

# Sound absorption coefficient EN-ISO 354-2003

Measurement of sound absorption in a reverberation room

**Client:** Filzfabrik Fulda GmbH & Co KG  
Frankfurter Str. 62, D-36043 Fulda

**Test specimen:** Acoustic board „N5095-3“ white, 10.0 mm, 30 mm air gap

Setting (from above):

- Acoustic board
- 30 mm air gap
- Floor

6 Acoustic boards Type „N5095-3“, felt, uncoated, format 0.95 m x 2.00 m, thickness 10.0 mm, arranged in a closed rectangular area of 2.85 m x 4.00 m

Acoustic boards suspended by 36 small wooden blocks (height 30 mm, minimum distance approx. 0.5 m)

Lateral frame: wood border (height 40 mm, width 60 mm)

Sealing of gaps between wood border and floor with sealing mass (Terostat)

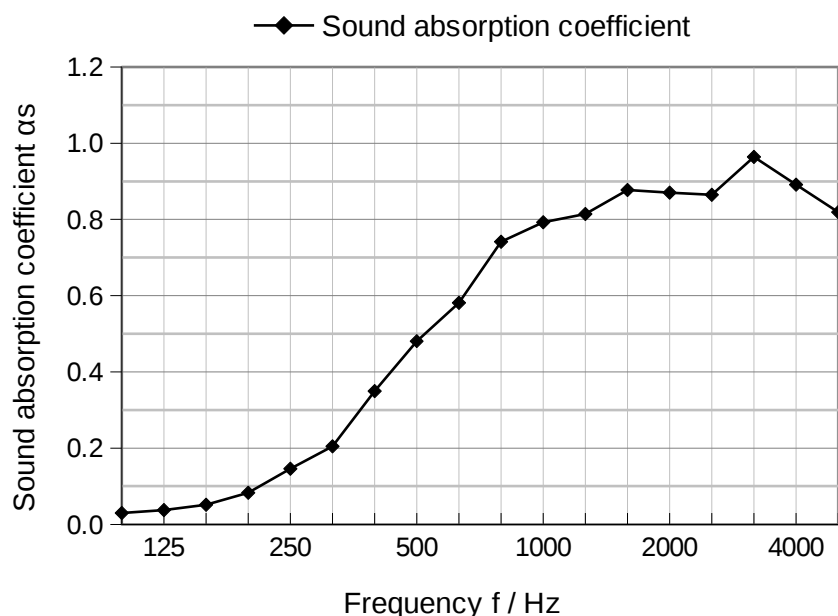
Room: Reverberation room 17-0.15, University of Applied Sciences Lübeck

Volume: 186.4 m<sup>3</sup>    Size of test specimen: 11.4 m<sup>2</sup>    Date: 2013-05-02

Without specimen: Temperature 17.2 °C    r. h. 43.0 %

With specimen: Temperature 17.0 °C    r. h. 43.3 %

| f [Hz] | $\alpha_s$ | $\alpha_p$ |
|--------|------------|------------|
| 100    | 0.03       |            |
| 125    | 0.04       | 0.05       |
| 160    | 0.05       |            |
| 200    | 0.08       |            |
| 250    | 0.15       | 0.15       |
| 315    | 0.20       |            |
| 400    | 0.35       |            |
| 500    | 0.48       | 0.45       |
| 630    | 0.58       |            |
| 800    | 0.74       |            |
| 1000   | 0.79       | 0.8        |
| 1250   | 0.81       |            |
| 1600   | 0.88       |            |
| 2000   | 0.87       | 0.85       |
| 2500   | 0.86       |            |
| 3150   | 0.96       |            |
| 4000   | 0.89       | 0.9        |
| 5000   | 0.82       |            |



$\alpha_s$ : Sound absorption coefficient according to ISO 354

$\alpha_p$ : Practical sound absorption coefficient according to ISO 11654

SAA according to ASTM C 432-08:  
Sound absorption average = 0.57

Rating according to ISO 11654:

Weighted sound absorption coefficient  $\alpha_w = 0.45$  (M,H)

Sound absorption class: D