



AGH University of Science and Technology
Faculty of Mechanical Engineering and Robotics
Department of Mechanics and Vibroacoustics
Al. Mickiewicza 30, 30-059 KRAKÓW
Tel/fax. (4812) 617-35-17

Client:
BEJOT SP. Z O.O.
ul. Wybickiego 2a, Manieczki
63-112 Brodnica k/Poznania

**Measurement of sound absorption coefficient in a reverberation room
according to PN-EN ISO 354:2005**

Sample: **Quadra Phonebox** Test Date: **06-03-2017**

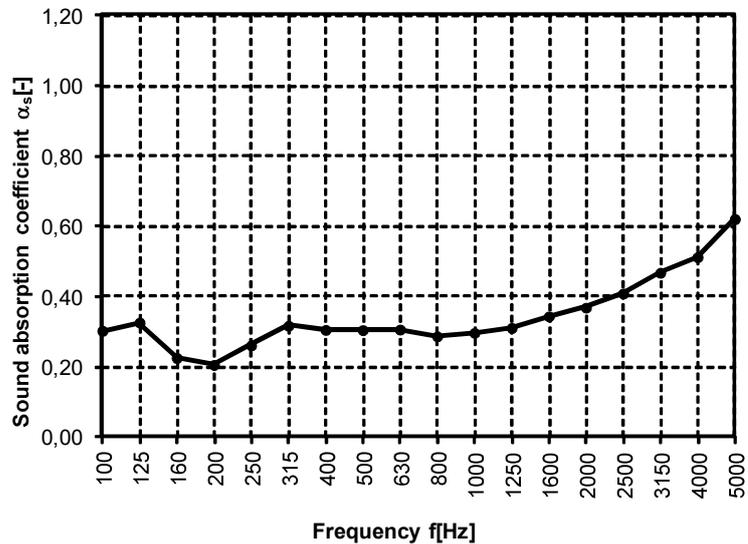
Quadra Phonebox

Producer:
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63-112 Brodnica k/Poznania

Conditions:
Sample size [mm]: -
Element size [mm]: **1635x710x710**
Elements number: **3**
Sample area [m²]: **15,4**
Mounting method: **placed on the floor**

Temperature with sample t [°C]: **23,6**
Temperature without sample t [°C]: **23,6**
rel. humidity with sample h [%]: **33,7**
rel. humidity without sample h [%]: **34,2**
Microphone positions: **6**
Loudspeaker positions: **2**
Diffusors number: **5**
Chamber Volume V [m³]: **180,4**
Walls area [m²]: **193,6**

f [Hz]	T_1 [s]	T_2 [s]	α_s	α_p
100	10,20	3,87	0,30	
125	7,68	3,30	0,32	0,30
160	6,98	3,81	0,22	
200	7,80	4,22	0,20	
250	8,65	3,94	0,26	0,25
315	8,53	3,50	0,32	
400	8,24	3,53	0,30	
500	7,74	3,44	0,30	0,30
630	7,78	3,44	0,30	
800	7,10	3,41	0,29	
1000	6,64	3,25	0,30	0,30
1250	5,94	3,00	0,31	
1600	4,96	2,61	0,34	
2000	4,33	2,35	0,37	0,35
2500	3,71	2,06	0,41	
3150	3,20	1,79	0,47	
4000	2,52	1,50	0,51	0,55
5000	2,02	1,22	0,62	



α_s Sound absorption coefficient PN-EN ISO 354:2005

α_p Practical sound absorption coefficient PN-EN ISO 11654:1999

α_w Weighted sound absorption coefficient PN-EN ISO 11654:1999

T_1, T_2 Reverberation time of the empty chamber and with sample PN-EN ISO 354:2005

Absorption class: D
 $\alpha_w=0,35(H)$

Stamp:

Project manager:
dr inż. Jarosław Rubacha
jrubacha@agh.edu.pl

Technical specialist:
dr inż. Artur Flach
dr inż. Adam Pilch



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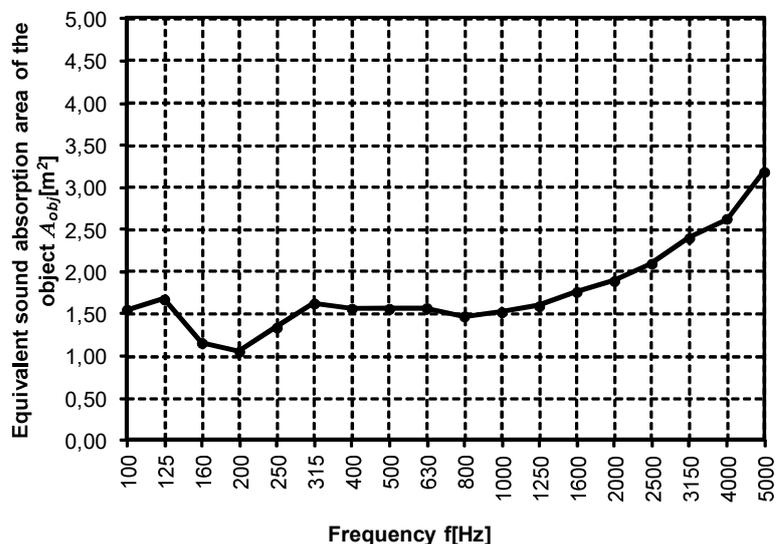
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Diffusers number: **5**
Chamber Volume V [m³]: **180,4**
Walls area [m²]: **193,6**

f [Hz]	T_1 [s]	T_2 [s]	A_{obj} [m ²]
100	10,20	3,87	1,55
125	7,68	3,30	1,67
160	6,98	3,81	1,15
200	7,80	4,22	1,05
250	8,65	3,94	1,33
315	8,53	3,50	1,62
400	8,24	3,53	1,56
500	7,74	3,44	1,56
630	7,78	3,44	1,57
800	7,10	3,41	1,47
1000	6,64	3,25	1,52
1250	5,94	3,00	1,59
1600	4,96	2,61	1,76
2000	4,33	2,35	1,88
2500	3,71	2,06	2,09
3150	3,20	1,79	2,39
4000	2,52	1,50	2,62
5000	2,02	1,22	3,18



α_s Sound absorption coefficient (PN-EN ISO 354:2005)

α_p Practical sound absorption coefficient (PN-EN ISO 11654:1999)

T_1, T_2 Reverberation time of the empty chamber and with sample (PN-EN ISO 354:2005)

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