

Bigsix & Eyethu Roofing

High performance low-maintenance roofing







www.everite.co.za

Introduction

EVERITE's Nutec Bigsix and Eyethu Roofing sheets are durable lightweight sheets that can be used in all sectors of the building industry for roofing and side cladding.

Composition

The roofing sheets, fittings and accessories consist essentially of an inorganic hydraulic binder or calcium silicate formed by a chemical reaction of a siliceous and a calcareous material, reinforced by

organic fibres.

Colour

Nutec Bigsix sheets are supplied in their natural grey colour.

To enhance the aesthetics of the product it can be painted with a 100% acrylic PVA paint after installation. Painting, although not essential, will further enhance the durability of the product, especially in highly polluted areas or chemical abrasive applications. In areas with high fungal growth, paint will reduce the frequency of routine maintenance. Paint can be applied by brush, roller or spray gun.

Nutec Eyethu Roofing sheets are supplied with a standard surface coated terracotta uv resistant pigment. Other colours are available on request subject to minimum order quantities and availability of pigments.

For ease of reading this catalogue reference to Bigsix will by inference include Eyethu Roofing. Reference to Eyethu Roofing is made where product numbers or attributes differ to Bigsix Roofing sheets.

Safety

Nutec Bigsix and fittings do not contain asbestos fibre and are therefore excluded from the following

- Asbestos Regulations of 2001, which forms part of the Act No. 85: Occupational Health and Safety.
- South African Code SANS 10229: Packaging of dangerous goods for road and rail transportation in South Africa.

Nutec Bigsix sheets do not pose any adverse effects on the environment. Off-cuts and dust created during site work may be disposed off on any non-hazardous waste landfill site.

Durability

Nutec Bigsⁱx sheets have been evaluated for durability by the SABS. The two tests used are Heat-Rain and Warm-Water. It complied fully with the requirements of both these tests. (SABS reports, No.788/715/MT04 and 5546/85413/00).

Adaptable

Nutec Bigsix sheets are excellent for roofing and side cladding for all types of buildings e.g. private houses, industrial, commercial and agricultural buildings, where economy and durability are essential factors. (They also lend themselves to interior and exterior decorative uses.)

Economical

Nutec Bigsix sheets can be regarded as one of the most economical cladding product on the market.

Thermal Insulation

Nutec Bigsix sheets have excellent thermal properties. The thermal conductivity (K-Value) of Nutec material is approximately 0.346 W/m.K or 0.346 W/m.°C (Test method ASTM C518; Ortech report no. 98-J53-M0207.)

Introduction

Fire Resistant

Nutec Bigsix sheets are Non-Combustible and have a Class 1 Spread of Flame Index when evaluated in accordance with SANS 10177: Parts V and III respectively. This means the product will not ignite in a case of fire and would also not contribute to the spread of flames. (SABS reports No. 5409/83388/98A, No. 5409/8338/98B and No. FPE/84501/04).

Nutec Bigsix sheets will not explode under conditions of high temperature, unlike asbestos containing products. It can be used in applications with continuous temperature not exceeding 150°C.

Fungal Resistance

Nutec Bigsix sheets are resistant to white rot and brown rot according to BS 1982; Parts 1 and 3. (SABS report No: 1159179/R4689).

Acid Resistance

Nutec Bigsix sheets are resistant to acids according to the method given in specification SANS SANS 685:1985. Nutec Bigsix sheets have an Acid Resistance of 0.098 g/cm2, compared to the maximum allowable value of 0.115g/cm2 required in the specification SANS 685. (SABS report no. 5544/1168235/98).

Hail Resistance

Nutec Bigsix sheets withstood impact by hailstones up to a diameter of 37mm without any visible damage when evaluated according to the method ASTM E822. (SABS report no. 3023/1037841/98).

Water Tightness

Nutec Bigsix sheets are non-permeable when tested according to SANS 685 and SANS 9933. (SABS reports No. 5544/1168235/98 and No. 7228/715/MT04). Darkening is normal because of moisture absorption, but sheets will not leak.

Nutec Bigsix sheets also complies with the requirements for the Water Penetration Tests as described in Sections L1b and c of SANS 10400: The Application of the National Building Regulations.

Rodent Resistance

Nutec Bigsix sheets have been evaluated by the SABS according to SANS 5419 for Rodent Resistance and have been awarded a rating of Class B1. (SABS report no. 1254985/S048).

Wind Resistance

Nutec Bigsix sheets have considerable strength with enhanced dynamic load-bearing properties. It fully complies with the South African Code of Practice SANS 10237: Roofing and Side Cladding. It is suitable for use in all windloading applications within South Africa, provided that they are installed as per Everite's recommendations.

For any deviations of Everite's recommendations or any complicated or non-standard methods of construction or any aspects not covered within SANS 10237 a structural engineer should be used for design purposes.

Accreditation

Nutec Bigsix sheets carry a SABS Mark under specification SANS 9933: Products in fibre-reinforced cement – Long corrugated or asymmetrical section sheets and fittings for roofing and cladding.

Everite is also an ISO 9001:2000 listed company, which includes the development and manufacture of fibre-cement and moulded products.

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General Design Criteria

Catalogue Information

The information contained in this catalogue serves as a general guide only and should not be accepted as the standard for all construction. Consult EVERITE for designs of a special nature.

This service is provided free of charge and without obligation, but architects, engineers and specifiers must finally approve the acceptability in terms of the design and construction criteria,

as well as other implications.

High Wind Conditions

The information presented in this catalogue is relevant for normal windloading conditions. EVERITE should be consulted where structures are planned for high wind areas, to ensure that spans, fixing details and roof pitches meet the requirements for the particular conditions.

Designers and specifiers should also refer to the Code of Practice for Fibre-cement Profiled Roofing and Wall Cladding, the structural code SANS 10237 and the structural code SANS 10160 as well as the Guide to the Fixing of Fibre-cement Roofing and Side Cladding in Windy Conditions, copies which are obtainable from EVERITE on request.

Purpose-Made Fittings

The uncured fibre-cement sheet lends itself to the manufacture of purpose-made articles to suit almost every building application. Based on volumes, the complexity of the article, approval of drawings and the manufacturing process, a minimum lead time of around **8 weeks can be expected**. This delay should therefore be allowed for in the ordering and construction programme.

Please check with EVERITE sales office to obtain more specific information.

Fixing Accessories

A specially designed range of fixing accessories for Nutec Bigsix corrugated sheets is obtainable from EVERITE, and full details are given under Fixing Accessories. Refer Page 39.

Do not allow the use of non-approved, and often inferior, fixing accessories. EVERITE reserves its right to withdraw its guarantees if non approved fixing accessories are used.

Contact EVERITE sales office if in doubt.

Site Service

Service personnel are available on request to provide assistance on recommended storage, handling and erection of the EVERITE's products, before and during installation.

Handling and Storage

Nutec Bigsix corrugated sheets are manufactured from a composite material containing mainly cement and may be damaged under excessively high shock loads. Reasonable care should therefore be taken to ensure that products are not dropped or subjected to rough handling.

A suitable level compacted area must be made available where sheets can be stored safely.

Stack sheets on timber bearers at maximum 1400mm centres and not more than 150mm from the end of the sheet. Individual stacks should be limited to maximum 40 sheets per stack with spacers between sheets.

For detailed Handling and Storage Instructions, refer to page 44 and 45.

General Installation Guidelines

Ordinary carpenters' tools can be used effectively.

Refer to the brochure 'Finishing and Maintenance' for more details.

The Occupational Health and Safety Act 85, 1993, Clause 12: Roof Work should be consulted for legal requirements.

- Use duckboards as walking areas on the roof to avoid damage to sheets and injury to workers.
- In areas where duckboards have not been laid, walk above the purlins and not between them.
- Wear soft soled shoes for better grip.
- Do not carry heavy loads over completed areas of the roof or use these as staging posts for the next section.
- Use a side lap template obtainable from EVERITE to obtain correct side lap and mitring measurements.
- Fixing holes must be drilled and not punched as this may induce cracking of the sheet. An ordinary hand drill and drill bits specially sharpened to an angle of 20° are recommended. Use of these bits reduces the need for resharpening when compared with conventional drill bits. Refer to the brochure Finishing and Maintenance for more details. Do not use hammer drills and masonry drill bits. The drill bit diameter must be 2mm larger than the diameter of the fixing bolt or screw.
- If speed fixing systems are used refer to Speed Fixing Systems, Page 40.

Installation Procedures

Nutec Bigsix corrugated sheets properly laid and fixed in accordance with recommendations will provide many years of trouble-free protection from the elements.

Failure to follow these recommendations could however result in product failures and generally unsatisfactory product behaviour which might be difficult and costly to rectify.

Step 1

Check the roof or side cladding structure for:

- Readiness for sheeting.
- Expansion joints in main structure. The expansion joint should be carried through to the roof sheeting. **Refer Fig. 30, Page 37.**
- Purlin spacing
 - Roof: max 1400mm
 - Side cladding: max 1800mm
- Lining up of tops of purlins or sheeting rails, mitre-joints of purlins should be staggered on rafters.

In the event of observing any problems rectify or consult the main contractor.

Step 2

Determine the direction in which the sheets are to be laid, bearing in mind the direction of the prevailing winds and rain. **Refer Fig. 1, Page 8.**

Step 3

Check width of roof or cladding area against the cover width of sheets to determine correct starting point, and mark on purlin. **Refer Table 3, Page 13.**

Step 4

Square the roof by marking a line from eave to ridge running square with the ridge purlin through the starting point, previously identified and marked.

Measure 920 mm along the ridge and eaves from the starting point. Secure a line along these two points and lay the first row of sheets. For the next row, eaves to ridge, measure 875 mm and move the line over to these points and lay the next row of sheets against the line. In all succeeding rows repeat this procedure and check the nett cover of the sheets against the table on **pg. 13, table 3**. Side lap templates are also free of charge to assist in gauging the side lap.



FIG 1 Wind Direction in Relation to Direction of Fixing

NB: The fixing is in the direction opposite to the direction of the prevailing rain-bringing winds.

Step 5

Determine correct end laps to suit roof pitch. Refer Table 1 below.

Positioning of end laps in relation to purlins is illustrated in Fig. 2, Page 9.

TABLE 1 Wind Direction in Relation to Direction of fixing

Roo	of	Pite	ch
Min.	е	nd	lap

17.5° and over	•
150mm	

12.5° to 17° 225mm

10° to 12° 300mm

NB: The information provided in this table is given for normal exposure. Where abnormal weather conditions, either wind or rain, are known to exist, alternative solutions should be considered and EVERITE should be consulted for advice.



NB: Sheets must project minimum 50mm past the purlin as shown.

Step 6

Lay one row of sheets loose with smooth side up from eave to ridge along the starting line previously marked to determine exact length of overlap and mitre-maximum 300mm.

Mark out mitres using side lap template and cut. Refer Fig. 3.

Template available at no charge from EVERITE.



laps as illustrated alongside.



Mitring: To avoid point loads and potential leakages due to overlapping of four sheets at the intersection between end and side laps, the two centre sheets must be mitred. Certain fittings also require mitring.

Details of Mitre: The length of end lap determines the length of the mitre. For mitring details refer Fig. 4A and Fig. 4B Page 10.



FIG 4A Details of Mitres for Nutec Bigsix Corrugated Sheets

FIG 4B Details of Mitres for Nutec Bigsix Corrugated Sheets



NB: Numbers indicate fixing sequence.

Step 7

Lay and fix the first row of sheets from eave to ridge along the starting line. For fixing points refer **Fig. 6, Page 11.**

Sheets should now be laid in rows ensuring that the corrugations on both sides of the roof slope are in line. Check the lap at top and bottom of each sheet, to ensure that sheets are parallel. Use the side lap template illustrated in **Fig. 4A and Fig. 4B above**, to maintain the correct side lap.

This is most important to facilitate accurate fitting of the close fitting fixed angle or adjustable ridge capping. **Refer Pages 24 to 30** before installing ridge capping.

For configuration of roof sheeting refer Fig. 4B above.

As an extra precaution check the net cover width after every five rows. Refer to Table 3, Page 13.



NB: Numbers indicate fixing sequence.

FIG 6 Fixing Points



- NB: Tighten fixing bolt nut sufficiently to seal the washer over the corrugation and to allow for slight movement in the substructure. Hook bolt nuts should be finger-tight plus one turn. Overtightening will damage the sheet. Refer Fig. 6a page 12.
 - Reflected sunlight shining directly onto the side lap area may be visible from the underside of the side lap corrugation. This is due to the sheet being designed with a slight gap at the side lap to allow for movement in the sheet or substructure. This will, however, not affect the watertightness of the roof.

Side Cladding

The general rules for roofing also apply to side cladding. Important differences are:

- Sheeting rails spacing can be increased to 1800mm.
- Two fasteners per sheet must be used on every sheeting rail.
- Anti-sag rods must be installed between sheeting rails.

Product Range, Dimensions and Physical Properties

Nutec Bigsix Standard Lengths (Grey) Net cover width 875mm

1500mm non-stock product - cut to order

Product No.	Size	Mass per Unit (kgs)
370-050	1500mm	16
370-060	1800mm	19
370-070	2100mm	23
370-080	2400mm	26
370-090	2700mm	29
370-100	3000mm	32
370-110	3300mm	36
370-120	3600mm	39

Nutec Eyethu Standard Lengths (Terracotta) Net cover width 875mm

1500mm non-stock product - cut to order

Product No.	Size	Mass per Unit (kgs)
370-160	1500mm	16
370-161	1800mm	19
370-162	2100mm	23
370-163	2400mm	26
370-164	2700mm	29
370-165	3000mm	32
370-166	3300mm	36
370-167	3600mm	39



TABLE 2 Dimensions and Physical Properties

Overall width	mm	920
Net cover width	mm	875
Maximum clear span (roof)	mm	1 400
Maximum clear span (side cladding)	mm	1 800
Maximum end cantilever	mm	300
Average mass of roof area laid	kg/m2	12.5
Corrugation height	mm	57.5
Minimum pitch	degrees	10
Nominal thickness	mm	6.0
Moment of inertia (approximately) per 1m	cm4	239
Positive section modulus per m	cm3	82.9
Minimum wet Breaking Load over 1400mm span	kN/m width	2.50
Youngs Modulus (Typical Value)	N/mm2	5000
Wet Equilibrium Conditions (+/- 50% RH, +/- 23°C)	N/nm2	4300

Fig. 6a Checking fixing for tightness



- Refer to General Installation Guidelines, page 6 for details on fixing holes.
- If speed fixing systems are used refer to Speed Fixing Systems, **page 40**.
- Refer to Handling and Storage, page 44 for details on cutting and drilling.

No. of	Net Cover						
sheets	m	sheets	m	sheets	m	sheets	m
1	0,920	16	14,045	31	27,170	46	40,295
2	1,795	17	14,920	32	28,045	47	41,170
3	2,670	18	15,795	33	28,920	48	42,045
4	3,545	19	16,670	34	29,795	49	42,920
5	4,420	20	17,545	35	30,670	50	43,795
6	5,295	21	18,420	36	31,545	51	44,670
7	6,170	22	19,295	37	32,420	52	45,545
8	7,045	23	20,170	38	33,295	53	46,420
9	7,920	24	21,045	39	34,170	54	47,295
10	8,795	25	21,920	40	35,045	55	48,170
11	9,670	26	22,795	41	35,920	56	49,045
12	10,545	27	23,670	42	36,795	57	49,920
13	11,420	28	24,545	43	37,670	58	50,795
14	12,295	29	25,420	44	38,545	59	51,670
15	13,170	30	26,295	45	39,420	60	52,545

TABLE 3 Net Cover width of Nutec Bigsix Corrugated Sheets

SUBSTRUCTURE RECOMMENDATIONS FOR Bigsix - All types of buildings in all areas.

TABLE 4 Timber Requirements for Substructure

B	Size of timber purlin in mm								
н	Height 76	Width 50	Height 114	Width 76	Height 152	Width 76			
Purlin spacing	Rafter spacing								
1 050	160	00	2 7	'00	3 (500			
1 200	150	00	2.5	50	34	400			
1 350	145	50	2 4	150	33	300			

Purlin sizes: **Table 4** above gives an indication of purlin sizes required for varying purlin and rafter spacings. The services of a structural engineer should always be obtained to achieve maximum economy of material, especially on large scale projects.

Timber requirements for Buildings in cities and suburbs

The recommendations are only valid for buildings in cities and suburbs to 7.5m maximum height. (Wind Categories 3 and 4 as per SANS 10160). It excludes buildings in exposed areas, in geographical areas less than 30km from the coastline and in Beaufort West areas (Wind Categories 1 and 2 as per SANS 10160).

GRADE 5 TIMBER:

В	Deflection Criteria	Size of timber purlin in mm							
н		Height 76	Width 50	Height 114	Width 50	Height 114	Width 76	Height 152	Width 76
Purlin Spacing in mm				Rafter Spacings			N		
1050 1200 1350	L/150	1650 1600 1550		2550 2500 2400		3350 3250 3150		48 43 41	300 350 150
1050 1200 1350	L/200 1600 2550 1550 2400		1650 1600 1550		50 00 00	32 31 30	50 00 00	44 41 39	450 100 200
1050 1200 1350	L/250	1500 1500 1450		1500 2550 300 1500 2500 283 1450 2400 240		00 50 00	39 38 36	950 350 550	

GRADE 4 TIMBER:

B	Deflection Criteria	Size of timber purlin in mm							
н		Height 76	Width 50	Height 114	Width 50	Height 114	Width 76	Height 152	Width 76
Purlin Spacing in mm		Rafter Spacings in mm							
1050	L/150	1300		210	00	2800		40	050
1200		1300		205	50	2750		38	350
1350		1250		200	00	2650		30	650
1050	L/200	1300		210	00	280	00	40	000
1200		1300		205	50	275	50	37	750
1350		1250		200	00	265	50	30	600
1050	L/250	1300		210	00	270	00	30	550
1200		1300		205	50	265	50	34	450
1350		1250		200	00	250	00	33	350

The above gives an indication of purlin sizes required for varying purlin and rafter spacings. The services of a structural engineer should always be obtained to achieve maximum economy of material, especially on large scale projects.

Notes:

Sheets must be restrained so that no "sliding forces" are transmitted to purlins. The joints in the purlin must be staggered and spliced.

RECOMMENDED METAL PURLINS FOR SINGLE STOREY STRUCTURES

Purlin details	Maximum clear spans
100 x 50 x 20 x 2 LC	4200mm
125 x 50 x 20 x 2 LC	5000mm
125 x 65 x 20 x 2 LC	5300mm
150 x 65 x 20 x 2 LC	6100mm

Assumptions:

• Deflection Limits at Span/240

FIG 7 Position of Top Purlin (Dimension D)

• Purlins are spanning between gable with no internal wall support.

A structural engineer should be consulted for the design of larger structures.

TYPICAL STEEL PURLIN ARRANGEMENT TYPICAL TIMBER PURLIN ARRANGEMENT TYPICAL TIMBER PURLIN ARRANGEMENT TYPICAL TIMBER PURLIN ARRANGEMENT Rafter Dimension D: Distance from apex to centre line for fixing point, measured on rafter. Valid for steel and timber structures.

NB: Refer Table 5, Page 16 for the position of top purlin (Dimension D) for different purlin heights.

Height of purlin mm	76	114	152			
Pitch of roof	Dimension D in mm					
10°	180	180	170			
15°	170	160	150			
20°	160	150	130			
25°	150	130	120			
30°	140	120	90			

TABLE 5 Position of Top Purlin for Different Purlin Heights (Dimension D)

Typical deflection curves



Dry sample - 0.9 kN Point Load



Bigsix Curved Sheets - 6 mm thickness

Product No.	Size	Mass per Unit (kgs)
703-200	1915mm	22

Product No.	Size	Mass per Unit (kgs)
703-300	2875mm	33





Product No.	Size	Mass per Unit (kgs)
703-510	3050mm	35



Purpose-made Nutec Bigsix curved sheets can be manufactured to suit individual applications.

Maximum overall length 3 600mm
Net cover width
Overall width
Nominal thickness 6mm
Average mass per lin. m 11,47kg/m



When ordering quote overall length of sheet and inside radius of curve.

To finish off the gable ends, purpose-made barge boards can be manufactured for all curved sheets

All dimensions in mm

Application Possibilities

Fig. 8 illustrates the combination of curved, cranked, curved end and straight Nutec Bigsix sheets used in an imaginative configuration providing striking features to any industrial, commercial or residential building.

FIG 8 Typical Uses of Nutec Bigsix Curved Sheets



Nutec Bigsix Curved End Down Sheets

Product No.	Size	Mass per Unit (kgs)
705-070	2135mm	25
705-071	2135mm	25

Product No.	Size	Mass per Unit (kgs)
705-080	2440mm 2440mm	28 28
707-001	244011111	20



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- NB: When ordering standard curved end down sheets, quote product numbers and direction of fixing. Refer Fig. 13, Page 23.
 - Purpose-made curved end down sheets can be manufactured to suit individual applications.
 - For additional information contact your EVERITE Sales Office.

Application

Using curved end down sheet on sawtooth roof for natural ventilation and south lighting.

FIG 9 Nutec Bigsix Curved End Down Sheet on Sawtooth Roof/South Lighting



To finish off the gable ends, purpose-made barge boards can be manufactured to suit all curved end down sheets.



All dimensions in mm

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When ordering standard curved end up sheets, quote product numbers and direction of fixing. Refer Fig. 13, Page 23.

Application

Using curved end up sheet in conjunction with a curved sheet providing natural ventilation for industrial applications.

FIG 10 Nutec Bigsix Curved End Up Sheet at Apex of Roof

- 1 Nutec Bigsix curved sheets 2 Nutec Bigsix curved end up sheet 3 Purlin 4 Roof structure 2 3 4

To finish off the gable end, purpose-made barge boards can be manufactured to suit all curved and curved end sheets.

Purpose-made Nutec Bigsix curved end and cranked sheets

Purpose-made curved end down and curved end up sheets as well as cranked sheets can be manufactured to suit individual applications. They are used in similar applications to the standard curved end up or curved end down sheets but where different lengths and curves are required When ordering please state:

- **a** Overall length (Dimensions A + B + C) to a maximum of 3 600mm.
- **b** Straight length (Dimension A).
- c Whether curved up or curved down.
- **d** Nominal radius of curved end measured to the underside of the valley.
- Whether sheet is to continue past the quadrant and for what length (Dimension C).
 It is recommended that the straight length dimensions beyond the curve should be specified long enough to enable adherence to the recommended fixing options.
- f Whether for right to left or left to right fixing. **Refer Fig. 13, Page 23**.

FIG 11 Examples of Nutec Bigsix Non Standard Curved End Up, Curved End Down and Cranked Sheets



Purpose-made matching barge boards for gable ends can be manufactured.

Purpose-made Nutec Bigsix curved end and cranked sheets (Continued)

Application Possibilities

Purpose-made cranked sheets are used where it is required to have continuation of the roofing sheets into the wall cladding, or where changes in the pitch occur.

FIG 12 Examples of Nutec Bigsix Non Standard Curved End Up, Curved End Down and Cranked Sheets



CRANKED SHEET USED ON SAWTOOTH ROOF





Direction of Fixing

To determine the direction of fixing for Nutec Bigsix curved end down or curved end up sheets, they must be viewed from the straight end (the long leg) of the sheet towards the curved end down or curved end up portion of the sheet. Refer Fig. 13.



- 2 Nutec Bigsix corrugated sheet
- 3 Nutec Bigsix curved end up sheet right to left
- 4 Nutec Bigsix curved end down sheet right to left

Nutec Bigsix Close fitting adjustable ridge capping (Grey)

Product No.	Size	Mass per Unit (kgs)
720-000	875mm	5
720-010	875mm	5

Nutec Eyethu Close fitting adjustable ridge capping (Terracotta)

Product No.	Size	Mass per Unit (kgs)
720-002	875mm 875mm	5
720-012	07011111	5



FIG. 14 Typical application of Nutec Bigsix close fitting adjustable ridge capping



NB: Ridge capping must be fixed in the opposite direction to that of the straight sheets.

Nutec Bigsix Close Fitting Adjustable Ridge Capping (continued)

When using the close fitting adjustable ridge capping ensure that the roof sheets are laid square and that the corrugations and side laps on both slopes of the roof are in line at the ridge. The close fitting adjustable ridge capping must be laid in the opposite direction to that of the roof sheeting. The setting out should be carried out as illustrated in **Fig.15**. No mitring is required for the Nutec Bigsix corrugated roof sheeting or the close fitting adjustable

ridge capping.

The "163" corrugation of the ridging must fit into the side lap of the sheeting.



NB: Numbers indicate sequence of fitting the adjustable ridge capping.



Net cover width	875mm
Overall width	920mm
Nominal thickness	6mm
Average mass per length	7,5kg
Angle to order	

Made to order only.

Close fitting ridge sheet must be mitred. Quote full description when ordering.



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Minimum length of straight section 300 Minimum radius 76 mm



FIG. 16 Typical Use of Purpose-made Bigsix Close Fitting Ridge Sheet

- NB: To obtain a proper fit, it is essential that the straight sheets on both slopes of the roof are properly aligned.
 - The ridges are fixed in the same direction as the roof sheeting and must be mitred. Refer Fig. 4a and 4b, Fig. 5 and Fig. 6, Pages 10 and 11.

Description	Nominal Thickness mm	Fixed Angle	Nominal Girth mm	Width mm	Average Mass kg
SS* CS* ES*	6	12°	650	870 1 010 1 070	7,0 8,6 9,0
SS* CS* ES*	6	15°	650	870 1 010 1 070	7,0 8,7 9,0
SS* CS* ES*	6	18°	650	870 1 010 1 070	7,0 8,8 9,2
SS* CS* ES*	6	15°	1 066	870 1 010 1 070	12,0 14,0 15,0
SS* CS* ES*	6	18°	1 066	870 1 010 1 070	12,0 14,0 15,0
SS* CS* ES*	6	15°	1 525	870 1 010 1 070	18,0 20,0 21,0
SS* CS* ES*	6	18°	1 525	870 1 010 1 070	18,0 20,0 21,0

Nutec Bigsix Fixed Angle Wide Profile Ridge Sheets



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STANDARD WIDE PROFILE RIDGE SHEET WIDTH





r = 1455 (18°) All dimensions in mm

Application

The Nutec Bigsix wide profile ridge sheet was developed to eliminate the mitring of both the Nutec Bigsix ridge sheet and the Nutec Bigsix straight sheet.



NB: The fixed angle wide profile ridge sheet is laid in the same direction as the roofing sheets.



Nutec Plain Wing Adjustable Ridge Capping/Hip Capping

Mass per

Unit (kgs)

6

6

Please state linear metres required when ordering.

Size

1100mm

1100mm

Application

Product

No. 720-100

720-110

The plain wing adjustable ridge capping can be used as indicated in Fig. 19a and 19b or as hip capping.

FIG. 19 Typical Application of Plain Wing Adjustable Ridge Capping



NB: If laid below 20° or if dust proofing is required, the openings between the corrugated roof sheet and the plain wing ridge or hip capping should be sealed with bitumen-impregnated closures.



NB: When ordering quote both product numbers and order the required linear metres, not pairs. This adjustable ridge capping is composed of a profiled external wing (995mm long) and a plain internal wing (1220mm long). It is adjustable to fit any angle of a sawtooth ridge.

Application

For use on any sawtooth application. When used to finish off a ridge of a mono-pitch roof as illustrated in **Fig. 20**, the plain wing of the fitting must be properly lined up and fixed to the vertical wall or substructure.



NB: If laid below 20° or if dust proofing is required, the openings between the corrugated sheet and the plain wing ridge or hip capping should be sealed with butimen-impregnated closures.

FIG. 20 Typical use of Nutec Bigsix Adjustable Sawtooth Ridge Capping

(based on 300mm plain wing)

Nominal thickness 6mm Average mass per length 7,2kg

Length of plain wing..... To order



30

Maximum length of plain wing...... 450mm

When ordering quote angle required, length of plain wing and whether for left to right or right to left fixina.

NB: When ordering quote both product numbers and order the required linear metres, not pairs. This adjustable ridge capping is composed of a profiled external wing (995mm long) and a plain internal wing (1220mm long). It is adjustable to fit any angle of a sawtooth ridge.

Application

Used for sawtooth applications or as a ridge on mono-pitch roofs.



NB: The plain wing of the fitting must be supported against a vertical wall and fixed to the supporting rail.

Nutec Bigsix Ridge Finial

Product No.	Size	Mass per Unit (kgs)
721-001	190mm	1

Application Possibilities

The Nutec Bigsix ridge finial is designed to close the ends of the ridge giving a neat appearance.

The finial is inserted into the end of the ridge capping and fixed with a verandah bolt and nut.

FIG. 23 Nutec Bigsix Ridge Finial



POSITION OF FINIAL ON RIDGE



All dimensions in mm



Nutec Bigsix Birdproofing

Product No.	Size	Mass per Unit (kgs)
721-100	875mm	1



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Application

The Nutec Bigsix birdproofing is used for birdproofing closures on roof.

FIG. 24 Typical Uses for Nutec Bigsix Birdproofing





ROOF SHEET/BIRDPROOFING LAYOUT



NB: • Designed to be butt-jointed and fixed in the same direction as the sheeting.

• It is fixed directly to the purlins or wallplate.



SECTION THROUGH VERTICAL CLADDING

Nutec Bigsix Eaves Filler

Product No.	Size	Mass per Unit (kgs)
721-460	875mm	3
721-450	875mm	3



When ordering quote product number and whether left to right or right to left fixing.

Application Possibilities

The Nutec Bigsix eaves filler is fitted under the Nutec Bigsix corrugated sheet closing the corrugations and forming a fascia.

It can also be used to close corrugations where water is discharged into a box gutter.

FIG. 25 Typical Uses for Nutec Bigsix Eaves Filler



NB: Must be fixed in the same direction as the roof sheeting.

Nutec Bigsix End Apron Flashing

Product No.	Size	Mass per Unit (kgs)
721-400	875 mm	5 left to right fixing
721-410	875 mm	5 right to left fixing



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When ordering quote product number and whether left to right or right to left fixing.

Application

The Nutec Bigsix end apron flashing is designed as a finish against vertical surfaces, e.g. louvres, dormer windows, walls, etc.

FIG. 26 Typical Use of Nutec Bigsix End Apron Flashing Piece



- NB: When used against a masonry wall metal counter flashing must be used.
 - To be fixed in the opposite direction to that of the roof sheeting or wall cladding.

Nutec Bigsix U-flashing

Product No.	Size	Mass per Unit (kgs)
750-030	3000mm	8



35

Application

The Nutec Bigisix U-flashing is used to finish off the bottom of profiled sheets onto brickwork. It is also used for the flashing around windows and door frames where corrugations of the Nutec Bigsix sheets have to be closed for waterproofing and aesthetics.

FIG. 27 Typical Use of Nutec Bigsix U-flashing

SECTION THROUGH VERTICAL CLADDING



USING U-FLASHING AROUND DOORS AND WINDOWS

- 1 Nutec Bigsix corrugated sheet
- 2 Fixing point
- 3 Nutec Bigsix U-flashing
- 4 Masonry wall
- 5 Timber sheeting rail/wallplate
- 6 Metal sheeting rail
- 7 Nutec Bigsix straight sill flashing



All dimensions in mm

Nutec Bigsix Straight Sill Flashing

Product No.	Size	Mass per Unit (kgs)
753-510	3000mm	8

Application

The Nutec Bigsix straight sill flashing obviates end lapping of sheets on side cladding at the termination of each course of sheeting.

It is also used as flashing where the sheets finish on top of a wall.

FIG. 28 Typical Use for Nutec Bigsix Straight Sill Flashing



SECTION THROUGH VERTICAL CLADDING





- Metal sheeting rail
- Metal flashing piece 5
- NB: Where butt-jointed and a waterproof joint is required, the butt-joint should be made over a piece of metal shaped to the straight sill flashing and the joint sealed with a silicone sealer.



Nutec Bigsix Expansion Joint Cover – Purpose Made

An expansion joint must be incorporated into the roofing sheets where expansion joints occur in the main structure.

It is necessary to allow for expansion joints after after every 60 sheets.

To cover the expansion joint an expansion joint cover is available.

The width of the cover can be made to suit requirements and the maximum length which can be manufactured is 3 600mm.

The expansion joint cover must be fixed to the roof sheet on one side only and the other side left free to move across the top of the adjoining roof sheet. Refer Fig. 30.

FIG. 30 Cross Section Through Expansion Joint Cover



NB: Expansion joint cover can be manufactured to suit the ridge capping used.

Nutec Bigsix Ventair Soaker Flange Sheet

Product No.	Size	Mass per Unit (kgs)
724-603	1700mm	23



Application

The Nutec Bigsix soaker flange sheet is designed to be used in conjunction with the Ventair ventilator, and can be interlaid with ordinary Nutec Bigsix corrugated sheets on any part of the roof.

It requires no lead flashing and can be used for either left to right or right to left fixing.



NB: • The soaker flange sheet must be mitred as required. Refer Fig. 4A and Fig. 4B, Page 10.

- Where interlaid with Nutec Bigsix corrugated sheets, a supporting timber or meta framework is required.
- For ventair ventilator information contact your EVERITE Sales Office.

Fixing Accessories

Product No.	Description	Length mm	Diameter mm	Sketch of Article
600-350	Everseal combination-steel cup and PVC washer system complete Packed in boxes of 100		8	
600-340	Drive screw and Everseal washer pre-assembled Everseal washers with 120mm long drive screw. Pre-assembled in boxes of 100	120	8	
600-330	Pozigrip with galvanised hex head	80	6	
600-300 600-301 600-302 600-303 600-304 600-305 600-306 600-307	Hot dipped galvanised hookbolts and nuts Hook bolt length determined by depth of steel purlin plus 90mm	95 110 125 140 160 180 200 225	8 8 8 8 8 8 8 8 8	Length to sult
Special	Hot dipped galvanised channel bolts and nuts Channel bolt length determined by depth of channel plus 90mm, and channel width plus 3mm NB: Made to order only. Do not use with timber purlins		8	30 Length to suit
600-366 600-367 600-368 600-369	Galvanised verandah bolts and nuts	25 30 40 50	6 6 6 6	

Speed Fixing Systems

Speed fixing systems which meet the following requirements can also be used with Nutec Bigsix corrugated sheets.

- When using timber purlins, the pull out force should be at least equivalent to that of a drive screw, i.e. not less than 1,75 KN.
- A washer system equivalent to the recommended Everseal washer system should be used to seal, distribute live load and to avoid the fixing pulling through the roof sheet.
- For recommendations with regard to the number and placing of fixings, refer to Fig. 6, Page 11.
- Holes for fixings must be 2mm larger in diameter than the fixing accessory and are predrilled.
- Fixings must not be overtightened.
- Correct length of fasteners must be used bearing in mind the extra overall depth of the sheets at laps.
- Length of fastener for fixing into timber purlins 115mm.
- Length of fastener for fixing into steel purlins 90mm.

Sample Bill of Quantities

Description

Preamble

Fibre-cement sheets, fittings and fixing accessories shall be EVERITE Nutec Bigsix*, as per SANS 9933 as amended and as detailed in their current catalogue. Contact EVERITE Sales Office for more details.

The sheets, fittings and accessories shall be used strictly in accordance with EVERITE recommendations or as directed by EVERITE.

Nutec Bigsix sheets are available in standard lengths of 1,5; 1,8; 2,1; 2,4; 2,7; 3,0; 3,3 and 3,6m. Numbers in brackets in the descriptions are EVERITE product numbers. Where no numbers are specified, the items are made to order and not carried in stock.

Scaffolding

Scaffolding requirements are included in the Preliminary and General portion of the Bill of Quantities.

Roof Coverings

EVERITE Nutec Bigsix corrugated roof sheeting, fittings and fixing accessories and fixing to (specify type and material of purlins/bearers) with and including 8mm diameter hot dipped galvanised steel bolts/drive screws (specify type and size of bolts/drive screws), complete with Everseal washer (600-340), including all straight cutting and waste, overlaps, short lengths, etc. (measured net).

Sheeting

- 1Roof sheeting net roof aream²2Extra over roof sheeting for curved end
- and straight length)
 eg: (248mm radius L-R 505-070, R-L 505-071)
 (400mm radius L-R 507-080, R-L 507-081)
- 3 Ditto for curved end sheet curved up eg: (305mm radius L-R 504-070, R-L 504-071) m

m

4 Curved roof sheeting in single sheets eg: (503-200, 503-300 or 503-510) m Fittings, fixed down with the fixing accessories as supplied by EVERITE.

* Also available in Eyethu roofing sheet supplied in a terracotta UV resistant surface coated pigment.

Quantity	Rate	Amount

Sample Bill of Quantities (cont.)

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Description		Quantity	Rate	Amount
 Eaves 5 Eaves filler (L-R 721-460, R-L 721-450) 6 Birdproofing (721-100) fixed to (describe) with and including (specify type or bolt or screw) 	m			
 Barge Boards 7 Barge boards (specify size) 8 Extra over barge board for curved end barge board (state length and radius) and L-R or R-L fixing 9 Curved barge board (state radius and girth) 	m m m			
 Ridges 10 Fixed angle ridge sheet, 300mm wing (specify angle) 11 Fixed angle sawtooth ridge capping, 325mm wing (ditto) 12 Plain adjustable ridge capping, 325mm wing (internal 720-100 and external 720-110) 13 Adjustable sawtooth ridge capping, ditto (internal 720-100 and external 720-010) 14 Ridge finial (721-001) fixed to ridge capping with and including one 6mm diameter galvanised verandah bolt (601-366 to 601-369) and one galvanised steel flat washer 15 Purpose-made sawtooth ridge finial (state pitch of roof and L-R or R-L fixing) fixed to ridge capping, (ditto) 	m m m no.			
 Ridge Sheets 16 Fixed angle wide profile ridge sheet, nominal 650mm girth (specify angle) 17 Ditto, nominal 1 066mm girth (ditto) 18 Ditto, nominal 1 525mm girth (ditto) 18 Ditto, nominal 1 525mm girth (ditto) Flashings 19 End apron flashing (L-R 721-400 or R-L 721-410) (at junction with parapet wall, etc.) 20 Side, ditto (721-520) (ditto) 21 U-flashing (720-030) 22 Straight sill (ditto) (733-510) 23 Purpose-made underglaze flashing (L-R or R-L) 	E E E E E E			

Sample Bill of Quantities (cont.)

Description (Continued)	Quantity	Rate	Amount	
Soaker Flange Sheets24Extra over roof sheeting for superimposed soaker flange sheet fixed with and including 6mm diameter galvanised steel verandah bolts (601-366 to 601-369), galvanised steel flat washers and approved mastic sealant				
25 Ditto for purpose-made rectangular soaker flange sheet (524-603) to suit Ventair ventilator (elsewhere measured) no.				
Wall Cladding 26 EVERITE Nutec Bigsix wall cladding, fittings and fixing accessories and fixing to (specify type and material of sheeting rails) with and including 8mm diameter hot dipped galvanised steel bolts/drive screws (specify type and size of bolts/drive screws) with Everseal washer (600-340), including all straight cutting and waste, overlaps, short lengths, etc. (measured net)				
Cladding 27 Wall cladding (net wall area) m ²				
Fittings fixed with the wall cladding fixing accessorie (elsewhere measured) including any additional bo if necessary.	es Its,			

Handling and Storage

HANDLING AND STORAGE INSTRUCTIONS

GENERAL HANDLING:

Nutec roofing sheets are manufactured from a composite material containing cement and may be damaged under excessively high shock loads. Reasonable care should therefore be taken to ensure that the products are not dropped or subjected to rough handling.

- Roofing sheets are separated by spacers and these must remain in place during transportation and storage.
- Roofing sheets should remain on pallets and can be kept outside for short periods ideally they should be kept under cover until installed.
- Strict stock rotation should be adhered to.

DURABILITY

When supplied in their natural grey colour the sheets will be affected in the following ways by weathering:

- Surface weathering due to acid rain in coastal or polluted areas.
- During the first few months of exposure the sheets may darken on the underside due to water absorption during prolonged rain. This will diminish as the material seals itself due to further hydration of cement and carbonation.

TRANSPORT, HANDLING AND STORAGE

A. TRANSPORT

1. Own Collection

When the customer collects product from either the manufacturer or stockist, the customer must ensure for the following:

- a) A suitable vehicle.
- b) Long enough load bed to take the roof sheets.
- c) Adequate packing material to provide a level base if the bed is uneven.
- d) Adequate strapping to secure the load.
- e) Transport permit if required. **Responsibilities:**
- The customer accepts responsibility for loaded material before leaving supplier.
- Check that the material is in a sound condition.
- Quantities and sizes are correct.
- Check that the load is secure and within the load limits of the vehicle.
- 2. By Haulage Contractor, Stockist or Manufacturer
- Follow precautions as per item 1(a-e) above. Responsibilities:
- The material remains the responsibility of the carrier until it is delivered and off loaded / stacked on-site.
- The agreed portage requirements of carrier and customer must be available.
- Access to the stacking area is within the agreed distance.

B. HANDLING

Sheets up to 3.6 meters in length are handled manually by two persons - one at each end. Sheets should be lifted at the crowns away from the extreme edges of the sheet as shown in diagram below:



Handling and Storage (cont.)

HANDLING AND STORAGE INSTRUCTIONS (continued)

C. STORAGE

Customers responsibility

- Stacking area: should be firm and level and where sheets cannot be damaged or soiled by passing traffic.
- Provision of bearers: Sheets should be stacked on timber bearers as shown in diagram below. 75mm x 50mm rough sawn timber are usually adequate for this purpose.



• Preplanning: Adequate preplanning of deliveries should be made to ensure that Nutec products are not stored on site for periods in excess of one month prior to their intended use. In dry arid areas, Nutec products should be covered and protected against drying winds or hot sun to avoid peripheral shrinkage and resultant cracking in stacks.

CUTTING AND DRILLING

Nutec sheeting may be cut and drilled as necessary. Holes must NOT be punched. Holes for fixing should be 2mm larger in diameter than the bolt or fixing screw used for securing the roof sheet. Holes must always be drilled through the crown of the corrugation as shown in photo below.



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