Vertibreak® ZV (2 11/16"
Vertibreak® Z5 (1 3/4"
Vertibreak® Z4 (1 7/16"
Vertibreak® Z5-S (1 7/8"
Vertibreak® Z4-S (1 9/16"

Rainscreen Insulation
Rainscreen Insulation
Rainscreen Insulation

With Fibre Cement Siding
With Fibre Cement Siding
With Fibre Cement Siding

Z5 is 1 5/16" + 7/16" cavity
Z4 is 1" + 7/16" cavity
for a total 1 3/4" product.

Z5-S - add 1/8" for a total thickness 1 7/8"
ZV-S - add 1/8" for a total thickness 2 13/16"
Z4-S - add 1/8" for a total thickness 1 9/16"

2x4 at 16" OC, R12
2.49 1.76 0.12 0.08 0.11 0.15 0.026 0.03 4.77 27.07
2x4 at 16" OC, R20
2.36 1.76 0.12 0.08 0.11 0.15 0.026 0.03 3.88 26.34

2x6 at 12" OC, R22
2.60 1.76 0.12 0.08 0.11 0.15 0.026 0.03 4.88 27.70
2x6 at 16" OC, R24
2.55 1.76 0.12 0.08 0.11 0.15 0.026 0.03 4.83 27.41

1.49 1.000 0.12 0.08 0.11 0.15 0.026 0.03 3.01 17.07
1.59 1.000 0.12 0.08 0.11 0.15 0.026 0.03 3.11 17.64

WALLS

- Z5 is 1 5/16" + 7/16" cavity
- Z4 is 1" + 7/16" cavity
- Z5-S: add 1/8" for a total thickness of 1 7/8"
- ZV-S: add 1/8" for a total thickness of 2 13/16"
- Z4-S: add 1/8" for a total thickness of 1 9/16"

**NOTE:** The examples above are shown with fibre cement siding. Generally speaking, most other exterior claddings increase the RSI value. You may wish to use the following RSI values for other claddings in place of the 5/16" fibre cement board above:

<table>
<thead>
<tr>
<th>Material</th>
<th>RSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/16&quot; fibre cement panel (0.026), 3/4&quot; coat stucco (0.03), wood siding (0.14), wood shingles (0.15), brick @ 4&quot; (0.07), manufactured stone @ 1.5&quot; (0.09), vinyl/aluminum (0.11)</td>
<td><strong>3.77</strong> <strong>21.40</strong> <strong>2.49</strong> <strong>1.76</strong> <strong>0.12</strong> <strong>0.08</strong> <strong>0.11</strong> <strong>0.15</strong> <strong>0.026</strong> <strong>0.03</strong> <strong>4.77</strong> <strong>27.07</strong></td>
</tr>
</tbody>
</table>

**BC Building Code and Vancouver Building Bylaw Zone Calculation**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Effective RSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>5, 6, 7A w/HRV</td>
<td><strong>15.78</strong> <strong>15.78</strong> <strong>16.86</strong> <strong>17.48</strong> <strong>16.86</strong> <strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong></td>
</tr>
<tr>
<td>5, 6, 7A</td>
<td><strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong></td>
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</tr>
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</table>

For Effective RSI Insulation Value Of System

- **5/16" cement board**
- **7/16" air**
- **5/16" drywall**
- **7/16" plywood**
- **BC Building Code and Vancouver Building Bylaw Zone Calculation**

**RSI**

<table>
<thead>
<tr>
<th>Studs &amp; Cavity</th>
<th>R Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/16&quot; fibre cement panel (0.026), 3/4&quot; coat stucco (0.03), wood siding (0.14), wood shingles (0.15), brick @ 4&quot; (0.07), manufactured stone @ 1.5&quot; (0.09), vinyl/aluminum (0.11)</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effective RSI</th>
<th>Total R Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.85</strong></td>
<td><strong>15.78</strong> <strong>15.78</strong> <strong>16.86</strong> <strong>17.48</strong> <strong>16.86</strong> <strong>17.48</strong> <strong>17.48</strong> <strong>17.48</strong></td>
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</tbody>
</table>
Building Code Achievements

 Vertibreak® Rainscreen Insulation

- Rainscreen-and-Insulation-in-One
- Save on framing, trims, window & door jambs by using 2x4 instead of 2x6 framing lumber
- 3 Products:
  - Vertibreak® Z4 - R4.33 (RSI 0.762)  
    Meets R15.78/RSI 2.78 effective BCBC requirements for Zone 4 ‘Lower Mainland’ in a system  
    (see data charts for more details)
  - Vertibreak® Z5 - R5.68 (RSI 1.0)  
    Meets R16.86/RSI 2.97 effective BCBC requirements for Zone 5 areas & most Lower Mainland commercial projects utilizing HRV's in a system  
    (see data charts for more details)
  - Vertibreak® ZV - R9.82 (RSI 1.76)  
    Meets Vancouver’s R22/RSI 3.85 effective requirements with both 2x4 and 2x6 construction in a system  
    (see data charts for more details)

- Exceeds National Building Code of Canada and BC Building Code capillary break / rainscreen requirements
- Meets the NRC’s “Tables for Calculating Effective Thermal Resistance of Opaque Assemblies” so if installation guidelines followed no condensation issues should occur
- Meets Table 9.23.17.2.A of National Building Code as a suitable backing for cladding

Compatible with Popular Claddings

- Works well with fibre cement cladding for direct attachment of overtop of Vertibreak®
Vertibreak® Rainscreen Insulation

- Works well other claddings: wood, metal, vinyl, and composites as well as shingles, stucco, and lightweight stone
  - Note: Use Z4-S, Z5-S or ZV-S for stucco and stone applications, or when not available, install a rigid membrane (i.e. rigid asphalt-impregnated membrane) overtop of product
- **No need for furring strips** unless cladding is heavy-duty (i.e. natural stone) or if additional non-structural foam is used behind Vertibreak®
  - However, if cladding is heavy (natural stone) or if studs are greater than 16” on centre, ¾” furring strips may be ‘friction-fit’ into grooves in product for temporary attachment, saving labour
  - Furring strips can later be fastened through to stud, prior to cladding installation
    - See table below for guidelines on different cladding types

### Better Way to Build

- Use of exterior insulation moves dew point in many climates to a more desirable area
  - Buildings thus less susceptible to condensation, mould growth, and rot
- Vertibreak® Z4 & Z5 are ‘semi-vapour open’ (semi-permeable) at approximately 2.5 perms so that potential moisture vapour has some ability to escape from walls
- Not as susceptible to shrinking, warping, cupping and other wood furring issues which may cause uneven or wavy siding
- Creates a more robust air barrier when used in conjunction with a taped housewrap system
- Individual drainage channels may aid ‘compartmentalization’ for pressure equalization resulting in less moisture transfer across drainage cavity
- Limits the ability for ‘ballooning’ of housewrap which may otherwise cause tears or air barrier failure

### Save Time and Money

- 2x4 instead of 2x6 construction (in many areas) = cheaper lumber to work with
- No need for purchasing and installing furring strips when used with all lightweight claddings
  - See table below

#### Table: Furring Required for Different Cladding Types

<table>
<thead>
<tr>
<th>Cladding Type</th>
<th>Vertibreak®</th>
<th>Furring Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibre cement siding</td>
<td>✓</td>
<td>No but confirm with mfr</td>
</tr>
<tr>
<td>Wood &amp; composite siding</td>
<td>✓</td>
<td>No</td>
</tr>
<tr>
<td>Fibre cement &amp; wood shingles</td>
<td>✓</td>
<td>No</td>
</tr>
<tr>
<td>Vinyl &amp; metal cladding</td>
<td>✓</td>
<td>No</td>
</tr>
<tr>
<td>Stucco</td>
<td>✓</td>
<td>No - up to 10lbs/sf</td>
</tr>
<tr>
<td>Manufactured Stone</td>
<td>✓</td>
<td>No - up to 10lbs/sf</td>
</tr>
<tr>
<td>Thin-set Natural Stone</td>
<td>✓</td>
<td>Yes - above 10lbs/sf</td>
</tr>
<tr>
<td>Walls</td>
<td>Walls (Studs &amp; Cavity)</td>
<td>Vertibreak®</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ZV (2 11/16&quot;)</td>
<td>RSI 2.36</td>
<td>0.762</td>
</tr>
<tr>
<td>ZV (2 11/16&quot;)</td>
<td>RSI 2.55</td>
<td>0.762</td>
</tr>
<tr>
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<td>0.762</td>
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**NOTE:** The examples above are shown with fibre cement siding. Generally speaking most other exterior claddings increase the R-value/RSI value. You may wish to use the following RSI values for other claddings in place of the 5/16" fibre cement board above: 7/16" fibre cement panel (0.026), 3/4" coat stucco (0.03), wood siding (0.14), wood shingles (0.15), brick @ 4" (0.07), manufactured stone @ 1.5" (0.09), vinyl/aluminum (0.11). All numbers are approximate and may need to be verified.
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- INTERTEK TESTED FOR CANADIAN NATIONAL BUILDING CODE RAINSCREEN COMPLIANCE
- VERTIBREAK® INSULATION APPROVED PER CCMC LISTING# AND CAN/ULC S701-11
- MEETS THE NEW BUILDING CODE INSULATION-ENERGY AND RAINSCREEN REQUIREMENTS IN MANY AREAS OF CANADA
- SAVES TIME AND LABOUR DOLLARS BY ELIMINATING THE NEED FOR FURRING STRIPS
- MAKES FOR A MORE AIRTIGHT, ENERGY EFFICIENT WALL LESS PRONE TO MOISTURE PROBLEMS

- Protected by US Patent No. US8769894 B2. Further patents-pending in USA and Canada

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