



# TEST REPORT

No. : SHIN2006034963CM

Date : Jul 09, 2020

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Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Airborne sound transmission loss	ASTM E90-09(2016) & ASTM E413-16	See result	/
2	Impact sound transmission loss	ASTM E492-09(2016) <sup>E1</sup> & ASTM E989-18	See result	/

Note: Pass : Meet the requirements;  
 Fail : Does not meet the requirements;  
 / : Not Apply to the judgment.

Original sample photo(s):



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1. Test item: Airborne sound transmission loss

I. Test Methods

ASTM E90-09(2016) Standard Test Method for Laboratory Measurement of Airborne Sound

Transmission Loss of Building Partitions and Elements

ASTM E413-16 Classification for Rating Sound Insulation

II. Sample Details

Dimensions	1230mm×180mm×8mm (6mm SPC+2mm cushion layer)
Surface density	About 12.3kg/m <sup>2</sup>

III. Test condition

Ambient temperature	26.5°C	Relative humidity	59.4%
The source room Volume	125m <sup>3</sup>	The receiving room Volume	100m <sup>3</sup>
Description of test arrangement	Test area: 10m <sup>2</sup> The sample was assembled directly without any decoration on the 200mm thickness prefabricated floor.		

IV. Test result

Rating according to ASTM E413-16:

Sound transmission loss: STC=73dB

With the spectrum correction C (spectrum 1), the weighted sound insulation value is R<sub>w</sub>+C=70dB.

With the spectrum correction C<sub>tr</sub> (spectrum 2), the weighted sound insulation value is R<sub>w</sub>+C<sub>tr</sub> =64dB.



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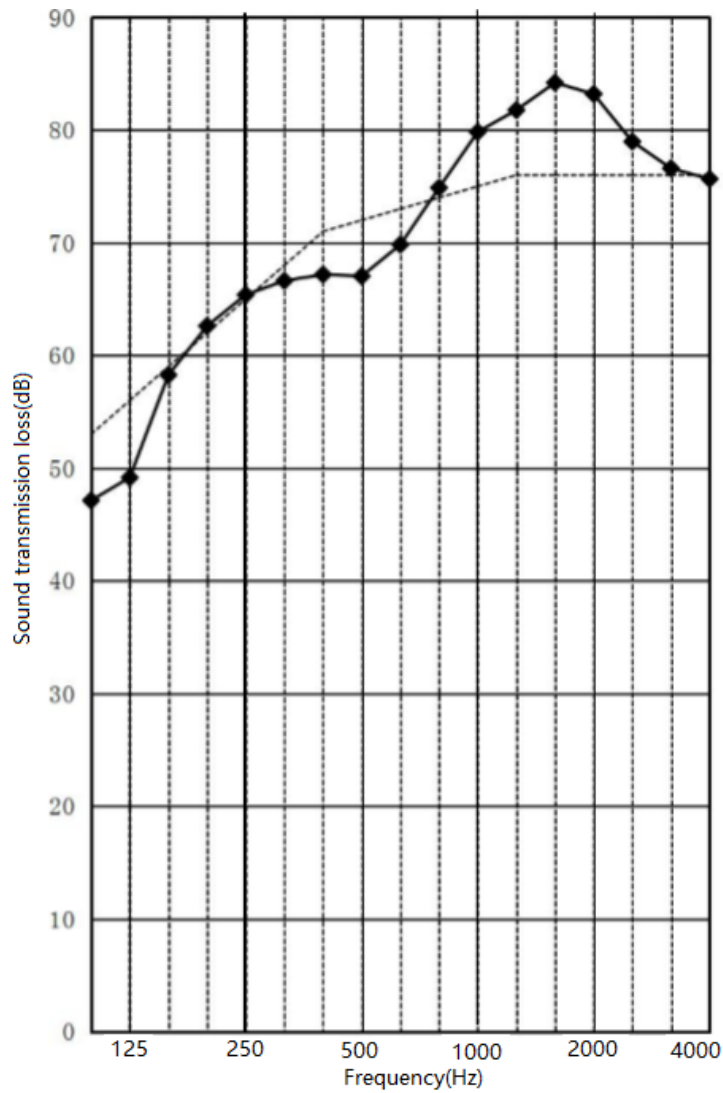
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Frequency, Hz	Sound reduction index, dB
100	47.1
125	49.2
160	58.3
200	62.6
250	65.4
315	66.6
400	67.2
500	67.0
630	69.8
800	74.9
1000	79.8
1250	81.8
1600	84.2
2000	83.2
2500	79.0
3150	76.6
4000	75.7
5000	75.8
STC	73
R <sub>w</sub> (C;C <sub>tr</sub> )	72(-2; -8)



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Test schematic diagram:



Note: The test was carried out by Center for Building Environment Test, Tsinghua University.



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2. Test item: Impact sound transmission loss

I. Test Method

ASTM E492-09(2016)<sup>e1</sup> Standard Test Method for Laboratory Measurement of Impact Sound

Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine

ASTM E989-18 Standard Classification for Determination of Impact Insulation Class (IIC)

II. Sample Details

Thickness	8(6+2) mm, attached with 2mm cushion layer
Surface density	About 12.3kg/m <sup>2</sup>

III. Test condition

Ambient temperature	26.5°C	Relative humidity	59.4%
The source room Volume	125m <sup>3</sup>	The receiving room Volume	100m <sup>3</sup>
Description of test arrangement	Test area: 15m <sup>2</sup> The sample was assembled directly without any decoration on the 200mm thickness prefabricated floor.		

IV. Test result

Rating according to ASTM E989-18:

Sound transmission loss: IIC = 75dB



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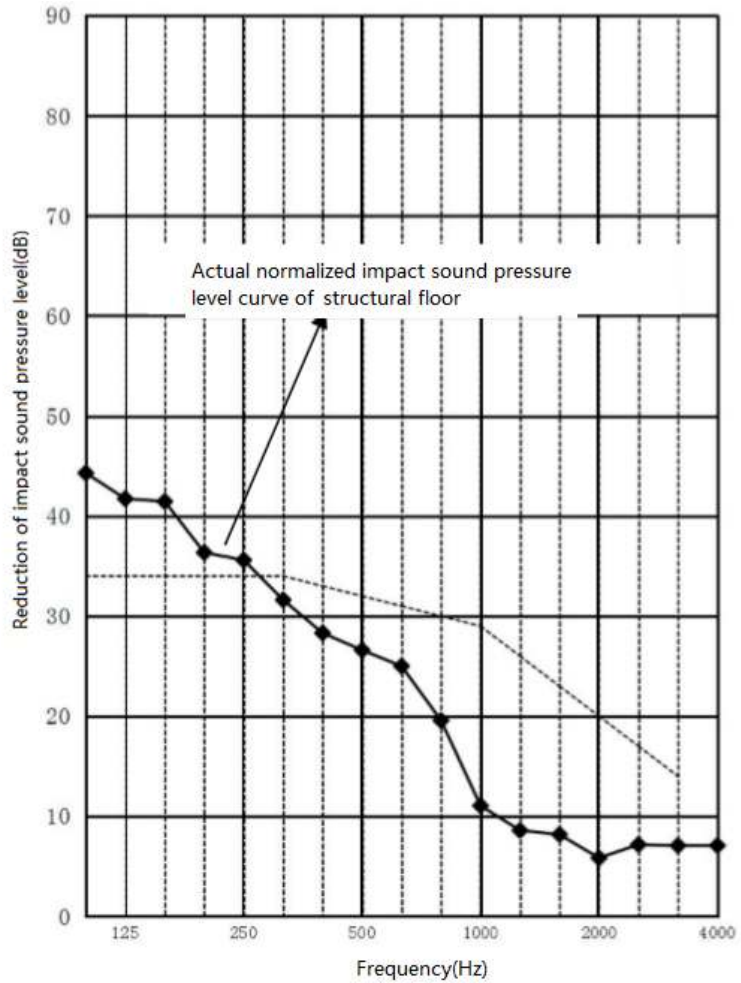
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Frequency, Hz	Impact sound pressure level, dB
100	44.3
125	41.7
160	41.5
200	36.4
250	35.6
315	31.6
400	28.3
500	26.6
630	25.0
800	19.6
1000	11.1
1250	8.6
1600	8.2
2000	5.8
2500	7.2
3150	7.1
4000	7.1



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Test schematic diagram:



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