

Measurement of sound absorption in reverberation rooms

Contractor :
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Client :
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Inspection Date: 24.05.2018

51519 Odenthal

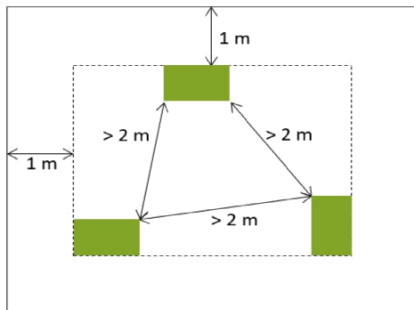
50259 Pulheim

Report: 2018050002-2_S_2553

Description of Test Object & Type of Construction

Material: Synthetic fleece (NoiRed)
Dimensions (WxDxH): 120 cm x 60 cm x 10 cm
Construction: Type A according to Annex B without edge cover
Comment: 3 Pieces with fabric cover

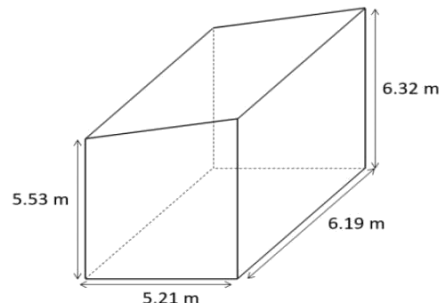
Location in the room:



Description of the Reverberation Room

Volume: 191 m³
No. of Diffusers: 10 Nos.
Size Diffusers: 150 cm x 105 cm
Microphone positions: 6 Locations.
Sound Sources: 2 Nos.

Dimensions:



Measuring Technology

Gauge: Nti Audio, XL2-TA (B)
Sound Source: Norsonic dodecahedron Nor 276

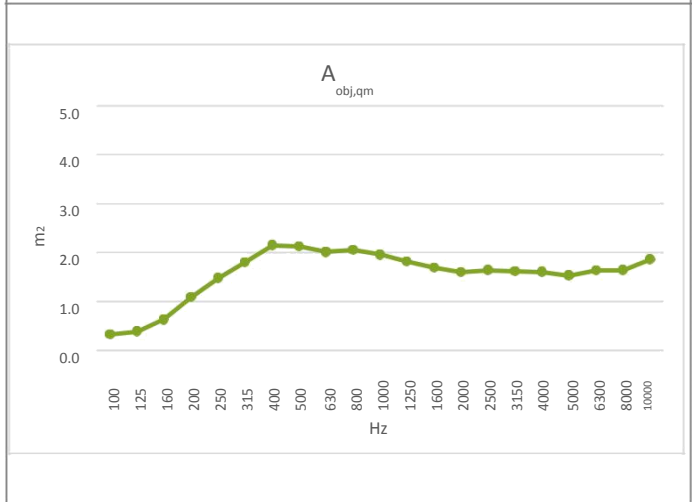
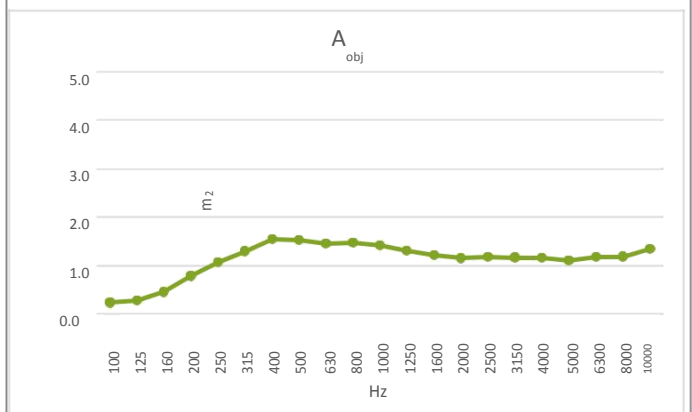
Meteorology

Temperature: 22°C (T1) 22°C (T2)
Humidity: 61 % (T1) 61 % (T2)

Results

F [Hz]	T ₁ [s]	T ₂ [s]	A _{obj} [m ²]	A _{obj,qm} [m ²]
100	10.5	7.4	0.4	0.6
125	11.6	7.6	0.5	0.6
160	9.8	5.6	0.8	1.1
200	6.8	4.0	1.1	1.5
250	6.0	3.4	1.3	1.8
315	5.4	2.9	1.6	2.3
400	5.4	2.9	1.7	2.3
500	5.2	2.9	1.6	2.2
630	6.1	3.1	1.6	2.2
800	6.3	3.3	1.5	2.1
1000	6.3	3.3	1.5	2.1
1250	5.9	3.2	1.4	2.0
1600	5.3	3.1	1.4	1.9
2000	4.9	3.0	1.3	1.8
2500	4.2	2.8	1.3	1.8
3150	3.6	2.5	1.3	1.8
4000	2.9	2.1	1.3	1.8
5000	2.4	1.9	1.2	1.7
6300	2.0	1.6	1.1	1.6
8000	1.5	1.2	1.2	1.7
10000	1.1	1.0	1.3	1.9

Graphical Representation



F Frequency
T₁ Reverberation time of the empty reverberation room
T₂ Reverberation time of the reverberation chamber after insertion of the test object
A_{obj} Equivalent sound absorption area per object
A_{obj,qm} Equivalent sound absorption area per 1m² (additional information)