

SOUNDDOWN DUO SYSTEM

PURPOSE

SoundDown Duo is a load-bearing, acoustic and fire rated intertenancy floor/ceiling system.

EXPLANATION

SoundDown Duo is a two-layer floor/ceiling system that achieves an STC rating of 64 dB, an IIC rating of 62 dB and incorporates a 60/60/60 fire rated ceiling; the floor structure is excluded from the fire cell. SoundDown Duo is installed in conjunction with a timber or lightweight steel structural frame and timber joists.

SoundDown Duo comprises:

- Maglok™ DragonBoard® Flooring - 20 mm, fixed with 8 g x 50 mm class 3 galvanised substrate screw fixing fixed at 300 mm centres.
- SoundDown acoustic flooring battens - seated on rubber deckchairs set at 450 mm centres.
- Vermiculite lightweight acoustic granules - 70 mm deep. Vermiculite is a phyllosilicate mineral that is an environmentally friendly, low density granule. It is absorbent and non-combustible, contributing to the acoustic performance.
- Maglok™ DragonBoard® - 20 mm, fixed with Maglok™ floor substrate fixing to timber joists at 200 mm centres.
- SG8 timber joist - 190 mm x 45 mm set at 450 mm centres or lightweight steel framing to an equivalent stiffness set at 450 mm.
- Rondo STPC ceiling mounts assembled with acoustic clips.
- Mammoth™ polyester insulation R1.8/900 gsm.
- Rondo 129 Furring Channel steel ceiling battens - 28 mm.
- Two layers of 13 mm thick board screwed to steel battens, sealed with the board supplier's recommended acoustic sealant.



For further assistance please contact:

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SCOPE AND LIMITATIONS OF USE

Scope	Limitations
Building	
In conjunction with a timber or lightweight steel structural frame that complies with the NZ Building Code or where the designer and/or installer have established that the existing building is suitable for the intended building work.	
As an acoustic intertenancy midfloor.	<ul style="list-style-type: none"> ➤ Installation to be in accordance with assessed assembly. ➤ Plasterboard must be manufactured to AS/NZS 2988. ➤ The selected plasterboard must be installed in accordance with all manufacturer's requirements, including sealing with the recommended sealant.
As a fire rated intertenancy midfloor.	<ul style="list-style-type: none"> ➤ Plasterboard must be manufactured to AS/NZS 2988, and achieve a minimum material group number rating of 1-S and be achieve a fire resistance rating of 60/60/60. ➤ The selected plasterboard must be installed in accordance with all manufacturer's requirements, including sealing with the recommended sealant. ➤ SoundDown Duo achieves a maximum fire resistance rating, from below, of 60/60/60.

CONDITIONS OF USE

Where substitutions to the SoundDown Duo system are proposed, the design must be subject to the review by an Acoustic Engineer, to ensure the acoustic performance is not diminished.

The components must be installed in accordance with all manufacturer and supplier requirements.

PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all Build Anatomy Limited requirements, the SoundDown Duo will comply with or contribute to compliance with the following performance claims:

NZ Building Code clauses	Compliance statement	BASIS OF COMPLIANCE Demonstrated by
B1 Structure B1.3.1, B1.3.2, B1.3.3 (a, b, c, e, f, i, j, l, m, o, r), B1.3.4 (a, b, c, d, e)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Plasterboard manufactured to AS/NZS 2588. ➤ Rondo Battens, Channel and Mounts manufactured to AS 1397-2011, manufacturer's claim [Rondo, n.d., 09/2015]. ➤ Maglok™ DragonBoard® pass™ 19115 [Maglok™ DragonBoard®, 18/03/2022].
B2 Durability B2.3.1 (a), B2.3.2 (a)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Plasterboard manufactured to AS/NZS 2588. ➤ BRANZ Appraisal No. 802 Mammoth™ Underfloor Insulation [BRANZ, 2014].

USEFUL INFORMATION

For design, installation and maintenance information, refer to sounddown.co.nz.

NZ Building Code clauses	Compliance statement	BASIS OF COMPLIANCE Demonstrated by
<i>continued</i> B2 Durability B2.3.1 (a), B2.3.2 (a)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Rondo Battens, Channel and Mounts manufactured to AS 1397, manufacturer's claim [Rondo, n.d., 09/2015]. ➤ Maglok™ DragonBoard® pass™ 19115 [Maglok™ DragonBoard®, 18/03/2022]. ➤ Vermiculite tested material properties claimed by manufacturer [Ausperl, 08/2016].
C3 Fire affecting areas beyond the fire source C3.4 (a, b)	ACCEPTABLE SOLUTION C/AS1 C/AS2	<ul style="list-style-type: none"> ➤ Fire-rated plasterboard with minimum material group number 1-S. ➤ Comparison of properties of plasterboard for material group number [TBB, 03/2024]. ➤ Maglok™ DragonBoard® pass™ 19115 [Maglok™ DragonBoard®, 18/03/2022].
C6 Structural stability C6.2 (a, b, c, d)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Fire-rated plasterboard with FRR 60/60/60. ➤ Comparison of properties of fire-rated plasterboard for FRR in system [TBB, 03/2024].
F2 Hazardous Building Materials F2.3.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Plasterboard manufactured to AS/NZS 2988. ➤ BRANZ Appraisal No. 802 Mammoth™ Underfloor Insulation [BRANZ, 2020]. ➤ Rondo Battens, Channel and Mounts manufactured to AS 1397, manufacturer's claim [Rondo, n.d., 09/2015]. ➤ Maglok™ DragonBoard® pass™ 19115 [Maglok™ DragonBoard®, 18/03/2022]. ➤ Use of Vermiculite granules in accordance with manufacturer's safety data sheet [Ausperl, 01/06/2016].
G6 Airborne and impact sound G6.3.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Marshall Day Acoustic opinion [21/09/2021]. ➤ Marshall Day Acoustic Opinion [06/09/2018]. ➤ Impact Insulation Class, tested to ASTM E989 and Sound Transmission Class, tested to ASTM E413 by Auckland UniServices Acoustic Testing Services [Auckland UniServices, 14/06/2018a, b]. ➤ Comparison of properties of fire-rated plasterboard manufactured to AS/NZS 2588 in system [TBB, 03/2024].
H1 Energy efficiency H1.3.1 (a), H1.3.2E	ACCEPTABLE SOLUTION	<ul style="list-style-type: none"> ➤ BRANZ Appraisal No. 802 Mammoth™ Underfloor Insulation [BRANZ, 2020].

SOURCES OF INFORMATION²

- Auckland UniServices. [14/06/2018a] Laboratory measurement of airborne and impact insulation of a SoundDown acoustic flooring system with SoundDown lightweight acoustic granules in the upper cavity Test T1817-5a.
- Auckland UniServices. [14/06/2018b] Laboratory measurement of airborne and impact insulation of a SoundDown acoustic flooring system with an empty upper cavity Test T1817-7.
- Ausperl. [01/06/2016] *Material Safety Data Sheet*. Retrieved from <https://www.ausperl.com/wp-content/uploads/MSDS-Vermiculite-Safety-Data.pdf>. [Accessed on 18/10/2021].
- Ausperl. [08/2016] *Technical Data Sheet Exfoliated Vermiculite*. Retrieved from <https://www.ausperl.com/wp-content/uploads/TDS-Vermiculite-1.pdf>. [Accessed on 18/10/2021].
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- Maglok™ Dragonboard®. [18/03/2022] *Maglok™ Dragonboard®. pass™ no. 19115*. Retrieved from <https://www.thebuildingbusiness.co.nz/maglok-pass-landing>. [Accessed on 11/06/2021].
- Marshall Day Acoustics. [21/09/2021] SoundDown Acoustic Floor Opinion Estimation of Sound Insulation Performance. Rp 004 20180802.
- Marshall Day Acoustics. [06/09/2018] SoundDown Acoustic Floor Opinion Estimation of Sound Insulation Performance. Rp 002 20180802.
- Rondo. [09/2015] *Rondo Acoustic Wall & Ceiling Systems Manual*. Retrieved from

- <https://www.rondo.co.nz/resources/installation/product-manuals/>. [Accessed on 11/06/2021].
- Rondo. [n.d.] *Rondo Key-Lock® Concealed Suspended Ceiling System*. Retrieved from <https://www.rondo.co.nz/resources/installation/product-manuals/>. [Accessed on 11/06/2021].
- TBB. [04/2024] Comparison of properties of fire-rated plasterboard manufactured to AS/NZS 2988 in SoundDown Solo and SoundDown Duo systems.

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[sounddown.co.nz](https://www.sounddown.co.nz)



1. Where a standard is referenced it is to be read as amended by the acceptable solution or verification method as applicable.
2. Sources of information also include the Building Act 2004 and its regulations, including the Building Code (Schedule 1 of the Building Regulations 1992), Acceptable Solutions and Verification Methods, and relevant cited standards.
3. The product is not subject to a warning or ban under section 26 of the Building Act.
4. For overseas manufacturer details, where applicable, refer to the company that is the holder of this pass™.
5. The quality and assurance that the supplied products meet the performance claims stated in this pass™ are the responsibility of the company that is the holder of this pass™.
6. The availability of the information about the supplied products required to be disclosed under s14G(3) is the responsibility of the company that is the holder of this pass™.

Kevin Brunton

Kevin Brunton, Technical Director, TBB confirms that the process used to prepare this pass™ on behalf of Build Anatomy Limited has been undertaken in accordance with MBIE PTS guidelines and in accordance with the TBB pass™ process which is within the scope of TBB's ISO 9001 certification.

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Build Anatomy Limited confirms that if SoundDown Duo is used in accordance with the requirements of this pass™ the product will comply with the NZ Building Code and other performance claims set out in this pass™ and the company has met all of its obligations under s14G(2) of the Building Act.

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