



BRANZ Appraised

Appraisal No.546 [2007]

BRANZ Appraisals

Technical Assessments of products
for building and construction

**BRANZ
APPRAISAL
CERTIFICATE
No. 546 (2007)**

PASLODE NAILS

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Product

1.1 Paslode Nails are bright steel wire nails, hot dipped galvanised nails, hot dipped galvanised and painted nails and stainless steel nails. The nail sizes include lengths of 50 mm, 55 mm, 65 mm, 75 mm, 88 mm and 90 mm, for use in Paslode Nail Guns.



Scope

2.1 This Appraisal Certificate covers the material durability performance of different Paslode Nails when used in timbers with different treatments, treated in accordance with NZS 3640 and used in accordance with NZS 3602, to comply with the New Zealand Building Code (NZBC) durability requirements. Timber treatments assessed include copper chrome arsenate (CCA), copper azole (CuAz), alkaline copper quaternary (ACQ) and light organic solvent preservative (LOSP).

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Paslode Nails, if used, installed and maintained in accordance with the statements of this Certificate, will meet or contribute to meeting the following provisions of the NZBC:

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. Paslode Nails contribute to meeting this requirement for the relevant loads from B1.3.3. See Paragraph 7.1.

Clause B2 DURABILITY: Performance B2.3.1(a) not less than 50 years and B2.3.1(b) 15 years. Paslode Nails meet these requirements. See Paragraphs 8.1 - 8.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Paslode Nails meet this requirement and do not present a health hazard to people.

3.2 This Certificate appraises an **Alternative Solution** in terms of New Zealand Building Code compliance.

Technical Specification

Description

4.1 The Paslode Nails come in a variety of types and sizes. The nails covered by this Appraisal Certificate are as detailed in Table 1 below.

Table 1: Paslode Nails sizes and descriptions

Material	Sizes (mm)	Description
Bright Steel	50 x 2.87	D-head, smooth shank
	65 x 2.87	D-head, smooth shank
	75 x 3.06	D-head, smooth shank
	88 x 3.15	D-head, smooth shank
	90 x 3.15	D-head, smooth shank
Hot Dipped Galvanised Steel	50 x 2.87	Round head, smooth shank
	50 x 2.87	D-head, smooth shank
	60 x 2.87	Round head, ring shank
	60 x 2.87	D-head, ring shank
	65 x 2.87	Round head, ring shank
	65 x 2.87	D-head, ring shank
	75 x 3.06	Round head, ring shank
	75 x 3.06	D-head, ring and smooth shank
	88 x 3.15	D-head, smooth shank
	90 x 3.15	D-head, smooth shank
Hot dipped galvanised with black coating	50 x 2.50	Round head, ring shank
Stainless steel	50 x 2.87	D-head, ring shank
	55 x 2.87	Round head, ring shank
	65 x 2.87	D-head, ring shank
	75 x 3.06	round head, ring shank
	90 x 3.15	D-head, ring shank

4.2 The Paslode nail packaging has different coloured labels for the different nail types as described in Table 2.

Table 2: Label descriptions

Nail Material	Label Colour
Bright steel	White
Hot dipped galvanised steel, with and without black coating	Yellow
Stainless steel	Red

4.3 The Paslode Nails are generally collated together with paper strips down both sides of the nails, however some of the nails are collated together with plastic.

Handling and Storage

5.1 Paslode Nails should be stored in a clean, dry area until they are used.

Technical Literature

6.1 No specific Technical Literature is referenced by this Certificate.

Design Information

Structure

7.1 Connections incorporating Paslode Nails must be designed and installed in accordance with the relevant non-specific design standards, e.g. NZS 3604, or as specified by specific engineering design to the relevant loading and design standards.

7.2 Where a proprietary system manufacturer specifies standard nails, permission must be obtained from them before Paslode Nails are substituted.




















































































Durability

8.1 Paslode Nails are expected to have a serviceable life of at least 15 or 50 years (depending on their use) provided that they are installed and maintained in accordance with this Certificate.

8.2 Table 3 gives information on where each of the three main types of Paslode Nails identified in Table 2, i.e. bright steel, hot dipped galvanised and stainless steel, may be used based on the timber use, the environment, the timber moisture content and the timber treatment. The Table is for Corrosion Zones 2, 3 and 4 as defined by NZS 3604. Table 4 gives the same information for the Sea Spray Zone, Corrosion Zone 1 and Corrosive Geothermal 'Hot-spots' as defined by NZS 3604.

8.3 If alkaline copper quarternary (ACQ)-based or copper azole (CuAz)-based treatments are used for timber hazard classes H3.2, H4 or H5 then only stainless steel fasteners should be used. There is very little of these timber treatments in use in New Zealand at this time, and most timber is treated with copper chrome arsenate (CCA).

Table 3: Allowable Nail Uses for NZS 3604 Corrosion Zones 2, 3 and 4.

Use	Environment	Timber moisture content in use	H5	H4	H3.2	H3.1	H1.2	H1.1	Low-risk approved species, kiln-dried pine
Internal framing, ceiling joists and battens, internal beams	Assembled under full cover, never exposed to moisture/ weather, in-service use in air-conditioned or heated spaces	Less than 18%	 	 	 	 	 	 	 
Roof trusses, exposed rafters and other roof framing	Minimum exposure to weather during construction, dry in-service environment	Less than 18%	 	 	 	 	 	 	 
Internal finishing timbers and furniture requiring borer protection	Never exposed to construction moisture, in-service use in air-conditioned or heated spaces	Less than 18%	 	 	 	 	 	 	Timber not suitable for application
Sub-floor framing and floor joists supported on external walls	Exposed to construction moisture. Increased risk of moisture	Less than 24% at close in, less than 20% in-service	 	 	 	 	 	Timber not suitable for application	
Cavity battens	Possible wetting and drying	Periodically greater than 18%	 	 	 	 	Timber not suitable for application		
Exterior trim or cladding	Exposed to weather but painted	Less than 18%. Assumes effective coating system	 	 	 	 	Timber not suitable for application		
External, cavity battens, unpainted external trim	Exposed to weather or water in drained cavity, but not in ground contact	Occasionally above 18%	 	 	 	Timber not suitable for application			
Decking	Exposed to weather, but excludes ground contact (Note 1)	Generally above 18%	 	 	 	Timber not suitable for application			
Posts (not piles)	In contact with ground or concrete/masonry (Note 1)	Alkaline and above 18%	 	 	Timber not suitable for application				
Piles, poles, etc	Embedded in ground or concrete	Alkaline and above 18%		Timber not suitable for application					

Note 1 This timber use relates to a 15 year durability requirement only.
























































































 Bright Steel
  Hot dipped galvanised steel, with and without black coating
  Stainless Steel

Table 4: Allowable Nail Uses for NZS 3604 Sea Spray Zone, Corrosion Zone 1 and Geothermal 'Hot-spots'.

Use	Environment	Timber moisture content in use	H5	H4	H3.2	H3.1	H1.2	H1.1	Low-risk approved species, kiln-dried pine
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Piles, poles, etc	Embedded in ground or concrete	Alkaline and above 18%		Timber not suitable for application					

Note 1 This timber use relates to a 15 year durability requirement only. Bright Steel Hot dipped galvanised steel, with and without black coating Stainless Steel

Maintenance

9.1 Paslode Nails need little or no maintenance in themselves. Where paint or coatings are required to ensure the required design life, then these must be maintained as per the relevant manufacturer's instructions.

Installation Information

Installation Skill Level Requirements

10.1 Paslode Nails are installed with the aid of Paslode nail guns, and can be done so by any competent person.

Health and Safety

11.1 Guidelines for the safe use of portable mechanically powered nailers and staplers are available from the Department of Labour, and all aspects of these should be followed when using nail guns.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

12.1 The following testing on Paslode Nails has been completed by BRANZ:

- Accelerated corrosion testing on Paslode Nails in timbers with different Hazard Class treatment levels.

Other Investigations

13.1 A durability opinion has been provided by BRANZ technical experts.

13.2 Observations have been made by BRANZ to assess the practicability of installation, and to examine completed installations.

Quality

14.1 The methods of quality control for the manufacture of the Paslode Nails has been examined by BRANZ and found to be satisfactory.

14.2 The quality of the nails supplied by Paslode New Zealand is the responsibility of Paslode New Zealand.

14.3 Designers are responsible for the design and specification of joints incorporating Paslode Nails.

14.4 Quality of installation on site of Paslode Nails is the responsibility of the installer.

14.5 Building owners are responsible for the maintenance of their buildings.

Sources of Information

- NZS 3602:2003 Timber and wood-based products for use in building.
- NZS 3604:1999 Timber framed buildings.
- NZS 3640:2003 Chemical preservation of round and sawn timber.
- New Zealand Building Code Handbook and Approved Documents, Building Industry Authority, 1992.
- The Building Regulations 1992, up to and including October 2004 amendment.



BRANZ

In the opinion of BRANZ, Paslode Nails are fit for purpose and will comply with the Building Code to the extent specified in this Certificate provided they are used, designed, installed and maintained as set out in this Certificate.

The Appraisal Certificate is issued only to the Certificate Holder, Paslode New Zealand, and is valid until further notice, subject to the Conditions of Certification.

Conditions of Certification

1. This Certificate:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the technical literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. The Certificate Holder:
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. BRANZ makes no representation as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by the Certificate Holder.
5. Any reference in this Certificate to any other publication shall be read as a reference to the version of the publication specified in this Certificate.

For BRANZ

P Robertson
Chief Executive

Date of issue: 15 June 2007