

# 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: Fiord 2 from Kvadrat

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

1.03 mm Front textile  
100 mm Air gap  
Concrete surface

## Simulation set up:

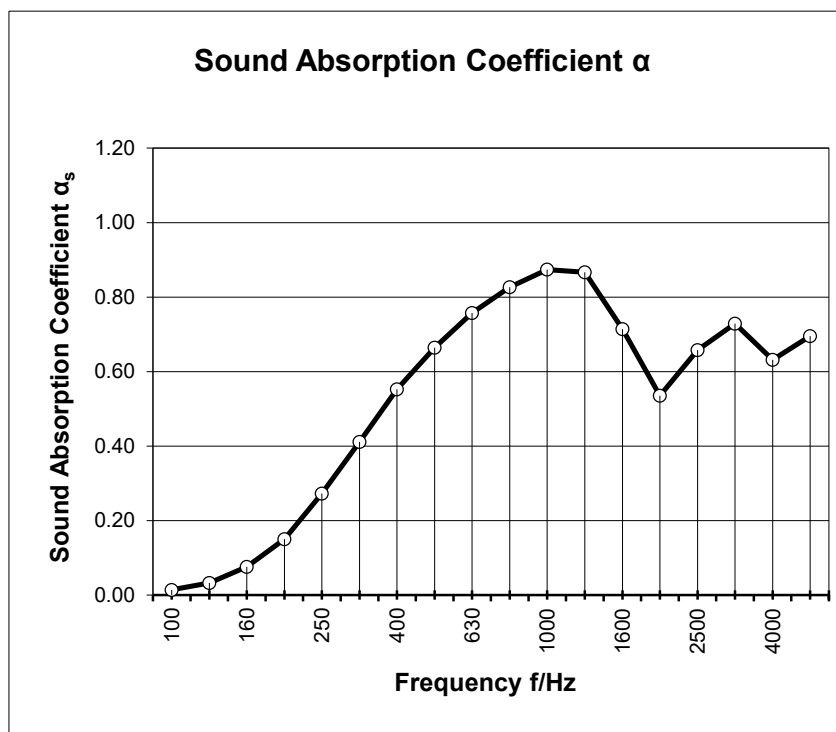
Flat arrangement, 100mm to the wall

No surrounding, enclosing frame

Simulation reproduces the standard ISO 354/11654  
measurement - random incidence environment

Date of simulation: 01-10-26

| Frequency<br>[Hz] | $\alpha_s$<br>1/3 octave | $\alpha_p$<br>octave |
|-------------------|--------------------------|----------------------|
| 100               | 0.01                     | 0.05                 |
| 125               | 0.03                     |                      |
| 160               | 0.08                     |                      |
| 200               | 0.15                     | 0.30                 |
| 250               | 0.27                     |                      |
| 315               | 0.41                     |                      |
| 400               | 0.55                     | 0.65                 |
| 500               | 0.66                     |                      |
| 630               | 0.76                     |                      |
| 800               | 0.83                     | 0.85                 |
| 1000              | 0.87                     |                      |
| 1260              | 0.87                     |                      |
| 1600              | 0.71                     | 0.65                 |
| 2000              | 0.54                     |                      |
| 2500              | 0.66                     |                      |
| 3160              | 0.73                     | 0.70                 |
| 4000              | 0.63                     |                      |
| 5000              | 0.70                     |                      |



\*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>0.60</b> |
| <b>SAA:</b> | <b>0.61</b> |

**Weighted Sound Absorption Coefficient  $\alpha_w = 0.6$  (M)**

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: Fiord 2 from Kvadrat

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

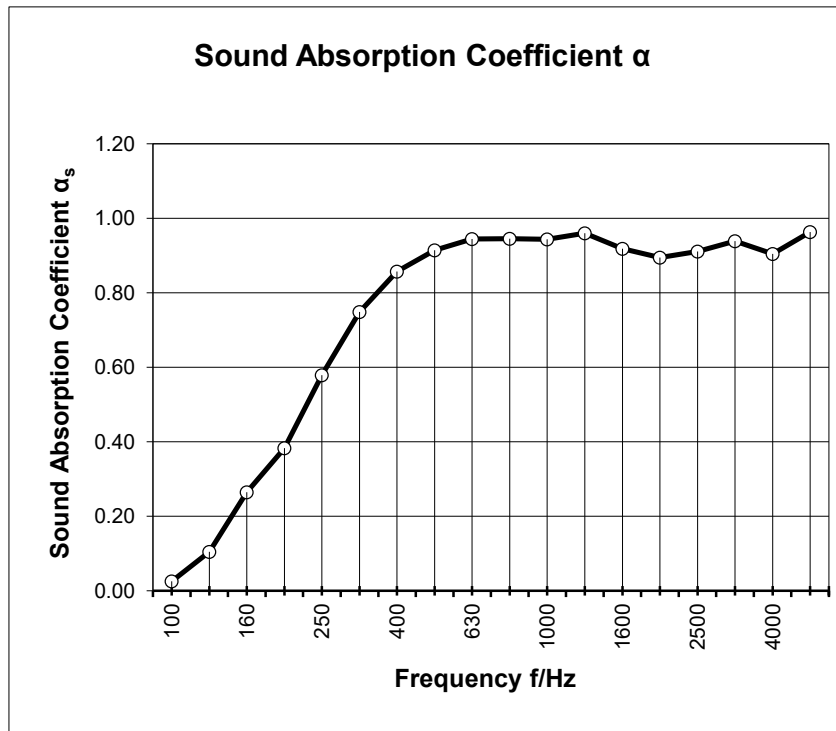
1.03 mm Front textile  
100 mm Air gap  
Concrete surface

## 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: 01-10-26

| Frequency [Hz] | as<br>1/3 octave | ap<br>octave |
|----------------|------------------|--------------|
| 100            | 0.03             | 0.15         |
| 125            | 0.10             |              |
| 160            | 0.26             |              |
| 200            | 0.38             | 0.55         |
| 250            | 0.58             |              |
| 315            | 0.75             |              |
| 400            | 0.86             | 0.90         |
| 500            | 0.91             |              |
| 630            | 0.94             |              |
| 800            | 0.94             | 0.95         |
| 1000           | 0.94             |              |
| 1260           | 0.96             |              |
| 1600           | 0.92             | 0.90         |
| 2000           | 0.89             |              |
| 2500           | 0.91             |              |
| 3160           | 0.94             | 0.95         |
| 4000           | 0.90             |              |
| 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:

|             |             |
|-------------|-------------|
| <b>NRC:</b> | <b>0.85</b> |
| <b>SAA:</b> | <b>0.83</b> |

**Weighted Sound Absorption Coefficient  $\alpha_w = 0.85$**

Sound absorption class: B