



BRANZ Appraised

Appraisal No. 325 [2021]

LIQUID NAILS HIGH STRENGTH CONSTRUCTION ADHESIVE

Appraisal No. 325 [2021]

This Appraisal replaces BRANZ
Appraisal No. 325 [2016]



BRANZ Appraisals

Technical Assessments of
products for building and
construction.

Product

- 1.1 Liquid Nails High Strength Construction Adhesive is a single component, solvent-based, synthetic rubber adhesive for general construction use.

Scope

- 2.1 Liquid Nails High Strength Construction Adhesive has been appraised for use as a construction adhesive in dry, internal applications when bonding the following materials:

	Plasterboard	Hardboard	Particleboard	Ceramic	Plywood	Timber	Fibre Cement	Medium Density Fibreboard	Fibrous Plaster	Glass Reinforced Polymer	Glass
Dry Timber	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
H1.1 and H1.2 Boron Treated Timber	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
H1.1, H1.2 and H3.1 LOSP Treated Timber	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wet and Dry H3.2 CCA and ACQ Treated Timber	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Galvanised Steel Framing	✓		✓		✓	✓		✓	✓		
Copper, Brass, Stainless Steel	✓		✓		✓	✓		✓	✓		
Aluminium, Uncoated, Anodized, Powder Coated	✓		✓		✓	✓		✓	✓		
Concrete	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Concrete Masonry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clay Brick	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- 2.2 Liquid Nails High Strength Construction Adhesive has not been appraised as a structural adhesive for structural NZBC applications. Structural connections for carrying and resisting imposed loads, such as wind and earthquake, must still be designed using mechanical fasteners.



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Building Regulations

New Zealand Building Code (NZBC)

- 3.1 The use of Liquid Nails High Strength Construction Adhesive itself is not within the scope of the NZBC, however, the use of building elements or components such as flooring systems or wall or ceiling panels where the adhesive is used is controlled by the NZBC. Therefore, in the opinion of BRANZ, Liquid Nails High Strength Construction Adhesive, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, 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. Liquid Nails High Strength Construction Adhesive contributes to meeting the requirements for loads arising from self-weight, imposed gravity loads arising from use, impact, and time dependent effects including creep and shrinkage [i.e. B1.3.3 (a), (b), (j) and (q)]. See Paragraph 8.1.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years and B2.3.1 (c) 5 years. Liquid Nails High Strength Construction Adhesive meets these requirements. See Paragraphs 9.1–9.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Liquid Nails High Strength Construction Adhesive meets this requirement.

Technical Specification

- 4.1 Liquid Nails High Strength Construction Adhesive is a multi-purpose construction adhesive made from a blend of synthetic resins and fillers dispersed in a low molecular weight liquid hydrocarbon. When applied, it is a beige coloured thixotropic paste.
- 4.2 Liquid Nails High Strength Construction Adhesive is packaged as 320 g, 375 ml and 900 g cartridges suitable for use with a caulking gun, or as a 600 ml sausage, or a 100 g handy tube.

Handling and Storage

- 5.1 Tubes, cartridges, and sausages of Liquid Nails High Strength Construction Adhesive should be handled with care to prevent damage during transport, and should be stored in the temperature range of 10°C - 30°C.
- 5.2 The shelf life of Liquid Nails High Strength Construction Adhesive is 12 to 18 months.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Liquid Nails High Strength Construction Adhesive. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within the Technical Literature and within the scope of this Appraisal must be followed.
- 6.2 The instructions printed on the packaging of Liquid Nails High Strength Construction Adhesive tubes, cartridges, and sausages have been assessed by BRANZ and must be observed when using the adhesive.



Design Information

General

- 7.1 Liquid Nails High Strength Construction Adhesive is suitable for use in dry, internal applications only.
- 7.2 Construction adhesive type products are not referenced in the NZBC, but they can be used to help increase the stiffness and rigidity of systems, to help prevent movement and squeaks at sheet edges, and to reduce the number of fasteners needed in non-structural situations.
- 7.3 Liquid Nails High Strength Construction Adhesive must not be used at temperatures below 5°C and must not be used where the in-use temperature exceeds 40°C continuously or 60°C for short periods.
- 7.4 Liquid Nails High Strength Construction Adhesive is not recommended for bonding impervious surfaces to each other, i.e. at least one material to be bonded should be porous. If an impervious surface is to be bonded, additional time must be allowed for the bond to reach an acceptable working strength.
- 7.5 'Open-time', when applying the adhesive should not exceed 20 minutes, as it will start to 'skin' on the surface and affect bond strength.
- 7.6 Liquid Nails High Strength Construction Adhesive will cure to a working strength in 24 hours, maximum bond strength will be achieved after approximately 7 days.
- 7.7 Liquid Nails High Strength Construction Adhesive must not be used to replace mechanical fixings where these have been specified by the manufacturer of the material being adhered. Lining materials used in loadbearing, bracing or some other form of specifically designed lining system [e.g. fire resistant or acoustically insulated] must be installed in accordance with the respective manufacturer's instructions.
- 7.8 Shrinkage of framing or substrate materials, e.g. timber joists, will place stress on the bond line of the glued joint. In order to minimise shrinkage of materials that could possibly cause failure of the glued joint and/or aesthetic damage to lining materials, the moisture content of timber, concrete or other material being bonded must not exceed the maximum limitations stated by either the manufacturer of that material, or the maximum moisture contents stated in NZBC Acceptable Solution E2/AS1 Paragraph 11.2, whichever is the lesser. Due allowance for shrinkage and/or expansion of lining and substrate materials must be made.
- 7.9 Materials must not be glued over structural control joints in the supporting structure or substrate.

Structure

General

- 8.1 When Liquid Nails High Strength Construction Adhesive is used to adhere building materials as stated under the scope above, and when used in accordance with the statements and conditions of this Appraisal, the bond line will have sufficient strength and stability to resist the elemental forces these materials will be subjected to, such as the material self-weight, light impact loads, and typical thermal and structural movement stresses.
- 8.2 If Liquid Nails High Strength Construction Adhesive is to be used to bond materials other than those covered in the scope of this Appraisal, advice regarding suitability must be sought from Selley's New Zealand.

Durability

Serviceable Life

- 9.1 Liquid Nails High Strength Construction Adhesive is expected to have a serviceable life of at least 15 years.
- 9.2 This Appraisal covers the set adhesive only, and not the materials being bonded, which must also meet the relevant requirements of NZBC Clause B2.



Maintenance

- 10.1 Materials being adhered must be maintained as per the respective manufacturer's instructions.

Prevention of Fire Occurring

- 11.1 Separation or protection must be provided to Liquid Nails High Strength Construction Adhesive from heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Installation Information

Installation Skill Level Requirement

- 12.1 Liquid Nails High Strength Construction Adhesive is designed for use by general tradespersons and handypersons.

General

- 13.1 Having an organic solvent base, Liquid Nails High Strength Construction Adhesive may affect the surface finish of the material being adhered. If it is unclear whether or not the material being adhered will be affected, either the material manufacturer should be consulted or a test should be carried out first to determine if there is any effect.
- 13.2 If it is not clear if a construction adhesive is suitable for adhering the intended materials, a test should be carried out prior to use to determine if a strong and effective bond can be created.
- 13.3 Proprietary lining materials based on materials covered by the scope of this Appraisal, e.g. gypsum plasterboard, fibre cement board etc. must be installed in accordance with the respective manufacturer's instructions. *[Note: Many manufacturers of proprietary materials have specific fixing requirements for their materials, which have been developed after extensive product development, testing and on-going assessment of history of performance.]*
- 13.4 All surfaces to be bonded should be dry and free of foreign material that will impair adhesion.
- 13.5 Liquid Nails High Strength Construction Adhesive may be applied within the temperature range of 5°C to 40°C. The open time for Liquid Nails High Strength Construction Adhesive is 20 minutes, however this will vary with temperature, and will typically be shorter for higher temperatures and longer for lower temperatures.
- 13.6 For best performance, Liquid Nails High Strength Construction Adhesive should be stored at room temperature for 24 hours prior to use.
- 13.7 To apply Liquid Nails High Strength Construction Adhesive with a gun, using either a cartridge or a sausage, the user should cut the nozzle tip on a slant to provide a 10 mm bead. Apply a continuous bead of adhesive to the surface to be bonded. Where sheets butt on a stud etc., apply a zigzag bead to ensure the adhesive contacts both sheets. The two materials are then assembled together using sufficient nails, screws or clamps to achieve contact over the total bond area. The adhesive must be allowed to dry for a minimum of 24 hours before removing any temporary fasteners, supports or clamps. Maximum bond strength will be achieved in approximately 7 days.
- 13.8 Clean tools and remove excess adhesive with mineral spirits, exercising safe practices.

Health and Safety

- 14.1 Liquid Nails High Strength Construction Adhesive is a solvent-based adhesive and is highly flammable. It must be stored in a cool place away from sources of ignition. Adhesive cartridges must be kept away from children. If ingested, medical attention should be sought immediately.
- 14.2 Appropriate precautions must be taken when using Liquid Nails High Strength Construction Adhesive to ensure good ventilation, especially in confined spaces.



Basis of Appraisal

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

Tests

15.1 The following testing has been completed by BRANZ:

- Testing of Liquid Nails High Strength Construction Adhesive in accordance with AS 2753: 1985 was carried out by BRANZ in 1995 to determine amongst other things: bond strength; bond maintenance; bridging characteristics; and flexibility after heat aging. This testing was completed again in 2008/2009 with some additional substrates and materials.

Other Investigations

- 16.1 The performance of Liquid Nails High Strength Construction Adhesive has been monitored by BRANZ since 1996.
- 16.2 Assessment has been made of the structural aspects and durability of the product and opinions given by BRANZ technical experts.
- 16.3 The manufacturer's Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

- 17.1 The manufacture of Liquid Nails High Strength Construction Adhesive has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.
- 17.2 Selleys New Zealand is responsible for the quality of supply of Liquid Nails High Strength Construction Adhesive.
- 17.3 Quality on site is the responsibility of the installer.

Sources of Information

- AS 2753: 1985 Adhesives – Mastic – For bonding gypsum plaster linings to wood and metal framing members.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



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16 April 2021

LIQUID NAILS HIGH STRENGTH
CONSTRUCTION ADHESIVE



In the opinion of BRANZ, **Liquid Nails High Strength Construction Adhesive** is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Selleys New Zealand**, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
 - 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. **Selleys New Zealand**:
 - 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;
 - d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty 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 **Selleys New Zealand**.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to **Selleys New Zealand** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

16 April 2021