

BOLON Acoustic Performance

BOLON, when directly adhered to a concrete slab, contributes to the reduction of impact sound, and also airborne sound, through the slab.

In this application, BOLON is also able to achieve the sound reduction levels required for compliance with the National Construction Code (NCC/BCA) in multi-level buildings. Opinions on the performance of BOLON are as outlined in the tables below.

BOLON Woven Flooring

System Description	Acoustical Ratings (dB)			
	Rw+Ctr ¹	Ln,w	Ln,w+Ci	BCA Compliant Airborne / Impact
Woven roll Flooring, nominal 2.5 mm thick				
150 mm thick concrete floor slab with the following ceiling options:				
No Ceiling	48 ³	67	63	No ³ / No
1 x 10 mm thick standard plasterboard ceiling on standard suspensions system ²	50	59	57	Yes / Yes
1 x 10 mm thick standard plasterboard ceiling on standard suspensions system + 50 mm thick, 14 kg/m ³ insulation to cavity ²	52	53	51	Yes / Yes
2 x 10 mm thick standard plasterboard ceiling on standard suspensions system + 50 mm thick, 14 kg/m ³ insulation to cavity ²	55	49	49	Yes / Yes

BOLON Woven Flooring

System Description	Acoustical Ratings (dB)			
	Rw+Ctr ¹	Ln,w	Ln,w+Ci	BCA Compliant Airborne / Impact
Woven tile Flooring, nominal 3.0 mm thick				
150 mm thick concrete floor slab with the following ceiling options:				
No Ceiling	48 ³	62	60	No ³ / Yes
1 x 10 mm thick standard plasterboard ceiling on standard suspensions system ²	50	55	55	Yes / Yes
1 x 10 mm thick standard plasterboard ceiling on standard suspensions system + 50 mm thick, 14 kg/m ³ insulation to cavity ²	52	49	49	Yes / Yes
2 x 10 mm thick standard plasterboard ceiling on standard suspensions system + 50 mm thick, 14 kg/m ³ insulation to cavity ²	55	47	47	Yes / Yes

BOLON

NOTE:

1. $R_w + C_{tr}$ generally not affected by floor covering (slab thickness and ceiling components are the critical parameters).
2. Nominal 150 mm ceiling cavity assumed for all systems.
3. BCA deemed to comply bare concrete floor (without ceiling) is minimum 200 mm thick. Rating would be compliant to BCA if the thickness of slab is increased to 200 mm.

These opinions, calculated by SLR acoustic consultants, show that BOLON complies with NCC/ BCA impact sound requirements in all situations where the concrete slab is 200mm thick.

BOLON also complies with NCC/BCA impact sound requirements in all situations where the concrete slab is 150mm thick, with the exception of the roll format. The roll format will comply if used in conjunction with a suspended ceiling under, or an acoustic underlay.

The decibel impact sound reduction for roll product is about 11dB, and for tile about 14dB (tested to EN/ISO 10140)

These opinions show that BOLON complies with NCC/ BCA airborne sound requirements in all situations where the concrete slab is 200mm thick.

BOLON also complies with NCC/BCA airborne sound requirements in all situations where the concrete slab is 150mm thick, providing a suspended ceiling forms part of the system, or an acoustic underlay is used.

For airborne sound absorption, the noise reduction coefficient (NRC) for BOLON flooring is approximately 0.05 (tested to EN/ISO 354)

BOLON have released the Silence Collection of tiles with a cushion backing. This will further enhance the product's acoustic performance.

For further information on the acoustic performance of BOLON, please contact The Andrews Group technical assistance – Michael Glover; michael@theandrewsgroup.com.au or 0439845263.

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