

AUGUST 2012

NULINE PLUS™ WEATHERBOARD

BGC Fibre Cement

AUSTRALIAN OWNED & MANUFACTURED WWW.BGC.COM.AU/FIBRECEMENT

INTRODUCING INNOVA™

INNOVA™ IS A RANGE OF INTERIOR LINING, EXTERIOR FACADE AND FLOORING PRODUCTS WHICH GIVE A NEW DIMENSION TO THE BGC PRODUCT RANGE. THE PRODUCTS WITHIN THE INNOVA™ RANGE HAVE BEEN DESIGNED TO INSPIRE YOU TO CREATE INNOVATIVE AND DYNAMIC DESIGNS WITHIN YOUR BUILDING OR RENOVATION PROJECT.



NULINE[™] PLUS IS A WEATHER-BOARD STYLE CLADDING SYSTEM THAT LOOKS LIKE REAL TIMBER. NULINE[™] PLUS IS AN EVOLUTION FROM THE POPULAR NULINE[™] WEATHERBOARDS.

THE NULINE[™] PLUS WEATHERBOARD EXTERIOR CLADDING SYSTEM:

- / JOINS USING A TONGUE AND GROOVE SYSTEM GIVING A CONSISTENT AND SEAMLESS JOINT THROUGHOUT THE PROJECT
- / FEATURES A SLIGHT BEVEL ON THE BACK OF THE PLANK ALLOWING A 25MM BEARING FACE ON THE STUD GIVING SUPERIOR FIXING AND NAILING
- / COMES IN 2 DIFFERENT PROFILES: SQUARE & BULLNOSE
- / FACTORY SEALED, READY FOR PAINTING
- / QUICK AND SIMPLE TO INSTALL USING MANUAL NAILING, GUN NAILING OR SCREW FIXING
- / WILL NOT ROT OR DECAY AND IS HIGHLY DURABLE
- / ACHIEVES BAL 40 AS REQUIRED IN AS3959:2009 – CONSTRUCTION OF BUILDINGS IN BUSHFIRE PRONE AREAS





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PRODUCT DESCRIPTION

Nuline[™] Plus is an evolution on the original Nuline[™] product which has been on the market for many years. Nuline[™] Plus has enhanced features which ensure that your project is completed with as much ease and perfection as possible.

Nuline[™] Plus features a tongue and groove joining system. The tongue and groove method of joining ensures that a more consistent joint is achieved and gives enhanced weather proofing.

Another new feature on Nuline[™] Plus is the bevel on the top edge on the back of each plank. This new bevel allows the weatherboard to have a 25mm bearing face on the stud giving superior fixing and nailing.

Nuline[™] Plus weatherboards are not subject to timber rot, decay or white ant damage and will not support combustion. The result is a safer, more durable cladding that requires minimum maintenance.

ADVANTAGES

- / Tongue and groove joining gives consistent joints
- / Superior fixing and nailing due to bevel on back of weatherboard
- / 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.

PRODUCT INFORMATION

Nuline[™] Plus Weatherboards are manufactured from Portland cement, finely ground silica, cellulose fibres and water. Planks are cured in a high-pressure steam autoclave to create a durable, dimensionally stable product.

Nuline[™] Plus Weatherboard fibre cement products are manufactured to conform to the requirements of AS2908.2 Cellulose-Cement Products and are classified as Type A Category 3 for external use.

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:

/	Ignition Index	0
/	Špread of Flame Index	0
/	Heat Evolved Index	0
/	Smoke Developed Index	0-1

PLANK SIZES AND MASS

Nuline[™] Plus weatherboard planks are available in the following.

THICKNESS mm	MASS kg/m	WIDTH mm	LENGTH mm
14	4.13	175 Smooth	4200
14	4.83	205 Smooth	4200

Sizes available in Square and Bullnose profiles.

PLANK TOLERANCES

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

PROFILES









HEALTH AND SAFETY

BGC Nuline[™] Plus is manufactured from cellulose fibre, finely ground sand, 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 DUST INHALATION

When cutting planks, 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.bgc.com.au/fibrecement

QUANTITIES READY RECKONER

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.

Table 1 Plank (Course Ready Reckoner			
	WALL HEIGHT			
PLANK COURSES	175 mm PLANK 30 mm OVERLAP	205 mm PLANK 30 mm OVERLAP		
1	175	205		
2	320	380		
3	465	555		
4	610	730		
5	755	905		
6	900	1080		
7	1045	1255		
8	1190	1430		
9	1335	1605		
10	1480	1780		
11	1625	1955		
12	1770	2130		
13	1915	2305		
14	2060	2480		
15	2205	2655		
16	2350	2830		
17	2495	3005		
18	2640	3180		
19	2785	3355		
20	2930	3530		

CUTTING AND DRILLING

Nuline[™] Plus planks 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

Nuline[™] Plus planks must be stacked flat, up off the ground and supported on equally spaced (max 300mm) level gluts.

Planks must be kept dry. When stored outdoors it must be protected from the weather. Care should be taken to avoid damage to the ends, edges and surfaces. 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 FF	ROM BGC	
INTERNAL ALUMINIUM CORNER	2700mm	
EXTERNAL ALUMINIUM CORNER	2700mm	
INTERNAL OBTUSE ANGLE	2700mm	
EXTERNAL OBTUSE ANGLE	2700mm	a contraction of the second se
J MOULD	2700mm	
STARTER STRIP	2700mm	

FASTENERS

NuLine[™] Plus must be fastened at every stud (or batten for vertical installations).

Fasteners must not be placed closer than 12 mm from the plank edge.

NULINE™ PLUS TO TIMBER FRAME

FACE FIXING No. 65 x 2.8mm Galvanised Flat Head Nails Class 3

No.60 x 3.15mm Galvanised Flat Head Nail Class 3

CONCEALED FIXING

No. 50 x 2.8mm Galvanised Flat Head Nail Class 3 at every stud

CONCEALED FIXING IN BUSHFIRE/COASTAL AREAS Where Nuline[™] plus is being fixed in a bushfire/coastal area a 60mm bullet head nail should be applied at every 3rd or 4th stud. Nullne™ Plus will need to be pre drilled and nailed, filled with Megapoxy and topped with Exterior Top Coat.

Please note that Australian Standard AS3959:2009 states that no gaps greater that 3mm are permitted when planks are being installed into bushfire prone areas.

Nails must not be driven closer than 50 mm from the plank end. Nails or fasteners can be located 20 mm minimum from the plank end if the fastener hole is predrilled. Except for straight joints, planks must be fixed a maximum of 100 mm from the plank end.

NULINE™ PLUS TO STEEL FRAME

No. 8 x 40mm Galvanised Self Embedding Head Screws Class 3





- Screw fasteners should be located 35mm from / the plank edge.
- / For renovation projects where the original cladding is not
- removed, longer nails (70 x 2.8mm or longer) will be required. Care is needed when using nail guns. If variability occurs the gun should be set to under drive and the nails tapped home with a hammer.





CONSTRUCTION DETAILS

FRAMING

In general, the layouts presented in this publication will be satisfactory for low-rise (up to two storey) domestic and light commercial buildings in non-cyclonic regions.

Buildings in cyclonic regions, high-rise buildings, large industrial and commercial complexes will generally require a specific design to be undertaken. The relevant design details pertaining to Nuline[™] Plus for various wind classifications, are presented in Figure 2.

Nuline[™] Plus is suitable for installation on either timber or lightweight steel framing.



FRAMING CENTRES

TIMBER FRAMING

Timber framing must be dry prior to fixing Nuline[™] Plus. If planks are fixed to 'wet' framing, problems may occur at a later date due to excessive timber shrinkage.

It is strongly recommended that kiln dried framing is used.

LIGHT WEIGHT STEEL FRAMING

NuLine™ Plus may be fixed directly to lightweight steel framing. The steel framing must not exceed 1.6 mm in thickness.

When rigid steel framing is used, it must be battened out with either timber or lightweight steel battens prior to fixing NuLine™ Plus Weatherboards.

TIMBER BATTENS

Timber battens must have a minimum thickness of 40 mm to allow adequate nail penetration.

STEEL BATTENS

Steel battens are typically 50mm wide on the face x 35mm deep x 0.75mm thick.

	300						
	400						
	450						
Framing Centres (mm max.)	600						
· · ·	900						
40.4055 4000	Non Cyclonic	N1	N2	N3	N4	N5	N6
A3 4055 - 1992	Cyclonic			C1	C2	C3	C4
Queensland	Non Cyclonic	W28N	W33N	W41N	W50N	W60N	W70N
Standard	Cyclonic			W41C	W50C	W60C	W70C
Wind Classification							





GENERAL

Figure 3 depicts the general framing requirements for NuLine™ Plus installed horizontally.

SARKING

The installation of a Vapour Permeable Sarking between NuLine[™] Plus and the framing is recommended. The building's internal pressure will generally be less than the external air pressure under windy conditions, which will tend to draw water through the planking, flashing and seals if sarking is not used.

Use of a reflective sarking will enhance the insulation properties of the cladding system (eg. Gladiator Perforated Wall Wrap or Sisalation 499) or equivalent.







- / Calculate the number of NuLine[™] Plus Weatherboards required using the Plank Course Ready Reckoner as detailed in Table 1, on page 6.
- / Fix all flashings to wall openings and external and internal corners. See figures 12 and 13 for corner details using BGC Aluminium Angles.
- / Fix a BGC Starter Strip (Metal) to the bottom plate to ensure the first row of NuLine[™] Plus Weatherboards are packed out to the correct angle. This starter strip is to be continuous around the perimeters of the building. See figure 10 for this detail.
- / Alternatively, fix a starter strip (timber or a strip of plank) to the bottom plate to ensure the first row of NuLine[™] Plus Weatherboards are packed out to the correct angle. This starter strip is to be continuous around the perimeters of the building and to overhang the slab edge by 50mm. See figure 7 for this detail.
- / Set a horizontal datum line around the perimeter of the building using a string line or spirit level. Fix guide nails/screws along this line to act as a stop for the correct placement of the first course of NuLine[™] Plus Weatherboards.

- / Commence fixing the bottom course of plank from an external corner. Fasten the bottom edge of the plank to each stud through the starter strip. Ensure that the plank is level and flush with the corner. Do not nail home the corner fixing at this time.
- Install extruded aluminium corners, before nailing home the corner fixing. See figures 12 and 13 for these details.
- / The plank must overlap a minimum of 30mm, and before fixing the second row of planks calculate the overlap so a near full width of plank will finish at the top of the building. Using a piece of timber or plank, fabricate a lap gauge to ensure that the plank coverage is uniform.
- / Fixings must not be driven closer than 50mm from the end of the plank. For fixings between 20mm -50mm from the end, the plank must be predrilled with a 3mm hole.













EGURE 7 EAC Interior Liningboard BCC Nuline[®] Plus Timber frame Vapour Permeable Sarking Damp Course Starter plank (Typical 100mm wide)













CONCEALED FIXING

For concealed fixing use No. 50 x 2.8mm Galvanised Flat Head Nail Class 3 at every stud.

CONCEALED FIXING IN BUSHFIRE/COASTAL AREAS

Where Nuline[™] plus is being fixed in a bushfire/coastal area a 60mm bullet head nail should be applied at every 3rd or 4th stud. Nuline[™] Plus will need to be pre drilled and nailed, filled with Megapoxy and topped with Exterior Top Coat.

Please note that Australian Standard AS3959:2009 states that no gaps greater that 3mm are permitted when planks are being installed into bushfire prone areas.







Notes:







PLANK OVERLAPS

Planks must overlap the previous course by a minimum of 30 mm. Higher overlaps may be used to improve weather proofing (particularly when sarking is not used) or to match the wall height to the plank width. See Table on page 6.

CUTTING AROUND OPENINGS

When cutting planks around window or door openings, a 5 mm nominal clearance must be provided at the jamb, head and sill.

Plank courses should be set out so that as near to a full plank width as possible remains under a window, or similar openings.

A plank joint at one end for small openings and both ends of longer openings will make installation easier and eliminate breakages.

Flashing and mouldings must be installed as appropriate to prevent ingress of water into the framing.







PAINTING

To enhance both the appearance and performance of NuLine[™] Plus, BGC recommend that at least two coats of a 100% acrylic exterior grade paint be applied. The paint manufacturer's recommendation on application and maintenance of the paint system should be followed.

It is recommended that Nuline[™] Plus Weatherboards are painted according to the paint manufacturer's instructions within three months following delivery to site.

Should Nuline[™] Plus Weatherboards 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 Nuline[™] Plus planks are dry and clean prior to applying a quality exterior paint system.

Note: BGC recommend the use of a roller or brush application for best results.

MAINTENANCE

NuLine™ Plus 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 in accordance with the manufacturer's instructions.

INSULATION

NuLine[™] Plus 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

NuLine[™] Plus where subject to freeze / thaw conditions must be painted.

NuLineTM Plus 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 the NuLine™ Plus Weatherboards 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 Canningvale 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.





BUSHFIRE AND BOUNDARY WALL AREAS

BGC NuLine[™] Plus is eminently suited for both bushfire and boundary wall applications in residential and multi residential buildings.

BGC NuLine[™] Plus can 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.

BGC NuLine[™] Plus 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).

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

BOUNDARY/EXTERIOR WALLS

BGC NuLine[™] Plus 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 BGC NuLine[™] Plus over the Wet Area Fireboard will meet minimum BCA requirements.Similarly 2 layers of 16mm BGC Wet Area Fireboard used in conjunction with BGC NuLine[™] Plus will achieve 90/90/90 from the outside.

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

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











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 9632 2100

NEW ZEALAND TELEPHONE 0011 64 9264 1457

TECHNICAL HELP LINE 1300 652 242



Fibre Cement

Certified System

Quality ISO 9001 € SAIGLOBAL

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

DURAGRID[™] RESIDENTIAL & DURAGRID[™] LIGHT COMMERCIAL A light weight facade giving a modern and durable finish. DURACOM[™] / A compressed fibre cement facade system.

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.

INTERIOR PRODUCTS AND APPLICATIONS INNOVA RANGE OF PRODUCTS

FINISHBOARD / A powder coated plasterboard system.

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.

DURALINER™ / Suitable for eaves and soffits 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.

DESIGN WWW.THESHAPEGROUP.COM.AU