

Measurement of sound absorption in reverberation rooms

Annex SA - α_w

according DIN EN ISO 354:2003-12

Rating of sound absorption DIN EN ISO 11654:1997-07

Determination and application of measurement uncertainties DIN EN ISO 12999-2:2020-11

Testing period: 09.01.2025

Description: TYSTIQ - Table Screen [1,800 m x 0,655 m x 0,035 m]
(for a construction from top to bottom)

Remarks: Evaluation based on DIN EN ISO 11654:1997-07. Test area = volume area of the table attachments. The combination of type of mounting and evaluation does not correspond to the specifications of ISO 354.

Type of Mounting: Desk attachments, mounting type I according to DIN ISO 20189:2020-12.

Boundary conditions:

	T1	T2
Temperature:	18,7 °C	18,1 °C
Relative humidity:	47,7 %	43,0 %

Surface area: 7,59 m²

Room volume: 211 m³

Total room area S_i: 213 m²

α_p : practical sound absorption coefficient

α_s : sound absorption coefficient

A_T: Equivalent sound absorption area of the sample

T1: Reverberation time in the empty reverberation room

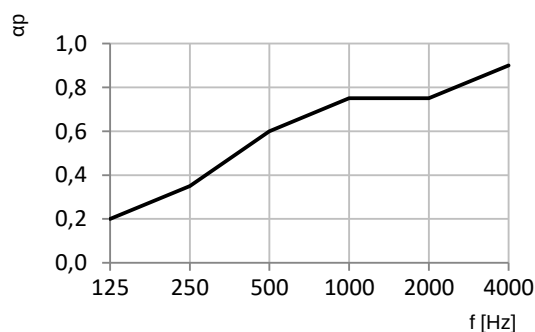
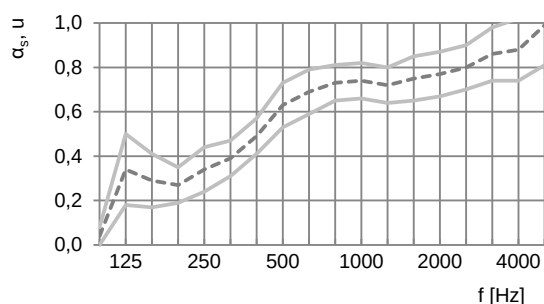
T2: Reverberation time in the reverberation room with sample

U: Expanded measurement uncertainty (k=2)

Diagram:

----- α_s
 ———— U
 ———— α_p

f [Hz]	α_p [-]	$\pm U$ (k = 2)	α_s [-]	$\pm U$ (k = 2)	A _T [m ²]	$\pm U$ (k = 2)	T1 [s]	T2 [s]
50			0,10	\	0,8	\	7,46	6,39
63			0,08	0,10	0,6	0,8	8,29	7,20
80			0,09	0,08	0,7	0,8	11,70	9,53
100			0,04	0,04	0,30	0,40	13,91	12,22
125	0,20	\	0,34	0,16	2,60	1,20	8,33	5,08
160			0,29	0,12	2,20	1,00	7,03	4,85
200			0,27	0,08	2,10	0,80	7,78	5,29
250	0,35	0,08	0,34	0,10	2,60	0,80	7,19	4,67
315			0,39	0,08	2,90	0,80	6,26	4,07
400			0,49	0,08	3,70	0,80	6,10	3,65
500	0,60	0,08	0,63	0,10	4,80	0,80	6,18	3,31
630			0,69	0,10	5,20	0,80	6,31	3,21
800			0,73	0,08	5,60	0,80	6,01	3,02
1000	0,75	0,08	0,74	0,08	5,60	0,80	5,74	2,95
1250			0,72	0,08	5,40	0,80	5,69	2,99
1600			0,75	0,10	5,70	0,80	5,33	2,84
2000	0,75	0,08	0,77	0,10	5,80	0,80	4,92	2,71
2500			0,80	0,10	6,00	0,80	4,16	2,44
3150			0,86	0,12	6,50	1,00	3,44	2,14
4000	0,90	0,10	0,88	0,14	6,70	1,20	2,69	1,84
5000			0,99	0,18	7,50	1,60	1,99	1,46



Weighted sound absorption coefficient Expanded measurement uncertainty U Noise Reduction Coefficient
 $\alpha_w = 0,60$ (H) $\pm 0,07$ (k=2) NRC: 0,60
 Sound Absorption Class C
 according DIN EN ISO 11654:1997-07 according DIN EN ISO 12999-2:2020-11 according to ASTM C423

Test report no.: A-2024-409-0

