

## 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: Mizmaze from Febrik / Kvadrat

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

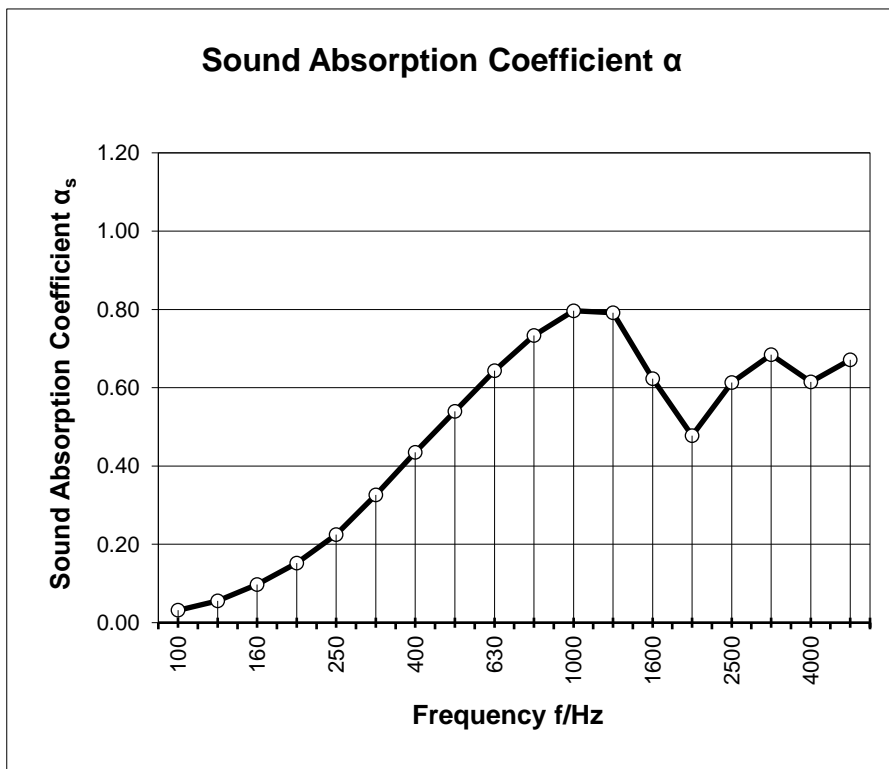
2.06 mm Front textile  
 100 mm Air gap  
 Concrete surface

**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: 19/10/2021

Frequency [Hz]	$\alpha_s$ 1/3 octave	$\alpha_p$ octave
100	0.03	
125	0.06	0.05
160	0.10	
200	0.15	
250	0.22	0.25
315	0.33	
400	0.43	
500	0.54	0.55
630	0.64	
800	0.73	
1000	0.80	0.75
1260	0.79	
1600	0.62	
2000	0.48	0.55
2500	0.61	
3160	0.68	
4000	0.62	0.65
5000	0.67	



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

$\alpha_s$  Sound absorption coefficient to ISO 354

$\alpha_p$  Practical sound absorption coefficient to ISO 11654

Rating according to ISO 11654:

<b>NRC:</b>	<b>0.55</b>
<b>SAA:</b>	<b>0.53</b>

**Weighted Sound Absorption Coefficient  $\alpha_w = 0.55$**

Sound absorption class: D