

Simulation of Sound Absorption Coefficient as per ISO 354

Computational model* of absorption measurement in reverberation rooms

Client Kvadrat
Test Specimen Curtains
 Type: Flat

Arrangement: Flat hanging

1 layer of textile, flat arrangement
 Distance to the wall: 100 mm

Front textile: Arda from Febrik / kvadrat

Simulated module build-up (from top to bottom):

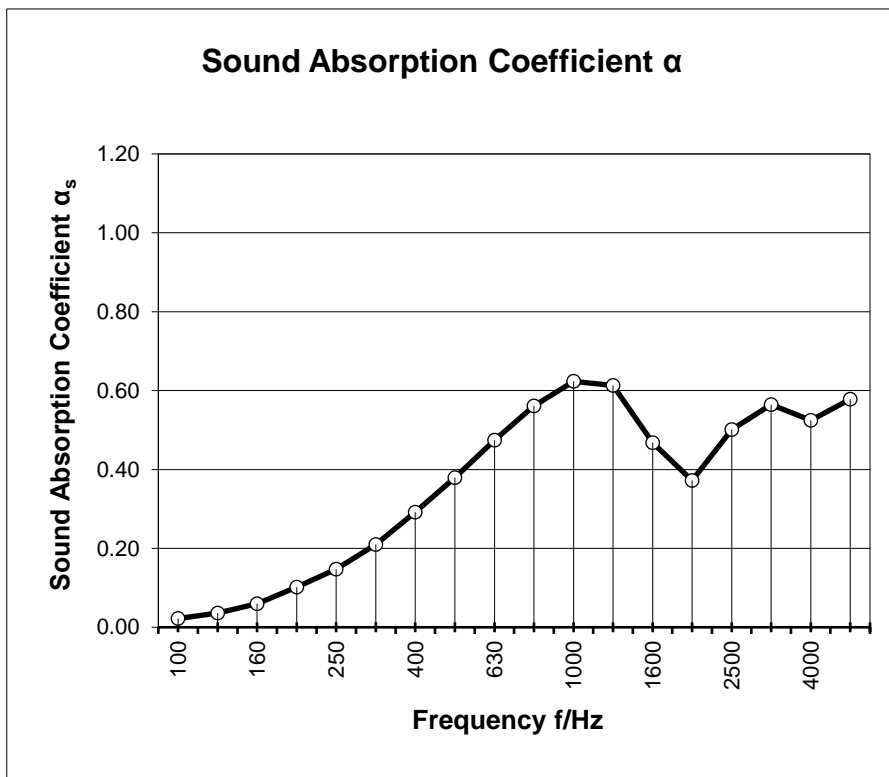
2.27 mm Front textile
 100 mm Air gap
 Concrete surface

Simulation set up:

Flat arrangement, 100mm to the wall
 No surrounding, enclosing frame
 Simulation reproduces the standard ISO 354/11654 measurement - random incidence environment

Date of simulation: 19/04/2022

Frequency [Hz]	α_s 1/3 octave	α_p octave
100	0.02	
125	0.04	0.05
160	0.06	
200	0.10	
250	0.15	0.15
315	0.21	
400	0.29	
500	0.38	0.40
630	0.47	
800	0.56	
1000	0.62	0.60
1260	0.61	
1600	0.47	
2000	0.37	0.45
2500	0.50	
3160	0.56	
4000	0.52	0.55
5000	0.58	



*Method reproduces conditions, dimensions, build-up in a way results are comparable with measurements in reverberation chamber

α_s Sound absorption coefficient to ISO 354

α_p Practical sound absorption coefficient to ISO 11654

Rating according to ISO 11654:

NRC:	0.40
SAA:	0.4

Weighted Sound Absorption Coefficient $\alpha_w = 0.4$ (H)

Sound absorption class: D