

## 4710B BRADFORD THERMAL AND ACOUSTIC INSULATION

### 1. GENERAL

This section relates to **Bradford Insulation** materials installed, laid, hung or fitted as thermal and acoustic insulation:

- **Bradford Glasswool Blanket™**
- **Bradford Gold™ Ceiling Insulation**
- **Bradford Gold™ Wall Insulation**
- **Bradford SoundScreen™**
- **Bradford Acoustic Gold™**

#### 1.1 RELATED WORK

Refer to 4161 WRAPS, UNDERLAYS AND DPC for building wraps and roofing underlays.

#### 1.2 ABBREVIATIONS AND DEFINITIONS

The following abbreviations are used throughout this part of the specification:

BIB	building insulation blanket
IIC	impact insulation class
NRC	noise reduction coefficient
Rw	weighted sound reduction index
STC	sound transmission class rating

The following definitions apply specifically to this section:

Segments                      Term used for segments of insulation

#### Documents

#### 1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

<a href="#">NZBC G6/VM1</a>	Airborne and impact sound
<a href="#">NZBC H1/AS1</a>	Energy efficiency
<a href="#">NZS 4218:2004</a>	Energy Efficiency - Small building envelope
<a href="#">NZS 4246</a>	Energy efficiency - Installing insulation in residential buildings
ISO 140	Acoustics Part 4: Field measurements of airborne sound insulation between rooms
NZCEP 54	Code of practice for electrical installations of recessed luminaires and auxiliary equipment

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

#### 1.4 MANUFACTURER/SUPPLIER DOCUMENTS

**CSR Bradford** Insulation documents related to work in this section are:

**CSR Bradford** Insulation product manual

Data sheets	<b>Bradford Glasswool Blanket™</b>
Data sheets	<b>Bradford Gold™ Ceiling Insulation</b>
Data sheets	<b>Bradford Gold™ Wall Insulation</b>
Data sheets	<b>Bradford SoundScreen™</b>
Data sheets	<b>Bradford Acoustic Gold™</b>

[BRANZ Appraisal 301](#) - CSR Bradford Gold Insulation™ Glasswool Insulation  
Environmental Choice NZ License No. 2508039 CSR Bradford Gold Insulation

Manufacturer/supplier contact details

Web:	<a href="http://www.bradfordinsulation.co.nz">www.bradfordinsulation.co.nz</a>
Email:	<a href="mailto:bradford@csr.co.nz">bradford@csr.co.nz</a>
Telephone:	0800 277 123
Facsimile:	09 968 2199

#### Warranties

- 1.5      **WARRANTY - MANUFACTURER/SUPPLIER**  
Provide a manufacturer/supplier warranty:
- For Bradford thermal insulation products.
  - Provide this warranty on the **Lifetime Warranty Certificate**, when installed by Bradford preferred installer.

### **Requirements**

- 1.6      **QUALIFICATIONS**  
Work to be carried out by tradesmen experienced, competent and familiar with the **Bradford** materials and techniques specified.

- 1.7      **NO SUBSTITUTIONS**  
Substitutions are not permitted to any specified **Bradford** systems, or associated components and products.

### **Performance**

- 1.8      **SOUND RATING REQUIREMENTS**  
Provide sound rated wall, floor and ceiling systems as scheduled.

## **2. PRODUCTS**

### **Materials**

- 2.1      **GLASSWOOL BLANKET INSULATION**  
**Bradford Glasswool Blanket™**, a lightweight, compressible insulation material manufactured from the controlled felting of glasswool, bonded with a thermosetting resin. Refer to SELECTIONS for R-value, thickness and optional facing.
- 2.2      **GLASSWOOL CEILING INSULATION - SEGMENTS**  
**Bradford™ Gold Ceiling Insulation**, a resilient and compressible insulation material manufactured from the controlled felting of glasswool, bonded with a thermosetting resin.
- 2.3      **GLASSWOOL WALL INSULATION- SEGMENTS**  
**Bradford Gold™ Wall Insulation**, a resilient and compressible insulation material manufactured from the controlled felting of glasswool, bonded with a thermosetting resin, specifically stiffened for use in wall applications.
- 2.4      **ROCKWOOL ACOUSTIC SEGMENTS**  
**Bradford Soundscreen™** acoustic segments - molten mixture of natural rock and recycled blast furnace waste products and bonded with a thermosetting resin. Refer to SELECTIONS for type, R value and thickness.
- 2.5      **GLASSWOOL ACOUSTIC SEGMENTS**  
**Bradford Acoustic Gold™** acoustic segments - a resilient and compressible insulation manufactured from the controlled felting of glasswool bonded with a thermosetting resin. Manufactured to comply with AS 4859.1. Refer to SELECTIONS for type, R value and thickness.

## **3. EXECUTION**

### **Conditions**

- 3.1      **STORAGE**  
Accept materials undamaged and dry and store in a location that protects them from the weather and damage. Avoid distortion, stretching, puncturing and damage to edges of sheet materials. Do not use damaged or wet insulation material.

3.2 HANDLING  
Wear protective clothing as necessary and when handling, avoid delamination or distortion of the rectangular form. Maintain full thickness unless compression is an installation system requirement.

3.3 INSPECTION  
Before commencing installation, check that the location and framing are free from moisture, that the cavities are not interconnected and that mesh, building papers and vapour barriers are in place.

#### **Application - generally**

3.4 INSTALL INSULATION - GENERAL  
Lay, install, fit and fix to [NZBC H1/AS1](#): Energy efficiency, 2.0 Building thermal envelope, and to manufacturer's requirements. Install in housing to [NZS 4218](#) and [NZS 4246](#). Install in large buildings to [NZS 4243.1](#) and NZS 4220. Allow insulation to re-loft/relax prior to installation. Do not cover vents and cut around all recessed light fittings and metal flues to the safety requirements of NZECP 54. Lift up electrical wires, lighting transformers/controllers and lay the insulation underneath.

3.5 CHECK WALL WRAPS AND ROOF UNDERLAYS  
Ensure these are dry, clean, undamaged and free of debris before being covered.

3.6 CHECK VAPOUR BARRIERS  
Ensure these form one homogeneous sheet vapour barrier and remain as such throughout the ensuing construction process.

#### **Application - Bradford Gold™ insulation**

3.7 FIT GLASSWOOL THERMAL INSULATION - WALL/CEILING  
Friction fit **Bradford Gold™** insulating segments in place. Carefully scribe cut insulation slightly oversize to maintain friction fit to each other, to smaller spaces and around penetrations. Leave no gaps between, and maintain full thickness of the insulation over the whole of the installation. Do not cover vents and cut around all recessed light fittings and metal flues to the safety requirements of NZECP 54. Lift up electrical wires and lay the insulation underneath.

3.8 FIT GLASSWOOL THERMAL INSULATION - ROOF  
Lay **Bradford Glasswool Blanket™** in the same direction and over the mesh/vapour barrier, firmly butting edges together. Carefully scribe cut blanket to maintain firmly butted edges and ends. Maintain full thickness of the blanket over the whole installation except where detailed otherwise.

#### **Application - Bradford SoundScreen™**

3.9 FIT ROCKWOOL ACOUSTIC SEGMENTS - INTERNAL WALLS  
After the wall lining is fixed to one side of the partition, friction fit **Bradford SoundScreen™** acoustic segments in place. Carefully scribe cut, slightly oversize to retain friction fit to each other, smaller spaces and around services. Maintain full thickness of the insulation over the whole of the installation.

3.10 LAY ROCKWOOL ACOUSTIC SEGMENTS - MID FLOORS  
Lay **Bradford SoundScreen™** acoustic segments loose over ceilings between battens and between truss chords. Leave no gaps and maintain full thickness over the whole of the installation. Do not cover vents and cut around all recessed light fittings/transformer or power box and metal flues to the safety requirements of NZECP 54. Lift up electrical wires and lay the segments underneath.

#### **Application - Bradford Acousticgold™**

3.11 FIT GLASSWOOL ACOUSTIC SEGMENTS - INTERNAL WALLS  
After the wall lining is fixed to one side of the partition, friction fit **Bradford Acoustic Gold™** segments in place. Carefully scribe cut, slightly oversize to retain friction fit to

each other, smaller spaces and around services. Maintain full thickness of the insulation over the whole of the installation.

- 3.12 LAY GLASSWOOL ACOUSTIC SEGMENTS - MID FLOORS  
Lay **Bradford Acoustic Gold™** segments loose over ceilings between battens and between truss chords. Leave no gaps and maintain full thickness over the whole of the installation. Do not cover vents and cut around all recessed light fittings/transformer or power box and metal flues to the safety requirements of NZECP 54. Lift up electrical wires and lay the segments underneath.

#### **Completion**

- 3.13 CLEAN UP  
Clean up as the work proceeds, so no spare off cuts or any other matter or item remain behind claddings or linings.
- 3.14 LEAVE  
Leave work to the standard required by following procedures.
- 3.15 REMOVE  
Remove debris, unused materials and elements from the site.

#### **4. SELECTIONS**

Substitutions are not permitted to the following, unless stated otherwise.

- 4.1 GLASSWOOL BLANKET INSULATION  
Location: ~  
Brand: **Bradford Glasswool Blanket™**  
R Value: R~  
Thickness: ~mm  
NRC: ~  
Facing: ~
- 4.2 GLASSWOOL CEILING INSULATION - SEGMENTS  
Location: Ceiling  
Brand: **Bradford Gold™ Ceiling Insulation**  
R Value: R~  
Thickness: ~mm  
NRC: ~
- 4.3 GLASSWOOL WALL INSULATION - SEGMENTS  
Location: ~  
Brand: **Bradford Gold™ Wall Insulation**  
R Value: R~  
Thickness: 90mm  
NRC: ~
- 4.4 ROCKWOOL ACOUSTIC SEGMENTS  
Location: ~  
Brand: **Bradford SoundScreen™**  
R Value: ~  
Thickness: ~mm  
Rw: ~
- 4.5 GLASSWOOL ACOUSTIC SEGMENTS  
Location: ~  
Brand: **Bradford Acoustic Gold™**  
R Value: R1.8  
Thickness: 75mm  
Alpha W: 0.95

## 4721B BRADFORD SOUNDSCREEN™ AND ACOUSTIC GOLD™

### 1. GENERAL

This section relates to **Bradford SoundScreen™** and **Bradford Acoustic Gold™** insulation installed, laid, hung or fitted as acoustic and thermal insulation.

#### 1.1 RELATED WORK

Refer to 4711B BRADFORD THERMAL INSULATION for thermal insulation.  
Refer to 4161 WRAPS, UNDERLAYS AND DPC for building wraps and roofing underlays.

#### 1.2 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

IIC	impact insulation class
Rw	weighted sound reduction index
STC	sound transmission class rating

The following definitions apply specifically to this section:

Segments	Term used for segments of insulation
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### Documents

#### 1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC G6/VM1	Airborne and impact sound
NZEC 54	New Zealand Electrical Code of Practice for the Installation of Recessed Luminaires and Auxiliary Equipment
ISO 140	Acoustics Part 4: Field measurements of airborne sound insulation between rooms

#### 1.4 MANUFACTURER/SUPPLIER DOCUMENTS

**CSR Bradford Insulation** documents related to work in this section are:

Data sheet **Bradford SoundScreen™**  
Data sheet **Bradford Acoustic Gold™**

Manufacturer/supplier contact details

Web:	www.bradfordinsulation.co.nz
Email:	bradford@csr.co.nz
Telephone:	0800 277 123
Facsimile:	09 968 2199

### Warranties

#### 1.5 WARRANTY - MANUFACTURER/SUPPLIER

Provide a manufacturer/supplier warranty:

- For Bradford insulation products.
- Provide this warranty on the **Lifetime Warranty Certificate**, when installed by Bradford preferred installer.

### Requirements

#### 1.6 QUALIFICATIONS

Work to be carried out by tradesmen experienced, competent and familiar with **Bradford** materials and techniques specified.

- 1.7 NO SUBSTITUTIONS  
Substitutions are not permitted to any specified **Bradford** system, or associated components and products.

**Performance**

- 1.8 SOUND RATING REQUIREMENTS  
Provide sound rated wall, floor and ceiling systems as scheduled.
- 1.9 SOUND CONTROL SITE TEST  
Site test each sound rated element in accordance with [NZBC G6/VM1](#) to ensure that the specified sound transmission loss has been achieved; using a nominated acoustic consultant. Carry out sound tests wall by wall to ISO 140, part 4 to certify compliance. Rectify any element that does not meet the specified RW figure.

**2. PRODUCTS**

- 2.1 ROCKWOOL ACOUSTIC SEGMENTS  
**Bradford Soundscreen™** acoustic segments - molten mixture of natural rock and recycled blast furnace waste products and bonded with a thermosetting resin. Refer to SELECTIONS for type, R value and thickness.
- 2.2 GLASSWOOL ACOUSTIC SEGMENTS  
**Bradford Acoustic Gold™** acoustic segments - a resilient and compressible insulation manufactured from the controlled felting of glasswool bonded with a thermosetting resin. Manufactured to comply with AS 4859.1. Refer to SELECTIONS for type, R value and thickness.

**3. EXECUTION**

**Conditions**

- 3.1 STORAGE  
Accept materials undamaged and dry and store in a location that protects them from the weather and damage. Avoid distortion, stretching, puncturing and damage to edges of sheet materials. Do not use damaged or wet insulation material.
- 3.2 HANDLING  
Wear protective clothing as necessary and when handling, avoid delamination or distortion of the rectangular form. Maintain full thickness unless compression is an installation system requirement.
- 3.3 INSPECTION  
Before starting installation of blankets and panels, check that the location and framing are free from moisture, that the cavities are not interconnected and that any required mesh, films or papers are in place.

**Application - generally**

- 3.4 CHECK FOILS  
Ensure foils are dry, clean, bright, undamaged and free of debris before being covered.
- 3.5 CHECK WALL WRAPS AND ROOF UNDERLAYS  
Ensure these are dry, clean, undamaged and free of debris before being covered.
- 3.6 CHECK VAPOUR BARRIERS  
Ensure these form one homogeneous sheet vapour barrier and remain as such throughout the ensuing construction process.
- 3.7 INSTALL INSULATION - GENERAL  
Lay, install, fit and fix to manufacturer's requirements. Do not cover vents and cut around metal flues to manufacturers requirements. Cut around all recessed light fittings to the safety requirements of NZECP 54. Allow 50mm clearance from incandescent recessed

lights and 200mm from halogen recessed lights. Lift up electrical wires, lighting transformers/controllers and lay the insulation underneath.

#### **Application - Bradford SoundScreen™**

- 3.8 FIT ROCKWOOL ACOUSTIC SEGMENTS - INTERNAL WALLS  
After the wall lining is fixed to one side of the partition, friction fit **Bradford SoundScreen™** acoustic segments in place. Carefully scribe cut, slightly oversize to retain friction fit to each other, smaller spaces and around services. Maintain full thickness of the insulation over the whole of the installation.
- 3.9 LAY ROCKWOOL ACOUSTIC SEGMENTS - MID FLOORS  
Lay **Bradford SoundScreen™** acoustic segments loose over ceilings between battens and between truss chords. Leave no gaps and maintain full thickness over the whole installation. Do not cover vents and cut around all recessed light fittings/transformer or power box and metal flues to the safety requirements of NZECP 54. Lift up electrical wires and lay the segments underneath.
- 3.10 FIT ROCKWOOL ACOUSTIC SEGMENTS - UNDERFLOOR  
Friction fit **Bradford SoundScreen™** acoustic segments in place to completely fill the whole of the cavities. Carefully scribe cut, slightly oversize to retain friction fit to each other, smaller spaces and around services. Maintain full thickness of the insulation over the whole of the installation.

#### **Application - Bradford AcousticGold™**

- 3.11 FIT GLASSWOOL ACOUSTIC SEGMENTS - INTERNAL WALLS  
After the wall lining is fixed to one side of the partition, friction fit **Bradford Acoustic Gold™** segments in place. Carefully scribe cut, slightly oversize to retain friction fit to each other, smaller spaces and around services. Maintain full thickness of the insulation over the whole of the installation.
- 3.12 LAY GLASSWOOL ACOUSTIC SEGMENTS - MID FLOORS  
Lay **Bradford Acoustic Gold™** segments loose over ceilings between battens and between truss chords. Leave no gaps and maintain full thickness over the whole of the installation. Do not cover vents and cut around all recessed light fittings/transformer or power box and metal flues to the safety requirements of NZECP 54. Lift up electrical wires and lay the segments underneath.

#### **Completion**

- 3.13 CLEAN UP  
Clean up as the work proceeds, so no spare offcuts or any other matter or item remain behind claddings or linings.
- 3.14 LEAVE  
Leave work to the standard required by following procedures.
- 3.15 REMOVE  
Remove debris, unused materials and elements from the site.

#### **4. SELECTIONS**

Substitutions are not permitted to the following, unless stated otherwise.

- 4.1 ROCKWOOL ACOUSTIC SEGMENTS  
Location: ~  
Brand: **Bradford SoundScreen™**  
R Value: ~  
Thickness: ~mm  
Rw: ~
- 4.2 GLASSWOOL ACOUSTIC SEGMENTS  
Location: ~

Brand:	<b>Bradford Acoustic Gold™</b>
R Value:	R1.8
Thickness:	75mm
Alpha W:	0.95