The application:

12.0 Bracing

TERPAN base

BRACING MANUAL
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1. Results

The rigid air barrier is the most common direct fix method used to obtain bracing resistance. Eterpan Base is suitable as a rigid wall underlay in accordance with the requirements of NZBC E2/AS1.

1.1 4.5mm Eterpan BASE Bracing

<table>
<thead>
<tr>
<th>Bracing Units (BU/m)</th>
<th>Bracing length (mm)</th>
<th>Brace Code</th>
<th>Thickness sheet (mm)</th>
<th>Remarks</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>E/Quake</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>95</td>
<td>1200</td>
<td>BR45.12.1C</td>
<td>4.5</td>
<td>Concrete floor, hold down bolts</td>
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<tr>
<td>88</td>
<td>70</td>
<td>1200</td>
<td>BR45.12.2T</td>
<td>4.5</td>
<td>Timber floor, hold down bolts</td>
</tr>
</tbody>
</table>

Comments:

- Bottom plate fixing, provide M12 x 150mm hold down bolts with 50x50x3mm square washers at 1200mm maximum centres.
- End straps are not required.
- Refer to bracing details and nailing patterns in section 7.0
# 1.2 6.0 – 9.0mm Eterpan BASE Bracing

<table>
<thead>
<tr>
<th>Bracing Units (BU/m)</th>
<th>Brace Length (mm)</th>
<th>Brace Code</th>
<th>Thickness sheet (mm)</th>
<th>Remarks</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>92</td>
<td>1200</td>
<td>BR60.12.1C</td>
<td>6.0</td>
<td>Concrete floor connection</td>
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<tr>
<td>102</td>
<td>92</td>
<td>1200</td>
<td>BR60.12.1T</td>
<td>6.0</td>
<td>Timber floor no hold downs</td>
</tr>
<tr>
<td>109</td>
<td>90</td>
<td>2400</td>
<td>BR60.24.1T</td>
<td>6.0</td>
<td>Timber floor no hold downs</td>
</tr>
<tr>
<td>109</td>
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<td>102</td>
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<td>1200</td>
<td>BR75.12.1C</td>
<td>7.5 &amp; 9.0</td>
<td>Concrete Floor Connection</td>
</tr>
<tr>
<td>102</td>
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<td>7.5 &amp; 9.0</td>
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<tr>
<td>109</td>
<td>90</td>
<td>2400</td>
<td>BR75.24.1C</td>
<td>7.5 &amp; 9.0</td>
<td>Concrete floor connection</td>
</tr>
</tbody>
</table>

**Comments:**

- Bottom plate fixing, provide M12 x 150mm hold down bolts with 50x50x3mm square washers at 1200mm maximum centres.
- End straps are not required
- Refer to bracing details and nailing patterns in section 7.0
1.3 Cavity fix

Systems using a cavity have the same bracing resistance than the same direct fixed systems. The minimum bracing length is 1200 mm. We include here the results on VentClad plaster system with 4.5 and 9.0 mm thick Eterpan Base sheets.

<table>
<thead>
<tr>
<th>Bracing Units (BU/m)</th>
<th>Brace Length (mm)</th>
<th>Brace Code</th>
<th>Thickness sheet (mm)</th>
<th>Remarks</th>
<th>Specimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind E/Quake</td>
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<td>88</td>
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<td>4.5</td>
<td>Cavity Fix</td>
<td>VentClad</td>
</tr>
<tr>
<td>133</td>
<td>1200</td>
<td>EB90.12.1CF</td>
<td>9.0</td>
<td>Cavity Fix</td>
<td>VentClad</td>
</tr>
</tbody>
</table>

Comments:
- Valid for concrete floor and timber floor
- End straps are not required
- Refer to bracing details and nailing patterns in section 7.0
2. Eterpan Base Sheeting

2.1 Compliance
All Pacific Build Supply products described in this technical manual have been tested at the BRANZ laboratories in accordance NZS 3604: 2011 and BRANZ Technical Paper P21 Wall Bracing Test and Evaluation Procedure. Pacific Build Supply bracing systems satisfy the NZ Building Code clause B1 Structure, clause B2 Durability and clause E2/AS1 External moisture, when installed and maintained in accordance to Pacific Build Supply technical specification requirements.

2.2 Eterpan Sheet (Eterpan has a durability of 15 years uncoated.)
Eterpan sheets are produced with the FLOW-ON production process that creates a truly monolithic layer of fibre cement. As a consequence the water, humidity, frost and delamination resistance of the sheet is superior. Eterpan is available in version with a sanded surface, called Eterpan Refined and a version with an un-sanded surface, used for rigid air barriers and called Eterpan Base.

2.3 Eterpan Repellent Surface (Coated or uncoated)
For rigid air barriers, Pacific Build Supply offers Eterpan Base with or without a water-repellent surface. We do not require the surface of the Eterpan Base rigid air barrier to be coated, but in situations where the barrier is either exposed for an extended length of time during the build or when the designer has specified it to be coated we recommend to install a water-repellent Eterpan sheet to avoid water absorption. Both the repellent or standard sheet will have similar vapour permeability.

2.4 Wind Loading Requirements
PBS Eterpan bracing systems are suitable for use in all wind zones as defined in Table 5.1, NZS 3604:2011. 
For wind speeds above 50m/Sec (1.55 kPa) a specific engineering design must be undertaken by the designer to calculate the bracing capacity required.

2.5 Height Restrictions
Pacific Build Supply bracing systems have a standard height of 2.4m. For bracing panels larger or smaller than 2.4m, the bracing rating has to be adjusted with a factor 2.4/H, where H is the bracing panel height. Maximum height of the bracing system is 4.8 m (clauses 8.3.1.4 (a) and (b) of NZS 3604:2011). For bracing elements smaller than 1.8m high, the multiplication factor shall be limited to 2.4/1.8 only.

2.6 Bracing Panel Length
There is no limit to the length of bracing panels along a wall. Buildings with a floor area exceeding 300 m² require a specific engineering design. Control joints or constructions joints in walls have to be considered and must work in conjunction with cladding or structural requirements. Adjustments of bracing elements for length refer to clause 8.3.13 NZS3604:2011.
2.7 Thickness of Eterpan Base sheets
Sheets are available in 4.5, 6.0, 7.5 and 9.0mm thicknesses
Bracing resistance increases with increasing thickness. The bracing resistance of a 9.0 mm sheets will therefore surpass the resistance of a 7.5 mm sheet. Maximum bracing resistance as specified under paragraph 2.12 limits the bracing resistance.

2.8 Sheet Orientation
All flat sheets in the Pacific Build Supply bracing systems must be fixed vertically. Full-height sheets without joints must be used for walls up to 3000mm in height. When walls exceed 3000mm in height, only one horizontal sheet joint is permitted within the element height. The maximum height is limited to 4800mm as specified in paragraph 2.5.

2.9 Fixing of the Sheets
Always respect the minimum edge distances specified for the fixing of nails to the edge of the sheet. Always ensure that the sheet joint is on the centre line of the stud or nog to achieve sufficient cover of fixings. The sheets must be held hard against the framing during nailing to minimise sheet break-out at the back of sheet. Drive all nails flush with the sheet surface and do not nail the nail head below the sheet surface as it reduces the nail’s holding power. Fix all sheets from the centre working towards outer edges.

2.10 Sheet Penetrations
No window/door penetrations are allowed, but holes/penetrations up to 100 x 100mm positioned no closer than 200mm to the edge of lining or another hole, are allowed for services without significantly affecting the bracing rating of the lining/cladding.

2.11 Bracing Sheets stopped below top plate
Where a bracing sheet is stopped below the top plate an extra row of nogs must be installed below the top plate to facilitate the cladding fixing.

2.12 Maximum Bracing Units
The capacity of concrete foundation slabs and anchors etc. limit the maximum bracing resistance. A maximum of 150 BU/m can be achieved for any bracing system for a construction within the scope of NZS 3604:2011.

2.13 Internal Applications
In applications where the bracing is required internally use a double bottom plate with the hold down bolts or straps fixed through both bottom plates. Fix with nail patterns as shown in details.
3. Design Recommendations

3.1 Timber framing
Pacific Build Supply bracing systems are can only be used with timber framed buildings. The timber framing must comply with the minimum requirements of NZS 3604: 2011 ‘Timber Framed Buildings’. When the framing is specific engineering design, the framing performance must be equal to or more than the performance requirements of NZS 3604: 2011.

3.2 Structural Grading of Timber
Minimum timber grade requirement is No. 1 framing grade or MSG6 as per NZS 3604:2011. The grading of timber should comply with NZS 3631 and AS/NZS 1748 requirements. Higher stress grades such as MSG8 or MSG10 can be used where needed.

3.3 Dimensions
A minimum 50 mm wide stud is required for bracing systems. Refer to Pacific Build Supply’s product technical specification for specific framing requirements.

3.4 Tolerances
In order to achieve an acceptable finish, it is paramount that the framing is straight and plumb. Tolerances in framing must comply with the requirements of NZS 3604:2011. All framing shall be finished flush.

3.5 Durability
The external framing must be treated to a minimum H1.2. Refer to NZBC Acceptable Solution B2/AS1 ‘Durability’ for further information about the durability requirements. For further information on timber treatment and acceptable moisture content please refer to NZS 3602 (Timber and Wood-Based Products for use in Buildings) and NZS 3640 (Chemical Preservation of Round Sawn Timber) for minimum treatment and selection requirements.

3.6 Frame Construction
Timber framing must comply with NZS 3604:2011 Section 8 and be provided as per the following requirements.
Refer to framing manufacturers’ specifications before installation.
- Studs must be provided at maximum 600mm crs
- Nogs or dwangs must be provided at maximum 1200mm crs
- When a cladding is fixed over the Ventclad cavity system, the nog spacing is required to be provided at maximum 800mm crs
  Refer to Section 9.1.8.5 of E2/AS1.
3.7 Bottom Plate Fixing
Bottom plate fixing must be in accordance with the requirements of NZS 3604:2011. Any additional bottom plate fixing needed by the individual bracing system’s requirements must also be provided. Refer to bracing systems details for more information.

3.7.1 For Timber Foundations
For fixing framing to timber joists / foundations or floors, the bottom plate must be fixed in accordance to Table 8.19 of NZS 3604:2011. Coach screws or hold down straps may be needed in addition by the specific bracing system. Refer to the bracing system details for more information.

3.7.2 For Concrete Foundation
For fixing the framing to concrete floors, the bottom plates must be fixed as per Figure 6.16 of NZS 3604:2011. Coach screws or hold down straps may be needed in addition by the specific bracing system. Refer to the bracing system details for more information.

3.7.3 Holding Down Straps
When holding down straps are to be used, these must be fixed at the end of each bracing element length, but no further than 4.8m apart. The holding down strap must be 25 x 0.9 x 400mm fixed with 30mm x 2.5mm hot-dip galvanised flat head nails. Holding down straps can be rebated into the framing to avoid any kick out in claddings or linings.

3.8 Building wrap or Eterpan Base as rigid air barrier
Building wrap used must comply with the performance requirements of Table 23 of E2/AS1. The wrap must be installed in accordance with E2/AS1 and their manufacturer’s requirements. In buildings within the scope of NZS 3604, Eterpan Base as Rigid Air Barrier can also be used to replace building wrap. Eterpan Base as Rigid Air Barrier has been tested and complies with the requirements of Table 23 of E2/AS1. Walls which are not lined on inside face e.g. an air barrier behind the wall cladding. Eterpan Base as Rigid Air Barrier is suitable for use in these applications.

4. Fixing Requirements
All fixings for Eterpan bracing sheets for External cladding applications must be Grade 316 stainless steel in accordance with NZS 3604:2011.
Coach screws and holding down (HD) bolts, where used, must be M12 hot-dipped galvanized steel fitted with 50 x 50 x 3mm galvanized washers. These must have a protective coating as per Table 4.2 of NZS 3604:2011.
For Internal dry area internal applications hot dipped galvanized nails can be used.
For Internal wet area internal applications stainless steel nails must be must be Grade 316 stainless steel in accordance with NZS 3604:2011.

For safe working practices using Eterpan refer to “Eterpan Product Information” data sheet.

6. Waiver

The specifier or other party responsible for the project must run through a risk matrix analysis as per E2/AS1 to determine which construction method is applicable to install the external cladding on a project. The designer must also ensure that the bracing capacities published in this specification are appropriate for the intended application. The designer is responsible to calculate the bracing requirement for a building. The designers must also ensure that the intent of their design meets the requirements of NZBC.

Substitution of Pacific Build Supply’s fibre cement product with any other similar product will change the bracing capacity of a system and may not provide the required bracing for a building.

All dimensions shown are in millimeters unless noted otherwise.

All New Zealand Standards referenced in this manual are current edition and must be complied with.

Pacific Build Supply Ltd conducts stringent quality checks to ensure that any product manufactured falls within our quality spectrum. It is the responsibility of the builder to ensure that the product meets aesthetic requirements before installation. Pacific Build Supply Ltd will not be responsible for rectifying the obvious aesthetic surface variations in product after its installation.

See Pacific Build Supply’s website www.PBS.co.nz for the most up to date details on waivers and any other technical information.
### Bracing Details (Index)

<table>
<thead>
<tr>
<th>Wind</th>
<th>E/Quake</th>
<th>Brace Length (mm)</th>
<th>Sheet Thickness</th>
<th>Remarks</th>
<th>Drawing Number</th>
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<td>80</td>
<td>95</td>
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<td>4.5</td>
<td>Concrete floor, hold down bolts</td>
<td>BR45.12.1C</td>
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<tr>
<td>88</td>
<td>70</td>
<td>1200</td>
<td>4.5</td>
<td>Timber floor, hold down bolts</td>
<td>BR45.12.2T</td>
</tr>
<tr>
<td>102</td>
<td>92</td>
<td>1200</td>
<td>6.0</td>
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<td>1200</td>
<td>9.0</td>
<td>VentClad Cavity Fix</td>
<td>BR90.12.1CF</td>
</tr>
</tbody>
</table>
Eterpan Base 4.5mm Structural Bracing
BRANZ report ST0455
Bracing Units: 80 units/meter Wind
95 units/meter Earthquake

Eterpan meets the performance requirements of the NZBC, B2
Durability for 50 years; E2 External moisture and is non-hazardous
material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced,
times BU to give new BU rating.

Note 2
Bottom Plate hold down bolts are additional to
NZS 3604 requirements

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Eterpan Base 4.5mm Bracing
Exterior Wall Direct Fixed Square Edge Sheets

Scale: 1:20
Date: 27/04/11

North Island: 31 Arranway Drive, Albany. PO Box 302202 Auckland 0751 tel: 09 477 0660, fax: 09 477 0661
www.pbs.co.nz
South Island: 42C Maces Road, Christchurch

BR45.12.1C
Eterpan Base 4.5mm Structural Bracing

BRANZ report ST0455
Bracing Units: 88 units/meter Wind
70 units/meter Earthquake

Eterpan meets the performance requirements of the NZBC, B2
Durability for 50 years; E2 External moisture and is non-hazardous
material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced,
times BU to give new BU rating.

Note 2
Bottom Plate hold down
bolts are additional to
NZS 3604 requirements

Fixing at 150 crs

Over 2400 see Note 1

Fixing to be 40x2.6
stainless steel clouts.

Corner fixing-Detail A

12 min.

Fixing at 150 crs

12 min.

100 Max

150 150 150

BPF BPF

Bottom plate fixing, provide
M12 hold down 150x12mm
minimum, coach screws
with 50x50x3mm square
wasiers at 1200 centres
maximum.

Timber Floor-Detail B

Scale: 1:20
Date: 27/04/11

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tel: 09 477 0960, fax: 09 477 0961
South Island: 42C Maces Road, Christchurch

DWG. No.
BR45.12.2T
Eterpan Base 6.0mm Structural Bracing
BRANZ report ST359
Bracing Units: 102 units/meter Wind
92 units/meter Earthquake

Eterpan meets the performance requirements of the NZBC, B2
Durability for 50 years; E2 External moisture and is non-hazardous
material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced,
times BU to give new BU rating.

Note 2
Bottom Plate hold down
bolts are additional to
NZS 3604 requirements

Corner fixing-Detail A

Bottom plate fixing, provide
M12 hold down 125x12mm
minimum, masonry anchors
with 50x50x3mm square
washers at 1200mm centres
maximum.

Concrete Floor-Detail B

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www.pbs.co.nz

South Island: 43C Mapes Road, Christchurch

Scale: 1:20 Date: 27/04/11

BR60.12.1C
Eterpan Base 6.0mm Structural Bracing

Eterpan meets the performance requirements of the NZBC, B2 Durability for 50 years; E2 External moisture and is non-hazardous material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced, times BU to give new BU rating.

Note 2
Bottom Plate hold down bolts are additional to NZS 3604 requirements.

Corner fixing-Detail A
Fixing to be 40x2.8 stainless steel clouts.

Timber Floor-Detail B
Bottom plate fixing, provide M12 hold down 150x12mm minimum. coach screws with 50x50x3mm square washers at 1200 centres maximum.

Scale: 1:20 Date: 27/04/11
Eterpan Base 6.0mm Structural Bracing

BRANZ report ST359

Bracing Units: 100 units/meter Wind
90 units/meter Earthquake

Eterpan meets the performance requirements of the NZBC, B2 Durability for 50 years, E2 External moisture and is non-hazardous material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced, times BU to give new BU rating.

Note 2
Bottom Plate hold down bolts are additional to NZS 3604 requirements

Fixing at 150 crs

2400 or more

50

Fixing to be 40x2.8 stainless steel clouts.

Corner fixing-Detail A

150 150 150

Bottom plate fixing, provide M12 hold down 150 x 12mm minimum coach screws, with 50x50x3 square washers at 1200 centres maximum.

 Timber Floor-Detail B

12 min.

50 Max

12 min.
Durability for 50 years; EZ External moisture and is non-hazardous material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced, times BU to give new BU rating.

Note 2
Bottom Plate
hold down bolts are additional to NZS 3604 requirements

Bottom plate fixing, provide M12 hold down 125x12mm minimum, masonry anchors with 50x50x3mm square washers at 1200 centres maximum.

Fixing to be 40x2.8 stainless steel clutches.

Corner fixing-Detail A

Concrete Floor-Detail B

Eterpan Base 6.0mm Bracing
Exterior Wall Direct Fixed Square Edge Sheets

Scale: 1:20  Date: 27/04/11

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www.pbs.co.nz
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DWG. No. BR60.24.1C
Eterpan Base 7.5mm & 9mm Structural Bracing

BRANZ report ST359
Bracing Units: 102 units/meter Wind
92 units/meter Earthquake

Eterpan meets the performance requirements of the NZBC, B2 Durability for 50 years; E2 External moisture and is non-hazardous material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced, times BU to give new BU rating.

Note 2
Bottom Plate hold down bolts are additional to NZS 3604 requirements

Fixing at 150 crs

12 min.

Bottom plate fixing, provide M12 hold down 125x12mm minimum, masonry anchors with 50x50x3mm square washers at 1200 centres maximum.

Concrete Floor-Detail B

Corner fixing-Detail A

Fixing to be 40x2.8 stainless steel clouts.

Over 2400 see Note 1

2400

Fixing at 150 crs

12 min.

50

100

100 Max

150 150 150

150 150 150

50 50

12 min.

1200

50

BPF

BPF

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Eterpan Base 7.5mm & 9.0mm Bracing
Exterior Wall Direct Fixed, Square Edge & Tapered Edge Sheets

Scale: 1:20
Date: 27/04/11

North Island: 31 Arterway Drive, Albany, PO Box 302202 Auckland 0751
South Island: 42C Macleay Road, Christchurch
tel: 09 477 0960, fax: 09 477 0961
www.pbs.co.nz

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Dwg. No. BR75.12.1C
Eterpan Base 7.5mm & 9mm Structural Bracing

BRANZ report ST359
Bracing Units: 102 units/meter Wind
92 units/meter Earthquake

Eterpan meets the performance requirements of the NZBC, B2
Durability for 50 years; E2 External moisture and is non-hazardous
material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced,
times BU to give new BU rating.

Over 2400 see Note 1

Fixing at 150 crs

Note 2
Bottom Plate hold down
bolts are additional to
NZS 3604 requirements

Fixing to be 40x2.8
stainless steel clouts.

Corner fixing-Detail A

Timber Floor-Detail B

Bottom plate fixing, provide
M12 hold down 150x12mm
minimum, coach screws with
50x50x3mm square washers at
1200mm centres maximum.
Eterpan Base 7.5mm & 9mm Structural Bracing

Eterpan meets the performance requirements of the NZBC, B2
Durability for 50 years; E2 External moisture and is non-hazardous
material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced,
times BU to give new BU rating.

Note 2
Bottom Plate hold down
bolts are additional to
NZS 3604 requirements

Fixing to be 40x2.8
stainless steel clouts.

Corner fixing-Detail A
Timber Floor-Detail B

Nail bottom plate at 150mm
centres
Bottom plate fixing, provide
M12 hold down 150 x 12mm
minimum coach screws, with
50x50x3 square washers at
1200 centres maximum.

Scale: 1:20
Date: 27/04/11

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Eterpan Base 7.5mm & 9mm Structural Bracing

BRANZ report ST0455

Bracing Units: 133 units/meter Wind
112 units/meter Earthquake

Eterpan meets the performance requirements of the NZBC, B2
Durability for 50 years; E2 External moisture and is non-hazardous
material in terms of clause F2 Hazardous Building material.

Note 1
Divide 2.4 by height of wall to be braced,
times BU to give new BU rating.

Note 2
Bottom Plate hold down bolts are additional to
NZS 3804 requirements

Bottom plate fixing, provide
M12 hold down 125x12mm
minimum, masonry anchors
with 50x50x3mm square
washers, at 1200 centres
maximum.

Corner fixing-Detail A
Fixing to be 40x2.8
stainless steel clouts.

Fixing at 150 crs
1200

Concrete Floor-Detail B

Eterpan Base 7.5mm & 9.0mm Bracing
Exterior Wall Direct Fixed, Square Edge & Tapered Edge Sheets

Scale: 1:20
Date: 27/04/11

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Eterpan Base 7.5mm & 9mm Structural Bracing

Note 1
Divide 2.4 by height of wall to be braced, times BU to give new BU rating.

Eterpan meets the performance requirements of the NZBC, B2 Durability for 50 years; E2 External moisture and is non-hazardous material in terms of clause F2 Hazardous Building material.

Note 2
Bottom Plate hold down bolts are additional to NZS 3604 requirements

Corner fixing-Detail A

Concrete Floor-Detail B

Bottom plate fixing, provide M12 hold down 125x12mm minimum, masonry anchors with 50x50x3mm square washers at 1200 centres maximum.

Fixing to be 40x2.8 stainless steel clouts.

Fixing at 150 crs

2400 or more

Over 2400 see Note 1

2400

100 Max

50 Max

12 min.

100 Max

50

50

150 150 150

150 150 150

BPF

BPF

BPF

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Eterpan Base 7.5mm & 9.0mm Bracing
Exterior Wall Direct Fixed, Square Edge & Tapered Edge Sheets

Scale: 1:20

Date: 27/04/11

BR75.24.1C
Hold down fastening 12mm masonry anchors @ 1200crs 50x50x3 sq. washers. Refer NZS3604 for details.

90x45 framing

Ventclad batten (50x20 H3 timber)

Detail at stud

Bracing Diagram 4.5mm Eterpan
APPLICATION: Structural bracing element; timber floor
88 units/m wind
70 units/m earthquake

Ventclad
Bracing data sheet

North Island: 31 Arenway Drive, Albany, PO Box 302202 Auckland 0751
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South Island: 42C Maces Road, Christchurch
tel: 03 384 4023, fax 03 384 4026

Scale: 1:2
Date: 7/11/07

DWG. No. BR45.12.1CF
Nailing pattern on typical panel

- 1200 Fixings @ 150crs
- 60x2.8G SS clouts
- 7 @ 75crs
- 7 @ 75crs

Detail at floor fixing
- Pairs of 100x4 nails @ 600crs
- Space battens 10 apart

Hold down fastening 12mm masonry anchors @ 1200crs 50x50x3 sq.
washers. Refer NZS3604 for details

90x45 framing

Veniced batten (50x20 H3 timber)

Detail at stud

Bracing Diagram 9.0mm Eterpan
APPLICATION: Structural bracing element; timber floor
- 133 units/m wind
- 112 units/m earthquake

Conc. floor detail

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VentClad
Bracing data sheet

Scale: 1:2
Date: 7/11/07

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BR90.12.1CF