



KTH Engineering Sciences

## Determination of Speech level reduction according to ISO 23351:2020

### Object: Abstracta PlentyPOD1

Technical Note no.:	20210215.1
Customer	Abstracta
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Signature:	
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Signature:	
Measurements carried out by:	Lars Wester, LW decibel ab
Measurement results reviewed by:	Mats Knutsson, LW decibel ab

## 1. General information

The measurements have been carried in conformity with ISO23351:2020.

Measurement date and time: 2020-11-24, 00.40 – 5.45 pm

## 2. Test environment and test specimen

The test room meets the requirements on diffusion of sound field according to ISO354:2003 6.1.3 and Annex A. Controlled December 2020

The Sound Absorption Area for the empty test room meets the requirements according to ISO354:2003 6.1.4. Controlled December 2020

Test room nr 81  
Room Volume 244 m<sup>3</sup>  
Room surface area 235 m<sup>2</sup>

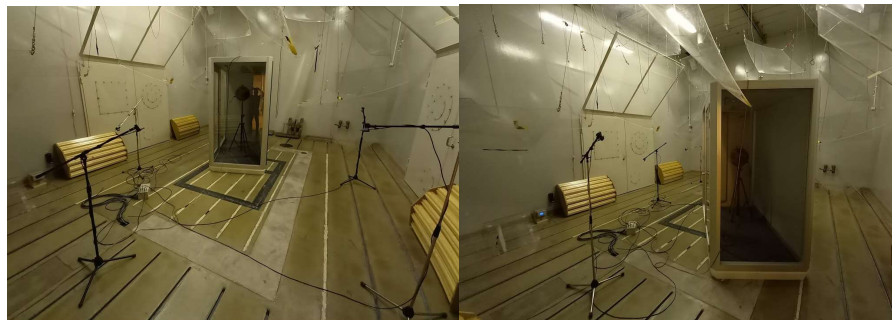
Measurement	Temperature	Relative humidity	Static pressure
T <sub>0</sub> and A <sub>0</sub>	19,4°C	33,6%	1006 bar
T <sub>1</sub> and A <sub>1</sub>	19,3°C	39,2%	1004 bar
L <sub>W0</sub>	19,4°C	43,4%	1005 bar
L <sub>W1</sub>	19,4°C	42,6%	1005 bar

The test specimen is fully described in enclosure 1 in this report.

The test objects were positioned inside the reverberation room according to below:

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Measurement of L<sub>W1</sub>

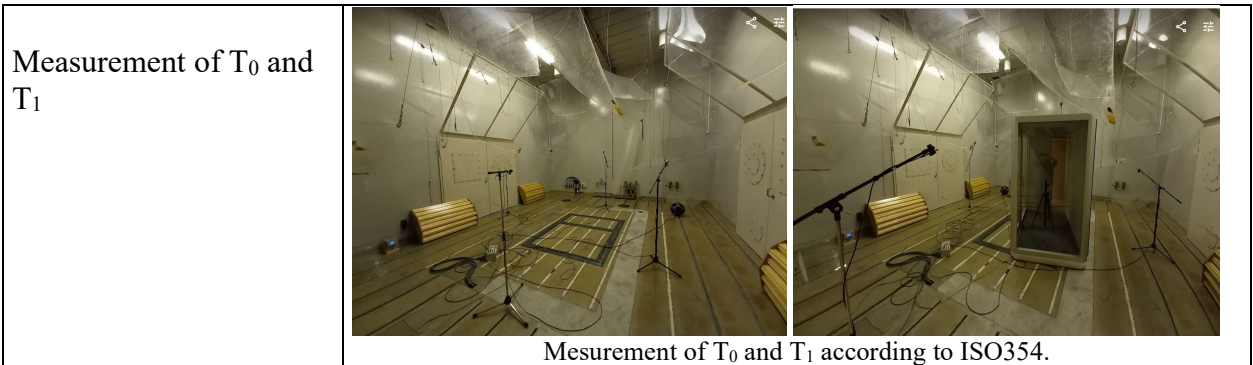


Picture 1 and 2: Test Object in the test room. 2 positions for L<sub>W1</sub> measurements  
All in all 2 object positions and 8 microphone positions for each one of these

Measurement of L<sub>W0</sub>



Picture 3 and 4: Loudspeaker and Microphones for L<sub>W0</sub> measurements  
All in all 2 loudspeaker positions and 8 microphone positions for each one of these.



### 3. Instrumentation

Dynamic signal analyser Data Translation DT9837A

Software Spectra Plus DT

Microphone 1 B&K Type 4942-A-021 Serial No: 2360828

Microphone 2 B&K Type 4942-A-021 Serial No: 2360829

Microphone 3 B&K Type 4942-A-021 Serial No: 2360830

Microphone 4 B&K Type 4942-A-021 Serial No: 2360845

Calibrator Bedrock 86065

Power Amplifier B&K Type 2706

Climate sensor “Klima Series”; Temperature, Relative humidity, and pressure

Omni directional loudspeaker

### 4. Acoustical data

Reverberation times  $T_0$  and  $T_1$  were measured using 4 different microphones and one omni directional loudspeaker in 3 different positions according to drawing 1.

Object positions, loudspeaker positions, microphone positions and number of microphone positions:

$L_{W0}$  and measurements 2 loudspeaker positions and 8 microphone positions for each one of these

$L_{W1}$  2 object positions with the loudspeaker inside and 8 microphone positions for each one of these

The results are only valid for tested specimen configuration. Change in size, geometry or materials can lead to significant changes in reported results.

## Measurement Results

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#### Level reduction

#### Speech level reduction

$D_{S,A} = 25,7 \text{ dB}$

**Class: B**

