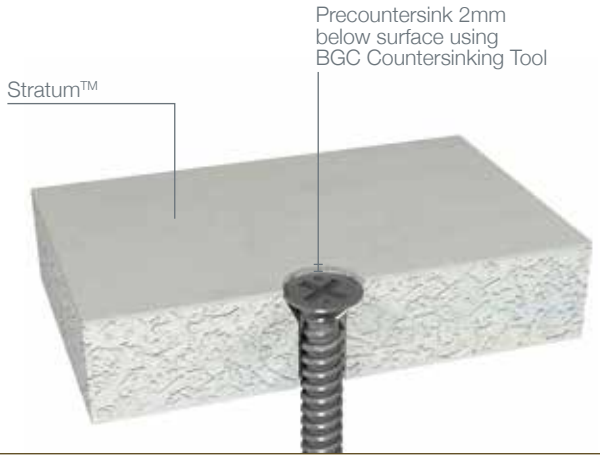
NO. OF PLANKS	STRATUM™ AND STRATUM™ DUO	STRATUM™ CONTOUR
	PLANK SIZE 4200 x 300 x 12mm	PLANK SIZE 4200 x 170 x 10mm
	PLANK OVERLAP 24mm	PLANK OVERLAP 29mm
	EFFECTIVE COVER PER PLANK 4200 x 276mm OR 1.159m²	EFFECTIVE COVER PER PLANK 4200 x 141mm OR 0.592m²
1	300	170
2	576	311
3	852	452
4	1128	593
5	1404	734
6	1680	875
7	1956	1016
8	2232	1157
9	2508	1298
10	2784	1439
11	3060	1580
12	3336	1721
13	3612	1862
14	3888	2003
15	4164	2144
16	4440	2285
17	4716	2426
18	4992	2567
19	5268	2708
20	5544	2849

Table 1 is provided to assist in calculating the number of planks required to cover a given wall height.

For triangular areas such as Gable ends, halve the quantities derived for a rectangular wall then add 10% to cover off cuts.

PRE COUNTERSINK

When using screws to fasten Stratum™, pre countersinking is suggested so that the fastener is 2mm under the plank surface for filling with epoxy filler and BGC Exterior Finishing Compounds.



CONSTRUCTION DETAILS

FRAMING

Stratum™ is designed to be installed horizontally to both timber and lightweight steel frames.

Ensure that the frame is square and work from a central datum line. The frame must be straight and true to provide a flush face to receive the panels.

BGC suggest a maximum tolerance of 3mm-4mm in any 3000mm length of frame.

Stratum™ will not straighten excessively warped or distorted frames and any warping may still be visible after Stratum™ planks are applied. Warped framing will require remedial action.

TIMBER FRAMING

Use of a timber frame must be in accordance with AS1684 – Residential timber-framed construction and the framing manufacturers' specifications.

Use only seasoned timber. Do not use unseasoned timber as it is prone to shrinkage and can cause sheets and frames to move.

"Timber used for house construction must have the level of durability appropriate for the relevant climate and expected service life conditions including exposure to insect attacks or to moisture which could cause decay" – Reference AS 1684.2

The framing width at sheet joints must be a minimum of 45mm. The intermediate support studs should be a minimum of 70x35mm.

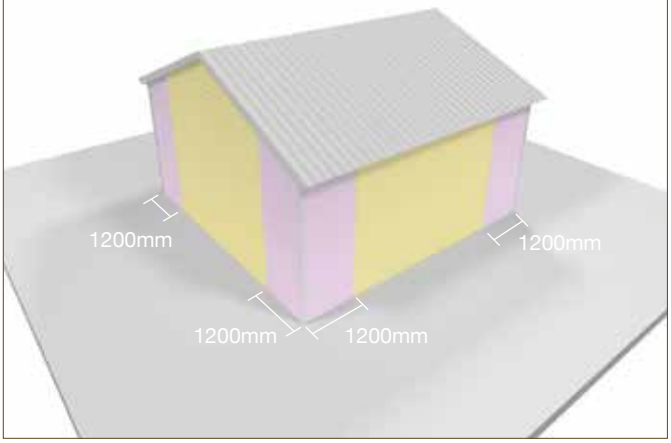
LIGHT WEIGHT STEEL FRAMING

Use of steel frame must be in accordance with AS3623 – Domestic metal framing and the framing manufacturers' specifications.

Framing members must have a Base Metal Thickness (BMT) between 0.55 to 1.6mm. The steel framing must have the appropriate level of durability required to prevent corrosion.

The framing width at sheet joints must be a minimum of 50mm. The intermediate support studs should be a minimum of 64x35mm.

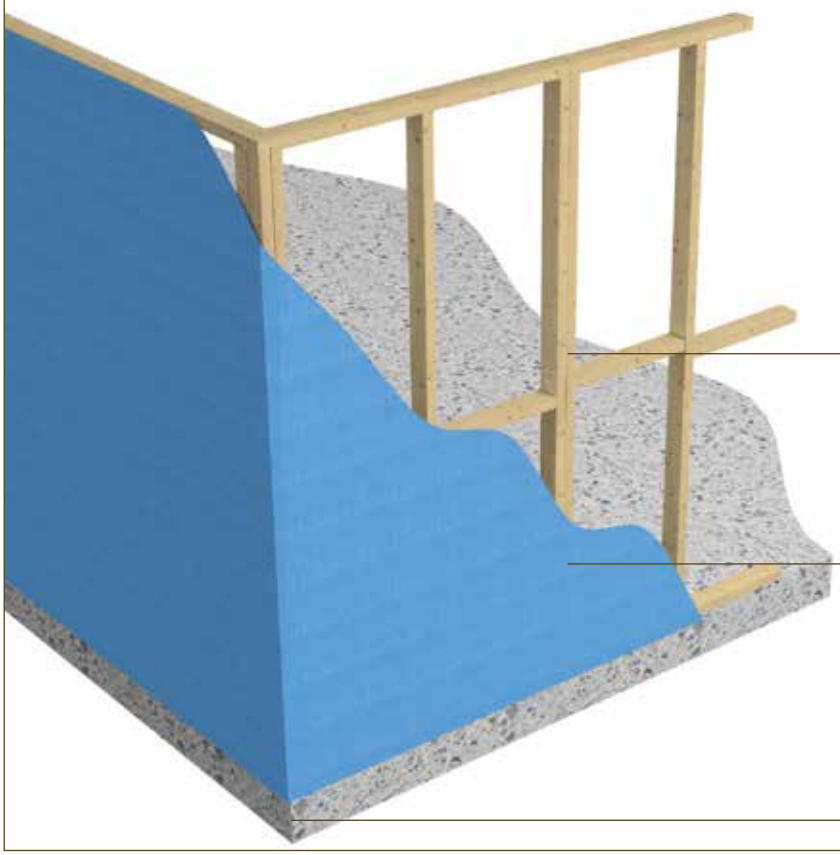
WALL AND GABLE END CLADDING



MAXIMUM STUD & FASTENER SPACING - TABLE 4

Framing Centres (mm max.)	300						
	400						
	450						
	600						
	900						
AS 4055 - 1992	Non Cyclonic	N1	N2	N3	N4	N5	N6
	Cyclonic			C1	C2	C3	C4
Queensland Standard	Non Cyclonic	W28N	W33N	W41N	W50N	W60N	W70N
	Cyclonic			W41C	W50C	W60C	W70C
Wind Classification							

FIGURE 1
CONSTRUCT FRAME



Construct frame and fit windows

Ensure double 35mm studs are installed at all vertical flashing strip joints, refer to framing section for alternative framing

Vapour Permeable Sarking

Ensure required ground clearance provided

FIGURE 2
SLAB DETAIL / STRATUM™ / STRATUM™ DUO

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INSTALLATION DETAILS

FIGURE 3
SLAB DETAIL / STRATUM™ CONTOUR

INSTALLATION DETAILS

FIGURE 4 STRATUM™/STRATUM™ DUO ON STUD JOINTING

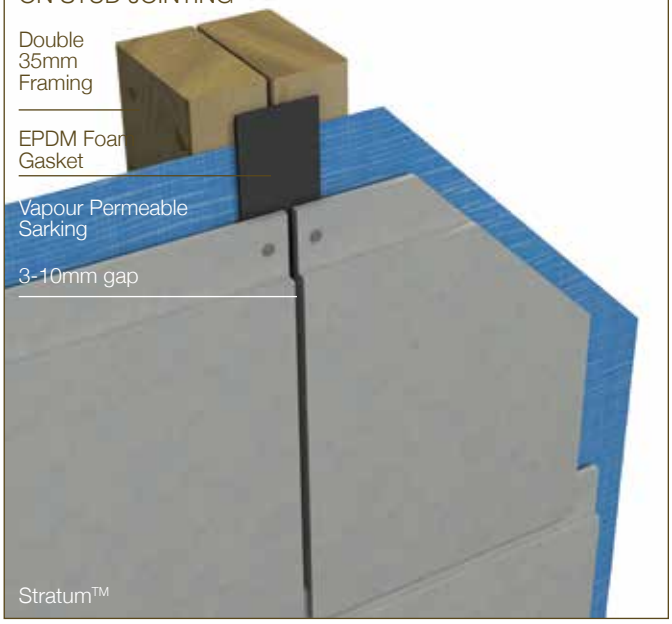


FIGURE 6 STRATUM™/STRATUM™ DUO ON STUD JOINTING

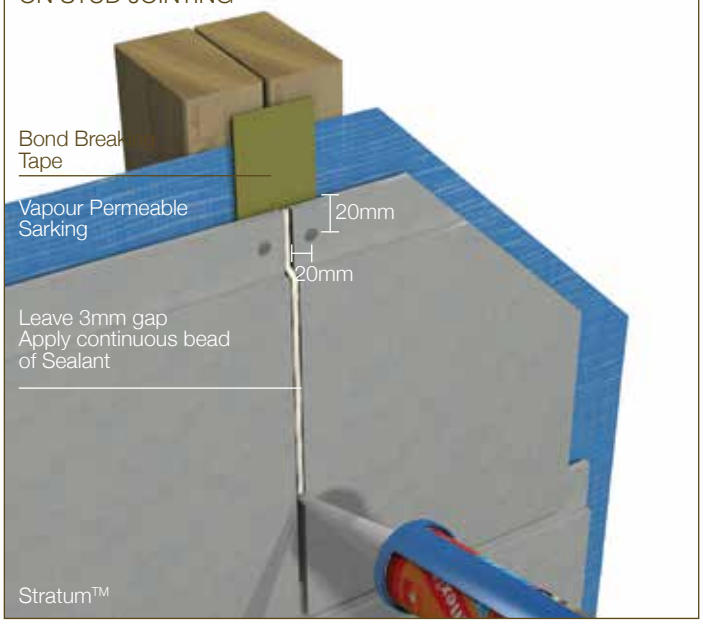


FIGURE 5 STRATUM™/STRATUM™ DUO OFF STUD JOINTING

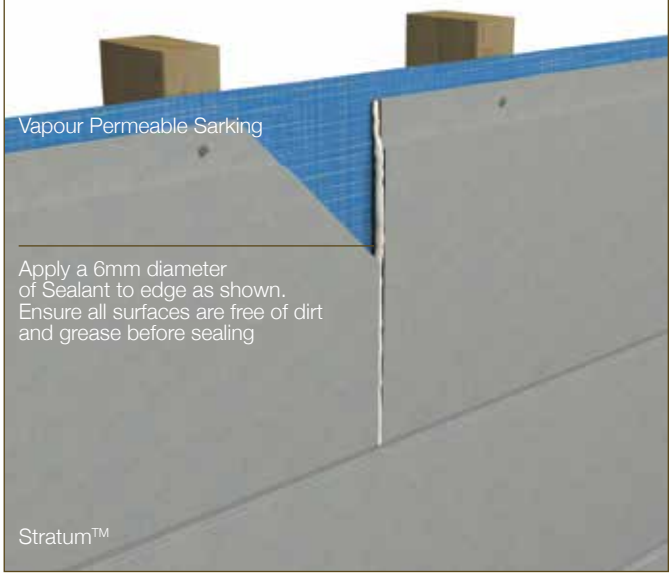


FIGURE 7 STRATUM™ CONTOUR
OFF STUD BUTTED JOINT

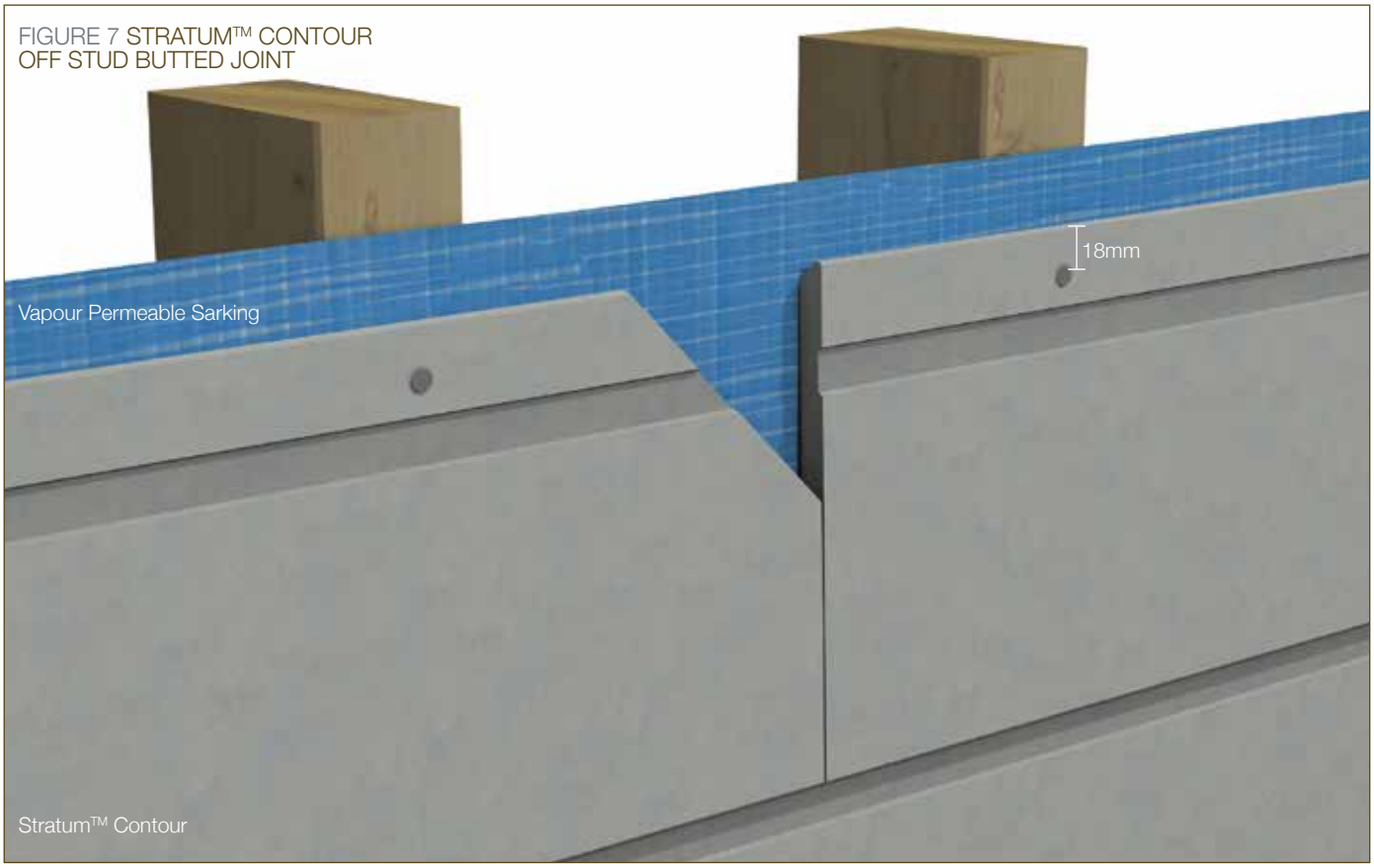


FIGURE 8 STRATUM™ CONTOUR
OFF STUD FILLED JOINT

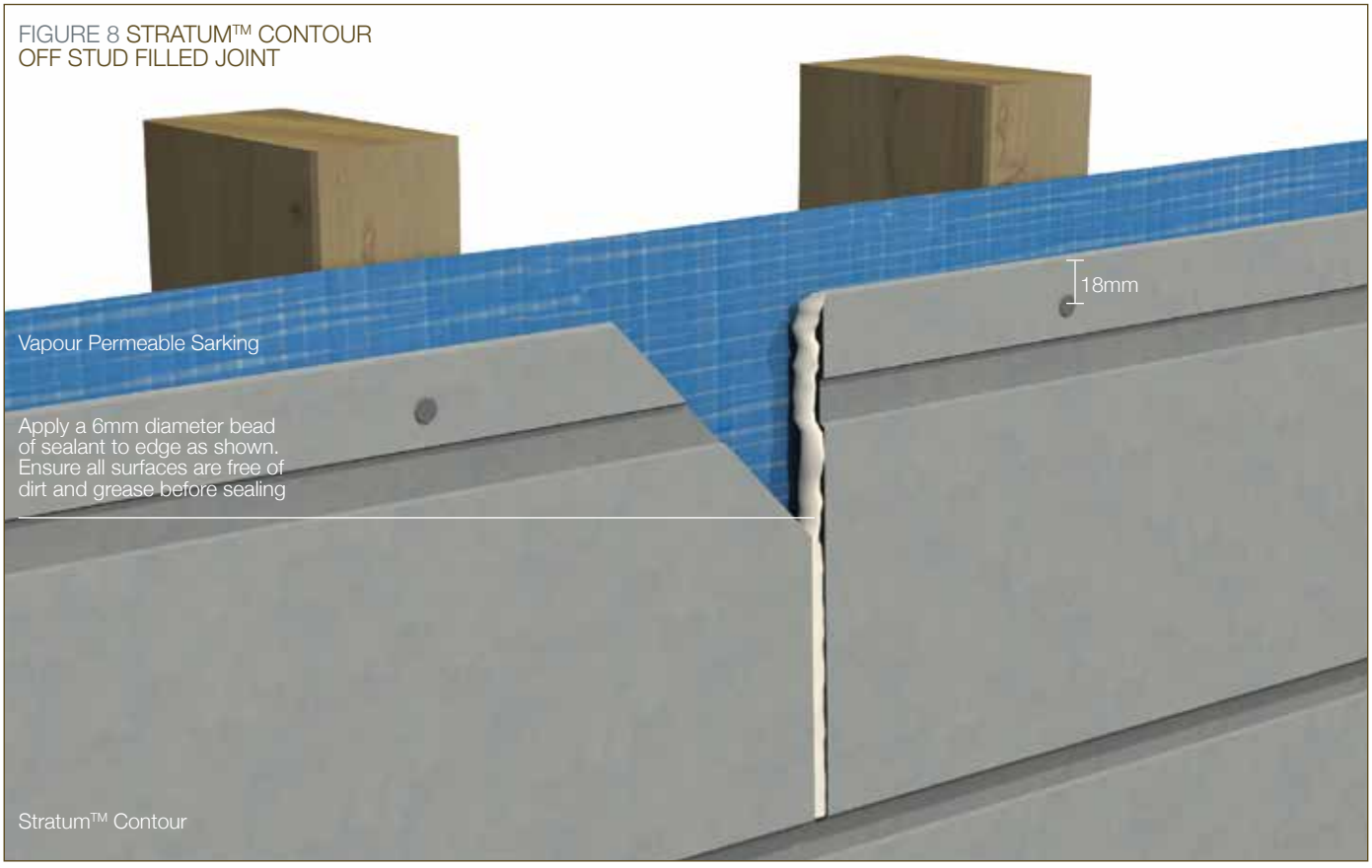
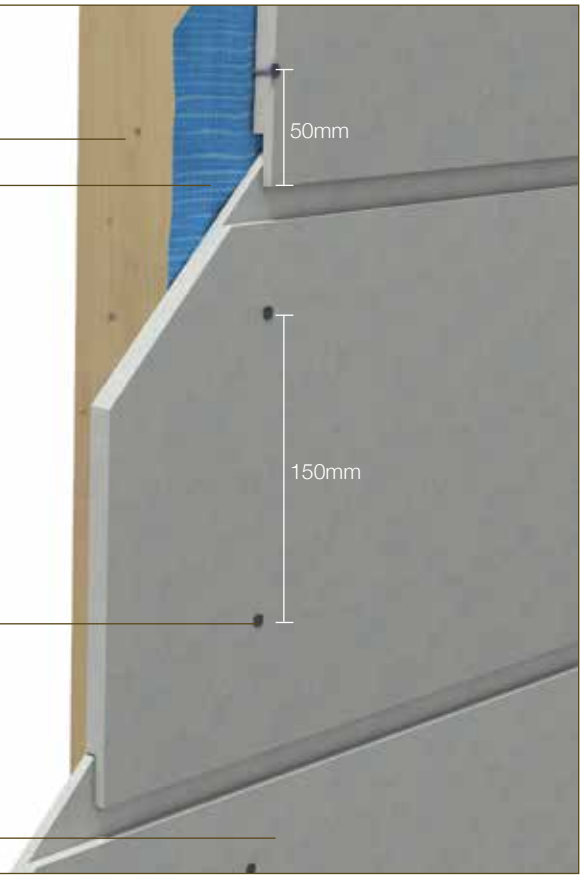


FIGURE 9
FACE FIXING



Stud

Vapour Permeable Sarking

TIMBER FRAME / HAND NAILING
Use 50mm minimum class 3 fibre cement nails.

TIMBER FRAME / GUN NAILING
Use a minimum class 3 50mm long coil nail or
50mm Deckfast type D head 2.5mm face head.

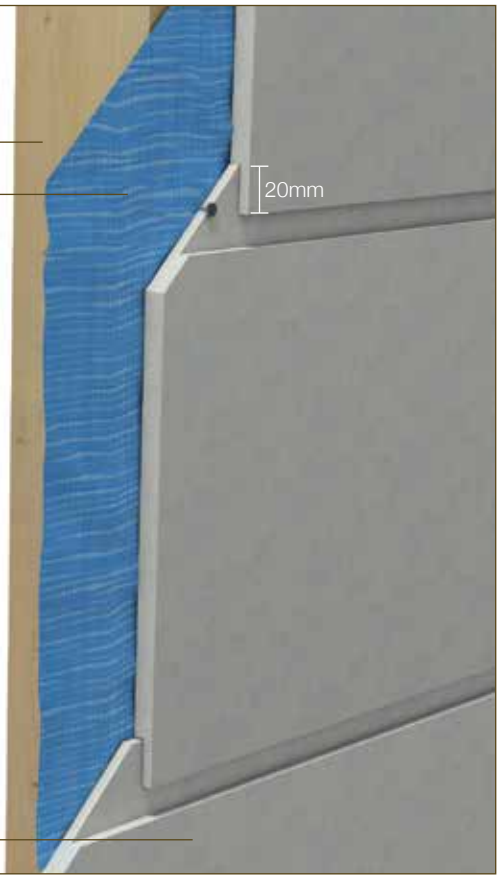
STEEL FRAME / SCREW FIXING
Use minimum class 3:32mm screws.
Buildex: Fibre Zip or Wingtek, or Quickdrive (refer pg8).

WIND ZONES
Up to N4-C2 Single fastner through face
N5, N6, C3, C4 two fastners at 150mm centres.

Fastener

Stratum™

FIGURE 10
CONCEALED FIXING



Stud

Vapour Permeable Sarking

TIMBER FRAME / HAND NAILING
Use 40mm minimum class 3 fibre cement.

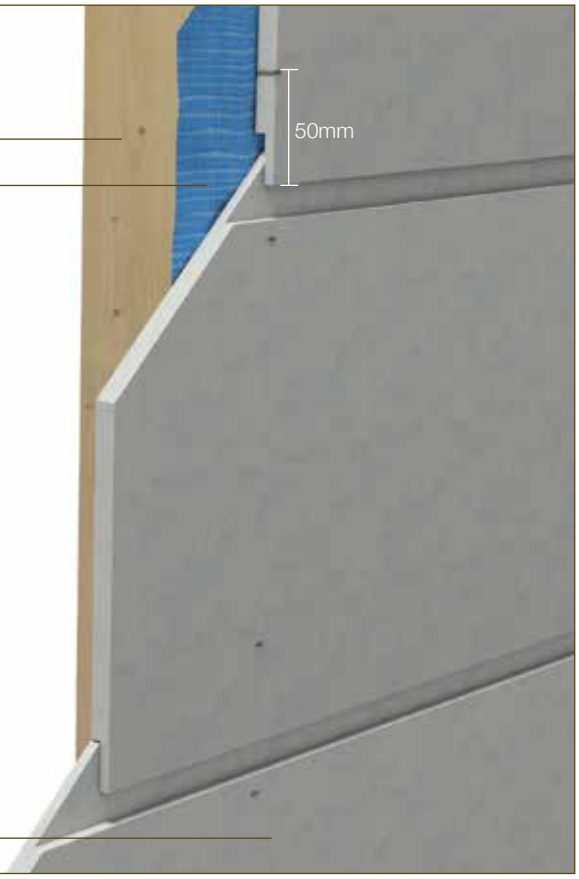
TIMBER FRAME / GUN NAILING
GUN NAILING IS SUITABLE ONLY FOR FACE FIXING
AND CANNOT BE USED FOR CONCEALED FIXING.

STEEL FRAME / SCREW FIXING
Use minimum class 3:32mm screws.
Buildex FibreZip, Wingtek or Quickdrive.

Suitable for N1, N2 and N3 Wind Zones.

Stratum™

FIGURE 11
BRAD FIXING TO TIMBER



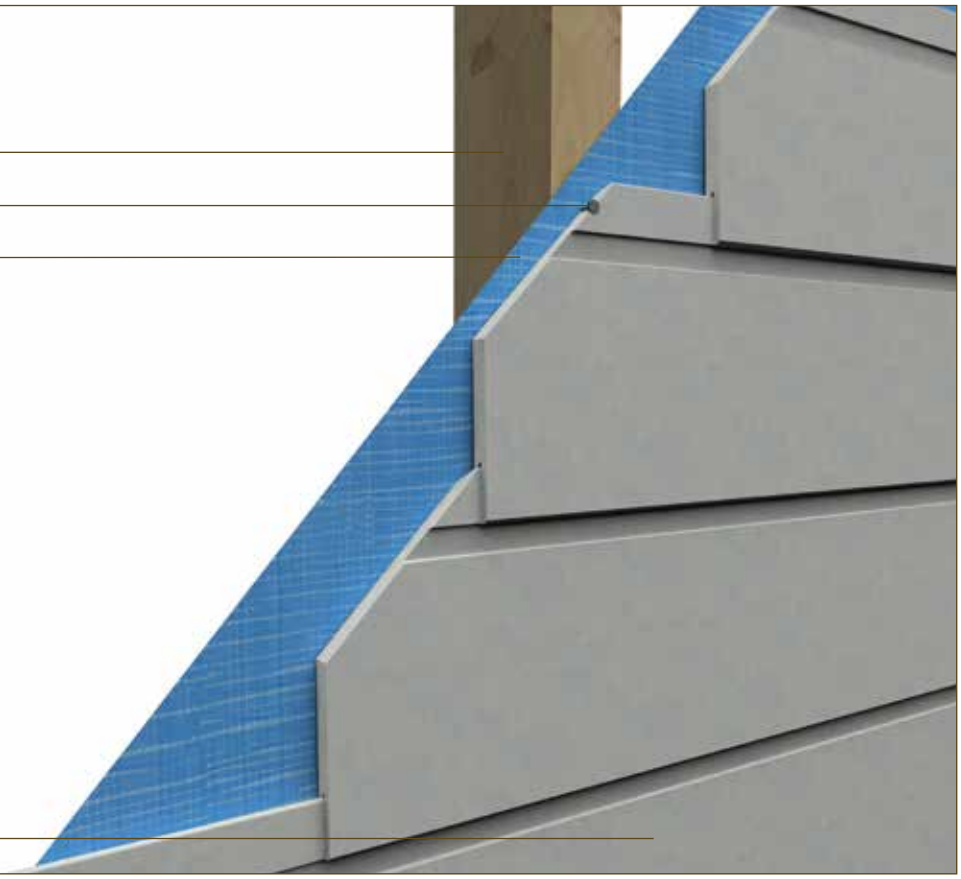
Stud

Vapour Permeable Sarking

Suitable for N1, N2 and N3 Wind Zones.

Stratum™

FIGURE 12 STRATUM™ CONTOUR
CONCEALED FIXING



Stud

Fastener

Vapour Permeable Sarking

Suitable for Wind Zones up to
N4/C2.

Stratum™ Contour

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FIGURE 13
EXTERNAL CORNER – MITRE

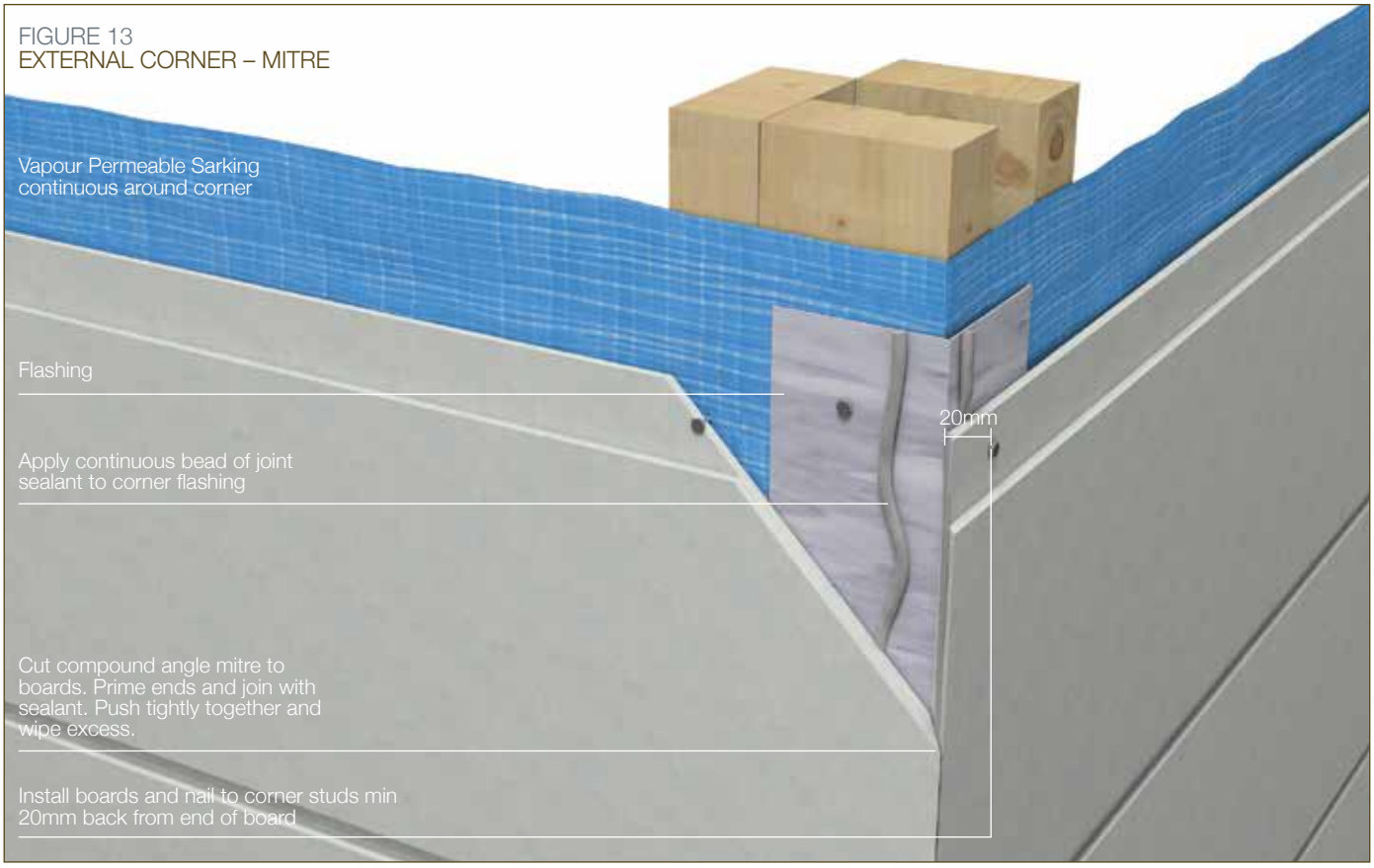
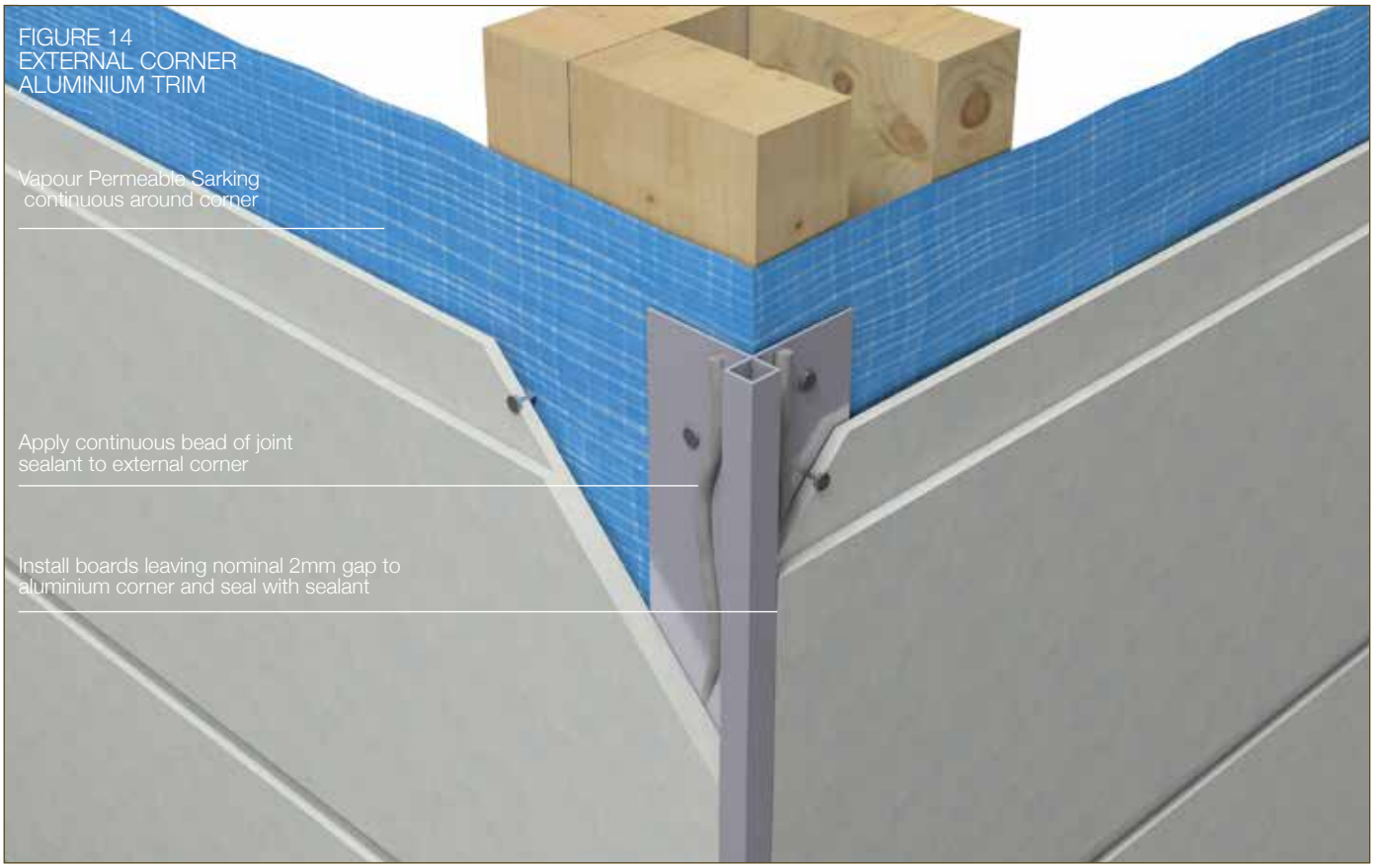


FIGURE 14
EXTERNAL CORNER
ALUMINIUM TRIM



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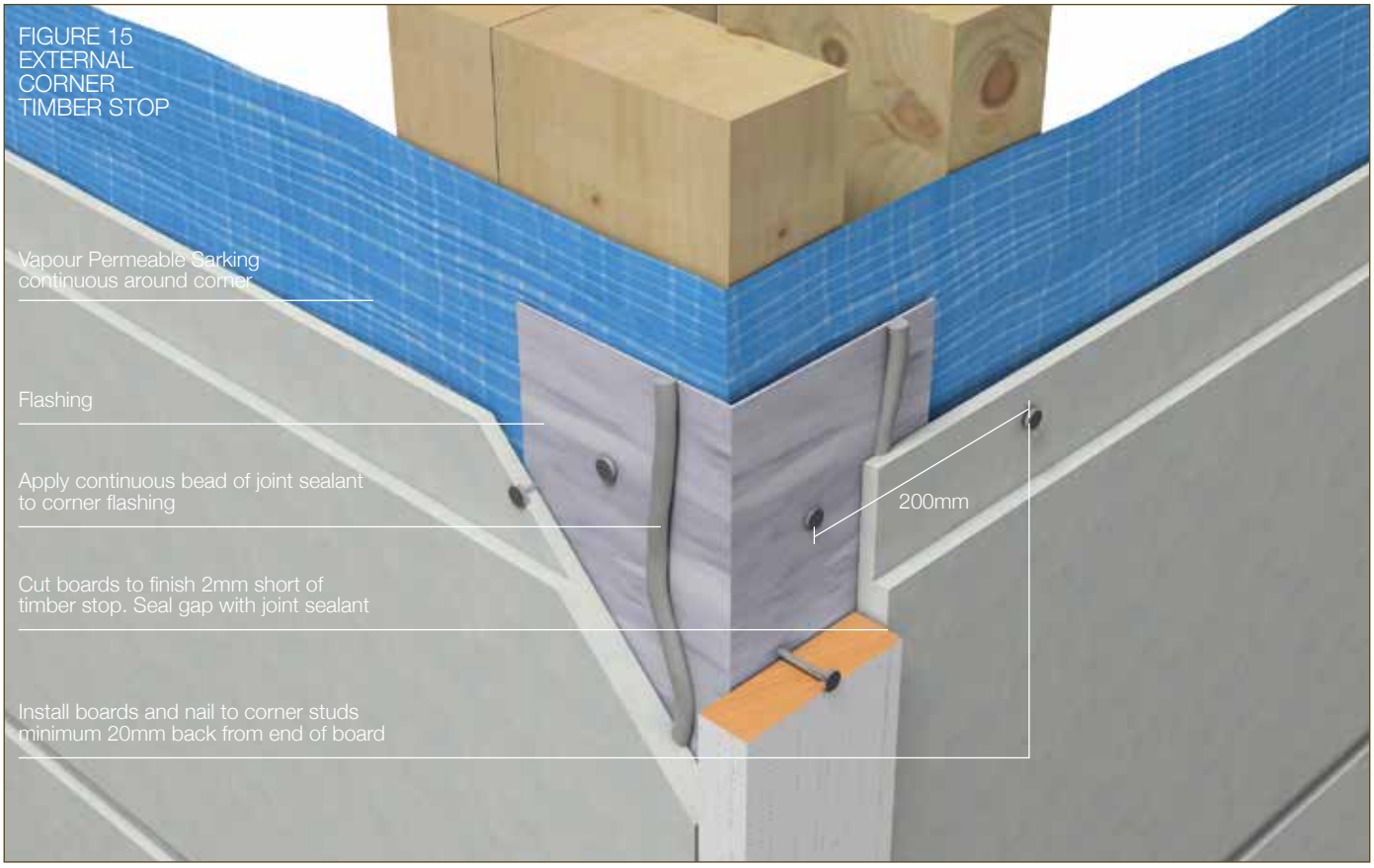

FIGURE 15
EXTERNAL
CORNER
TIMBER STOP

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FIGURE 16
INTERNAL CORNER – MITRE

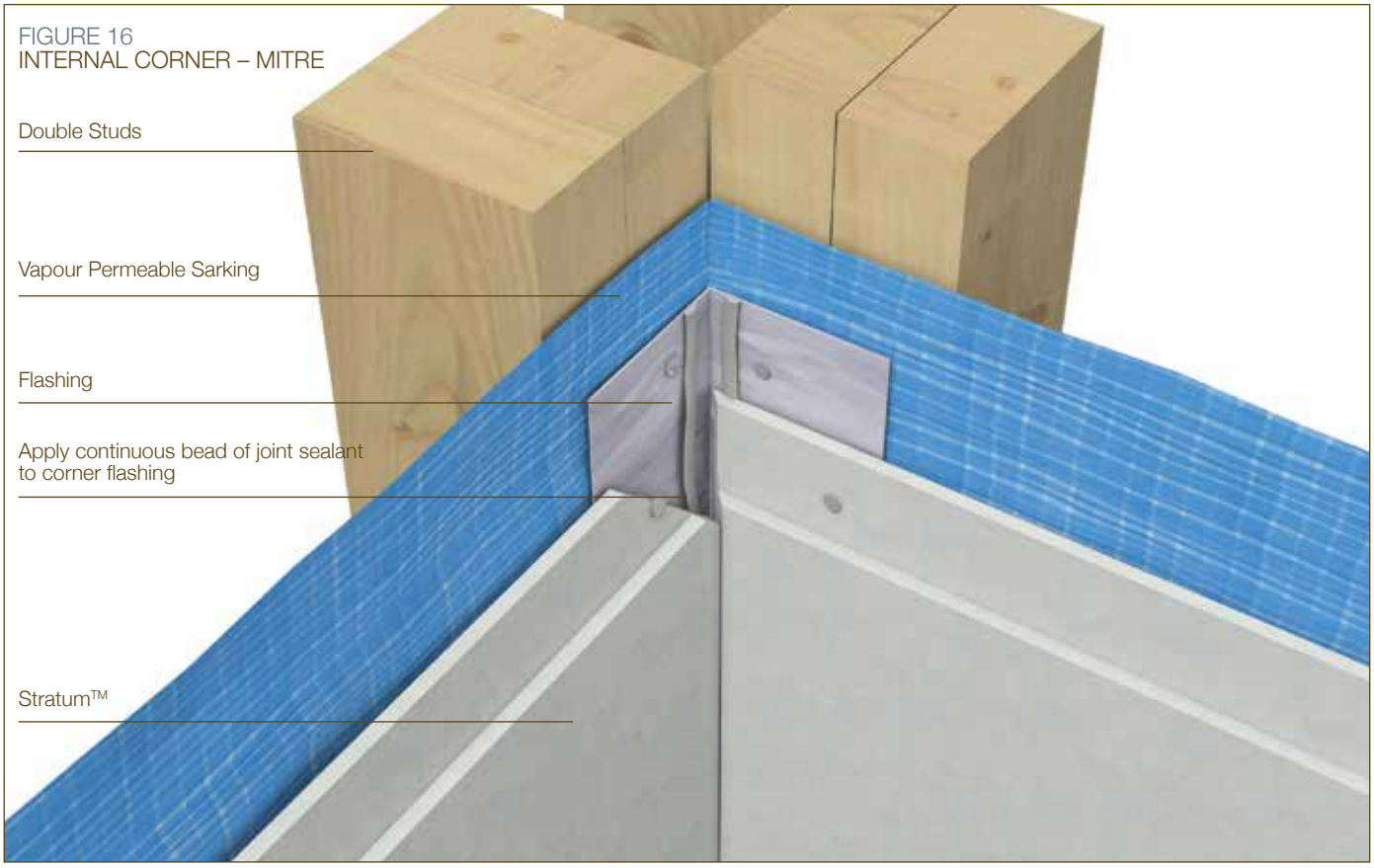


FIGURE 17
INTERNAL CORNER – ALUMINIUM TRIM

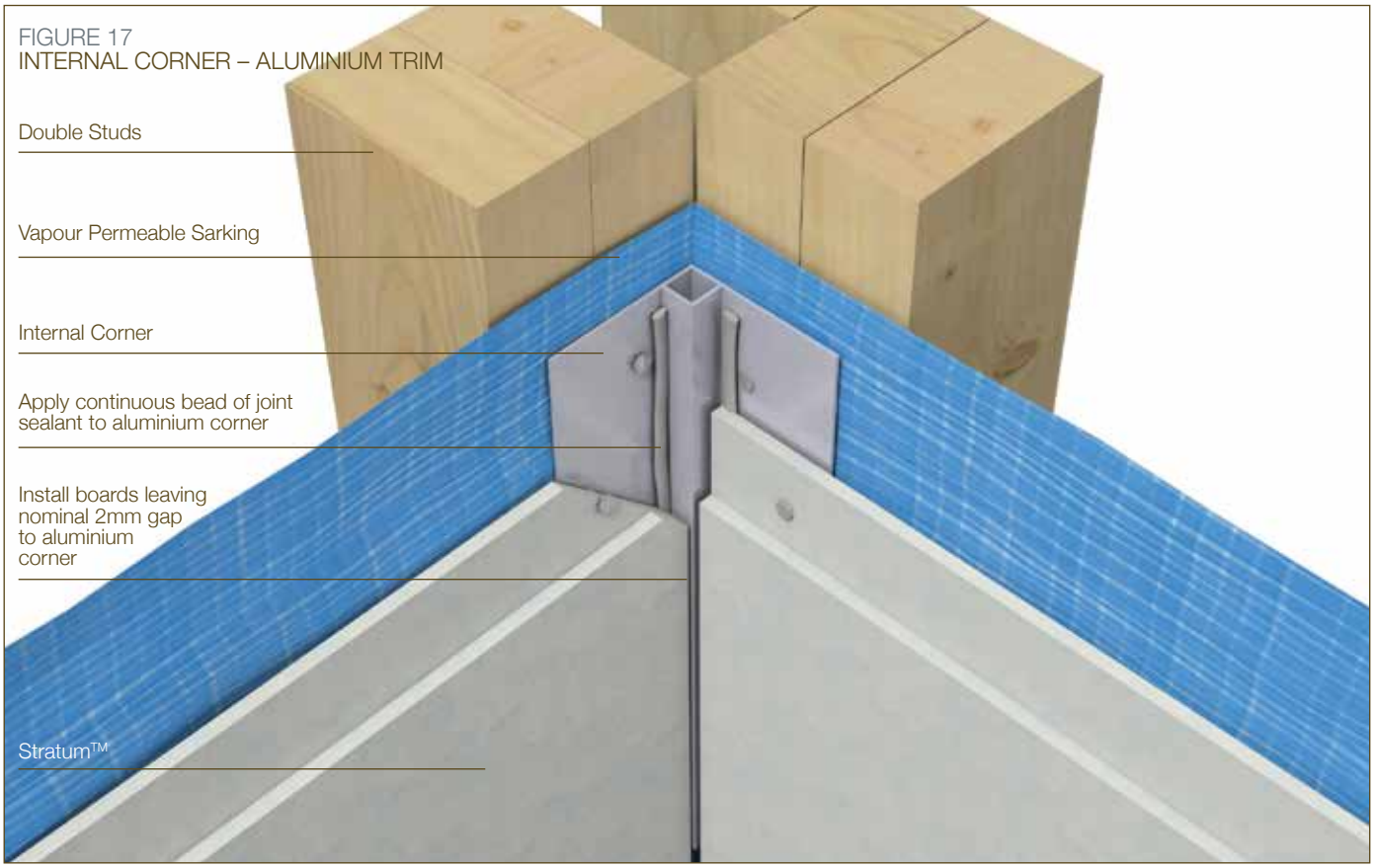


FIGURE 18
WINDOW HEAD

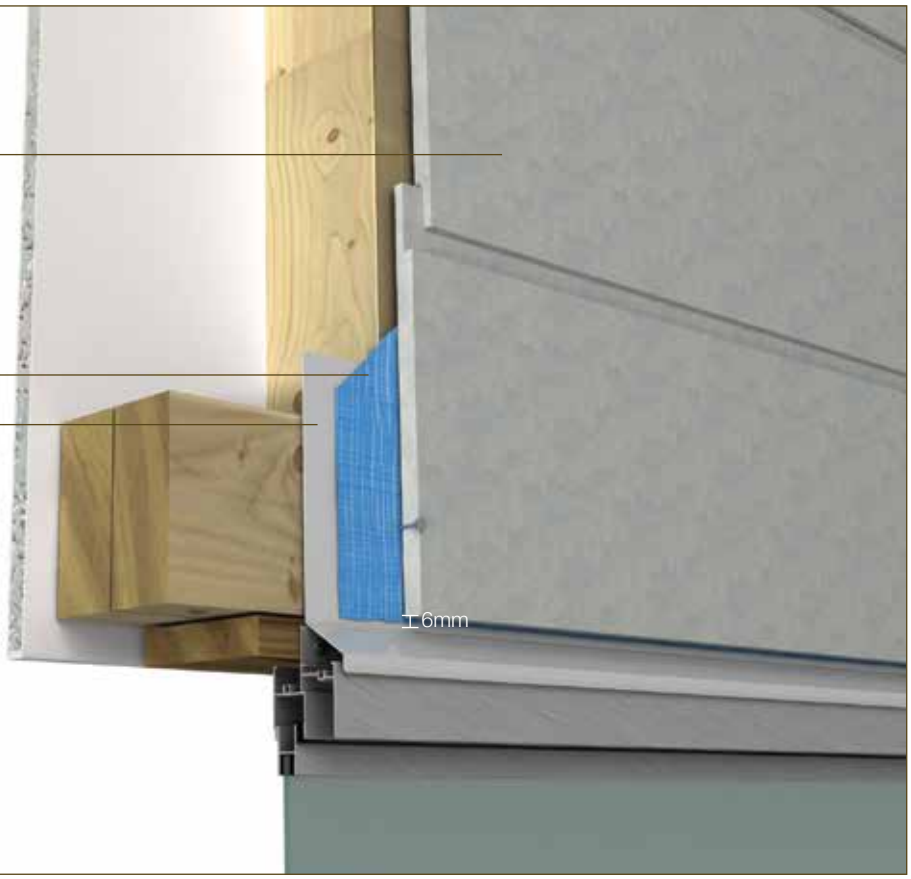


FIGURE 19
WINDOW SILL

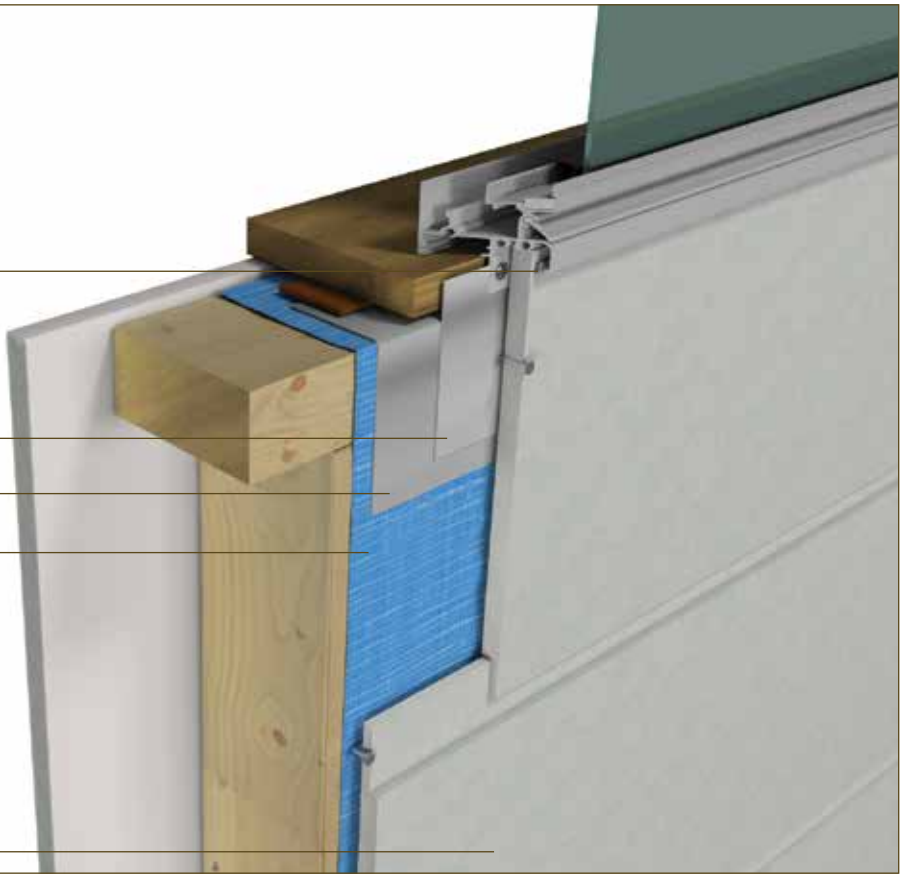
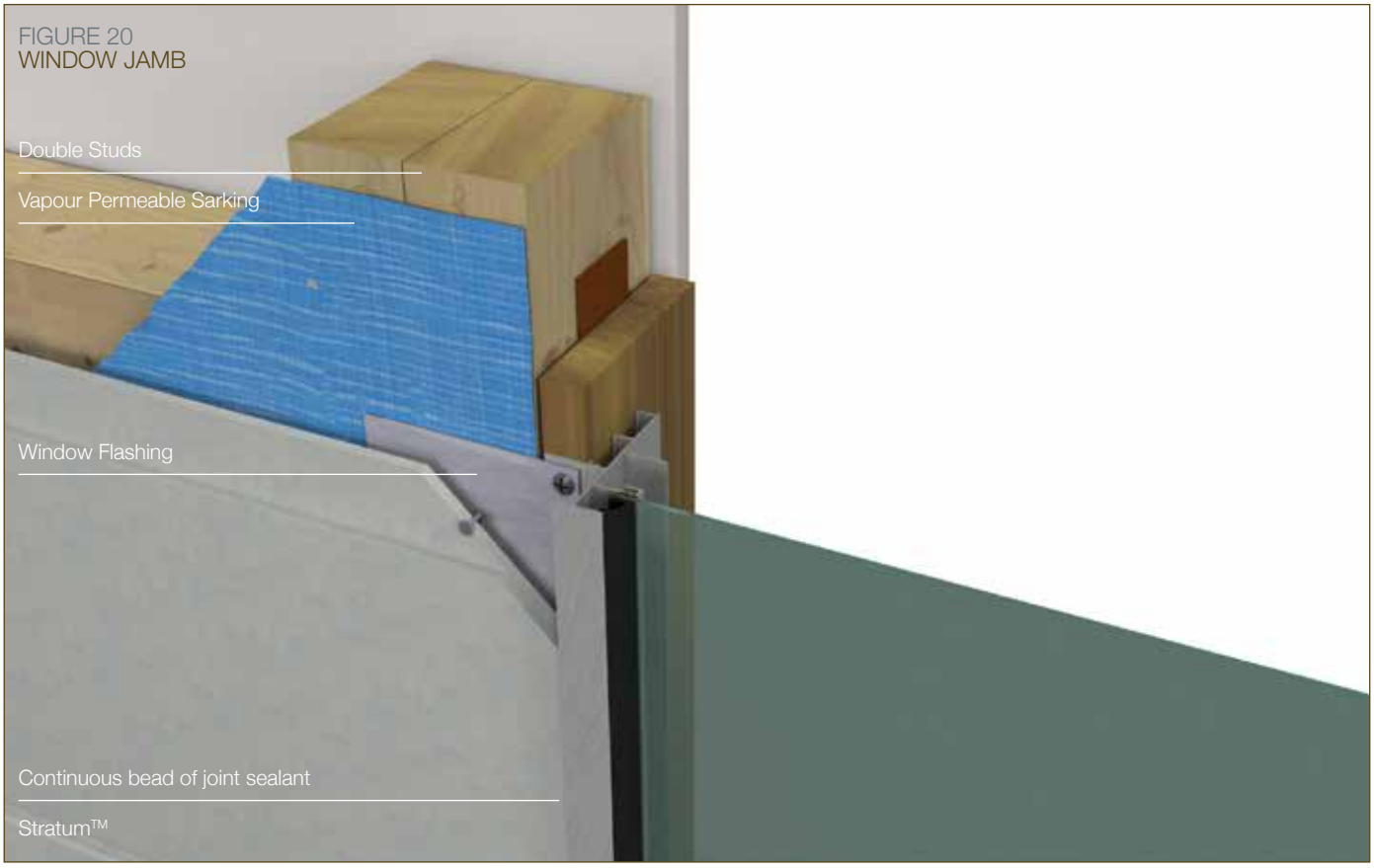


FIGURE 20
WINDOW JAMB



PAINTING

It is recommended that Stratum™ is painted according to the paint manufacturer's instructions within three months following delivery to site with a minimum of two coats of quality exterior paint. Apply chosen paint finish to the manufacturer's recommendations.

Should Stratum™ be exposed to the elements for a period beyond the initial three months to achieve an optimum finish an additional priming coat is recommended prior to the top finishing coats being applied.

Ensure that the Stratum™ planks are dry and clean prior to applying a quality exterior paint system.

MAINTENANCE

Stratum™ when used in accordance with this literature requires no direct maintenance.

To guard against water penetrating the structure and damaging the framework, annual inspections of the cladding system should be carried out. Check flashing, sealant joints and paint work. Flashing and sealants must continue to perform their design function.

Damaged planks should be replaced as originally installed. Paintwork should be maintained.

INSULATION

Stratum™ planks will require insulation to be installed in some regions that have thermal loss regulations.

Insulation should be installed in accordance with the manufacturer's instructions. Insulation batt's must fit snugly between framing members to minimise heat loss

FREEZE THAW

Stratum™ is subject to freeze / thaw conditions must be painted.

Stratum™ should not be used in situations where it will be in direct contact with snow or ice for prolonged periods

THERMAL BRIDGING

Thermal breaks are required for steel framed buildings, in walls enclosing habitable and or useable spaces. Careful consideration of thermal heat transfer and the position of thermal breaks need to be addressed by the architects, engineers and building designers.

Balustrades, parapets, and other non-enclosing wall elements may not require thermal bridging, except where the possibility of high thermal heat transfer exists through the steel CFS sections to the main structural steel element of the building.

Thermal breaks should be installed between Stratum™ and the steel framing.

For further information refer to section 3.12.1.4 of the BCA.

Thermal bridging is to be no less that R 0.2

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 Fibre Cement Pty Ltd
121 Bannister Rd Canning Vale WA 6155
Phone 08 9334 4900 Fax 08 9334 4749

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 bgc.com.au/FibreCement);
- 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.

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BGC Fibre Cement

BUSHFIRE & BOUNDARY WALL AREAS

Stratum™ is eminently suited for both bushfire and boundary wall applications in residential and multi residential buildings.

Stratum™ may be used by itself to achieve up to and including BAL 40 when fixed direct to frame as per the fixing instructions in this manual.

Stratum™ when used in conjunction with BGC 16mm Wet Area Fireboard will comply with the requirements of AS3959:2009 and AS1530.4 to achieve BAL FZ>10 as well as 60 minute and 90 minute boundary wall systems.

BUSHFIRE AS3959:2009 APPLICATIONS

AS3959:2009 sets out a series of Bushfire threat levels to buildings described as BAL (Bushfire Attack Levels) as follows: BAL-Low, BAL-12.5, BAL-19, BAL-29, BAL-40 or BAL-FZ (Flamezone).

Stratum™ may be used to achieve a BAL-40 or BAL-FZ>10 when used in conjunction with 16mm Wet Area Fireboard.

BOUNDARY/EXTERIOR WALLS

Stratum™ in conjunction with BGC 16mm Wet Area Fireboard can achieve both 60/60/60 and 90/90/90 FRL fire ratings from the outside as required by the BCA.

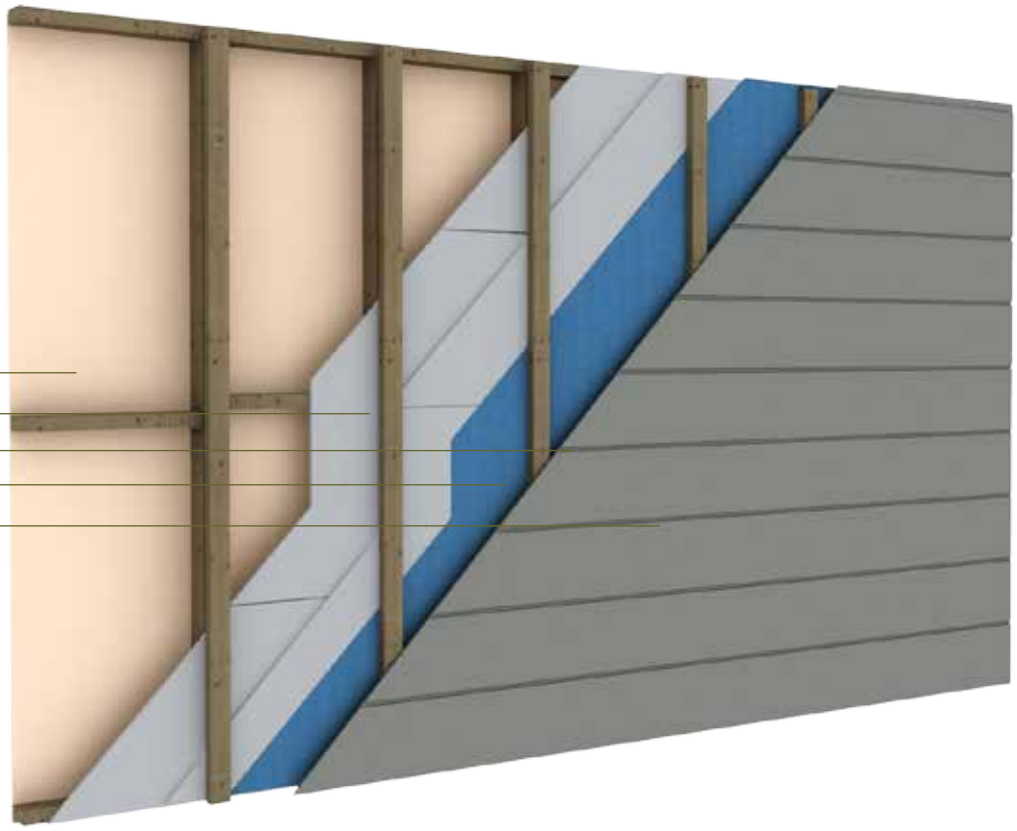
Where an exterior wall is required to achieve 60/60/60 FRL (Fire Resistance Level) from the outside, 1 layer of 16mm BGC Wet Area Fireboard installed with Stratum™ over the Wet Area Fireboard will meet minimum BCA requirements.

Similarly 2 layers of 16mm BGC Wet Area Fireboard used in conjunction with Stratum™ will achieve 90/90/90 from the outside.

NOTE: All exterior walls must have sarking beneath the Stratum™. No adhesives are to be used when installing Wet Area Fireboard and the Stratum™. Nails or screws must be used.

For more information please contact your nearest BGC Fibre Cement office.

FIGURE 17
BOUNDARY WALL SYSTEM



NOTES

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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 9334 4900

SYDNEY
TELEPHONE
02 9771 9660

NEW ZEALAND
TELEPHONE
0011 64 9264 1457

TECHNICAL HELP LINE
1300 652 242

BGC Fibre Cement

Certified System
Quality
ISO 9001
SAI GLOBAL

BGC FIBRE CEMENT IS A PROUD AUSTRALIAN OWNED MANUFACTURER OF FIBRE CEMENT PRODUCTS.

BGC FIBRE CEMENT PROVIDES BUILDERS, DEVELOPERS AND ARCHITECTS WITH A RANGE OF DESIGN ALTERNATIVES AND INNOVATIVE PRODUCTS, SUCH AS:

EXTERIOR PRODUCTS AND APPLICATIONS
INNOVA RANGE OF PRODUCTS

DURACOM™ / A compressed fibre cement facade system.

DURAFLOOR™ / Is the ultimate flooring product that can used in both interior and exterior applications.

DURAGRID™ RESIDENTIAL & DURAGRID™ LIGHT COMMERCIAL / A light weight facade giving a modern and durable finish.

DURAGROOVE™ / A vertically grooved exterior facade panel.

DURASCAPE™ / A lightweight exterior facade base sheet with a subtle vertical shadow line.

NULINE™ PLUS / A weatherboard style cladding system.

STONESHEET™ / Purpose designed substrate for stone tile facade.

STRATUM™ / Is a trio of plank products, each of which can be used as stand alone products or used together to create a striking exterior cladding solution.

EXTERIOR PRODUCTS AND APPLICATIONS
BGC FIBRE CEMENT RANGE OF PRODUCTS

DURASHEET™ / Ideal for the cladding of gables and lining of eaves. Can also be used on commercial soffits and cladding on non impact areas.

DURAPLANK™ / Available in Smooth, Woodgrain and Rusticated finishes, Duraplank™ is ideal for exterior cladding of upper storey conversions or ground level extensions.

DURATEX™ / A base sheet used for textured coatings on exterior wall applications.

DURALATTICE™ / Square or diamond patterned lattice, suitable for screens, pergolas and fences.

COMPRESSED / Used for domestic, commercial sheet for wet areas, flooring, partitions, exterior decking, fascia and facade cladding.

DURALUX™ / Suitable for exterior applications where it will be sheltered from direct weather.

INTERIOR PRODUCTS AND APPLICATIONS
BGC FIBRE CEMENT RANGE OF PRODUCTS

DURALUX™ / An interior lining board suitable for ceilings and soffits.

DURALINER™ / An interior lining board, this is the perfect substrate for tiles and is ideal for wet areas.

CERAMIC TILE UNDERLAY / A substrate for ceramic and slate floor tiles.

VINYL CORK FLOOR COVERINGS / A substrate for vinyl floors.

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DESIGN
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