

## 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: Uniform Melange from Febrik / Kvadrat  
 Back side textile: -

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

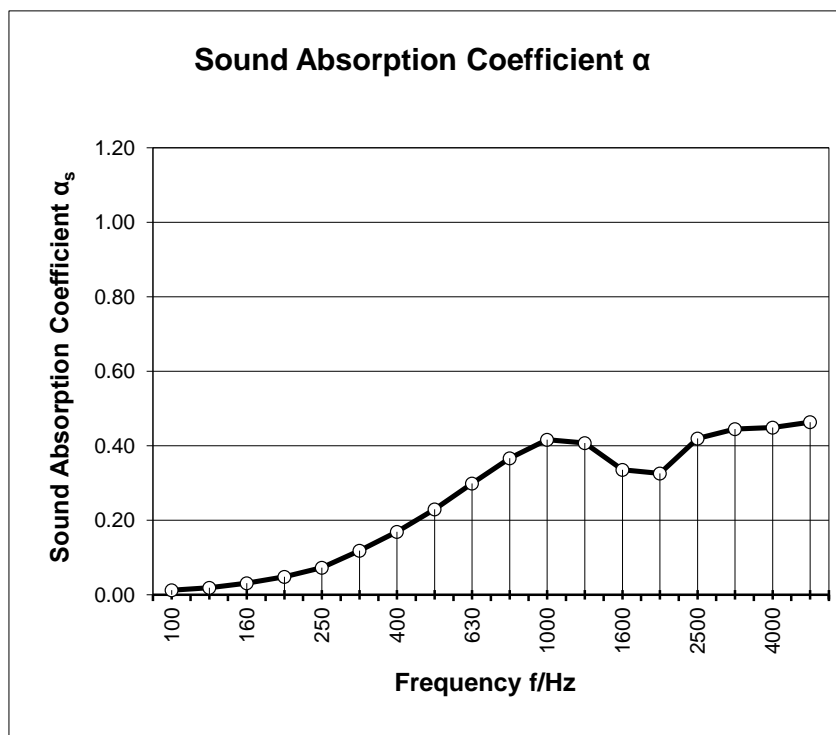
3.49 mm Front textile  
 100 mm Air gap  
 Concrete surface

**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: 03-03-20

| Frequency [Hz] | as<br>1/3 octave | ap<br>octave |
|----------------|------------------|--------------|
| 100            | 0.01             |              |
| 125            | 0.02             | 0.00         |
| 160            | 0.03             |              |
| 200            | 0.05             |              |
| 250            | 0.07             | 0.10         |
| 315            | 0.12             |              |
| 400            | 0.17             |              |
| 500            | 0.23             | 0.25         |
| 630            | 0.30             |              |
| 800            | 0.37             |              |
| 1000           | 0.42             | 0.40         |
| 1260           | 0.41             |              |
| 1600           | 0.34             |              |
| 2000           | 0.33             | 0.35         |
| 2500           | 0.42             |              |
| 3160           | 0.45             |              |
| 4000           | 0.45             | 0.45         |
| 5000           | 0.46             |              |



\*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:

|             |             |
|-------------|-------------|
| <b>NRC:</b> | <b>0.25</b> |
| <b>SAA:</b> | <b>0.27</b> |

**Weighted Sound Absorption Coefficient  $\alpha_w = 0.3$  (H)**

Sound absorption class: D