

Equivalent sound absorption area ISO 354

Measurement of sound absorption in reverberation rooms

Client: Sigel GmbH Businessproducts
Bäumenheimer Str. 10, D-86690 Mertingen

Test specimen: Acoustic corner element Sound Balance

The acoustic corner element Sound Balance was tested as an individual object in two room edges of the reverberation room between floor and wall.

The test object consisted of four elements, arranged in a row along the room edge without space butt-jointed. The acoustic elements consisted of PET-panels with fabric cover and polyester fibre filling.

The room-sided visible surfaces consisted of 2 x 15 mm thick PET-panels (gross density 160 kg/m³). The rear surfaces consisted of 15 mm thick PET-panels (gross density 160 kg/m³). The cavity contained a filling of 50 mm thick polyester fibre (gross density 15 kg/m³). The PET-panels were covered with tissue (mass per unit area 227 g/m², specific airflow resistance 166 Pa s/m).

Length of the corner elements::
2 elements with a length of 1200 mm, each
2 elements with a length of 800 mm, each
overall length = 4000 mm

Geometry:
sides butting to the wall/floor: 150 mm, each
sides visible in the room: 27 mm + 174 mm + 27 mm

The area facing the reverberation room including both front sides was 0.94 m²:

Room: reverberation room
Volume: 199.60 m³
Date of test: 2018-08-09

Frequency [Hz]	A_{Obj} 1/3 octave [m ²]
100	0.1
125	0.4
160	0.6
200	0.8
250	1.2
315	1.6
400	1.7
500	1.7
630	1.6
800	1.4
1000	1.3
1250	1.3
1600	1.2
2000	1.2
2500	1.2
3150	1.1
4000	1.0
5000	0.9

◦ Equivalent sound absorption area less than 1.0 m²

	θ [°C]	$r. h.$ [%]	B [kPa]
without specimen	25.9	53.3	95.2
with specimen	26.0	51.8	95.0

