

0473P DRIBOND CONSTRUCTION CHEMICALS ACOUSTIC FLOOR UNDERLAYS**Branded worksection**

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Worksection abstract

This branded worksection *Template* is applicable to reducing impact sound transmission through floors using Dribond Construction Chemicals acoustic systems for a range of floor finishes.

Background

For information on sound insulation and the NCC, refer to the non-mandatory *ABCB Sound transmission and insulation in buildings handbook (2021)*. This sets out the objectives of the NCC, acoustic issues covered, the compliance process and options to satisfy the NCC. Appropriate design and detailing are essential, particularly for flanking sound insulation and services penetrations. The handbook includes typical details, notes on construction and recommended design practices.

Refer to NATSPEC TECHnote DES 027 and NATSPEC TECHnote DES 032 for information on impact and airborne sound insulation, including specifying sound insulation properties using appropriate terms, symbols and units.

How to use this worksection

Customise this worksection *Template* for each project. See A guide to NATSPEC worksections (www.natspec.com.au) for information on *Template* structure, word styles, and completing a worksection.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- *0471 Thermal insulation and pliable membranes* for thermal insulation to roofs and external walls.
- *0472 Acoustic insulation* for acoustic insulation to walls, partitions and ceilings.
- *0531 Suspended ceilings – combined* for acoustic ceiling tile suspended ceiling systems.
- *0632 Stone and terrazzo tiling*.
- *0654 Multilayered board flooring*.
- *0655 Timber flooring* for overlying finishes.

Related branded worksections include:

- *0621p DRIBOND CONSTRUCTION CHEMICALS waterproofing – wet areas* for wet area membranes.
- *0631p DRIBOND CONSTRUCTION CHEMICALS in ceramic tiling* for ceramic tile adhesives.

Documenting this and related work

You may document this and related work as follows:

- Document underlays that are compatible with other components of a flooring system, particularly wet area membranes and adhesives.
- Document critical radiant flux in *0654 Multilayered board flooring*, *0655 Timber flooring*.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Specifying ESD

Dribond acoustic floor underlay has the following sustainable product attributes:

- Low VOC emission content.

Refer to NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

Dribond Construction Chemicals, in business since 1974, is one of the most respected manufacturers of acoustic membranes, tile adhesives, waterproofing, grouts, sealers, repair products and other solutions for the building industry in the Asia-Pacific region. A multinational, family-owned and operated business that focuses on quality and service, Dribond Construction

Chemicals has factories in Australia, New Zealand and Malaysia, with locations in Adelaide, Brisbane, Melbourne, Perth, Sydney, Auckland and Kuala Lumpur.

1.1 RESPONSIBILITIES

General

Requirement: Provide Dribond acoustic floor underlay systems, as documented.

Documented is defined in *0171 General requirements* as meaning contained in the contract documents.

0171 General requirements calls for sealing of penetrations around conduits and sleeves to maintain acoustic rating, if required.

It is the responsibility of the designer to design and document floor, wall and ceiling systems to the requirements of the NCC for sound insulation. If the design brief exceeds the performance requirements of the NCC, document in the relevant worksection or on the drawings.

1.2 COMPANY CONTACTS

Dribond Construction Chemicals technical contacts

Website: www.constructionchemicals.com.au/contact-us/.

1.3 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements*.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

1.4 MANUFACTURER'S DOCUMENTS

Technical manuals

Product information: www.constructionchemicals.com.au/products/acoustic-systems/.

Technical information: www.constructionchemicals.com.au/tech-info/.

1.5 INTERPRETATION

Definitions

General: For the purposes of this worksection, the following definitions apply:

- Acoustic underlay: A resilient material laid between the subfloor and the flooring material to provide sound isolation.
- Airborne sound: Sound radiated directly from a source, such as a loudspeaker or machine, into the surrounding air.
- Impact sound: Sound caused by impacts on building structure. Typical sources include footsteps, dropped objects on horizontal surfaces and the slamming of doors.
- Sound insulation (isolation): Reduction of sound energy passing through building elements.
- Structure-borne sound: Sound waves transmitted within the building structure and re-radiated into other spaces as airborne sound. Typical sources include direct impact from dropped objects and vibrating machinery.
- Substrate: The surface to which a material or product is applied.
- Underlay: A non-structural layer of rubber, cork, plywood or in situ levelling compound to provide a smooth and flat surface for flooring installation. Rubber and cork underlays have acoustic sound absorbing properties.

Edit the **Definitions** subclause to suit the project or delete if not required. List alphabetically.

1.6 SUBMISSIONS

Products and materials

Manufacturer's data: Submit the manufacturer's data for each product type in each acoustic system and the manufacturer's recommendations for its application in the project, including the following:

- Product data sheets.
- Safety data sheets (SDS).

Samples

General: Submit 300 x 300 mm samples of each type of underlay and adhesive.

Identification: Label each sample, with brand, product name, and manufacturer's code reference.

Delete if not required.

Subcontractors

General: Submit names and contact details of proposed suppliers and applicators.

Evidence of experience: [complete/delete]

Delete if supplier/applicator details are not required.

Tests

Detail the tests required in PRODUCTS or EXECUTION, as appropriate, and list the submissions required here.

Site tests: Submit test results of the following:

- Moisture content.
- Surface pH.
- Weighted standardised impact sound pressure level ($L'_{nT,w}$).

Warranties

Requirement: Submit warranties to **COMPLETION, Warranties**.

1.7 INSPECTION**Notice**

Inspection: Give notice so that inspection may be made of the following:

- Substrate immediately before applying the underlay or adhesive.
- Installed underlay or adhesive before it is covered up or concealed.
- Completed installation.

Amend to suit the project adding critical stage inspections required.

Hold points, if required, should be inserted here.

2 PRODUCTS**2.1 GENERAL****Product substitution**

Other products: Conform to **SUBSTITUTIONS** in 0171 *General requirements*.

SUBSTITUTIONS in 0171 *General requirements* sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

Edit the list to suit the project or delete if not required.

Storage and handling

General: Store and handle to the manufacturer's recommendations.

Total VOC limits

Requirement: Conform to the following maximum TVOC content:

- Primers, sealants and prep coats: 65 g/L.

Standards

Ceramic tiling adhesive: To AS ISO 13007.1 (2020).

2.2 DRIBOND CONSTRUCTION CHEMICALS ACOUSTIC FLOOR UNDERLAYS**Acoustibond**

Description: A water-resistant, two-pack acrylic/rubber crumb, ceramic, porcelain and stone tile acoustic adhesive.

Application: Impact acoustic floor adhesive for bonding tiles to concrete and cement-based sheets.

Minimum dry adhesive bed thickness: 6 mm.

Acoustiflor

Description: A two-pack flexible, seamless, self-levelling, noise reduction floor underlay and anti-fracture membrane.

Application: Impact acoustic floor underlay for adhesive fixed ceramic tiles and direct stick timber floors.

Minimum anti-fracture membrane thickness: 3 mm.

Primax

Description: A two-component, water-resistant bonding primer.

Application: Primer to assist adhesion of underlays and adhesives to steel float, non-porous concrete floor bases.

2.3 DRIBOND CONSTRUCTION CHEMICALS ACOUSTIC ACCESSORIES**Acoustic tape**

Description: A closed cell polyurethane sound absorption tape.

Acoustic tape prevents hard surfaces coming in contact with the acoustic underlay, i.e., kitchen cabinets and walls must have the acoustic tape applied to prevent the tiles or timber coming in contact with these surfaces.

- 12 mm x 6 mm tape for Acoustiflor.
- 6 mm x 6 mm tape for Acoustibond.

3 EXECUTION**3.1 GENERAL****Installation**

Requirement: Install all products to Dribond's recommendations.

3.2 PREPARATION**Substrates**

General: To AS 1884 (2021) Section 3.

Substrate tolerance table

Property	Length of straight edge laid in any direction	Max. deviation under the straight edge
Planeness	2000 mm	4 mm
Abrupt deviation tolerance	150 mm	0.5 mm

Planeness tolerance class: For locations to receive resilient finishes nominate Class A in the **Flatness tolerance class table in 0315 Concrete finishes** and **TOLERANCES in 0612 Cementitious toppings**. It is assumed smoothness and projection tolerance corrections form part of substrate preparation.

Concrete substrates

Refer to NATSPEC TECHnote DES 008 on the preparation of concrete substrates.

Requirement: Do not start installation until the concrete substrate conforms to AS 1884 (2021) clause 3.1.

Concrete substrate rectification: Conform to the following:

- Surface treatments: Mechanically remove any incompatible surface treatments, including the following:
 - . Sealers and hardeners.

- . Curing compounds.
- . Waterproofing additives.
- . Surface coatings and contamination.
- Planeness, smoothness, projections: Remove projections and fill voids and hollows with a smoothing and self-levelling compound compatible with the adhesive. Allow filling or levelling compound to dry to manufacturer's recommendations.

Cleaning: Remove loose materials or dust.

Timber plywood and particleboard substrates

Requirement: Do not start installation until the timber, plywood and particleboard substrate conforms to AS 1884 (2021) clause 3.6.

Timber, plywood and particleboard substrate rectification: Remove projections. If conformance to the **Substrate tolerance table** cannot be achieved, provide an underlay in brick pattern with joints avoiding substrate joints.

Cleaning: Remove oil, grease, traces of applied finishes and loose materials or dust.

Working environment

General: Do not start work before the building is enclosed, wet work is complete and dry, and good lighting is available. Protect adjoining surfaces.

Conditioning

General: Stabilise the room temperature for seven days before, and two days after installation of floor finishes, as follows:

- Areas with air conditioning installed: Run air conditioning at operational temperature.
- Air conditioned areas not operational: Maintain room temperature range of 18°C to 30°C.
- Underfloor heating: Turn off heating and allow background to stabilise at the temperature recommended by the floor finish manufacturer.
- Non-air conditioned areas: Install at 18°C to 30°C.

3.3 TESTING

0171 General requirements defines different tests in **INTERPRETATION**, **Definitions** and calls for an inspection and testing plan in **TESTING - GENERALLY, Inspection and testing plan**.

Moisture content tests

General: Test substrate for suitability for the installation to AS 1884 (2021) Appendix A:

- Maximum relative humidity of concrete: To AS 1884 (2021) Appendix A3.2.
- Moisture content of timber, plywood and particleboard subfloors: To AS 1884 (2021) Appendix A3.3.

Some manufacturers may provide products that can be used on concrete slabs with a moisture content greater than the maximum allowed by AS 1884 (2021), or that require a moisture content less than the maximum allowed by AS 1884 (2021).

Surface pH tests

General: Test concrete subfloor for suitability for the installation to AS 1884 (2021) Appendix C.

- Maximum pH: 10.

Testing of pH should be carried out after any surface grinding. Freshly exposed concrete has high alkalinity and problems have been encountered overseas.

Impact sound tests

Weighted standardised impact sound pressure level ($L'_{nT,w}$) of completed installation: To AS ISO 717.2 (2004).

A single-number rating, expressed in decibels, of the field measurement of frequency dependent impact sound insulation between rooms in buildings.

Site testing is expensive. Delete if not required. See NATSPEC TECHnote DES 027 for information on the options available for NCC compliance.

3.4 INSTALLATION

Acoustic underlay membrane

Membrane application: Apply as follows:

- Apply with a 6 mm pegged trowel onto the substrate to Dribond's recommendations.

Tile adhesive

Adhesive application: Apply as follows:

- Apply with a 15 mm notched trowel onto the underlay or substrate to Dribond's recommendations.

3.5 FLANKING SOUND INSULATION

To preserve the sound reduction properties of R_w rated partitions, seal the flanking sound transmission paths during installation, including junctions between partitions and other building surfaces, air gaps around doorsets, recesses, such as pelmets and blind boxes and cut-outs for services.

Penetrations

Ductwork and piping: [complete/delete]

0171 General requirements calls for the maintenance of the acoustic rating of the penetration. Delete if not appropriate.

Abutments

Insulation of flanking sound at abutments is project specific and relies on details, particularly at partition junctions to window mullions that may be subject to horizontal deflection movements.

Seals: [complete/delete]

Strip: [complete/delete]

Sealant: [complete/delete]

e.g. Closed cell foam strips and gunned acoustic sealant.

Trims: [complete/delete]

e.g. Project specific skirting section to protect the sealant and allow movement.

3.6 COMPLETION**Protection**

General: Keep traffic off membrane surfaces for a period recommended by the manufacturer.

Reinstatement: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Warranties

Requirement: Submit the manufacturer's published product warranties.

Materials:

- Warranty period: 10 years.
- Warranty terms: As offered by Dribond Construction Chemicals.

4 SELECTIONS

Schedules are a tool to specify properties required for products or systems. If the principal permits documentation of the product or system by proprietary name, some of the properties may be unnecessary and can be deleted. Document the product or system's location or application here and/or on the drawings with a matching project code. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 DRIBOND CONSTRUCTION CHEMICALS SCHEDULES

Refer to NATSPEC TECHnote DES 027 for information on impact sound insulation.

Dribond acoustic floor membrane

Location: [complete/delete]

Substrate: [complete/delete]

e.g. Concrete slab, Plywood flooring or Floorboards with fibre cement underlay.

Product: Acoustiflor.

Thickness: [complete/delete]

A minimum thickness of 6 mm is suitable for use with ceramic tiles. Check with Dribond for thickness to achieve required impact rating.

Primer: [complete/delete]

Refer to Dribond for guidance.

Dribond acoustic tile adhesive

Location: [complete/delete]

Substrate: [complete/delete]

e.g. Concrete slab, Plywood flooring or Floorboards with fibre cement underlay.

Product: Acoustibond.

Thickness: [complete/delete]

A minimum thickness of 3 mm is suitable for use with ceramic tiles. Check with Dribond for thickness to achieve required impact rating.

Primer: [complete/delete]

Refer to Dribond for guidance.

REFERENCED DOCUMENTS**The following documents are incorporated into this worksection by reference:**

AS ISO 717		Acoustics - Rating of sound insulation in buildings and of building elements
AS ISO 717.2	2004	Impact sound insulation
AS 1884	2021	Floor coverings - Resilient sheet and tiles - Installation practices
AS ISO 13007		Ceramic tiles
AS ISO 13007.1	2020	Grouts and adhesives - Terms, definitions and specifications for adhesives

The following documents are mentioned only in the *Guidance* text:

ABCB Sound	2021	Sound transmission and insulation in buildings handbook
NATSPEC DES 008		Preparation of concrete substrates
NATSPEC DES 027		Impact sound insulation
NATSPEC DES 032		Airborne sound insulation
NATSPEC GEN 006		Product specifying and substitution
NATSPEC GEN 024		Using NATSPEC selections schedules
NATSPEC TR 01		Specifying ESD