

0473P GETZNER VIBRATION SOLUTIONS ACOUSTIC FLOOR MATS

Branded worksection

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Worksection abstract

This branded worksection *Template* is applicable to GETZNER VIBRATION SOLUTIONS acoustic floor mats used under screeds to reduce impact sound transmission through concrete floors.

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 is essential particularly for flanking sound and services penetrations. The handbook includes typical details, notes on construction and recommended design practices.

Sound insulation properties need to be specified by means of the appropriate quantities, which must be described using the correct terms, symbols and units. Refer to NATSPEC TECHnote DES 027 for information on impact sound insulation and NATSPEC TECHnote DES 032 for information on airborne sound insulation, including specifying sound insulation using appropriate terms 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.

Related branded worksections include:

- *0305p GETZNER VIBRATION SOLUTIONS foundation isolation systems*.

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.

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

Search acumen.architecture.com.au, the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Sound rating.

Specifying ESD

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

GETZNER was the first company in the world to effectively solve vibration engineering challenges using polyurethane materials. Headquartered in Austria, GETZNER, has been developing polyurethane-based solutions for the isolation of undesirable vibrations and noise for over 50 years. Its Sylomer, Sylodyn, Sylodamp and Isotop products were developed and manufactured at GETZNER'S own facility. They are used in the construction and industry sectors to reduce vibrations and noise to create a higher standard of living.

1.1 RESPONSIBILITIES

General

Requirement: Provide GETZNER acoustic floor mat 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

GETZNER VIBRATION SOLUTIONS technical contacts

Website: www.vibrationsolutions.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

Website: www.vibrationsolutions.com.au/data-sheets.

1.5 INTERPRETATION

Definitions

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

- Acoustic insulation: Materials or methods of construction to reduce the transmission of airborne and structure-borne sound through floors, walls and ceilings or other enclosing elements in buildings.
- Acoustic floor mat: A resilient impact sound insulating material laid on the structural floor and covered by a flooring screed.
- Airborne sound: Sound radiated directly from a source, such as a loudspeaker or machine, into the surrounding air.
- Fire hazard properties: To NCC (2022) Schedule 1.

This includes the Flammability Index, Smoke-Developed Index and Spread-of-Flame Index of a material or assembly as applicable.

See NATSPEC TECHnote DES 003 for more information on fire hazard properties of insulation and pliable membranes and NATSPEC TECHnote DES 020 on NCC classification of fire behaviour in building materials and assemblies.

- 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.

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

1.6 SUBMISSIONS

Fire performance

Fire hazard properties: Submit evidence of conformity to PRODUCTS, **FIRE PERFORMANCE**, **Fire hazard properties**.

Products and materials

Manufacturer's data: Submit the manufacturer's data for each type of underlay, and the manufacturer's recommendations for its application in the project.

Samples

General: Submit one sample of each underlay.

Minimum size per sample:

- Sheet: 300 x 300 mm.

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

Sample panels: Provide sample panels as follows:

- Location: [complete/delete]
- Size (mm): [complete/delete]

Subcontractors

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

Evidence of experience: [complete/delete]

Delete if supplier/installer 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:

- Substrate moisture content.
- Surface pH.

Warranties

General: Submit details of warranty covering both the product and the installation.

Discuss with GETZNER VIBRATION SOLUTIONS regarding warranty terms and conditions. Edit, as required.

1.7 INSPECTION**Notice**

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

- Substrate immediately before fixing the acoustic floor mat.
- Installed acoustic floor mat 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.

Storage and handling

Requirement: To GETZNER VIBRATION SOLUTIONS' recommendations as follows:

- Transport and store in original packaging.
- Avoid damage during transportation.
- Immediately repair damaged packaging using plastic sheet and adhesive tape.
- Store rolls in an upright standing position.
- Store in a dry environment, protected from direct sunlight, within the temperature range of -20°C to +50°C.
- Where possible storage conditions to match installation conditions. In situation of large temperature difference between storage and installation area, acclimatise isolation system products in installation area for at least 24 hours before installation.

GETZNER high-tech polyurethane materials are able to withstand extreme static and dynamic loads. However, these simple and efficient handling requirements allow ease of installation and the highest possible performance.

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.

2.2 FIRE PERFORMANCE**Fire hazard properties**

Requirement: If Sylomer® products are not protected from exposure to fire, provide fire protection, as documented.

Protection can be achieved in a number of ways including the use of concrete screeds and joint filling materials. Contact GETZNER and refer to their *Fire protection* document for further information, details and suggested products.

Unprotected acoustic floor mat materials: Tested to AS/NZS 1530.3 (1999). Fire hazard indices as follows:

- Spread-of-Flame Index: ≤ 9 .
- Smoke-Developed Index: ≤ 8 if Spread-of-Flame Index > 5 .

Refer to BCA (2022) Table S7C7 for details.

2.3 GETZNER ACOUSTIC FLOOR MATS**General**

Description: Resilient impact sound insulation for under-screed installation, tested to EN ISO 10140-3 (2021), with results calculated to EN ISO 717-2 (2020).

GETZNER acoustic floor mats are volume-compressible; free of softeners and harmful substances (e.g. VOC). They are effective over the entire load range, low installed height, easy to lay, and do not need to be bonded to the substrate

GETZNER Acoustic Floor Mat 21

Typical applications include: hotels, fitness studios, hospitals, aged care, dry floors and renovations.

Material: 100% polyurethane.

Weighted impact noise improvement: 21 dB.

Colour: Multicoloured.

Thickness: 8 mm.

Load range: ≤ 2500 kg/m².

Compressibility: ≤ 1 mm.

Panels: 1500 x 1200 mm.

GETZNER Acoustic Floor Mat 23

Typical applications include: hotels, refurbishments, assembly rooms and supermarkets.

Material: Polyurethane and cork.

Weighted impact noise improvement: 23 dB.

Colour: Multicoloured.

Thickness: 6 mm.

Load range: ≤ 5000 kg/m².

Compressibility: ≤ 1 mm.

Panels: 1500 x 1200 mm.

GETZNER Acoustic Floor Mat 26

Typical applications include: hotels, refurbishments, assembly rooms and supermarkets

Material: Polyurethane and cork.

Weighted impact noise improvement: 26 dB.

Colour: Multicoloured.

Thickness: 10 mm.

Load range: $\leq 5000 \text{ kg/m}^2$.

Compressibility: $\leq 1 \text{ mm}$.

Panels: 1500 x 1200 mm.

GETZNER Acoustic Floor Mat 29

Typical applications include: supermarkets, fitness studios, hospitals and nursing homes and plant rooms.

Material: 100% polyurethane.

Weighted impact noise improvement: 29 dB.

Colour: Steel-blue.

Thickness: 11 mm.

Load range: $\leq 5000 \text{ kg/m}^2$.

Compressibility: $\leq 1 \text{ mm}$.

Panels: 1500 x 750 mm.

GETZNER Acoustic Floor Mat 31

Typical applications include: hotels, supermarkets, fitness studios, hospitals, aged care and warehouses.

Material: 100% polyurethane.

Weighted impact noise improvement: 31 dB.

Colour: Brown.

Thickness: 16 mm.

Load range: $\leq 5000 \text{ kg/m}^2$.

Compressibility: $\leq 2 \text{ mm}$.

Panels: 1500 x 750 mm.

GETZNER Acoustic Floor Mat 33

Typical applications include: hotels, supermarkets, fitness studios, hospitals, aged care and warehouses.

Material: 100% polyurethane.

Weighted impact noise improvement: 33 dB.

Colour: Olive-green.

Thickness: 16 mm.

Load range: $\leq 2500 \text{ kg/m}^2$.

Compressibility: $\leq 2 \text{ mm}$.

Panels: 1500 x 750 mm.

GETZNER Acoustic Floor Mat 35

Typical applications include: hotels, supermarkets, fitness studios, hospitals, aged care and warehouses.

Material: 100% polyurethane.

Weighted impact noise improvement: 35 dB.

Colour: Bordeaux-red.

Thickness: 16 mm.

Load range: $\leq 2500 \text{ kg/m}^2$.

Compressibility: $\leq 2 \text{ mm}$.

Panels: 1500 x 750 mm.

2.4 ACCESSORIES

GETZNER Sylomer® Edging strip

Description: 8.5 mm thick grey polyurethane perimeter edging strip.

Edging strips are used for isolating floor screeds and finishes from surrounding walls to prevent acoustic bridging.

Roll length: 5 metres.

Roll widths:

- 100 mm.

- 150 mm.

Joint sealing tape

Description: Water resistant textile adhesive tape for sealing joints, compatible with the documented acoustic floor mats.

Width: Minimum 50 mm.

Membrane

Description: Underlay material placed over the isolation system for additional protection during concreting.

Type: Plastic sheet or construction foil compatible with the documented isolation system.

Minimum thickness: 200 µm.

3 EXECUTION

3.1 GENERAL

Installation

Requirement: Install all GETZNER products to GETZNER'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.
- Surface quality: 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.

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.

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 of resilient floor coverings 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 of resilient floor coverings to AS 1884 (2021) Appendix C.

- pH: Between 5 and 9.

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

3.4 INSTALLATION**GETZNER acoustic underlay mats**

Vapour barrier: On new slabs, before installing perimeter strips and acoustic floor mats, install 200 µm vapour barrier to the area of the acoustic flooring if the relative humidity of the substrate is 80% or greater.

AS 1884 (2021) Appendix A considers a maximum substrate RH of 80% as suitable for the installation of resilient floor coverings.

Acclimatisation: Allow mats to acclimatise in position for a minimum of two hours before fixing and jointing, to allow the material to recover from compression and stretching caused by rolling and on-site handling.

Perimeter edge strips: Before installing the acoustic mats, fix GETZNER Sylomer® edging strip to the walls around the perimeter of the room. Place base of strip on surface with the top of the strip to be above finished floor level.

Acoustic floor mat: Install as follows:

- Begin laying the GETZNER acoustic floor mats from the part of the room furthest from the entry, and to work back towards the entry to minimise the need to step on the installation once completed
- Install in brick pattern, avoiding cross-shaped joints, with any profiled face facing downwards.
- Fit mats together without gaps, check that each panel is tightly butted to the other with no gaps and seal joints with tape to GETZNER recommendations.

Membrane installation for under screed applications: Install as follows:

Optional membrane can be placed over the acoustic mats for additional protection during placement of screed.

- Loose lay plastic sheet or construction foil at least 200 µm thick over the entire area of acoustic floor mats, including the perimeter strips and seal the joints with suitable tape.
- Pour screed as documented.
- After installation of floor finishes, trim membrane and underlay flush with the finished floor level with a straightedge and sharp knife. Seal gap between flooring and walls with sealant.

3.5 FLANKING SOUND INSULATION

To preserve the sound reduction properties of R_w rated floors, seal the flanking sound transmission paths during installation, including junctions between partitions and other building surfaces and cut-outs for services.

Penetrations

Ductwork and piping: Use Sylomer® perimeter edging strip and gunned acoustic sealant. Refer to GETZNER recommendations

0171 General requirements calls for the maintenance of the acoustic rating of the penetration.

Abutments

Insulation of flanking sound at abutments is project specific and relies on details, particularly at partition junctions.

Seals: [complete/delete]

Strip: [complete/delete]

Select Sylomer® perimeter edging strip.

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.

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 GETZNER SCHEDULES

Weighted normalised impact sound pressure level: A single-number rating, expressed in decibels, of laboratory measured frequency dependent impact sound insulation of a floor/ceiling assembly using a standardised tapping machine. It is determined by reference to AS ISO 717.2 (2004) from measurements of normalised impact sound pressure level over the third-octave band frequency range 100 to 3150 Hz.

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

GETZNER acoustic floor mat schedule

	A	B	C
Location			
Vapour barrier to substrate			
Product			
Screed			
Membrane below screed			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Location: Describe here or show on drawings.

Vapour barrier to substrate: Required or not required, subject to the moisture content of the substrate. AS 1884 (2021) Appendix A considers a maximum substrate RH of 80% as suitable for the installation of resilient floor coverings.

Product: Select GETZNER acoustic floor mat to achieve the required weighted normalised impact sound reduction.

Screed: Nominate type and thickness to achieve the required weighted normalised impact sound reduction.

Membrane below screed: Required on top of acoustic floor mats when installed below screed.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 1530		Methods for fire tests on building materials, components and structures
AS/NZS 1530.3	1999	Simultaneous determination of ignitability, flame propagation, heat release and smoke release
AS 1884	2021	Floor coverings - Resilient sheet and tiles - Installation practices
NCC Schedule 1	2022	Schedule 1 Definitions
EN ISO 717		Acoustics - Rating of sound insulation in buildings and of building elements
EN ISO 717-2	2020	Impact sound insulation
EN ISO 10140		Acoustics - Laboratory measurement of sound insulation of building elements
EN ISO 10140-3	2021	Measurement of impact sound insulation

The following documents are mentioned only in the Guidance text:

AS ISO 717		Acoustics - Rating of sound insulation in buildings and of building elements
AS ISO 717.2	2004	Impact sound insulation
BCA Table 57C7	2022	Fire resistance - Fire hazard properties - Other materials - Other materials
ABCB Sound	2021	Sound transmission and insulation in buildings handbook
NATSPEC DES 003		Fire hazard properties of insulation and pliable membranes
NATSPEC DES 008		Preparation of concrete substrates
NATSPEC DES 020		Fire behaviour of building materials and assemblies
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

