

4171HR JAMES HARDIE RIGID AIR BARRIERS

Masterspec sections must be customised to suit the project being specified, by removing irrelevant information and adding project-specific information and selections.

1. GENERAL

This section relates to the supply and fixing of James Hardie rigid air barrier products;

- **HomeRAB™ PreClad™ Lining**
- **RAB™ Board**

Modify or extend the above description to suit the project being specified.

HomeRAB™ PreClad™ Lining is used in residential buildings instead of building wraps, for among other things, earlier enclosure, bracing, improved acoustic performance and improved performance in higher wind pressures.

RAB™ Board is used where wind speeds exceed 50m/sec or in buildings requiring Specific Engineering Design (SED).

Where the cladding manufacturer prepares bracing schedules for their products, these lists should be used in preference to preparing your own bracing schedules. Include them either in the specification or on the drawings. This approach ensures the industry becomes familiar with one set of terminology for bracing elements.

1.1 RELATED WORK

Refer to ~ for ~.

Include cross references to other sections where these contain related work. These may include; 4231HF JAMES HARDIE FACADE CLADDING for Titan® Facade Panel and ExoTec® Facade Panel rainscreen, 4231HA JAMES HARDIE AXON™ PANEL CLADDING for James Hardie Axon™ Panel cladding, 4231HW JAMES HARDIE WEATHERBOARD CLADDING for Linea™ Weatherboards and James Hardie Weatherboards, 4256HM JAMES HARDIE MONOLITHIC CLADDING for Monotek® Sheet and Hardiebacker™ Substrate.

Documents

1.2 DOCUMENTS

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

- [NZBC E2/AS1](#) External moisture
- [AS/NZS 1170](#) Structural design actions
- [AS/NZS 2908.2](#) Cellulose-cement products - Flat sheet
- [NZS 3602](#) Timber and wood-based products for use in building
- [NZS 3604](#) Timber framed buildings

Delete from the DOCUMENTS clause any document not cited. List any additional cited documents. The following are related documents and if referred to in the work section need to be added to the list of DOCUMENTS.

- [NZBC H1/AS1](#) Energy efficiency
- [NZS 4218 2004](#) Energy efficiency - Small building envelope
- [NZS 4859](#) Materials for the thermal insulation of buildings - General criteria and technical provisions
- [BRANZ BU 449](#) Keeping water out - Timber-framed walls
- [BRANZ BU 519](#) Fasteners selection
- [BRANZ BU 467](#) Principles of flashing design
- [BRANZ BU 470](#) Wall Underlays
- [BRANZ publication](#) Selecting wall claddings

1.3 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents relating to this part of the work:

- James Hardie Rigid Air Barriers Installation Manual
- [BRANZ Appraisal 611](#) - HomeRAB™ PreClad™ Lining

Manufacturer/supplier contact details

- Company: James Hardie New Zealand Limited
- Web: www.jameshardie.co.nz
- Telephone: Ask James Hardie™ on 0800 808 868.

It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation,

finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.

Warranties

Supplier and manufacturer warranties are those that are freely offered by the supplier or manufacturer. They are usually in their standard form and subject to their terms and conditions. Check the section 1237 WARRANTIES for the date of commencement of warranties; which is normally practical completion of the contract. Refer to the chosen conditions of contract as it may also contain information on warranties.

1.4 WARRANTY - MANUFACTURER/SUPPLIER

Provide a material manufacturer/supplier warranty:

- 15 years: For **HomeRAB™ PreClad™ Lining and RAB™ Board** (refer to James Hardie™ product warranty)
- 15 years: For accessories supplied by James Hardie (refer to James Hardie™ product warranty)
- From: Date of purchase

- Provide this warranty on the manufacturer's standard form.

Refer to the general section 1237 WARRANTIES for additional requirements.

Modify or expand the clause to suit project requirements.

Requirements

1.5 NO SUBSTITUTIONS

Substitutions are not permitted to any specified system, or associated components and products.

Performance

The next two mutually exclusive clauses, set the wind design parameters which have been used, which in turn affect the use of James Hardie standard details. Delete the clause which does not apply.

1.6 PERFORMANCE, WIND

The design wind pressures are to [NZS 3604](#), up to and including Very High Wind Zone. James Hardie **HomeRAB™ PreClad™ Lining** is suitable for these conditions.

Do not use this clause for greater than Very High Wind Zones or specific design tall buildings.

HomeRAB™ PreClad™ Lining and RAB™ Board can both be used with this clause.

Delete this clause if using the SPECIFIC DESIGN, WIND clause below.

1.7 SPECIFIC DESIGN, WIND

The design wind pressures are to [AS/NZS 1170.2](#), for specific design wind zone (beyond Very High Wind Zone). Only James Hardie **RAB™ Board** is suitable for these conditions.

Do not use this clause when the building is below or within Very High Wind Zone or very high wind areas of tall buildings.

Only RAB™ Board can be used beyond Very High Wind Zones. Ensure all specific design details related to James Hardie RAB™ Board are checked by James Hardie during the design stage.

Modify this section to reflect their requirements.

Delete this clause if using the PERFORMANCE, WIND clause above.

2. PRODUCTS

Materials

2.1 HOMERAB PRECLAD LINING

James Hardie **HomeRAB™ PreClad™ Lining**, 3.5mm thick, manufactured from treated cellulose fibre, Portland cement, sand and water, cured by high pressure autoclaving manufactured to AS/NZS 2908.2 and, face and edge sealed. Suitable for residential buildings within the scope of [NZS 3604](#).

2.2 RAB BOARD

James Hardie **RAB™ Board**, 6mm thick, manufactured from treated cellulose fibre, Portland cement, sand and water, cured by high pressure autoclaving manufactured to

AS/NZS 2908.2 and, face sealed. Suitable for residential and commercial buildings outside the scope of [NZS 3604](#).

Components

2.3 FASTENER TYPE

Fasteners to minimum durability requirements of the NZBC. Refer to [NZS 3604](#), section 4 Durability, for requirements for fixing's material to be used in relation to the exposure conditions.

Exposure conditions & nail selection prescribed by [NZS 3604](#), section 4, table 4.3 Steel items such as nails and screws used for framing and cladding.

Zone	Fixings Material
Sea Spray Zones*	Grade 316 Stainless
Zone 1 (outside sea spray zone), Zones 2 - 4 & Geothermal hot spots	Hot-dipped galvanized or 316 stainless
Bracing - All zones	Grade 316 Stainless

* Zone 1 areas where local knowledge dictates that increased durability is required, appropriate selection shall be made.

Refer to [NZBC E2/AS1](#), Table 20, Material selection, and Table 21, Compatibility of materials in contact, for selection of suitable fixing materials and their compatibility with other materials.

2.4 GALVANIZED NAILS

HomeRAB™ PreClad™ Lining

Hot-dip galvanized Paslode 32 x 3.06mm coil nails head 9mm diameter. Loose nails 32 x 3.06mm head 9mm diameter.

RAB™ Board

Hot-dip galvanized 40 x 2.8mm HardieFlex™ nails or 50 x 2.8mm RounDrive nails for nail guns.

Modify this clause to suit selection.

Select galvanized or stainless steel depending on exposure conditions. Use galvanized nails to fix lining in non bracing applications where exposure conditions allow.

2.5 STAINLESS STEEL NAILS

HomeRAB™ PreClad™ Lining

Sifco 32 x 3.05mm coil nails head size 9mm diameter CR3DSS. Paslode 32 x 3.06mm ring shank head size 9mm diameter, D40240. Loose nails 32 x 3.06mm head 9mm diameter.

RAB™ Board

316 Stainless Steel 40 x 2.8mm HardieFlex™ nails or 50 x 2.8mm RounDrive nails for nail guns.

Modify this clause to suit selection.

Select galvanized or stainless steel depending on exposure conditions.

2.6 VERTICAL JOINTERS

HomeRAB™ PreClad™ jointer.

Vertical sheet joints for off-stud jointing.

Accessories

2.7 SEALING STRIP

Inseal® 3259, 1.5mm thick x 50mm wide black compressible medium density closed cell foam tape for vertical joints.

Inseal® 3259, 1.5mm thick x 80mm wide black compressible medium density closed cell foam tape for corner joints.

2.8 JOINT SEALING TAPE

Aluband or Protecto joint sealing tape. Refer to James Hardie's technical literature for selection and use requirements.

2.9 WINDOW FLASHING TAPE
Aluband window flashing tape or Protecto sill tape. Refer to James Hardie's installation manual for selection and installation requirements.

2.10 HORIZONTAL FLASHING
HomeRAB™ PreClad™ horizontal flashing.
RAB™ Board horizontal flashing.
Modify this clause to suit selection.

3. EXECUTION

Conditions

3.1 STORAGE
Take delivery of products dry and undamaged on pallets, and keep on pallet. Protect edges and corners from damage and covered to keep dry until fixed.

3.2 HANDLING
Avoid distortion and contact with potentially damaging surfaces. Do not drag sheets across each other, or across other materials. Protect edges, corner and surface finish from damage.

3.3 SUBSTRATE
Do not commence work until the substrate is of the standard required for the specified finish; plumb, level and in true alignment. Moisture content of timber framing must not exceed the requirements specified by [NZS 3602](#) to minimise shrinkage and movement after sheets are fixed.

3.4 FRAMING
Provided in accordance with [NZS 3604](#) or to specific engineering design requirements. Stud spacing and nog spacing must not exceed 600mm or 1,200mm respectively. Minimum 45mm wide stud required where vertical jointing on studs.
Refer to the HomeRAB™ PreClad™ installation manual for stud spacings requirements in very high wind zones. Ensure that framing is also suitable for installing the selected exterior cladding, whether fixed directly or fixed over battens.

Application - particular installations

Delete whichever of the following clauses do not apply.

3.5 FIRE RESISTANCE RATING, FIBRE CEMENT
Install mineral fibre insulation or glass fibre insulation fitted tightly in the timber framing cavity. Apply fire retardant building paper to the exterior face of the framing and fix fibre cement cladding and lining sheets, direct or on cavity. Refer to project drawing for FRR system construction details and James Hardie Fire and Acoustic Design Manuals for further information.

3.6 BRACING SYSTEM HOMERAB PRECLAD LINING
Fix sheets in accordance with the Bracing Design Manual. Refer to the installation manual bracing table for specific requirements.
Refer to James Hardie technical specification for further information and guidance. Refer also to any bracing schedules or drawings.

3.7 BRACING SYSTEM RAB BOARD
Fix sheets in accordance with the Bracing Design Manual. Refer to the bracing installation manual bracing table for specific requirements.
Refer to James Hardie technical specification for further information and guidance. Refer also to any bracing schedules or drawings.

Application - generally

- 3.8 **PENETRATIONS AND FLASHINGS**
Confirm that exterior wall openings have been prepared ready for the installation of all window and door frames and other penetrations through the cladding. Required preparatory work includes the following:
- Openings formed in accordance with the James Hardie Rigid Air Barriers installation manual.
 - Materials lapped in a way that water tracks down to the exterior face of the Rigid Air Barrier.
 - Underlay to openings finished and dressed off ready for the installation of window and door frames and other penetrations
- Refer to James Hardie technical specification for information on window details. Also refer to the Windows Association of New Zealand website (www.wanz.org.nz) for information on the WANZ WIS Window Installation System.*
- Install Rigid Air Barriers**
- 3.9 **SHEET LAYOUT**
Refer to the James Hardie Rigid Air Barriers installation manual for sheet layouts to suit general installations and where used to achieve structural bracing. For bracing applications all edges must be supported on framing. For HomeRAB™ PreClad™ Lining non-bracing applications vertical joints can be off stud using a uPVC jointer.
- 3.10 **VERTICAL JOINTS**
Join sheets to the James Hardie Rigid Air Barriers installation manual.
- 3.11 **HORIZONTAL JOINTS**
Join sheets to the James Hardie Rigid Air Barriers installation manual.
- 3.12 **EXTERNAL AND INTERNAL CORNERS**
Form in accordance with the James Hardie Rigid Air Barriers installation manual using a 75mm minimum wide sealing tape.
- 3.13 **FIXING SHEETS**
Fix in accordance with the James Hardie Rigid Air Barriers installation manual for either general or bracing applications. Sheets can either be gun nailed or hand nailed using the nails specified. Gun nailing is recommended to reduce installation time.
Check with the nail gun manufacturer for more information.
- 3.14 **SEALANTS**
Application and use of sealants to manufacturer's instructions.
- 3.15 **PENETRATIONS**
Form in accordance with the James Hardie Rigid Air Barriers installation manual.
- 3.16 **OPENINGS**
Form in accordance with the James Hardie Rigid Air Barriers installation manual. Exposed timber framing around window, door, meter box and other penetrations must be covered with a 150mm wide minimum flashing tape or sealing tape. Flashing tapes must be lapped over the HomeRAB™ PreClad™ Lining or RAB™ Board by 50mm minimum.
- 3.17 **FLASHINGS AND JUNCTIONS**
Form in accordance with the James Hardie Rigid Air Barriers installation manual. Install flashing tape over any flashings and at all junctions with other materials or building elements.
- 3.18 **AT SOFFITS**
Form in accordance with the James Hardie Rigid Air Barriers installation manual.
- 3.19 **BASE CLEARANCES**
Form in accordance with the James Hardie Rigid Air Barriers installation manual. Lining is required to extend below the bottom plate by 15mm minimum to form a drip edge and must finish a minimum 100mm clear of finished ground. Where base of sheets are cut to

suit site requirements seal the bottom edge using Dulux® Acraprime 501/1 primer or Dulux® Primacryl primer.

Completion

- 3.20 REPLACE
Replace all damaged or marked elements.
- 3.21 LEAVE
Leave work to the standard required for following procedures.
- 3.22 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 RIGID AIR BARRIER

Brand/type: James Hardie ~

Flashing tape: ~

Nail finish: ~

Nails: ~ or ~

Brand/type: HomeRAB™ PreClad™ Lining
RAB™ Board

Flashing tape options: Aluband by Thermakraft Industries (NZ) Ltd
Protecto Sill Tape by Marshall Waterproofing

Nail Finish: Stainless steel
Galvanised.

Galvanised Nails: HomeRAB™ PreClad™ Lining
Paslode 32 x 3.06mm coil, 9mm head or Loose nails 32 x 3.06mm head 9mm

RAB™ Board
40 x 2.8mm HardieFlex™ nails or 50 x 2.8mm RounDrive nails for nail guns

Stainless Nails: HomeRAB™ PreClad™ Lining
Sifco 32 x 3.05mm coil nails head size 9mm diameter CR3DSS.
Or Paslode 32 x 3.06mm ring shank head size 9mm diameter, D40240. Or Loose nails 32 x 3.06mm head 9mm diameter

RAB™ Board
316 40 x 2.8mm HardieFlex™ nails or 50 x 2.8mm RounDrive nails for nail guns