

Timber Joist Floor/Ceiling Assembly with Carpet/Underlay/'Soundmatt'/Plywood/3mm Acoustiblok



Dimensions

- **Weight:** 107.82kg/m²
- **Thickness:** 325mm
- **Content:** 43% recycled materials

Assembly Construction

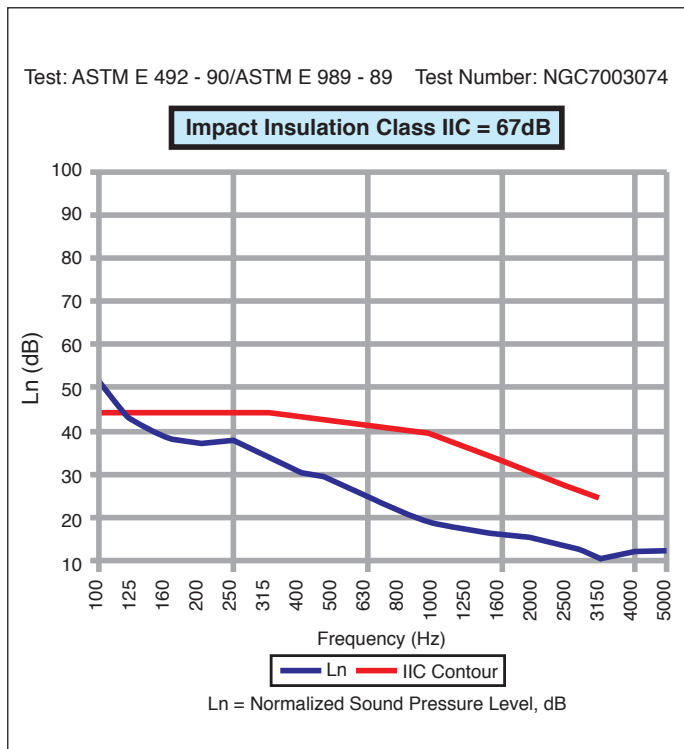
- 11mm (13g/m²) Carpet.
- 6mm Underlay.
- 8mm 'Soundmatt' material.
- 18mm T&G Plywood Sub Floor.
- 3mm Acoustiblok 1660 Sound Isolation Membrane.
- 254mm x 50mm Timber Joists with 75mm Fibreglass within cavities.
- 10mm Resilient Channel.
- 15mm Drywall Plasterboard.

Testing Establishment

NGC Testing Services Inc. Cert No: NGC 7003074
NGC Testing Services rates this floor configuration with an IIC (Impact Insulation Class) of 67dB and a STC (Sound Transmission Class) of 54. See report graphs below. Note the high performance in blocking the lowest noise frequencies, otherwise difficult or impossible to control.

Independently Tested Sound Transmission Loss Reference

Frequency	100Hz	125Hz	160Hz	250Hz	500Hz	1000Hz	2500Hz	5000Hz
Ln	53dB	43dB	39dB	39dB	30dB	20dB	14dB	13dB



Performance

- Sound Transmission Class (STC) 54dB.
- Impact Insulation Class (IIC) 67dB.
- LnTw (Calculation =110-IIC) 43dB.

Impact Insulation Class (IIC) is a single number rating used to compare the performance of floor/ceiling partitions in blocking impact noise, such as footsteps and dropped objects. The higher the IIC rating number, the better the performance. An IIC of 50 is usually considered the minimum for preventing noise complaints in residential building. IIC ratings are calculated by a method similar to STC ratings (see description of STC over).

The IIC of a particular floor assembly is derived using a standard tapping machine, as stipulated in ASTM method E492.3 This machine incorporates five steelfaced hammers that strike the test floor and generate noise in a room below. The noise levels are measured and used to calculate the Impact Insulation Class (IIC), following ASTM method E989.

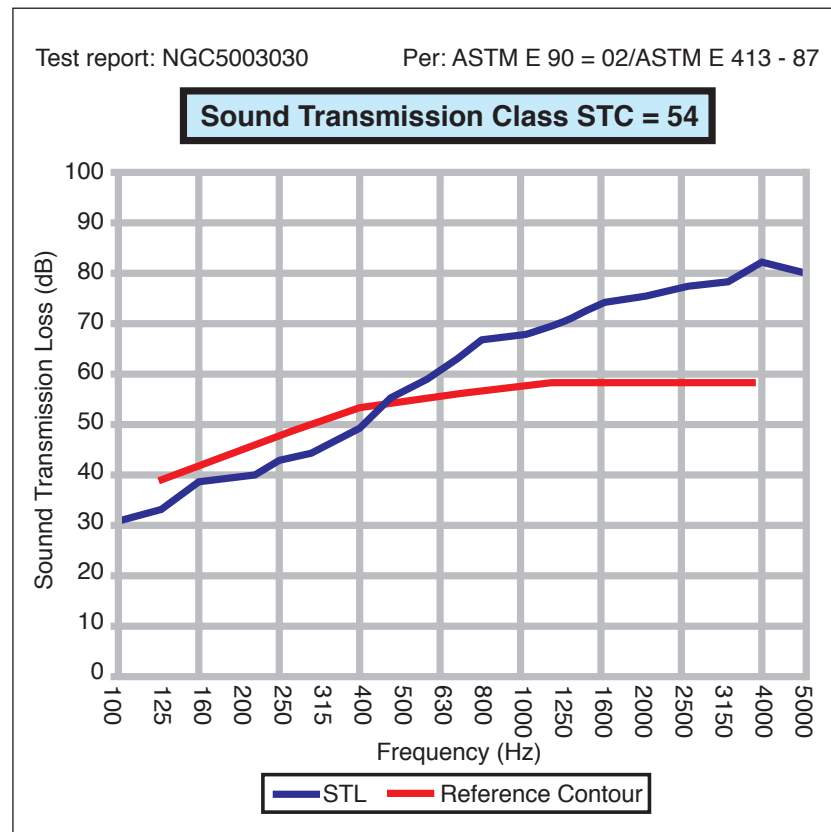


Acoustiblok® sound insulation

Uniclass	EPIC
L68161:P7113	F852:X724
Cl/SfB	
	Ln6 (P2)

Acoustiblok UK Limited

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Sound Transmission Loss data for tile floor/ceiling assembly with 16oz Acoustiblok STC54
See illustration and description overleaf for assembly details.

SOUND TRANSMISSION CLASS is a single number that represents the sound blocking capacity of a partition such as a wall or ceiling.

STC numbers are often referred to in architectural specifications, to assure that partitions will reduce noise levels. For performance similar to laboratory test numbers, it is necessary to adhere closely to the construction materials and techniques used in the tested partition.

STC calculations emphasize sound frequencies that match the human voice. A high STC partition will block the sound of human speech, and block noise that interferes with human speech. A high STC

number may not indicate a partition that is effective in blocking very low or very high pitched sound. STC measures sound blocking for airborne noise source only; it does not indicate how well a partition can block impact noise (objects striking the far side of the partition), or directly transmitted noise such as machinery mounted on the far side of the wall.

STC is calculated by comparing the actual sound loss measured when 18 test frequencies pass through a partition, with fixed values for each STC level. The highest STC curve that the measured sound loss numbers fit under, determines the STC rating of the tested partition.