

Sound absorption coefficient ISO 354

Measurement of sound absorption in reverberation rooms

Client: Renolit SE
Horchheimer Str. 50, 67547 Worms, Germany

Test specimen: Renolit stretch ceiling type "RENOLIT Stretch Ceiling Film PRODECO 10.40.72 M-PERF" with 80 mm mineral wool

description of test specimen (top down):

- 0.17 mm stretch ceiling film type „RENOLIT Stretch Ceiling Film PRODECO 10.40.72 M-PERF“
- 20 mm air gap
- 80 mm mineral wool
- floor of reverberation room

Details of the materials used are known to the test laboratory.

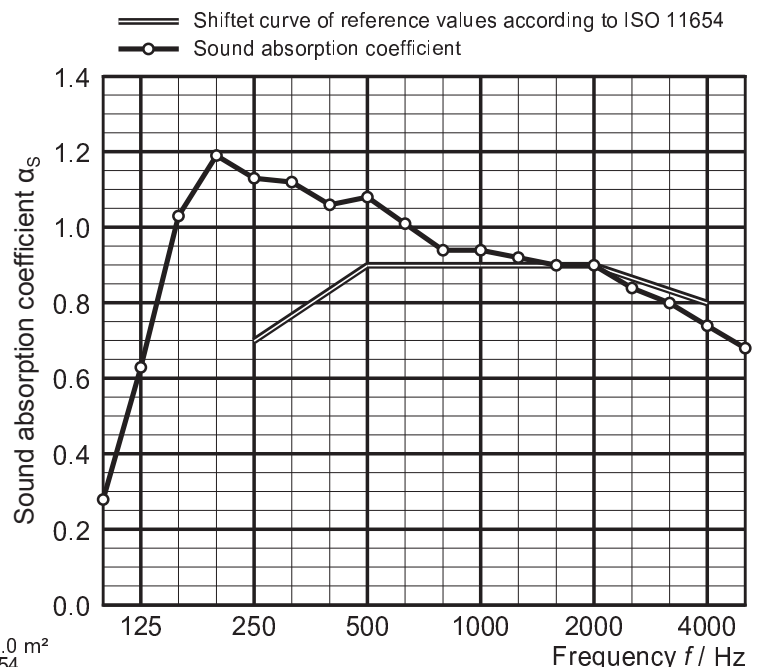
The test object was enclosed by a circumferential frame which also acted as supporting structure for the stretch ceiling. The enclosing frame was made of 19 mm coated MDF-boards. The joints between the test object and the enclosing frame as well as between the enclosing frame and the floor of the reverberation room were sealed with adhesive tape.

The total dimensions of the test assembly (without frame) were length x width = 3962 mm x 2965 mm. Dimensions as indicated above were determined on samples by the testing laboratory.

Room: E
Volume: 199.60 m³
Size: 11.75 m²
Date of test: 2014-03-03

	θ [°C]	r. h. [%]	B [kPa]
without specimen	18.7	56.6	93.1
with specimen	20.9	49.3	93.0

Frequency [Hz]	α_s 1/3 octave	α_p octave
100	0.28	
125	0.63	0.65
160	• 1.03	
200	• 1.19	
250	• 1.13	1.00
315	• 1.12	
400	• 1.06	
500	• 1.08	1.00
630	1.01	
800	0.94	
1000	0.94	0.95
1250	0.92	
1600	0.90	
2000	0.90	0.90
2500	0.84	
3150	0.80	
4000	0.74	0.75
5000	0.68	



• Equivalent sound absorption area greater than 12.0 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 $\alpha_w = 0.90$ (L) Sound absorption class: A	Rating according to ASTM C423: Noise Reduction Coefficient NRC = 1.00 Sound Absorption Average SAA = 1.00
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