

Sound absorption coefficient ISO 354

Measurement of sound absorption in reverberation rooms

Client: Annette Douglas Textiles AG
Klosterstrasse 42, 5430 Wettingen, Switzerland

Test specimen: Curtain fabric LOOP,
arranged hanging pleated with 100 % fullness, 150 mm wall distance

Curtain fabric:

Information provided by the client

- designation LOOP
- material: 100 % polyester FR

Properties determined by the testing laboratory at one A4-sized sample from test material:

- area specific mass $m'' = 163 \text{ g/m}^2$
- airflow resistance $R_S = 119 \text{ Pa s/m}$
- thickness $t = 1.00 \text{ mm}$

Test arrangement:

- style of type G-150 mounting acc. to DIN EN ISO 354
- curtain fabric hanging pleated with 100 % fullness in front of a reflecting wall
- fixed directly underneath the ceiling of the reverberation room, suspended from a metal rail (height 90 mm, overlap 60 mm), distance to the back wall 150 mm
- test arrangement without enclosing frame
- two curtain webs, fabric dimensions each $W \times H = 3520 \text{ mm} \times 3060 \text{ mm}$, with 20 mm overlap at vertical web joint
- test surface width x height = 3.51 m x 3.00 m (starting at the lower edge of the metal rail)

Room: E

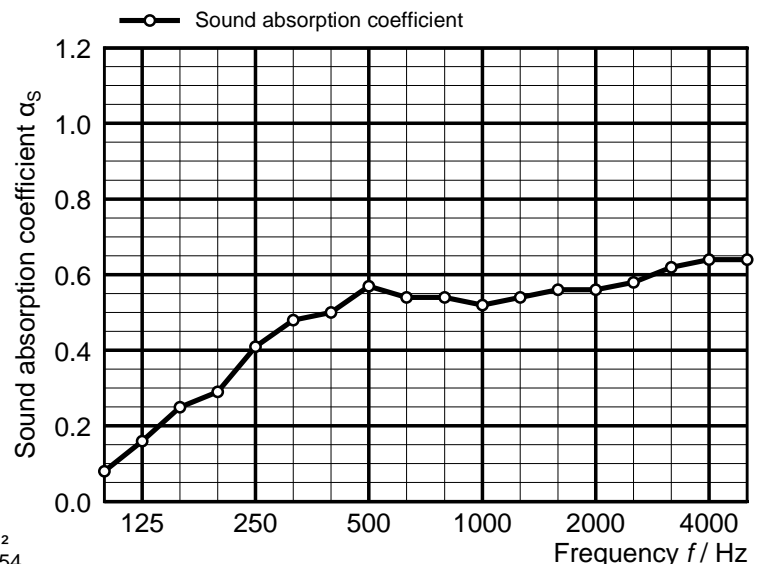
Volume: 199.60 m³

Size: 10.53 m²

Date of test: 2024-09-03

	θ [°C]	$r. h.$ [%]	B [kPa]
without specimen	24.8	59.8	95.2
with specimen	24.7	60.1	95.2

Frequency [Hz]	α_s 1/3 octave	α_p octave
100	0.08	
125	0.16	0.15
160	0.25	
200	0.29	
250	0.41	0.40
315	0.48	
400	0.50	
500	0.57	0.55
630	0.54	
800	0.54	
1000	0.52	0.55
1250	0.54	
1600	0.56	
2000	0.56	0.55
2500	0.58	
3150	0.62	
4000	0.64	0.65
5000	0.64	



◦ Equivalent sound absorption area less than 1.0 m²
 α_s Sound absorption coefficient according to ISO 354
 α_p Practical sound absorption coefficient according to ISO 11654

Rating according to ISO 11654: Weighted sound absorption coefficient $\alpha_w = 0.55$ Sound absorption class: D	Rating according to ASTM C423: Noise Reduction Coefficient $NRC = 0.50$ Sound Absorption Average $SAA = 0.51$
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Planegg, 2025-05-26

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Appendix A

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Sound absorption coefficient ISO 354

Measurement of sound absorption in reverberation rooms

Client: Annette Douglas Textiles AG
Klosterstrasse 42, 5430 Wettingen, Switzerland

Test specimen: Curtain fabric LOOP,
arranged hanging flat, 150 mm wall distance

Curtain fabric:

Information provided by the client

- designation LOOP
- material: 100 % polyester FR

Properties determined by the testing laboratory at one A4-sized sample from test material:

- area specific mass $m'' = 163 \text{ g/m}^2$
- airflow resistance $R_S = 119 \text{ Pa s/m}$
- thickness $t = 1.00 \text{ mm}$

Test arrangement:

- mounting type G-150 acc. to DIN EN ISO 354
- curtain fabric hanging flat in front of a reflecting wall
- fixed directly underneath the ceiling of the reverberation room, suspended from a metal rail (height 90 mm, overlap 60 mm), distance to the back wall 150 mm
- test arrangement without enclosing frame
- fabric dimensions $W \times H = 3520 \text{ mm} \times 3060 \text{ mm}$
- test surface width x height = 3.52 m x 3.00 m (starting at the lower edge of the metal rail)

Room: E

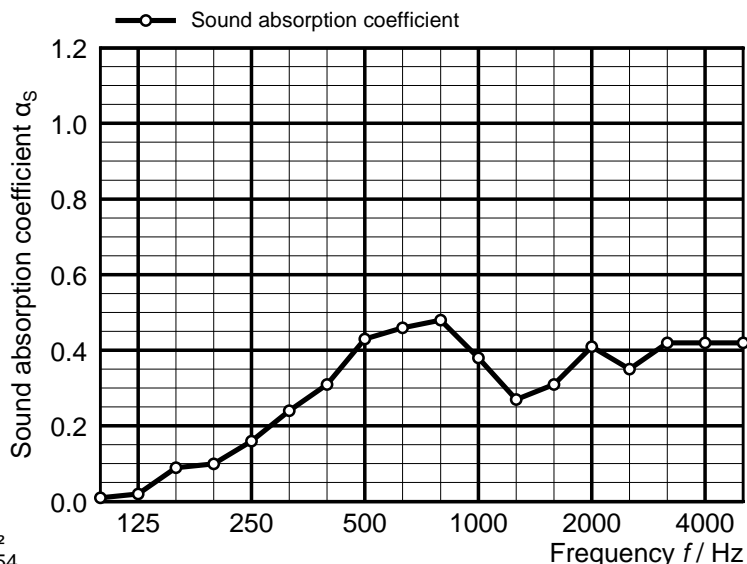
Volume: 199.60 m³

Size: 10.56 m²

Date of test: 2024-09-03

	θ [°C]	$r. h.$ [%]	B [kPa]
without specimen	24.8	59.8	95.2
with specimen	24.7	60.0	95.2

Frequency [Hz]	α_s 1/3 octave	α_p octave
100	0.01	
125	0.02	0.05
160	0.09	
200	0.10	
250	0.16	0.15
315	0.24	
400	0.31	
500	0.43	0.40
630	0.46	
800	0.48	
1000	0.38	0.40
1250	0.27	
1600	0.31	
2000	0.41	0.35
2500	0.35	
3150	0.42	
4000	0.42	0.40
5000	0.42	



◦ Equivalent sound absorption area less than 1.0 m²
 α_s Sound absorption coefficient according to ISO 354
 α_p Practical sound absorption coefficient according to ISO 11654

<p>Rating according to ISO 11654: Weighted sound absorption coefficient $\alpha_w = 0.40$ Sound absorption class: D</p>	<p>Rating according to ASTM C423: Noise Reduction Coefficient $NRC = 0.35$ Sound Absorption Average $SAA = 0.33$</p>
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Planegg, 2025-05-26

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Appendix A

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