**AGH University of Science and Tehchnology**
**Faculty of Mechanical Engineering and Robotics**
**Departament 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 chamber according to PN-EN ISO 354:2005

Test date: **25.07.18**

**Sample:**
**Selva Tower – sound absorbers 2000x400x400**

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

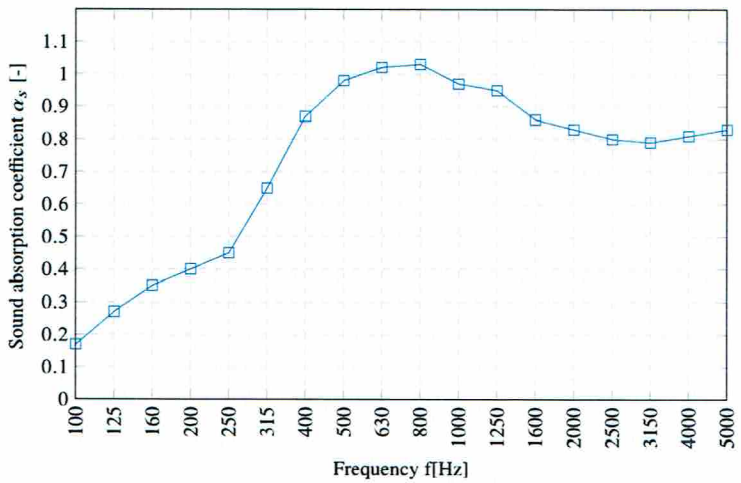
**Sample description:**
Wooden frame
Filling: nonwoven
Covering: upholstery fabric

Conditions:

| | |
|---|---|
| Sample size [mm]: | - |
| Element size [mm]: | **2000x400x400** |
| Element number [no.]: | **3** |
| Sample area [$m^2$]: | **10,1** |
| Mounting method: | **Discrete sound absorbers PN-EN ISO 354-2005** |
| Temperature with sample $t[°C]$: | **25.4** |
| Temperature without sample $t[°C]$: | **24.6** |
| rel. humidity with sample[%]: | **51.05** |
| rel. humidity without sample[%]: | **44.7** |
| Microphone positions: | **6** |
| Loudspeaker positions: | **2** |
| Diffusors number: | **5** |
| Chamber volume [$m^3$]: | **180,4** |
| Walls area [$m^2$]: | **193,6** |

| $f[Hz]$ | $T_1[s]$ | $T_2[s]$ | $\alpha_s$ | $\alpha_p$ |
|---|---|---|---|---|
| 100 | 11.31 | 6.83 | 0.17 | |
| 125 | 8.01 | 4.60 | 0.27 | 0.25 |
| 160 | 8.33 | 4.15 | 0.35 | |
| 200 | 9.43 | 4.08 | 0.40 | |
| 250 | 10.17 | 3.92 | 0.45 | 0.50 |
| 315 | 9.67 | 3.02 | 0.65 | |
| 400 | 9.12 | 2.42 | 0.87 | |
| 500 | 8.09 | 2.14 | 0.98 | 0.95 |
| 630 | 8.12 | 2.08 | 1.02 | |
| 800 | 7.28 | 2.00 | 1.03 | |
| 1000 | 6.70 | 2.04 | 0.97 | 1.00 |
| 1250 | 6.03 | 2.00 | 0.95 | |
| 1600 | 4.91 | 1.98 | 0.86 | |
| 2000 | 4.45 | 1.95 | 0.83 | 0.85 |
| 2500 | 3.94 | 1.88 | 0.80 | |
| 3150 | 3.49 | 1.80 | 0.79 | |
| 4000 | 2.81 | 1.61 | 0.81 | 0.80 |
| 5000 | 2.34 | 1.45 | 0.83 | |

**Absorption class: B**
**$\alpha_w$ : 0,80**




$\alpha_s$ Sound absorbiton coefficient PN-EN ISO 354:2005
$\alpha_p$ Practical sound absorbiton coefficient PN-EN ISO 11654:1999
$\alpha_w$ Weighted sound absorbtion 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 Wibroakustyki
30-059 Kraków, Al. Mickiewicza 30, paw. D-1
tel. 12 617-30-64 fax 12 633-23-14
NIP 6750001923

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

**Technical specialist:**
dr inż. Adam Pilch
mgr inż. Wojciech Binek

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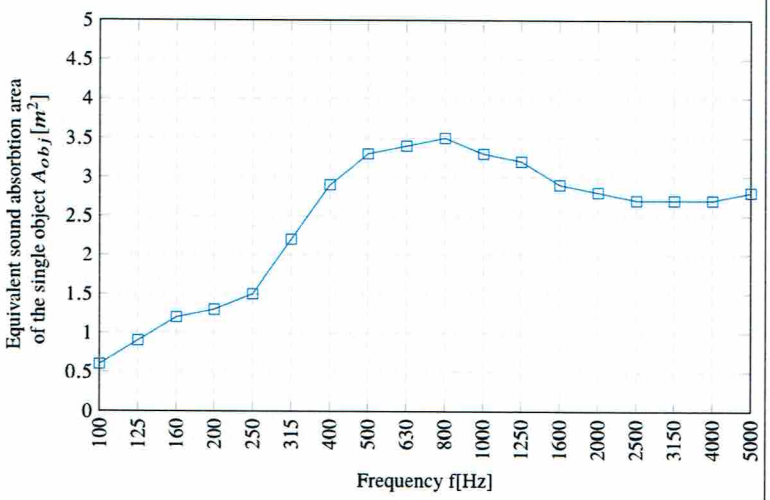
| $f[Hz]$ | $T_1[s]$ | $T_2[s]$ | $A_{obj}[m^2]$ | |
|---|---|---|---|---|
| 100 | 11.31 | 6.83 | 0.6 | |
| 125 | 8.01 | 4.60 | 0.9 | 0.9 |
| 160 | 8.33 | 4.15 | 1.2 | |
| 200 | 9.43 | 4.08 | 1.3 | |
| 250 | 10.17 | 3.92 | 1.5 | 1.7 |
| 315 | 9.67 | 3.02 | 2.2 | |
| 400 | 9.12 | 2.42 | 2.9 | |
| 500 | 8.09 | 2.14 | 3.3 | 3.2 |
| 630 | 8.12 | 2.08 | 3.4 | |
| 800 | 7.28 | 2.00 | 3.5 | |
| 1000 | 6.70 | 2.04 | 3.3 | 3.3 |
| 1250 | 6.03 | 2.00 | 3.2 | |
| 1600 | 4.91 | 1.98 | 2.9 | |
| 2000 | 4.45 | 1.95 | 2.8 | 2.8 |
| 2500 | 3.94 | 1.88 | 2.7 | |
| 3150 | 3.49 | 1.80 | 2.7 | |
| 4000 | 2.81 | 1.61 | 2.7 | 2.7 |
| 5000 | 2.34 | 1.45 | 2.8 | |




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

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