Technical brochure
September 2019

innova™

DURACOM GREYSTONE™
PRE-FINISHED FACADES

bgcinnovadesign.com.au

BGC Fibre Cement

innova™
INNOVATIVE BUILDING SYSTEMS

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BGC's stunning Innova™ range of facade, lining and flooring products 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.

Contents

BGC Fibre Cement

DURACOM GREYSTONE™
PRE-FINISHED FACADES

Create that contemporary industrial look with Duracom Greystone™ from Innova™. With 2 shades to choose from, Natural and Charcoal, as well as 2 faces to choose from, Industrial and Velvet, you can create the perfect feature wall inside or out.

Duracom Greystone™ is a prefinished panel that does not require painting or finishing on site. This reduces the need for painting trades and speeds up the building process.

Duracom Greystone™ is ideal for use internally to create a striking feature wall or perfect for external use to create an eye catching facade.

Duracom Greystone™ Pre-Finished Facade System

- Provides a modern industrial look with 2 different shades and 2 different faces
- Lightweight and easy to install using a proven installation method
- Great solution when panels may be difficult to maintain. The factory applied treatment means you do not need to recoat or repaint panels, reducing maintenance costs
- Australian manufactured, tested and warranted
- Panels are non-combustible, which ensures a perfect cladding option for both commercial and residential projects

DURACOM GREYSTONE™
PRE-FINISHED FACADES

Applications

Duracom Greystone™ is a compressed fibre cement panel which is manufactured using Innova™ Duracom™ technology. Duracom™ panels have been in the Australian market for over 20 years and have been installed in schools, hospitals and many other commercial projects.

Duracom Greystone™ panels can be installed in many different patterns, from vertical to horizontal, brick bond to diamond and many more.

Product Choices - Shade and Face

First, choose your colour!

Duracom Greystone™ comes in 2 monochrome shades – Duracom Greystone™ Natural and Duracom Greystone™ Charcoal.

Duracom Greystone™ Natural is a lighter traditional cement colour that reflects the urban feel of concrete.

Duracom Greystone™ Charcoal is a darker shade and gives the effect of a graphite charcoal finish to the panel.

Then, choose your face!

Duracom Greystone™ Industrial or **Duracom Greystone™ Velvet** - Duracom Greystone™ can be used on both faces of the panel to achieve a different look. Find the face that suits your project.

Duracom Greystone™ Velvet has a uniform colour which is elegant and sophisticated.

Duracom Greystone™ Industrial has a patina appearance and will include some indentations, scratch marks and dents, which are inherent in the manufacturing process.

To add some variety you can mix and match the different shades and faces to achieve a truly unique and eye catching wall design.

Fasteners

The fasteners you choose form part of the overall look of Duracom Greystone™ and should be considered as a design element.

Subtle – There is a subtle fastener option using No 10 x 25mm Pan Head Self-Drilling Screw that are shown on page 7.

Bold – Choose a fastening option that is a larger bolt or screw to add to the urban industrial feel of your design.

Duracom Greystone™
Natural Industrial

Duracom Greystone™
Natural Velvet

Duracom Greystone™
Charcoal Industrial

Duracom Greystone™
Charcoal Velvet

Product Information

Duracom Greystone™ panels are 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.

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

Duracom Greystone™ is a compressed fibre cement panel and is installed using the same metal components as the Innova™ Duracom™ facade system.

Duracom Greystone™ panels are treated with a penetrating sealer that provides long term protection against water absorption. The sealer is protected from UV exposure and the elements by being impregnated into the fibre cement.

Duracom Greystone™ panels are factory sealed and do not require finishing or painting. It is recommended that the cut ends of panels are sealed with Duracom Greystone™ Sealer.

Fire Resistance

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

These tests deemed the following Early Fire Hazard Indices:

/ Ignition Index 0
/ Spread of Flame Index 0
/ Heat Evolved Index 0
/ Smoke Developed Index 0-2

Thermal Breaks

The Duracom Greystone™ facade system is attached to the outside face of a metal framed wall where it is separated from the metal frame by Duracom Greystone™ Steel Top Hats (off-stud) orientated vertically.

Where the lightweight external cladding is not fixed to the metal frame, the NCC thermal break requirements are negated therefore no Thermal Break is required when using the Duracom Greystone™ facade system.

Durability

The physical properties of Duracom Greystone™ make it a very durable product.

/ Duracom Greystone™ panels will not rot or burn and are unaffected by termites, air, steam, salt and sunlight
/ Duracom Greystone™ panels are not adversely affected over a temperature range of 0°C to 95°C

Thermal Conductivity

At Equilibrium Moisture Content the approximate thermal conductivity of Duracom Greystone™ is: - 0.036 W/m°C.

Sheet Sizes and Weight - Table 1

THICKNESS mm	WEIGHT kg/m²	WIDTH mm	LENGTH mm	
			2400	3000
9	14.6	1200	✓	✓

Sheet Tolerances

Duracom Greystone™ complies with the requirements of AS 2908.2.

Health and Safety

Duracom Greystone™ is manufactured from cellulose fibre, finely ground silica, Portland cement and additives. As manufactured, the product will not release airborne dust, but during drilling, cutting and sanding operations cellulose fibres, silica and calcium silicate dust may be released.

Breathing in fine silica dust is hazardous and prolonged exposure (usually over several years) may cause bronchitis, silicosis or cancer.

Avoid Inhaling Dust

When cutting sheets, work in a well-ventilated area and use the methods recommended in this literature to minimise dust generation. If using power tools wear an approved (P1 or P2) dust mask and safety glasses.

These precautions are not necessary when stacking, unloading or handling fibre cement products.

For further information or a Material Safety Data Sheet contact the nearest BGC Sales Office or go to **www.bgcinnovadesign.com.au**

Cutting and Drilling

The most suitable cutting methods are:

/ DURABLADE 180mm Diameter. This unique cutting blade is ideal for cutting fibre cement and 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.

Handling and Storage

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

Colour and Marking Variations

As part of the manufacturing process of Duracom Greystone™ there will be some natural variations in colour between individual panels and products produced at different times. This is an inherent feature of the product. The colours of samples, displays, printed and digital literature will also display such variations in colour that are an inherent feature of the product.

Both Duracom Greystone™ Industrial and Duracom Greystone™ Velvet could have what appear to be imperfections. These are part of the manufacturing process and are an aesthetic feature of the product. These markings will vary between individual panels and products produced at different times.

Both colour and marking will need to be taken in to account as part of the design consideration when selecting Duracom Greystone™ products for projects.

Duracom Greystone™ - Accessories available from BGC

PRIMARY TOP HAT GALVANISED STEEL	120 x 35 x 1.15mm BMT - 6000mm	BGC PRODUCT CODE 831	
	120 x 35 x 1.15mm BMT - 7200mm	BGC PRODUCT CODE 833	
INTERMEDIATE TOP HAT GALVANISED STEEL	50 x 35 x 1.15mm BMT - 6000mm	BGC PRODUCT CODE 835	
	50 x 35 x 1.15mm BMT - 7200mm	BGC PRODUCT CODE 837	
HORIZONTAL BACKING STRIP BMT 0.42	1190mm	BGC PRODUCT CODE 839	
	2390mm	BGC PRODUCT CODE 841	
	2990mm	BGC PRODUCT CODE 843	
WEATHER SEAL FACADE WASHER		BGC PRODUCT CODE GDCA-WSEAL	
WAFER HEAD SELF-DRILLING SCREW	No.10 x 30mm	BGC PRODUCT CODE GSA-SCREW 3010	
EDGE SEALER	500ml	BGC PRODUCT CODE GSA-EDGESEAL	
EPDM FOAM GASKET	25m	BGC PRODUCT CODE 845	

Fasteners - Supplied by others

Top Hats to Frame

Class 3 Hex Head Self-Drilling Screw 12-14 x 20mm

/ Fasteners must comply with AS3566, with a minimum Class 3 coating

/ When installing Duracom Greystone™ in an external application it must be installed with exposed fixings

Design Considerations

It is recommended that project specific facade designs be undertaken by a consultant experienced in such detailing.

The design engineer should determine the wind pressure for the project and specify the layout, spacing and fixing of the Top Hats to the structure.

The deflection of the supporting structure should be limited to span/250 for Serviceability Wind Load, or as limited by AS/NZS1170. 2:2002.

In areas where there is a probability of high wind loading, care should be taken in the design detailing, especially around all openings, corners and other junctions, to ensure the weather resistance of the total system.

Before the Duracom Greystone™ panels and the supporting substructure are installed and fixed, particular care should be taken that all flashing and waterproofing work is complete, including all vapour permeable building wraps and damp proof coursing.

Control Joints

In many cases, control joints will not be required as typical expressed joints permit some differential movement of the Duracom Greystone™ panels and the sub-framing.

It is recommended that the designer consider the need for control joints in the following cases:

- Where the facade crosses a building control joint.
- Where there is likelihood of movement in the sub-framing.
- Continuous facades greater than eight (8) metres in length.
- At a change in the structural substrate; eg. masonry to steel framing.

Panel Preparation

Where it is necessary to cut sheets, cutting tools should have a dust extraction system.

Cut edges must be sealed with Duracom Greystone™ Edge Sealer.

A saw blade such as BGC Durablade with a poly crystalline diamond tip specifically designed to cut fibre cement sheets is recommended.

Ensure work area is well ventilated and wear an approved dust mask (AS/NZS1715 and AS/NZS1716) and safety glasses (AS/NZS1337). It is recommended to cut the sheets face down in order to get the best end results.

Top Hat Spans For Design Wind Pressures

Structural sub-frame spacing must be installed in accordance with BGC fixing specifications. Table 2 provides guidance on the maximum span of Top Hat profiles.

The design capacities of the Duracom Greystone™ Pre-Finished Facade System are in limit state format and are based on AS/NZS1170.2-2002 Wind Actions.

The Top Hat capacities have been calculated in accordance with AS/NZS4600 – cold form steel structures.

The deflection of the Top Hats is based on serviceability factor of 0.6 x ultimate wind loads and is limited to span/250.

The Top Hat sections can be used for cyclonic wind areas – region C & D based on wind pressures. It is the responsibility of the Project Engineer to specify the connection of Top Hats to the support structure. Minimum 12g screw on each leg of Top Hat i.e. two 12g screws at each crossing of Top Hat & steel frame.

Table 2

DESIGN WIND PRESSURE kPA	SINGLE SPAN		DOUBLE SPAN		THREE SPANS	
	Top Hat Spacing mm		Top Hat Spacing mm		Top Hat Spacing mm	
	450	600	450	600	450	600
Up to	MAXIMUM SPAN OF TOP HAT PROFILE					
0.75	1950	1750	2450	2150	2400	2200
1.0	1750	1600	2150	1850	2200	2000
1.5	1550	1400	1750	1500	1900	1700
2.0	1400	1250	1500	1300	1900	1700
2.5	1300	1200	1350	1200	1500	1300
3.0	1200	*	1250	*	1400	*
4.0	1050	*	1050	*	1200	*

Installation Details

Position the Top Hats according to predetermined and marked spacings and ensure that they are vertical (check with a spirit level).

Figure 1
Top Hats Position

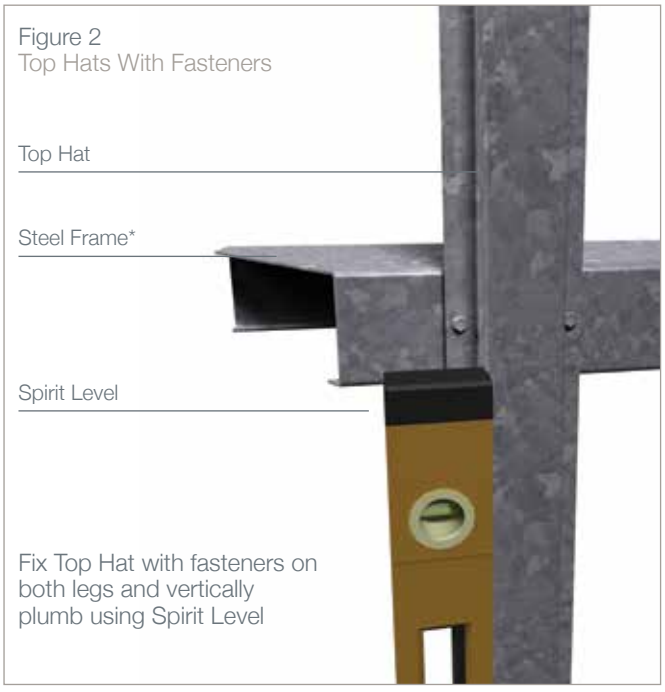
Fix the Top Hats to the steel frame using Hex Head Self-Drilling Screw fasteners ensuring that both legs of the Top Hats are fixed to the structural framing.

Also, ensure that the Top Hats are mounted vertical using a spirit level to check.

For inclined or diamond patterns, check that the inclined angle of the Top Hats are correct.

The Top Hats must be fixed on both legs to minimise flexing of the Top Hats.

Figure 2
Top Hats With Fasteners



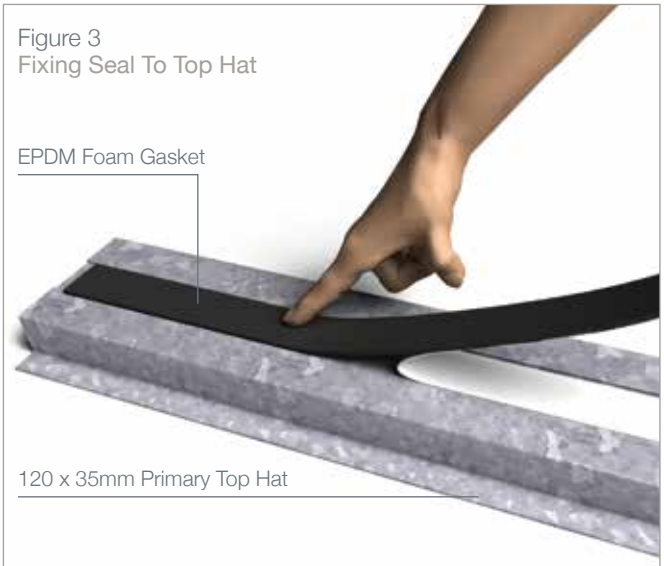
*Components not supplied by BGC

Installation Details

Apply the EPDM Foam Gasket to the primary 120mm Top Hat. The seal can be applied to the mounted Top Hat insitu or it can be applied to the Top Hat before it is fixed to the steel frame.

Ensure that the EPDM Foam Gasket is applied to the centre of the purpose designed Primary 120mm Top Hat.

Figure 3
Fixing Seal To Top Hat



Set-out and **pre-drill** the holes in the panels to be mounted, as set-out in the table hereunder.

Screw holes must be pre-drilled, allowing 1mm clearance over diameter of screw.

Holes must be drilled using a masonry drill bit.

Do not use an impact drill.

Refer to Table 3 for Maximum spacing of panel fasteners.

Figure 4
Pre-marked and Pre-drilled Panels

Fasteners should be placed at a minimum of 40mm from any edge and 80mm minimum from any corner.

Table 3 - Fastener Spacing

DESIGN WIND PRESSURE. kPa	MAX. TOP HAT SPACING. mm	MAX. FASTENER SPACING AT PANEL EDGE SUPPORTS. mm	MAX. FASTENER SPACING AT INTERMEDIATE SUPPORTS. mm
Up to 1.0	600	300	600
1.5	600	300	400
2.0	600	250	400
3.0	450	400	400
4.0	450	300	250
5.0	450	300	250
6.0	450	300	200

Fix the bottom row of panels allowing a 15mm overlap over the EPDM Foam Gasket. Leave the top row of screws in the panel loose to facilitate the insertion of the backing strip to the panel.

Installation Details

Panel Fixing Using Exposed Head Fasteners

Install the Duracom Greystone™ Weather Seal into the pre-drilled hole in the panel. Drive the screw through the Weather Seal and into the Top Hat using an electric screw gun. BGC recommends the use of a screw gun with torque control to prevent overdriving of screws.

Figure 5
Fixing Details

Figure 6
Vertical Spacing

Figure 7
Applying Sealant

Prepare the Horizontal Backing Strip for installation by applying a polyurethane sealant to the bottom (9mm) edge of the backing strip or by applying the sealant to the top edge of the panel.

Installation Details

Insert the Horizontal Backing Strip behind the top of the panel. Leave fasteners loose along the top edge of the panels to facilitate insertion of backing strip.

Figure 8
Inserting Horizontal Backing Strip along the top edge of the panels

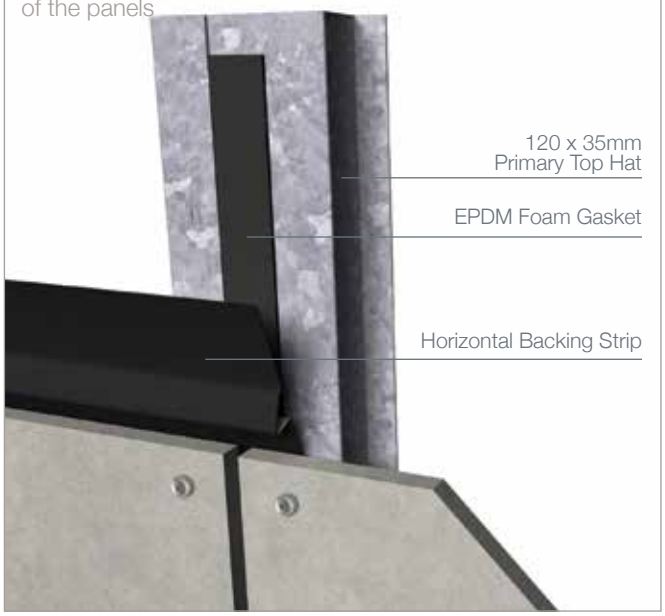


Figure 9
Apply two (2) beads of polyurethane sealant minimum 50mm apart for weather resistant backing strip overlapping joint.

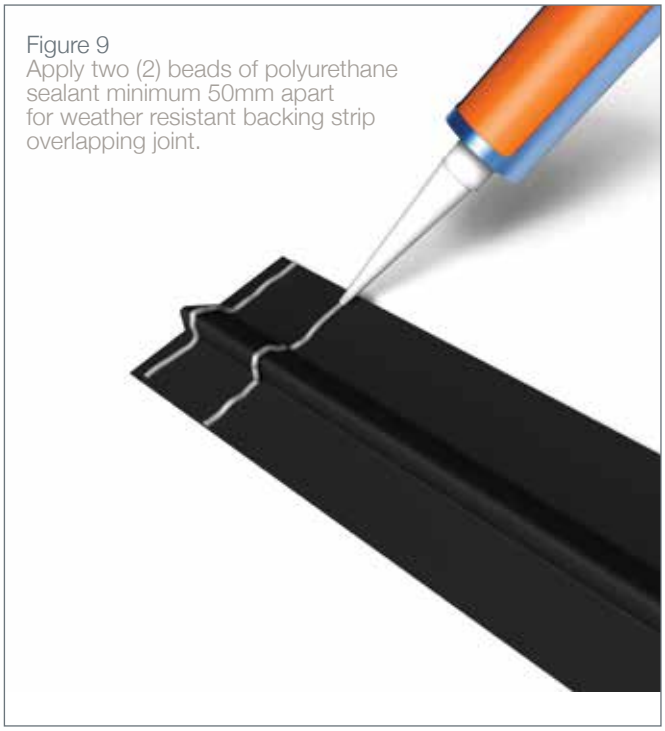


Figure 10
Overlapping of Horizontal Backing Strip

After the Horizontal Backing Strip is in position the top row of screws need to be tightened to draw the panels and backing strip against the Top Hat, completing the seal.

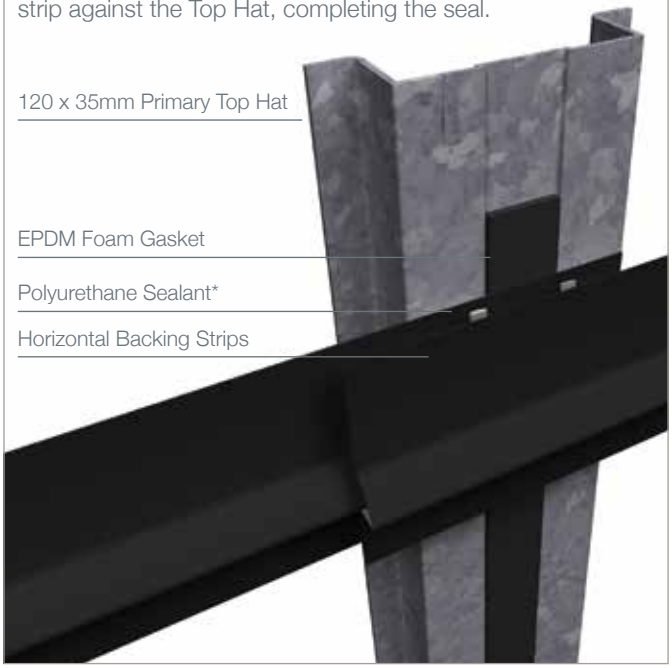
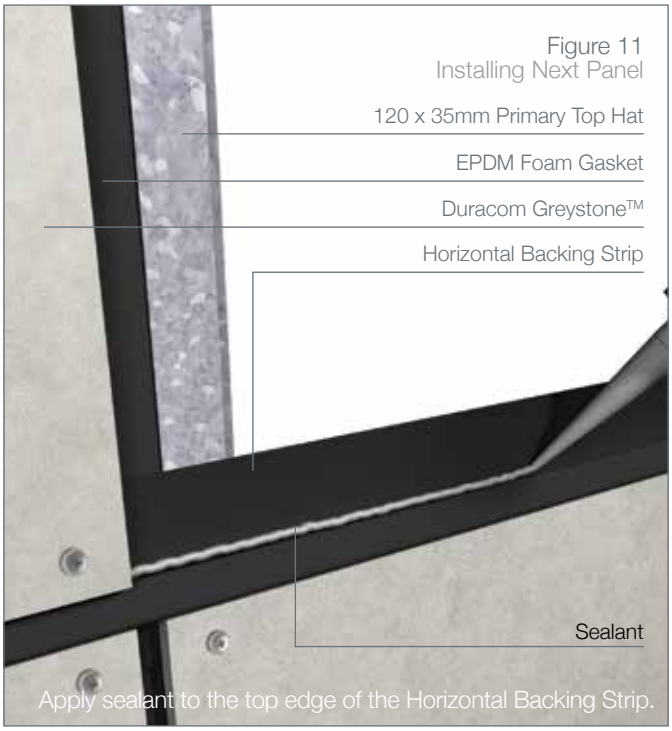


Figure 11
Installing Next Panel



Installation of the next panel – apply a bead of the polyurethane sealant to the top of the Horizontal Backing Strip and then rest a pre-drilled panel on the top of the Horizontal Backing Strip.

*Components not supplied by BGC

Installation Details

The architectural intent and details of buildings vary, and the full variety of facade details would be impossible to catalogue.

The following details are intended to assist the designer to achieve a high quality weather resistant Duracom Greystone™ Pre-Finished Facade. The designer should not digress from the specification set out in this manual.

Figure 12
Slab Edge

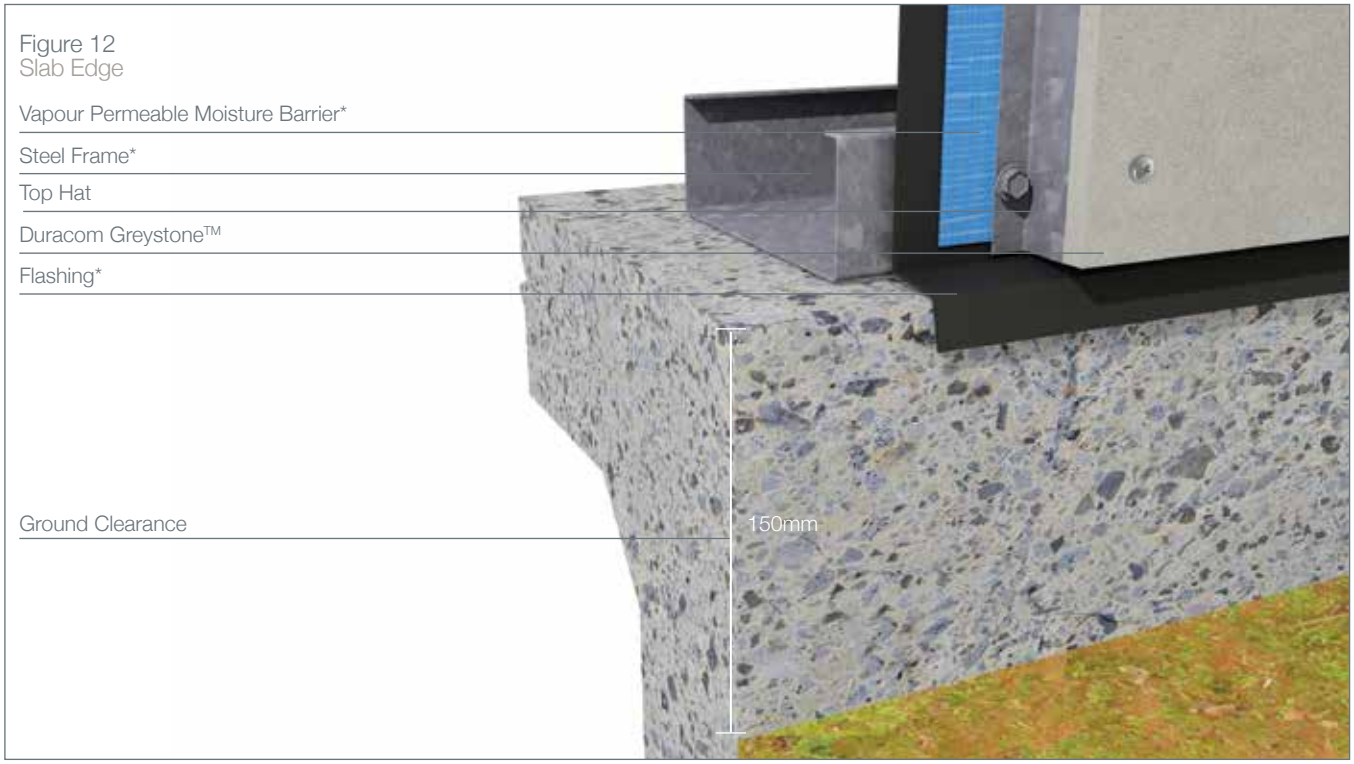
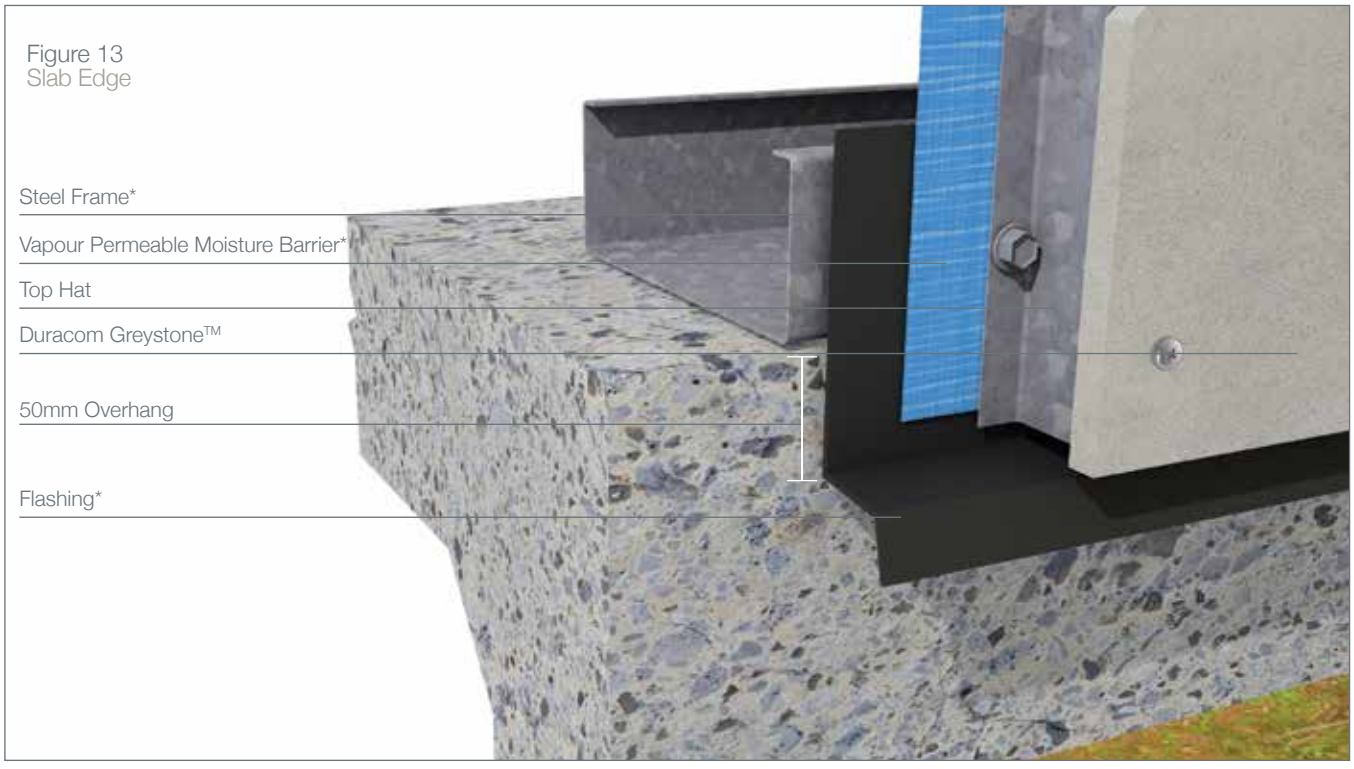


Figure 13
Slab Edge



*Components not supplied by BGC

Installation Details

Figure 14
Soffit

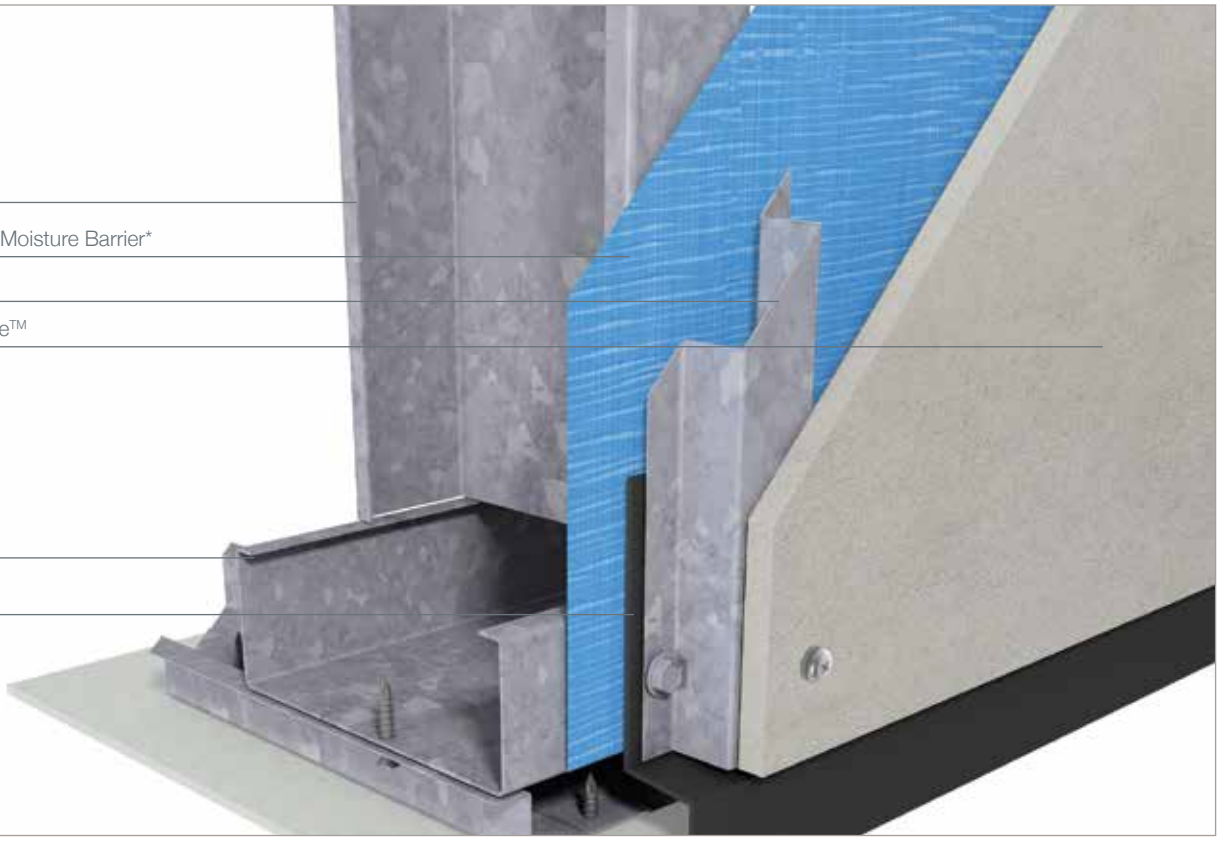
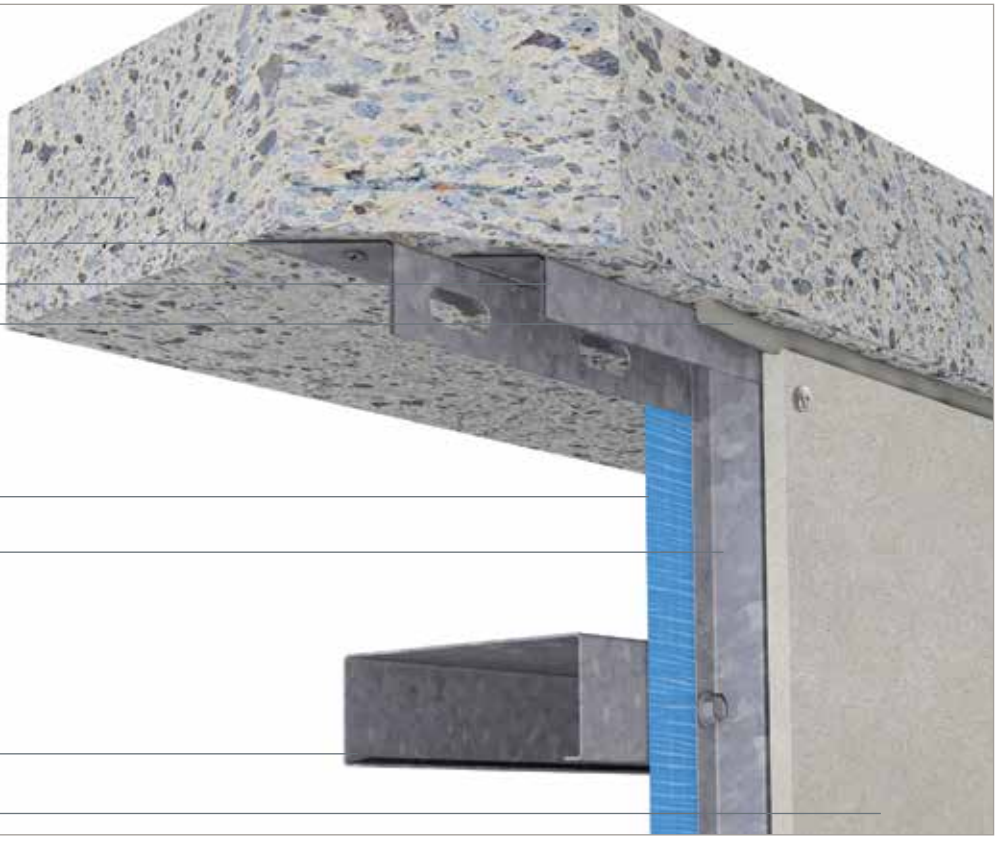


Figure 15
Facade Deflection Head



*Components not supplied by BGC

Installation Details

Figure 16
Square External Corner

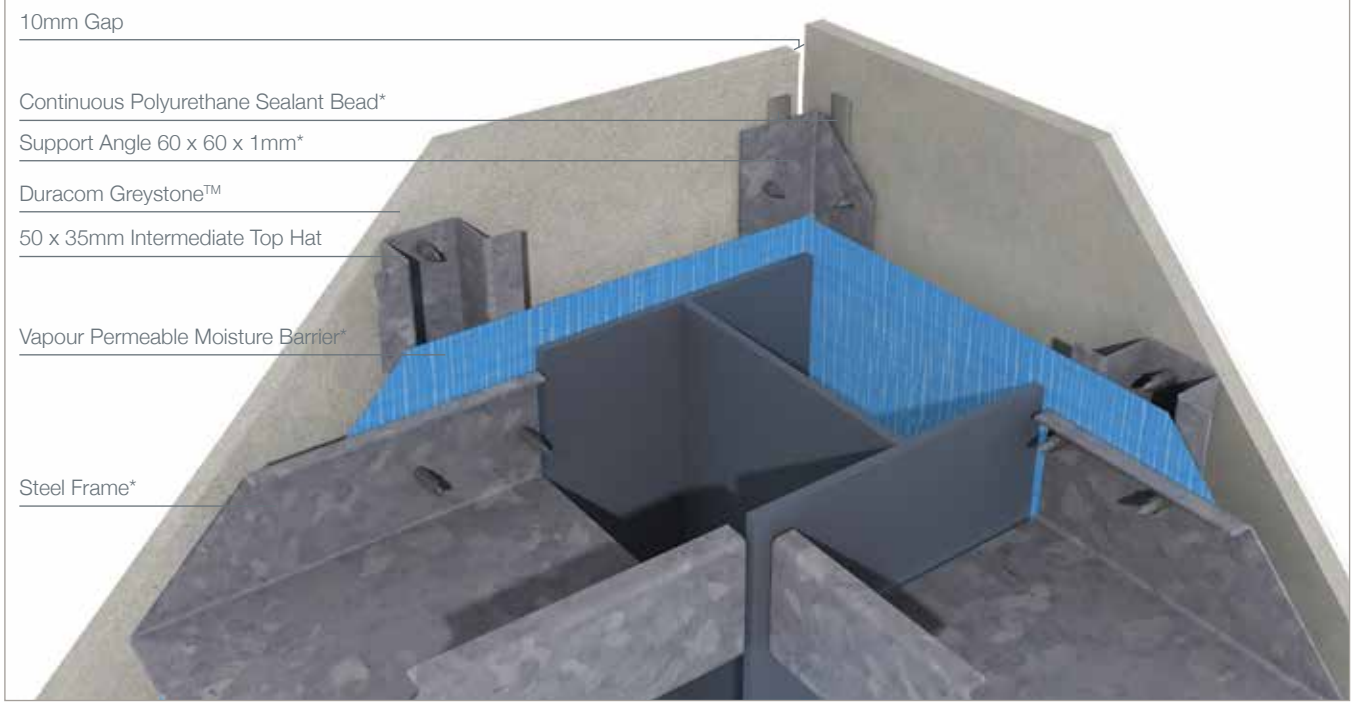
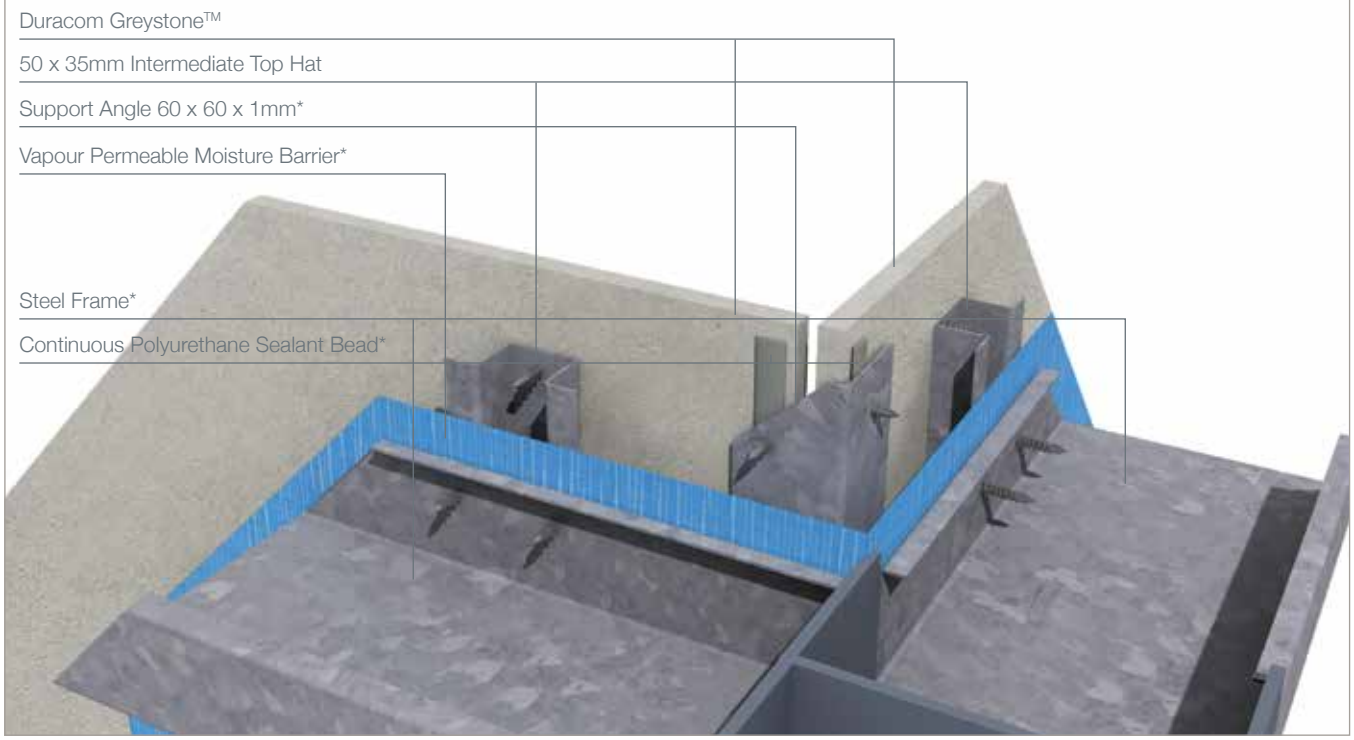


Figure 17
Square Internal Corner



*Components not supplied by BGC

Installation Details

Figure 18
Angled External Corner

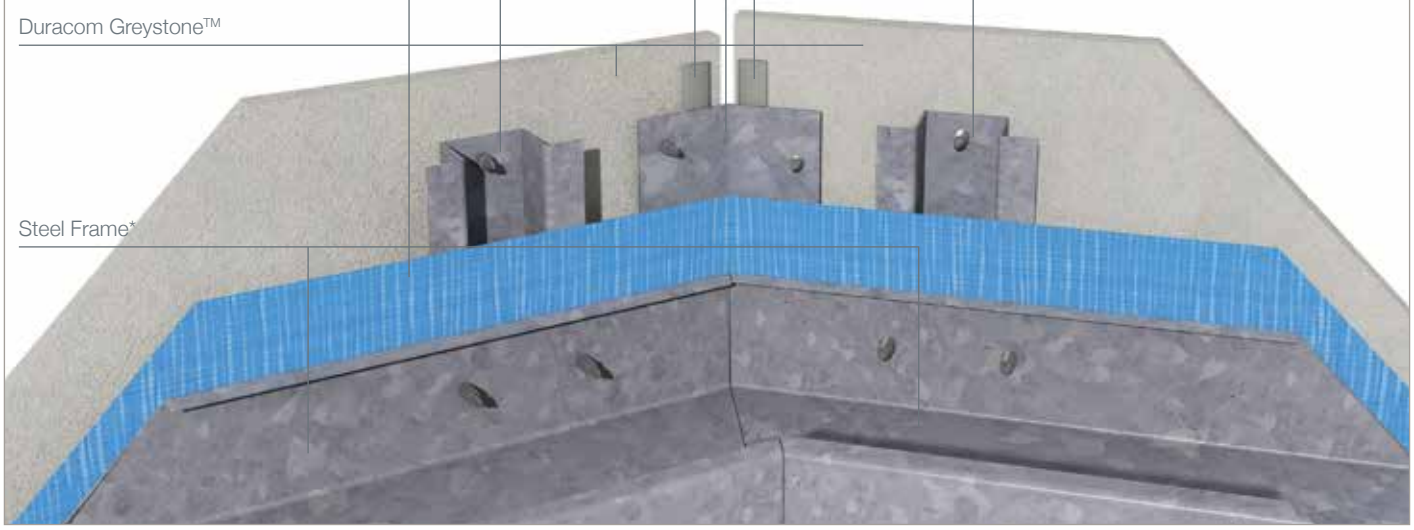
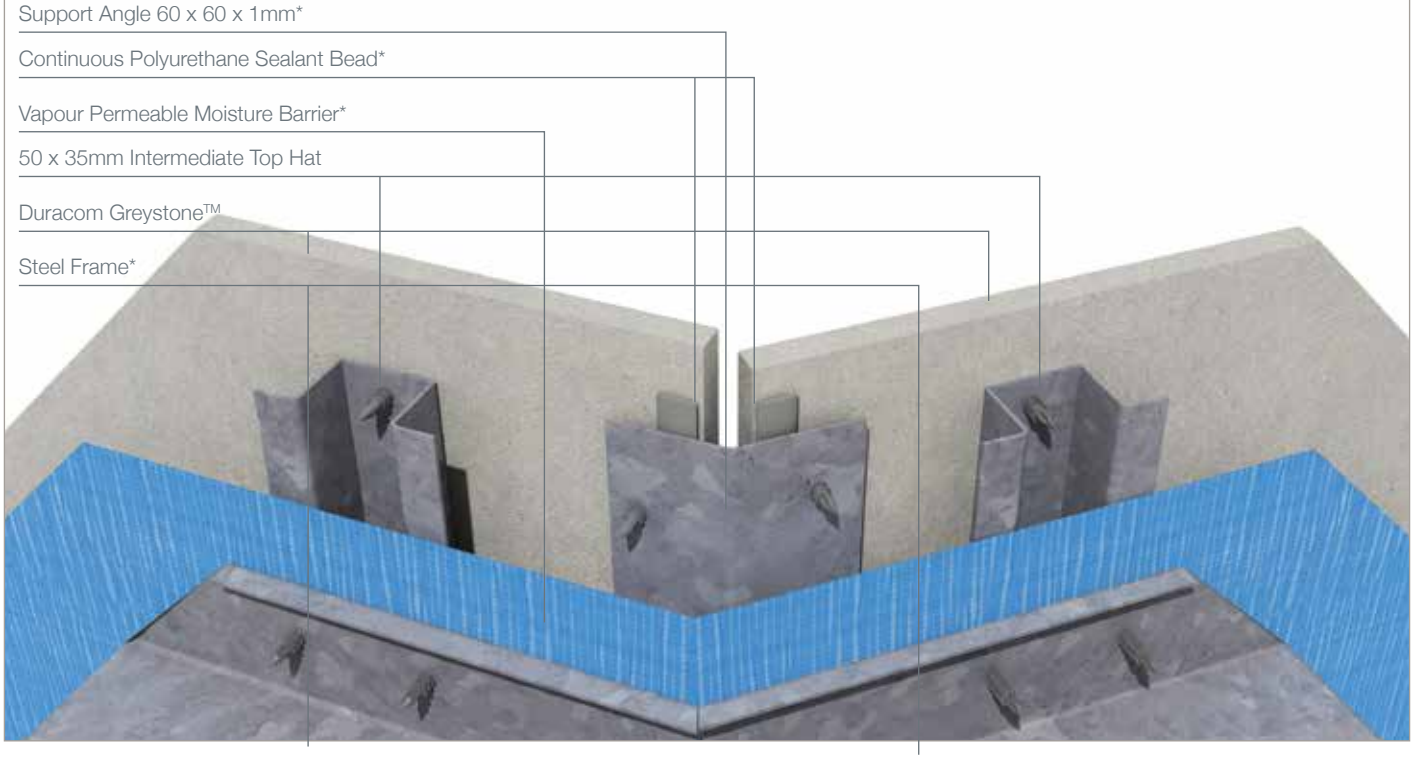


Figure 19
Angled Internal Corner



*Components not supplied by BGC

Installation Details - Penetrations, Openings, Windows and Doors

There are numerous varieties of penetrations, openings, and windows and door treatments available and each weather proofing detail will be dependent on the material, style and manufacturer's specifications.

Adequate weather proofing of the opening application must be considered by the building designer in conjunction with the penetration, window and door manufacturer. The diagrams below are a guide only and the designer should consult with the appropriate manufacturers for the detail design to ensure adequate weather proofing.

Figure 20
Window Head

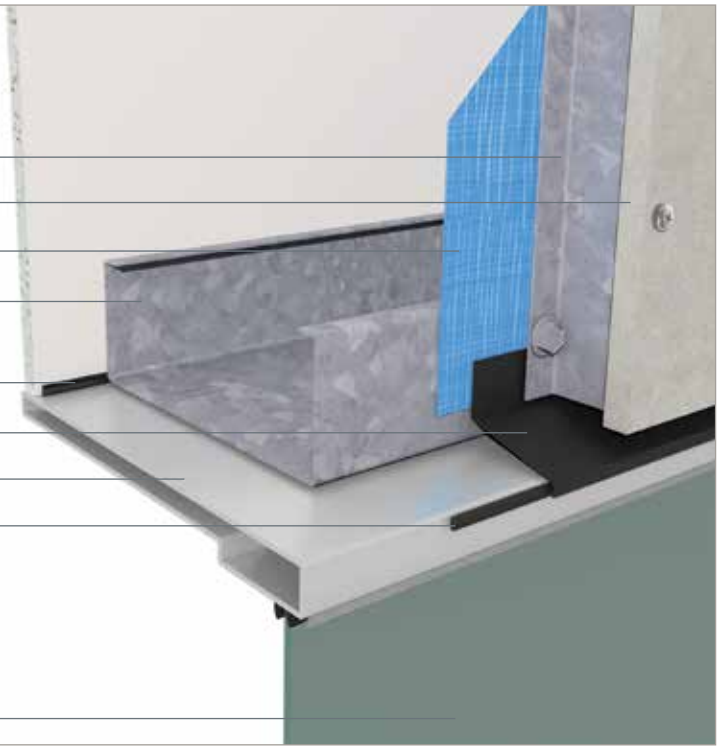
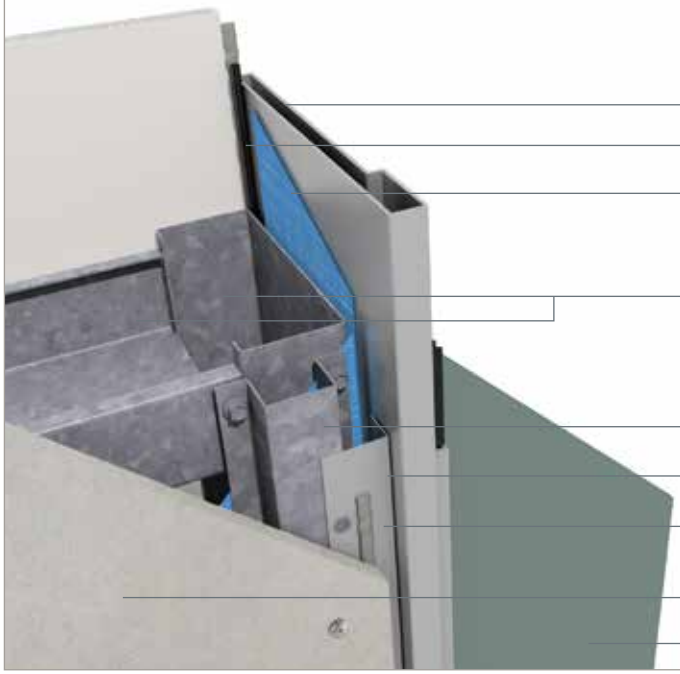


Figure 21
Window Sill Detail

*Components not supplied by BGC

Installation Details - Penetrations, Openings, Windows and Doors

Figure 22
Window Jamb



*Components not supplied by BGC

Installation Details - Control Joint Details

Vertical and horizontal control joints are required to match existing structural control joints and should pass through the facade.

The Duracom Greystone™ system utilises a flat galvanised 0.75mm BMT steel strip.

This strip bridges the Top Hats on each side of the control joint and is riveted to one side only.

Sealant is applied between the strip and the Duracom Greystone™ panel creating a floating weather resistant seal that allows for joint expansion and contraction.

Figure 23
Vertical Control Joint at Dissimilar Materials

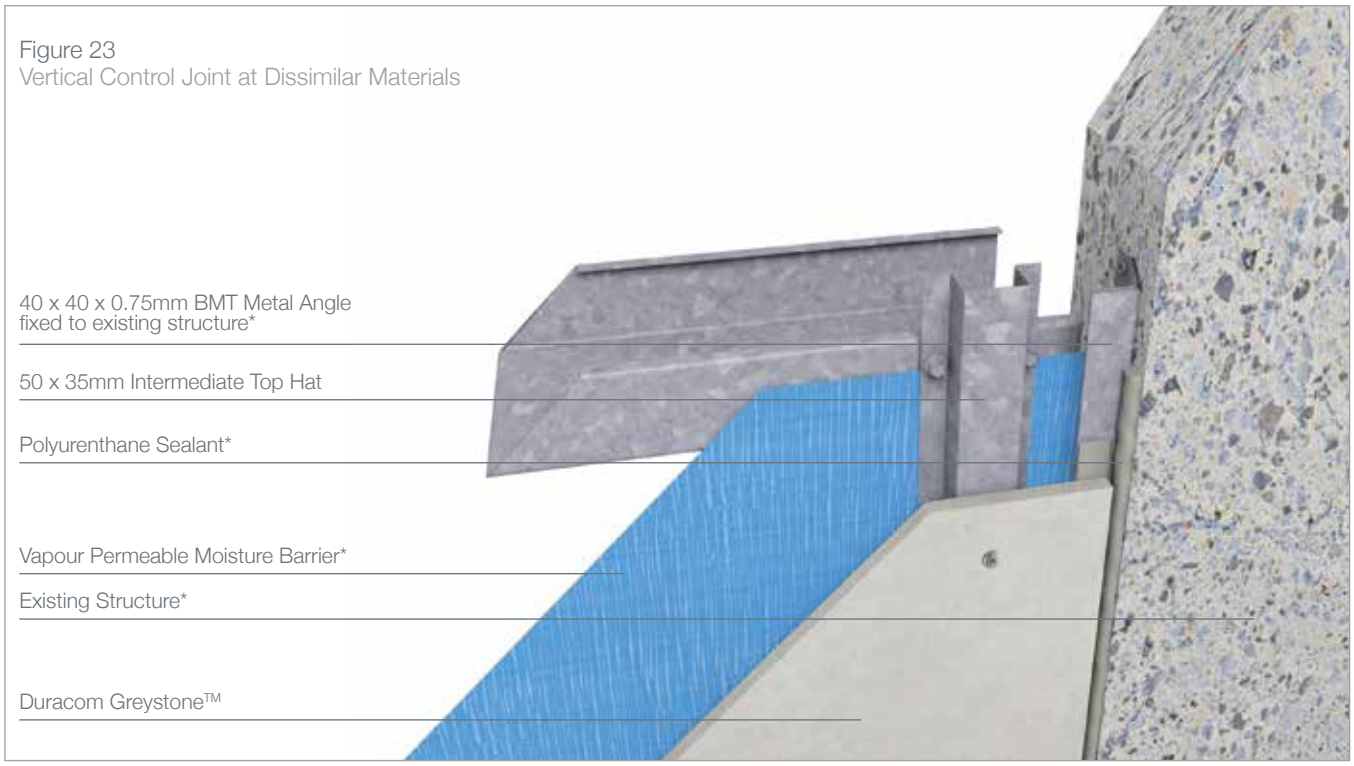
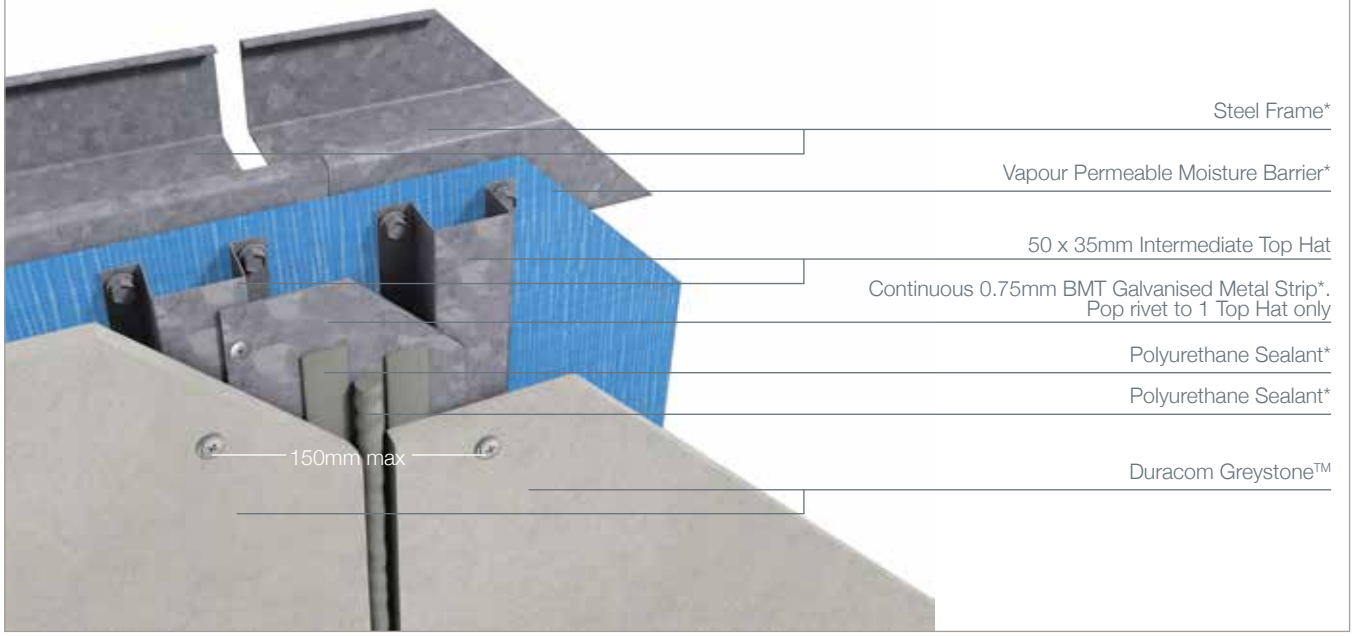


Figure 24
Vertical Control Joint



*Components not supplied by BGC

Installation Details - Control Joint Details

Figure 25
Alternative Vertical Control Joint

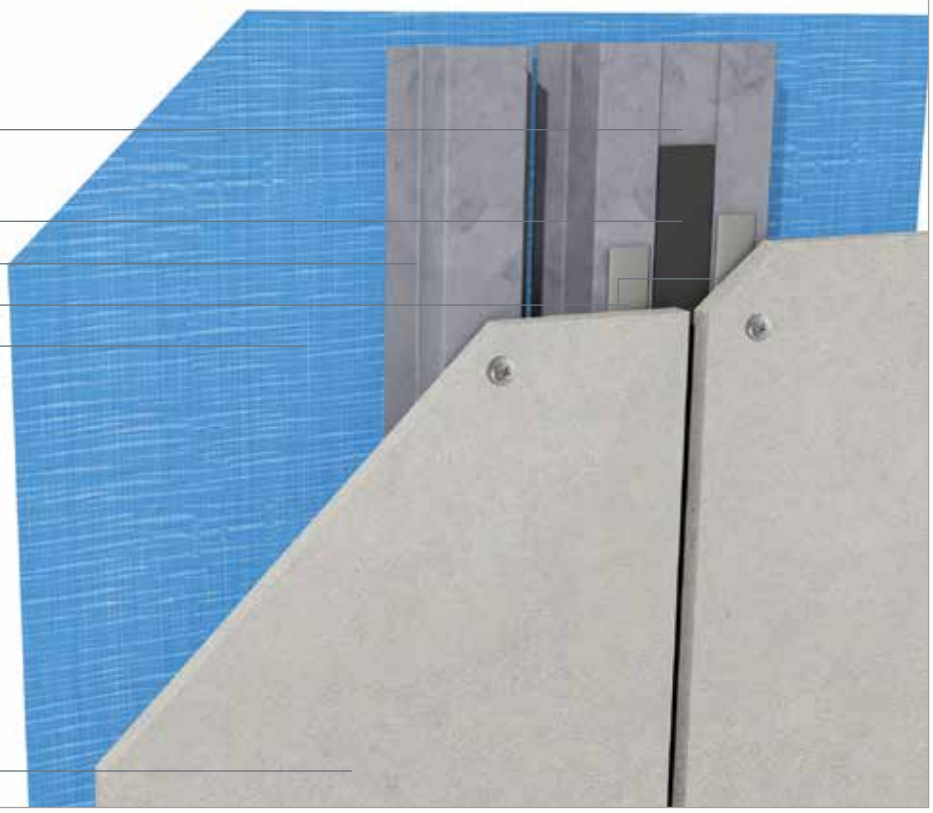


Figure 26
Horizontal Construction Control Joint

*Components not supplied by BGC

Moisture Management

Designers, specifiers and builders have a duty of care to identify moisture-associated risks with any individual building design.

Wall construction design should consider both the interior and exterior environments of the building to effectively manage moisture. Special consideration should be given to buildings that are in extreme climates or at higher risk of wind driven rain.

In addition, all wall openings, penetrations, junctions, connections, window heads, sills and jambs must incorporate appropriate flashing for waterproofing. All other components, materials and installation methods used to manage moisture in walls should comply with the relevant standards of the National Construction Code (NCC).

Deemed to Comply

For an up to date and complete list of BGC Products that are 'Deemed to Comply' please refer to www.ntlis.nt.gov.au/deemedtocomply

Bushfire Wall Areas

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).

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

Bushfire AS3959:2009 Applications

Duracom Greystone™ may be used as a stand-alone product to achieve up to BAL 40 when fixed direct to frame as per the fixing instructions in this manual.

*Components not supplied by BGC

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 www.bgcinnovadesign.com.au);
- failure to comply with the National Construction Code (NCC) 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.

Terms and Conditions

BGC Fibre Cement's Terms and Conditions of Sale ("Agreement"), as in place and published at the date of this brochure, which are available upon request or on our website at www.bgcinnovadesign.com.au. The purchaser's terms and conditions, howsoever provided, do not form part of the Agreement.

Warranty on Metal Components

For warranty information on the metal components specified in this design manual please contact BGC on 1300 652 242 from anywhere in Australia.

*Components not supplied by BGC

Notes

*Components not supplied by BGC

Contact

Adelaide
Telephone
08 8250 4962

Brisbane
Telephone
07 3183 8100

Melbourne
Telephone
03 9392 9444

Perth
Telephone
08 9334 4900

Sydney
Telephone
02 9709 0600

New Zealand
Telephone
0011 64 9273 1457

Technical help line
1300 652 242

bgcinnovadesign.com.au

Exterior products and applications
INNOVA™ RANGE OF PRODUCTS

DURACOM™ / A compressed fibre cement facade system.

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

DURAGRID™ RESIDENTIAL & DURAGRID™ LIGHT COMMERCIAL / A lightweight 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 range of plank products, each of which can be used as stand-alone products or used together to create a striking exterior cladding solution.

STRATUM™ ERA / A traditional, yet contemporary weatherboard.

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.

DURALINER™ PLUS / An exterior lining board that is the perfect substrate for tiles and is ideal for wet areas.

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

Interior products and applications
BGC FIBRE CEMENT RANGE OF PRODUCTS

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

DURALINER™ PLUS / 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.

Design by **The SHAPE Group** theshapegroup.com.au BGC1196

BGC Fibre Cement