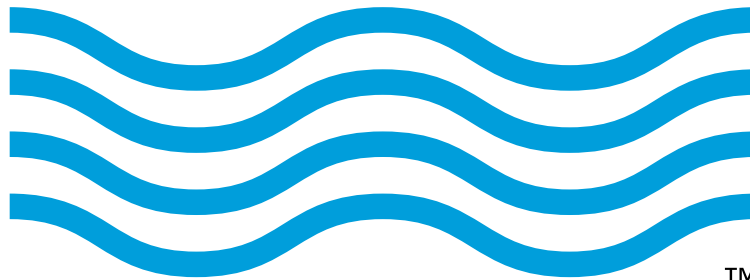


HIANDRI



TM



HIANDRI SOLUTIONS LIMITED

INSTALLATION MANUAL FOR HIANDRI BOTTOM PLATE PACKERS

IMPORTANT

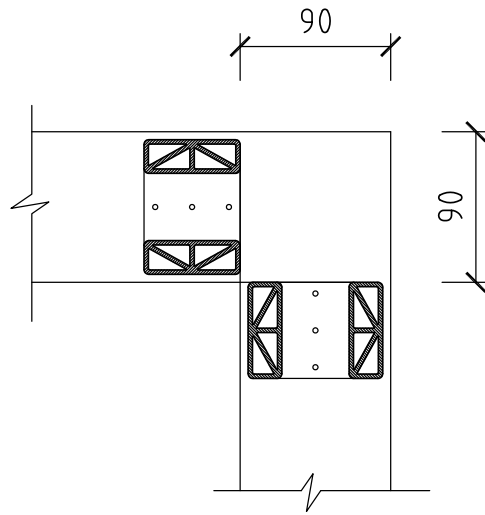
Hiandri Solutions Limited accept no liability if Hiandri packers are not used in accordance with instructions contained in this manual. When specifying or installing Hiandri packers, ensure you have the current manual. If you are not sure you do or if you require further information, visit www.hiandri.com. For any work that is outside the scope of this manual you will need specific design.



Raising the building industry to a new level!

GENERAL COMMENT

1. **HIANDRI** is a patented system; not only is the **HIANDRI** packer patented, more importantly, the methodology of lifting the bottom plate to create drainage by packing, is patented. This can **ONLY** be done using the **HIANDRI** patented bottom plate packer system, which has been fully engineered, tested and approved.



Internal or External Corners **HIANDRI** packers may be set back 90mm to allow for electrical cables

2. **HIANDRI** can be used on timber and concrete floors.

3. **HIANDRI** packers are 84mm x 60mm x 12mm, manufactured using polypropylene plastic and each has a compressive strength of 70kN.

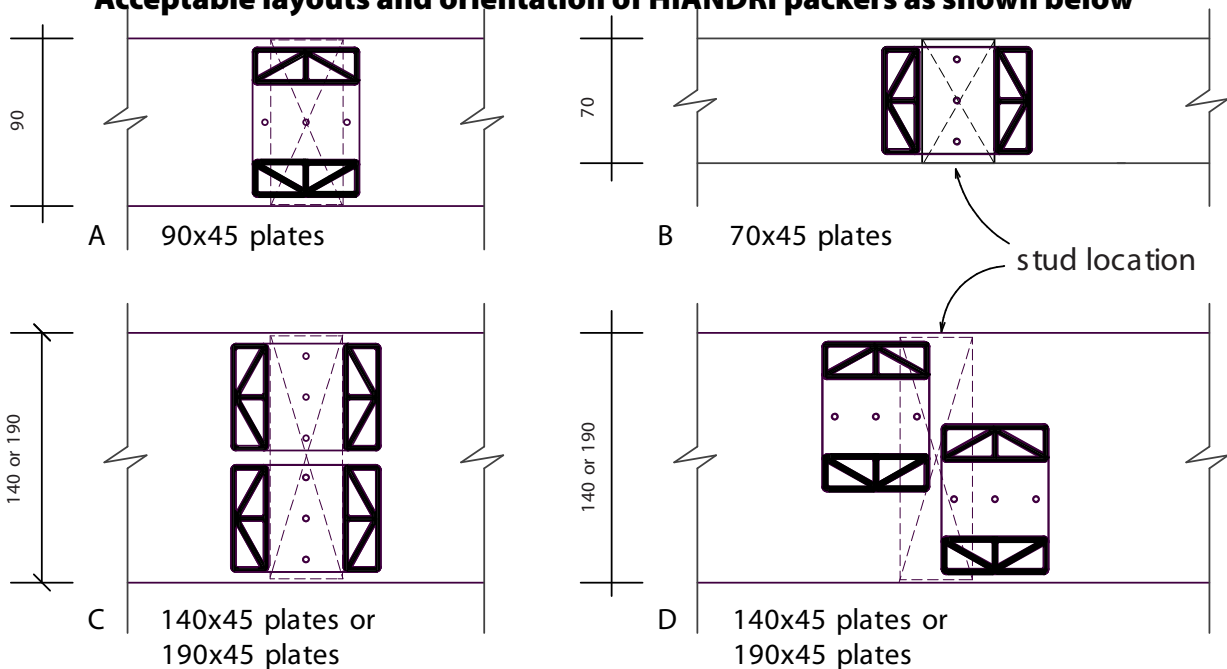
4. **HIANDRI** Packers can be used in some Fire rated and noise control walls. See www.hiandri.com for a full list of walls. Design situations that do not conform to these 'Installation Instructions' require 'Specific Design'.

INSTALLATION

1. **HIANDRI** packers are to be installed to the underside of the bottom plate directly under supporting studs at 600crs max to match framing set-out. **HIANDRI** packers may be set back at corners of the frame by 90mm.

2. **HIANDRI** packers may be fixed to the bottom plate at the pre-cut stage, hand-nailed on site with clouts or fixed with brads by a finishing gun. Additional **HIANDRI** packers may be slipped underneath the bottom plate if required and do not have to be fixed in place.

Acceptable layouts and orientation of HIANDRI packers as shown below



POSITIONING OF HIANDRI PACKERS ON PLATES

FIXING BOTTOM PLATES

Concrete Floors:

External walls – Location of anchors as per NZS3604, using either cast insitu M12 bolts or M12x140 Trubolts, M12x135 through bolts, Hilti M12x150 screw bolts, M10x150 Ramset Anka screws, Bowmac M10x140 screwbolts.

Internal walls – Fix the bottom plate of frames using either Ramset 90mm powder powered pins with a washer or a 97mm Hilti powderpowered pin and washer at min 500mm centres.

Timber Floors:

A timber floor may support an additional timber floor, and **HIANDRI** packers may be installed on both floors.

All plates are to be fixed down at 600mm crs using a 125mm long Type 17, 14 gauge Bugle or Hex head screw. Position as close as practical to a stud supported on a **HIANDRI** packer.

All bottom plates, whether load-bearing or not, require a joist or solid blocking directly underneath them for screw fixing.

BRACING – (refer to www.hiandri.com for currently “approved” bracing systems)

1. The **HIANDRI** system has been tested and may be used in conjunction with approved bracing systems and bracing panels. When fixing down the bottom plates of a ‘bracing panel’, you **MUST** use minimum of 90mm Ramset pins or 97mm Hilti pins with washers for concrete floors; or on timber floors, a 125mm long Type 17, 14 gauge Bugle or Hex head screw.
2. Adhere to the installation instructions of the manufacturer for their bracing unit or panel and install propriety brackets and fixings where required and follow all bottom plate nailing patterns as required by the manufacturer. For concrete floors M10x140 GIB HandiBrac screwbolts, M10x150 Ramset Anka screws, M12x150 Hilti screw Anchors will meet the 15kN capacity required.
3. In bracing situations, where additional power driven nails are required, place additional packers in close proximity to the nail locations to reduce the bounce from the power driven nail. For Timber floors M12 x150 Coach bolts meet the 12kN when used in conjunction with **HIANDRI** packers capacity required.



Bracing element showing “Proprietary” hold down bolt/bracket.



Bracing element showing additional bottom plate fixings and suggested additional packer on concrete floors.

AIR SEALS

Air seals must be installed to all exterior frames when using **HIANDRI** packers. Where and how the air seal is located depends on whether the cladding is on a cavity or direct fixed. See details below for exact location and type of air seal required. Air seals should be installed after the roofing is installed and floor is dry.

Figure 1
AIR SEAL FOR DIRECT FIXED CLADDINGS
AND RIGID WALL UNDERLAY

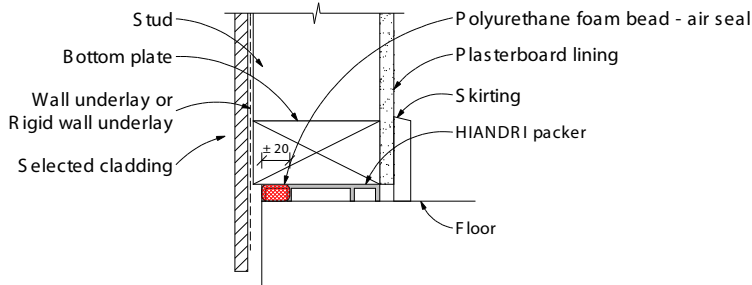
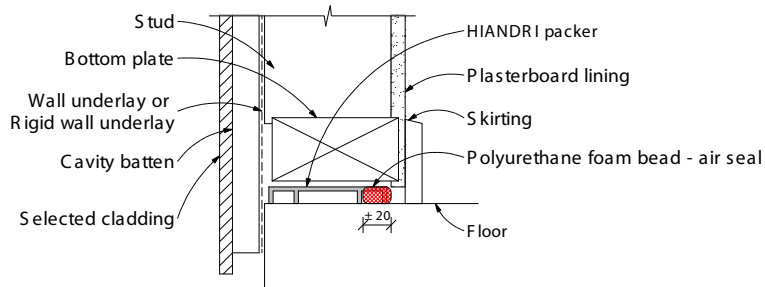


Figure 2
AIR SEAL FOR CAVITY



INSTALLATION

When Installing the air seal it is important to hold application gun on a 45 degree angle to the floor situate the nozzle only just in the cavity and only apply foam while moving the gun along the bottom plate this will ensure that you do not over fill the cavity. See photo below.



On direct fixed claddings or a rigid wall underlay an air seal is required as per figure 1 to enclose bottom plate fixings.

LIMITATIONS AND COMMENT

1. The **HIANDRI** system is engineered to meet the Compliance Clauses of the Building Code NZS3603, NZS3604 and NZS1170.
2. May be used in conjunction with all cladding options. Up to 4.0m height of brick veneer may be supported on a 'shelf angle' attached to the timber framing.
3. Timber Lintels & Point Loads –
 - >1400mm up to 4000mm – **HIANDRI** packer under each stud either side (2 studs).
 - >4000mm up – **HIANDRI** packer under each stud either side (3 studs).
 - ALL point loads, such as truss loads, require a packer under each supporting stud.
4. Girder trusses supporting a tributary roof area greater than 36m² and up to 50m² require a double packer. Where a girder truss with a tributary roof area greater than 20m² and a mid floor lintel coincide a triple packer is required under the lower storey studs supporting the mid floor lintel.



Packers on plates directly under studs. No additional packer is required at the fixing location. Hold down fixing distances as per NZS 3604 Approved fixings (page 3).



Lintels over 1400mm wide require a minimum of 2 packers. Lintels over 4m require a minimum of 3 packers