



**BRANZ Appraised**

Appraisal No.662 [2009]

BRANZ Appraisals

Technical Assessments of products  
for building and construction

**BRANZ  
APPRAISAL  
No. 662 (2009)**

**BOSTIK SAFE FIX  
ADHESIVE**

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## Product

1.1 Bostik SAFE FIX Adhesive is a general purpose, low odour, solvent free adhesive for general construction use.



*Bostik SAFE FIX was used on 80 Queen Street (above) which achieved a NZ Green Building Council, 5 Green Star – Office Design.*

## Scope

2.1 Bostik SAFE FIX Adhesive has been appraised for use as a construction adhesive for bonding the following materials:

Substrate:	Materials to be Adhered to the Substrate:										
	Plasterboard	Wet Area Plasterboard	Particleboard	Polystyrene (EPS)	Ceramic	Plywood	Dry Timber	Fibre Cement	Medium Density Fibreboard	Fibrous Plaster	Glass Reinforced Polymer
Wet Timber	N/A	N/A	N/A	✓	N/A	✓	✓	✓	N/A	N/A	N/A
Dry Timber	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓
H3.1 LOSP Treated Timber	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
H1.2 Boron Treated Timber	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Galvanised Steel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
H3.2 CCA and ACQ Treated Timber*	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓
Concrete/Concrete Masonry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Polystyrene (EPS)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clay Brick	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stainless Steel	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓
Glass	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	✓

\* Excluding timber treated with copper naphthenate or copper azole

N/A: Not Assessed

2.2 Bostik SAFE FIX 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.

## Building Regulations

### New Zealand Building Code (NZBC)

**3.1** The use of Bostik SAFE FIX 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, Bostik SAFE FIX Adhesive, if 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. Bostik SAFE FIX 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, B2.3.1(c), 5 years and B2.3.2, Bostik SAFE FIX Adhesive meets these requirements. See Paragraphs 9.1 – 9.2.

**Clause F2 Hazardous Building Materials:** Performance F2.3.1. Bostik SAFE FIX Adhesive meets this requirement and will not present a health hazard to people.

## Technical Specification

### Bostik SAFE FIX Adhesive

4.1 Bostik SAFE FIX Adhesive is a multi-purpose construction adhesive based on silane-modified polymers (SMP) which are solvent, isocyanates and PVC free.

4.2 Bostik SAFE FIX Adhesive is packed in 375 ml cartridges and 600 ml sausages and is white in colour.

4.3 Bostik No. 2 Solvent is a cleaning solvent for removing excess uncured adhesive and cleaning tools. It is available in 1, 4 and 20 litre containers.

## Packaging, Handling and Storage

5.1 Tubes of Bostik SAFE FIX Adhesive should be handled with care to prevent damage during transport, and should be stored in the temperature range of 5 - 25°C.

5.2 The shelf life of Bostik SAFE FIX Adhesive is 9 months if stored in cool, dry conditions in original, unopened containers.

## Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ Website for details of the current Technical Literature for Bostik SAFE FIX 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.

## Design Information

### General

7.1 Bostik SAFE FIX Adhesive is suitable for use in dry, internal applications, e.g. when bonding plasterboards and plywood to framing.

7.2 Bostik SAFE FIX Adhesive type products are not referenced in the NZBC, but they can be used to help increase the stiffness and rigidity of systems, help prevent movement and squeaks at sheet edges, and reduce the number of fasteners needed in non-structural situations.

7.3 Bostik SAFE FIX Adhesive can be used to bond non absorbent surfaces to each other, but it is preferred that at least one of the materials to be bonded is absorbent. If both surfaces are non absorbent the cure speed will be slower and the bond will take longer to form. Advice from Bostik New Zealand Ltd should be sought in these situations.

7.4 Bostik SAFE FIX 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 load bearing, 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.

7.5 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 E2/AS1 Paragraph 11.2, whichever is the lesser. Due allowance for shrinkage and/or expansion of lining and substrate materials must be made.

7.6 Materials must not be glued over structural control joints in the supporting structure or substrate.

### Structure

#### General

8.1 When Bostik SAFE FIX Adhesive is used to adhere building materials as stated in the Appraisal scope (refer to Paragraph 2.1), 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 Bostik SAFE FIX 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 Bostik New Zealand Ltd.

### Durability

9.1 Bostik SAFE FIX Adhesive meets code compliance with NZBC Clause B2.3.1 (b) 15 years when used to bond materials in situations that require minimum 15 years durability, e.g. shower linings, and code compliance with B2.3.1 (c) 5 years when used to bond materials in situations that require minimum 5 year durability, e.g. easy to access and replace interior wall linings.

#### Serviceable Life

9.2 Bostik SAFE FIX Adhesive is expected to have a serviceable life of at least 15 years.

9.3 This Appraisal covers set Bostik SAFE FIX Adhesive only, and not the materials being bonded, which must also meet the relevant requirements of NZBC Clause B2 Durability.

### Maintenance

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

## Outbreak of Fire

11.1 Bostik SAFE FIX Adhesive is combustible and must be protected from sources of heat or ignition. Bostik SAFE FIX Adhesive must not be used in situations where temperature limitations of +40°C continuously is exceeded.

## Spread of Fire

12.1 Bostik SAFE FIX Adhesive is exempt from the surface finish requirements of NZBC Acceptable Solution C/AS1 Part 6 by NZBC Acceptable Solution C/AS1 Part 6, Paragraph 6.20.4(d).

## Installation Information

### Installation Skill Level Requirement

14.1 Bostik SAFE FIX Adhesive is for use by general tradespersons and handypersons.

### Installation - General

15.1 If it is not certain that Bostik SAFE FIX 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.

15.2 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 written instructions. (Note that 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.)

15.3 All surfaces to be bonded must be free of foreign material that will impair adhesion.

15.4 Bostik SAFE FIX Adhesive may be applied within the temperature range of 10°C to 40°C. The open time for Bostik SAFE FIX Adhesive is 30 minutes, however this will vary with temperature and will typically be shorter for higher temperatures and longer for lower temperatures.

15.5 For optimum performance, Bostik SAFE FIX Adhesive should be stored at room temperature for 12 hours prior to use.

15.6 To apply the Bostik SAFE FIX Adhesive, the user should cut the top of the screw-on nozzle tip off and the tip of the cartridge nozzle 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 cure for a minimum of 16 hours before removing any temporary fasteners, supports or clamps. When bonding fibrous plaster ceilings any temporary fasteners or supports must remain in place for at least 24 hours. Where cold conditions below 10°C are expected after fixing, the temporary fixings must be left in place for at least an additional 24 hours.

15.7 Clean tools and remove excess adhesive with Bostik Solvent Number 2, exercising safe practices. Cured material can only be removed by abrasion, therefore removal before cure is preferable.

### Health and Safety

16.1 Bostik SAFE FIX Adhesive cartridges must be kept away from children. If ingested, medical attention should be sought immediately.

16.2 Appropriate precautions must be taken when using Bostik SAFE FIX Adhesive to ensure good ventilation, especially in confined spaces.

16.3 Always consult the Bostik safety data sheet before use.

## Basis of Appraisal

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

### Tests

17.1 Testing of Bostik SAFE STUD Adhesive in accordance with AS 2753 – 1985 has been carried out to determine amongst other things: shear strength; bond strength; bond maintenance; bridging characteristics; tensile strength and flexibility after heat/humidity aging.

The test methods and results have been reviewed by BRANZ and found to be satisfactory.

### Other Investigations

18.1 The performance of Bostik SAFE FIX Adhesive in the Europe since 2001 has been considered.

18.2 Assessment has been made of the structural aspects and durability of the product and opinions have been given by BRANZ technical experts.

18.3 The manufacturer's Technical Literature has been examined by BRANZ and found to be satisfactory.

### Quality

19.1 The manufacture of the Bostik SAFE FIX Adhesive has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory. The manufacturer of Bostik SAFE FIX Adhesive has been assessed and registered as meeting the requirements of DIN EN ISO 9001: 2000.

19.2 Bostik New Zealand Ltd is responsible for the quality of supply of Bostik SAFE FIX Adhesive.

19.3 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.
- New Zealand Building Code Handbook Department of Building and Housing, Third Edition May 2007.
- The Building Regulations 1992, up to, and including August 2009 Amendment.



**BRANZ**

In the opinion of BRANZ, **Bostik SAFE FIX 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 **Bostik New Zealand Ltd**, 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. **Bostik New Zealand Ltd**:
  - 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. 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.
4. 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 **Bostik New Zealand Ltd**.
5. 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.
6. BRANZ provides no certification, guarantee, indemnity or warranty, to **Bostik New Zealand Ltd** or any third party.

For BRANZ

P Burghout  
Chief Executive

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