

TEST REPORT



No. : XMIN191002570CCM

Date : Nov.13, 2019

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Acoustic insulation test

Test Conducted:

ASTM E492-09(2016)^{ε1} Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine

ASTM E989-06(2012) Standard Classification for Determination of Impact Insulation Class (IIC)

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

Test Condition:

Sample Description : Flooring (see the photo)

Total Thickness: 6.5(5.0+1.5) mm, surface density: about 10.1 kg/m², at the bottom of the sample with 1.5mm cushion pad.

Project description : No decoration of sample surface, sample installation was assembled directly.

The test specimen was covered on a 150mm concrete floor with a drop ceiling, testing area 11.3m², the drop ceiling construction showed in appendix 2

Test Equipment : RTA840 system

Test Environment : Source room volume 125m³, receiving room volume 100m³, air temperature 20.4°C, air humidity 43.4%

Test Result

Test Item	Test Standard	Result
Determination of Impact Sound Insulation Class	ASTM E492-09(2016) ^{ε1} ASTM E989-06(2012)	IIC = 68
Airborne sound transmission loss test and class	ASTM E90-09(2016) ASTM E413-16	STC = 69

***** To be continued*****

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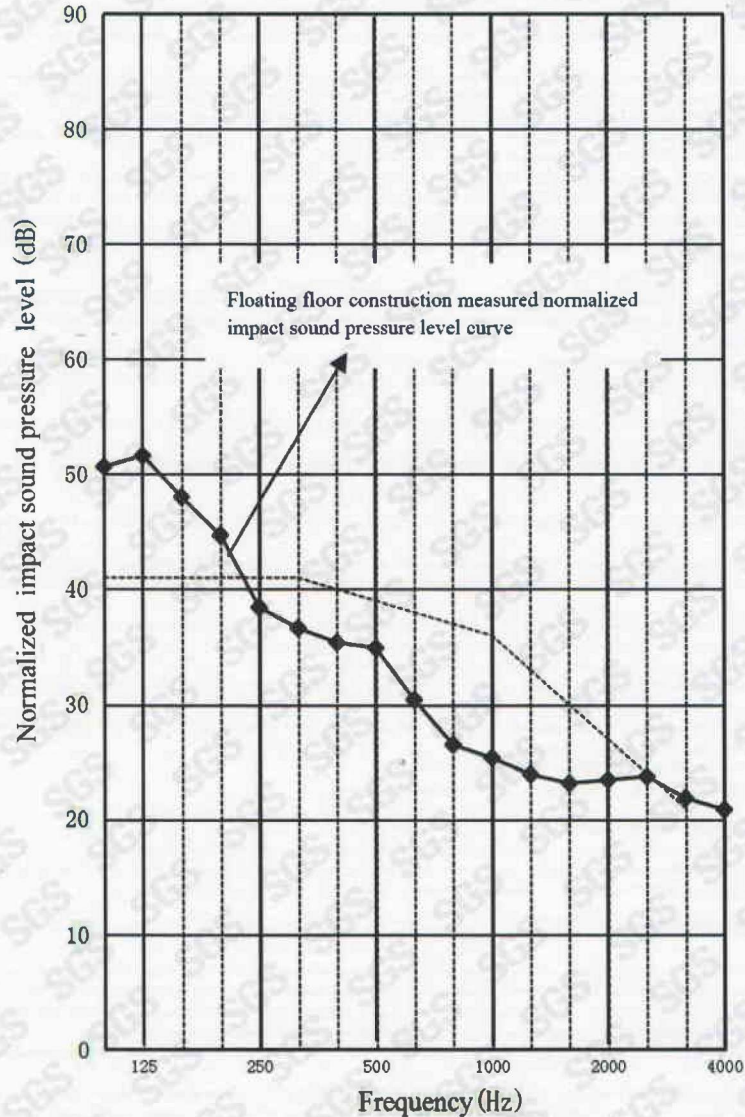
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Appendix 1:

Frequency spectrum for IIC

<i>f</i> Hz	<i>L_n</i> dB
100	50.7
125	51.6
160	48.0
200	44.7
250	38.4
315	36.6
400	35.4
500	34.9
630	30.4
800	26.5
1000	25.4
1250	23.9
1600	23.1
2000	23.4
2500	23.7
3150	21.9
4000	20.8
IIC	68



Remark: L_n as the weighted normalized impact sound pressure level

***** To be continued*****

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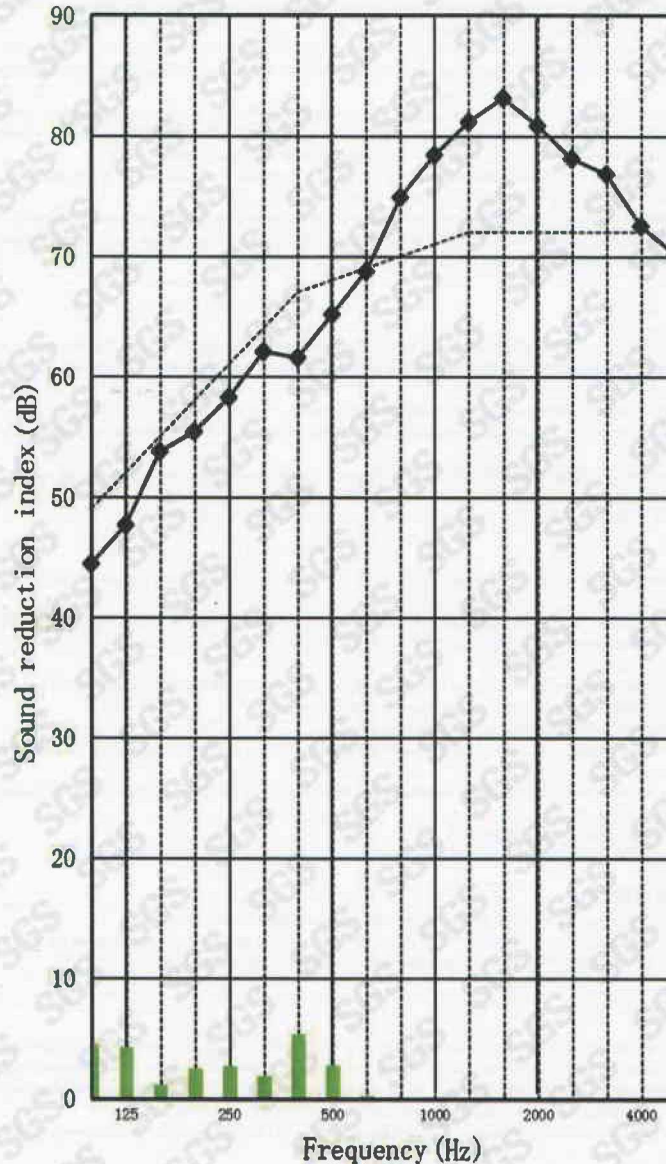
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Frequency spectrum for STC

<i>f</i> Hz	<i>TL</i> dB
100	44.4
125	47.6
160	53.8
200	55.4
250	58.3
315	62.1
400	61.6
500	65.2
630	68.7
800	74.9
1000	78.4
1250	81.2
1600	83.2
2000	80.9
2500	78.1
3150	76.8
4000	72.5
5000	70.2
STC	69



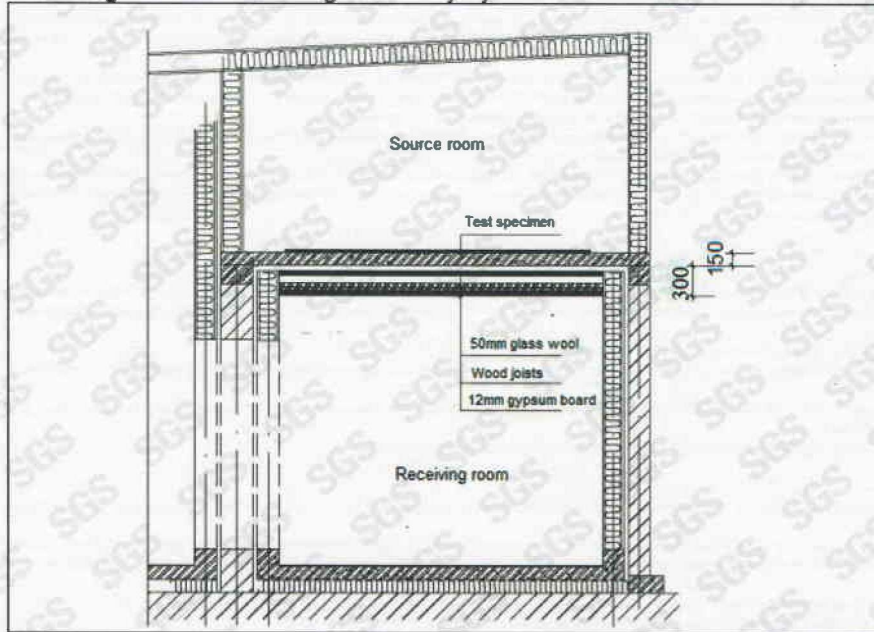
Remark: *TL* is the transmission loss.

***** To be continued*****

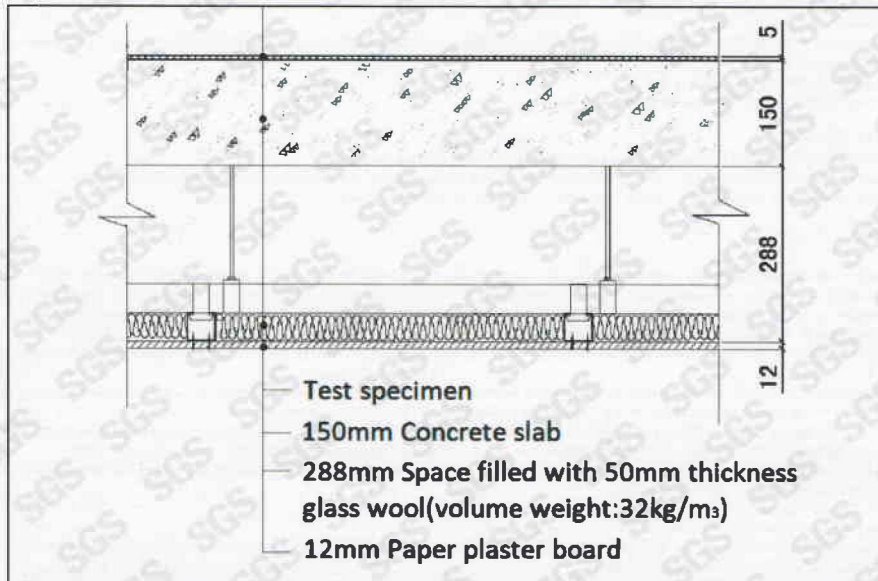
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Appendix 2:

The constructional drawing of the floor/ceiling assembly system



Schematic diagram:



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

***** To be continued*****

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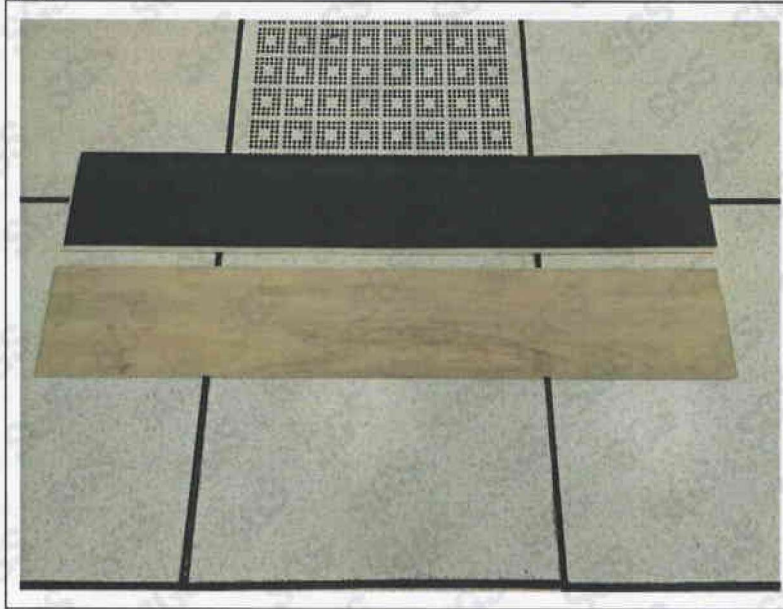


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Specimen photograph(s):



SGS authenticate the photo(s) on original report only

*****End of report*****