

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 G100

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

Front textile: Asator from Kvadrat

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

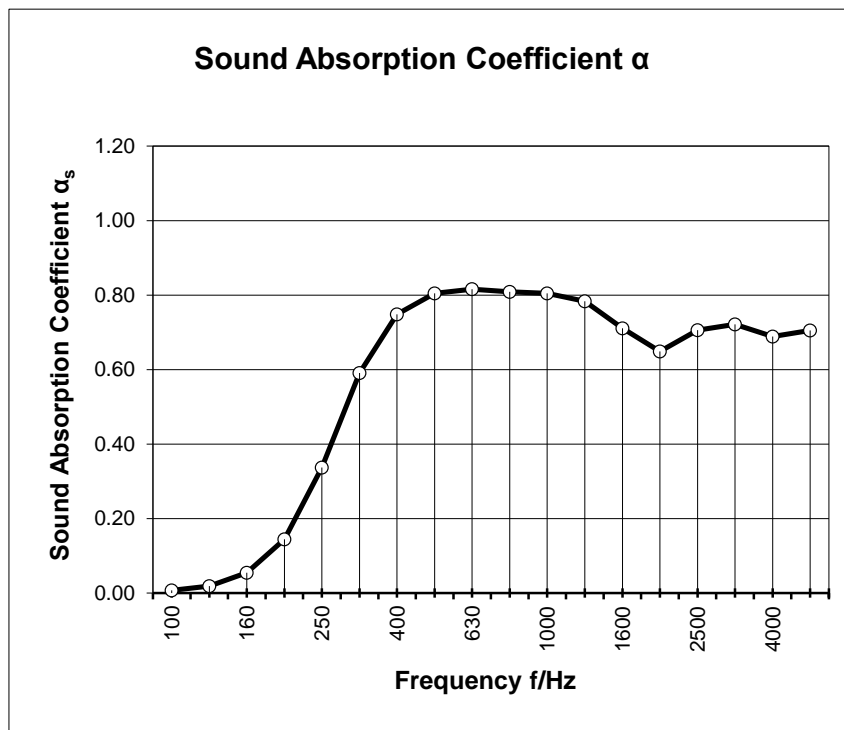
1.75 mm Front textile
 100 mm Air gap
 Concrete surface

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: 14-04-26

Frequency [Hz]	α_s 1/3 octave	α_p octave
100	0.01	
125	0.02	0.05
160	0.05	
200	0.14	
250	0.34	0.35
315	0.59	
400	0.75	
500	0.80	0.80
630	0.82	
800	0.81	
1000	0.80	0.80
1260	0.78	
1600	0.71	
2000	0.65	0.70
2500	0.71	
3160	0.72	
4000	0.69	0.70
5000	0.71	



*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:	0.65
SAA:	0.66

Weighted Sound Absorption Coefficient $\alpha_w = 0.65$

Sound absorption class: C

Simulation of Sound Absorption Coefficient as per ISO 354

Computational model* of absorption measurement in reverberation rooms

Client Kvadrat
Test Specimen Curtains
 Type: Folded

Mounting type G-100, folded arrangement

1 layer of textile, folded arrangement 200% textile length
 Distance to the wall: 100 mm

Front textile: Asator from Kvadrat

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

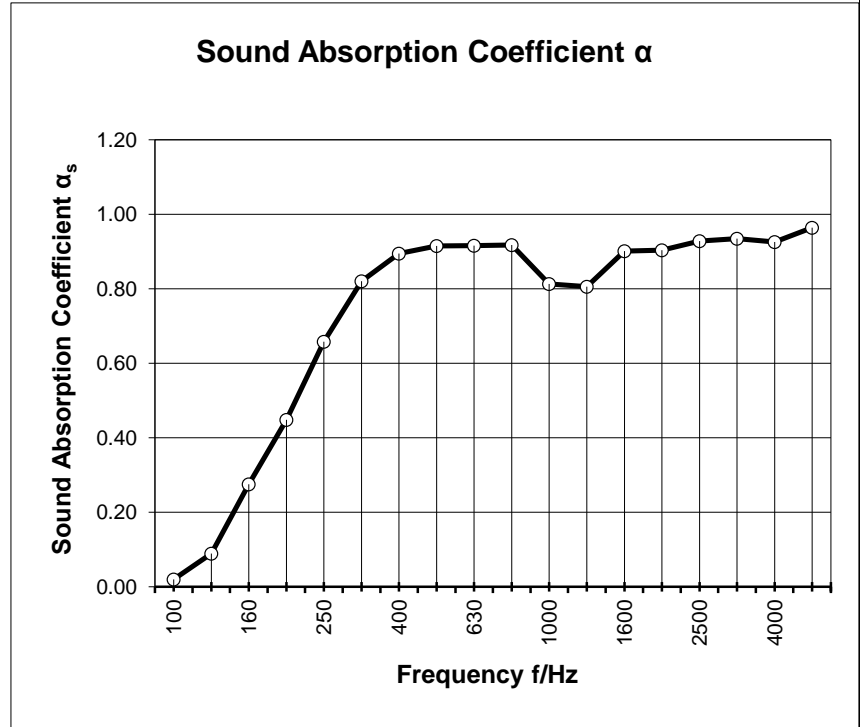
1.75 mm Front textile
 261 mm Air gap
 Concrete surface

Simulation set up:

Folded arrangement, 200% textile length, 100mm to the wall
 No surrounding, enclosing frame
 Simulation reproduces the standard ISO 354/11654 measurement - random incidence environment

Date of simulation: 14-04-26

Frequency [Hz]	as 1/3 octave	ap octave
100	0.02	
125	0.09	0.15
160	0.28	
200	0.45	
250	0.66	0.65
315	0.82	
400	0.89	
500	0.92	0.90
630	0.92	
800	0.92	
1000	0.81	0.85
1260	0.81	
1600	0.90	
2000	0.90	0.90
2500	0.93	
3160	0.93	
4000	0.93	0.95
5000	0.96	



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

as Sound absorption coefficient to ISO 354

ap Practical sound absorption coefficient to ISO 11654

Rating according to ISO 11654:

NRC:	0.85
SAA:	0.83

Weighted Sound Absorption Coefficient $\alpha_w = 0.9$

Sound absorption class: A