

# Measurement of sound absorption in a reverberation chamber by *PN-EN ISO 354:2005*

Determination of the sound absorption coefficient on the basis of *PN-EN ISO 11654:1999*

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Sample determination: LA 1344  
Sample description: Acoustic PET boards 9 mm thick. Raised on a frame relative to the floor by 200mm ("air gap")

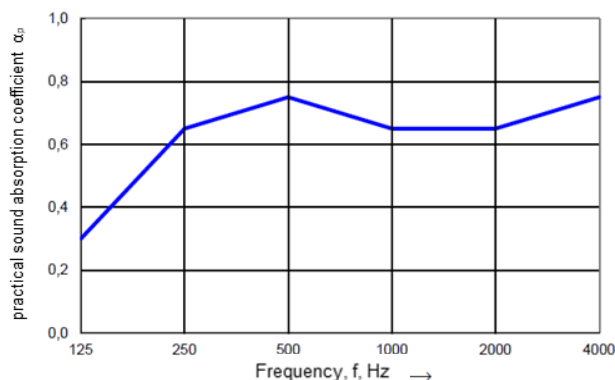
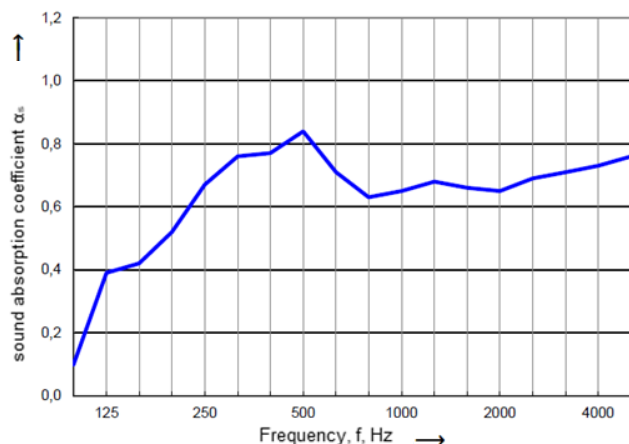
## Environmental conditions:

Surface area: 10,21 m<sup>2</sup>  
Reverberation chamber volume: 200,00m<sup>3</sup>  
Reverberation chamber, with sample: Reverberation chamber, empty:  
Temperature: 19 °C  
Relative humidity: 45,2 %  
Atmospheric pressure: 102,9 kPa  
Temperature: 19 °C  
Relative humidity: 45,1 %  
Atmospheric pressure: 102,9 kPa

$f$ [Hz]	$T_1$ [s]	$T_2$ [s]	$A_T$ [m <sup>2</sup> ]	$\alpha_s$	$\alpha_p$
100	5,5	4,7	1,0	0,10	0,30
125	5,3	3,2	4,0	0,39	
160	4,5	2,8	4,3	0,42	
200	4,5	2,6	5,3	0,52	0,65
250	4,4	2,3	6,8	0,67	
315	4,2	2,1	7,7	0,76	
400	4,3	2,1	7,8	0,77	0,75
500	4,2	2,0	8,5	0,84	
630	4,0	2,1	7,3	0,71	
800	3,7	2,1	6,4	0,63	0,65
1000	3,4	2,0	6,7	0,65	
1250	3,2	1,9	6,9	0,68	
1600	3,0	1,9	6,7	0,66	0,65
2000	2,8	1,8	6,7	0,65	
2500	2,5	1,6	7,1	0,69	
3150	2,1	1,4	7,3	0,71	0,75
4000	1,7	1,2	7,4	0,73	
5000	1,4	1,1	7,7	0,76	

## C Labels

$f$  - cz frequency, in tertian bands [Hz].  
 $T_1$  - reverberation time of the reverberation chamber, empty [s]  
 $T_2$  - reverberation time of the reverberation chamber, with sample [s]  
 $\alpha_s$  - sound absorption coefficient  
 $\alpha_p$  - practical sound absorption coefficient  
 $A_T$  - equivalent sound-absorbing surface area of the test sample [m<sup>2</sup>]



Sound absorption index and class according to *PN-EN ISO 11654:1999*

$\alpha_w = 0,70$

Sound absorption class: **C**

Test no: B134401  
Date of test: 2020-05-29

Signed by: Adam Arentowicz