



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/Poznań

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

Sample:
Roll Wall – sound absorbing panels 800+600x1300x80

Producer:
Bejot Sp. z o.o.
ul. Wybickiego 2a, Manieczki
63-112 Brodnica k/Poznań

Sample description:
Plywood, MDF frame
Filling: nonwoven
Covering: upholstery fabric

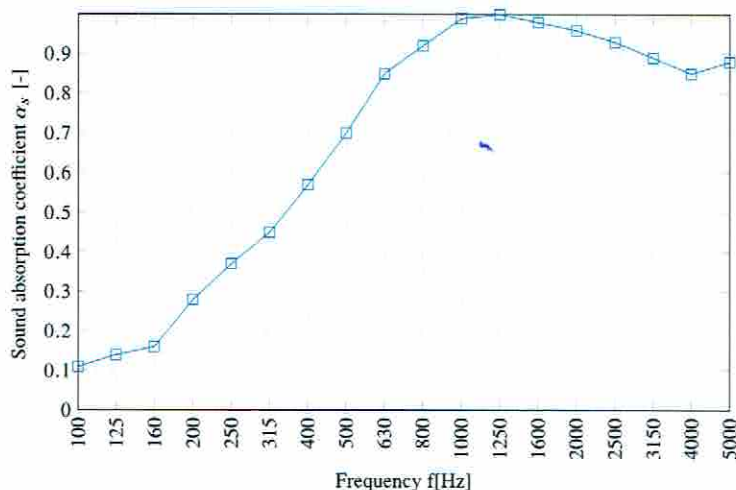
Test date: 26.07.18

Conditions:
Sample size [mm]: 800+600x1300x80
Element size [mm]: 3
Element number [no.]: 10,9
Sample area [m²]: Discrete sound absorbers
Mounting method:

Temperature with sample t [°C]: 25.4
Temperature without sample t [°C]: 24.5
rel. humidity with sample [%]: 51.7
rel. humidity without sample [%]: 45.3
Microphone positions: 6
Loudspeaker positions: 2
Diffusors number: 5
Chamber volume [m³]: 180.4
Walls area [m²]: 193.6

f [Hz]	T_1 [s]	T_2 [s]	α_s	α_p
100	11.27	7.64	0.11	0.15
125	8.00	5.67	0.14	
160	8.31	5.50	0.16	
200	9.39	4.73	0.28	0.35
250	10.09	4.18	0.37	
315	9.62	3.63	0.45	
400	9.08	3.06	0.57	0.70
500	8.05	2.56	0.70	
630	8.09	2.23	0.85	
800	7.24	2.04	0.92	0.95
1000	6.67	1.89	0.99	
1250	5.99	1.83	1.00	
1600	4.88	1.73	0.98	0.95
2000	4.41	1.69	0.96	
2500	3.90	1.65	0.93	
3150	3.41	1.60	0.89	0.90
4000	2.89	1.53	0.85	
5000	2.36	1.37	0.88	

Absorption class: C
 $\alpha_w : 0,65(MH)$



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 Chamber reverberation time while empty and with sample PN-EN ISO 354:2005

Stamp: AKADEMIA GÓRNICZO-HUTNICZA
im. Stanisława Staszica w Krakowie
Wydział Inżynierii Mechanicznej i Robotyki
Katedra Mechaniki i Vibroakustyki
30-059 Kraków, Al. Mickiewicza 30, paw. D-1
tel. 12 617-30-64, fax 12 663-28-14
NIP 6760001028

Project manager:
dr hab. inż. Tadeusz Kamiński prof. AGH
kami@agh.edu.pl

Technical specialist:
dr inż. Jarosław Rubacha
mgr inż. Wojciech Binek



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/Poznań

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

Sample:
Roll Wall – sound absorbing panels 800+600x1300x80

Producer:
Bejot Sp. z o.o.
ul. Wybickiego 2a, Manieczki
63-112 Brodnica k/Poznań

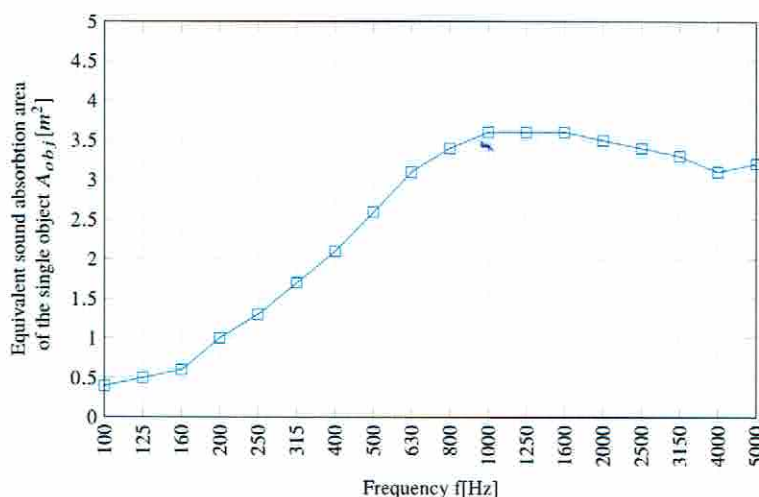
Sample description:
Plywood, MDF frame
Filling: nonwoven
Covering: upholstery fabric

Test date: 26.07.18

Conditions:
Sample size [mm]: 800+600x1300x80
Element size [mm]: 3
Element number [no.]: 10,9
Sample area [m²]: Discrete sound absorbers
Mounting method:

Temperature with sample t [°C]: 25.4
Temperature without sample t [°C]: 24.5
rel. humidity with sample [%]: 51.7
rel. humidity without sample [%]: 45.3
Microphone positions: 6
Loudspeaker positions: 2
Diffusors number: 5
Chamber volume [m³]: 180,4
Walls area [m²]: 193,6

f [Hz]	T_1 [s]	T_2 [s]	A_{obj} [m ²]	
100	11.27	7.64	0.4	0.5
125	8.00	5.67	0.5	
160	8.31	5.50	0.6	
200	9.39	4.73	1.0	1.3
250	10.09	4.18	1.3	
315	9.62	3.63	1.7	
400	9.08	3.06	2.1	2.6
500	8.05	2.56	2.6	
630	8.09	2.23	3.1	
800	7.24	2.04	3.4	3.5
1000	6.67	1.89	3.6	
1250	5.99	1.83	3.6	
1600	4.88	1.73	3.6	3.5
2000	4.41	1.69	3.5	
2500	3.90	1.65	3.4	
3150	3.41	1.60	3.3	3.2
4000	2.89	1.53	3.1	
5000	2.36	1.37	3.2	



A_{obj} Element equivalent sound absorption area PN-EN ISO 354:2005
 T_1, T_2 Chamber reverberation time while empty and with sample PN-EN ISO 354:2005

Stamp:
AKADEMIA GÓRNICZO-HUTNICZA
im. Stanisława Staszica w Krakowie
Wydział Inżynierii Mechanicznej i Robotyki
Katedra Mechaniki i Vibroakustyki
30-059 Kraków, Al. Mickiewicza 30, paw. D-1
tel. 12 617-30-61 fax 12 633-23-14
NIP 6760001923

Project manager:
dr hab. inż. Tadeusz Kamisiński prof. AGH
kamisins@agh.edu.pl

Technical specialist:
dr inż. Jarosław Rubacha
mgr inż. Wojciech Binek