Taborsky

Trapezoid profiles, corrugated profiles, roof tiles

Acoustic profiles

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Contents

Architect: bevk perovic arhitekti

Taborsky acoustic profiles

The current era - modern, fast-paced, stressful. Noise has been proven to have a damaging effect on the human body. It not only reduces the ability to concentrate at work, but also leads to stress, disturbed sleep, damage to hearing and cardiovascular diseases.

To prevent health problems, creating the optimum acoustics for a pleasant room climate is important.

The Taborsky acoustic profile has risen to this challenge, and on the basis of the proven Taborsky trapezoidal and corrugated profiles and in combination with a special acoustic membrane, a visually-appealing form of wall and ceiling cladding has been developed which offers excellent sound absorption for the optimum regulation of the reverberation time.

The perforated visible side is available in the standard colour RAL 9010. Other RAL colours are also possible on request, however, depending on the size of the project.

Unfortunately, noise is a daily companion in our lives. This means the Taborsky acoustic profiles offer an extremely wide ranging area of use. With its special acoustic membrane, the wall and ceiling cladding from Taborsky isn't just suitable for use in commercial environments, but also in the areas of healthcare and education.

Areas of use of the Taborsky acoustic profile:

Workspace / sales
- Office
- Call centre
- Events hall
- Corridor
- Production hall
- Conference room
- Airport terminals
- Shopping centres

Healthcare
- Meeting room
- Treatment room
- Waiting area
- Corridor

Education
- Kindergarten
- Sports hall
- Classroom

Your advantages at a glance:

- Low weight
- Optimum sound absorption
- Visually appealing
- Easy installation
- Classified as non-combustible

Acoustic profile TR 35/207

Profile:	TR35/207
Material:	Galvanised and coated steel
Sheet thickness:	0,75mm
Colour visible side:	RAL 9010
Coating system:	25 my polyester coating
Perforation:	RV 3-5
Free cross-section:	32,7%
Rear of the profile:	Acoustic membrane 80 g, colour black

The dimensions of the TR35/207 acoustic profile are shown in figure 1. The tolerances of the profile are regulated according to EN 508. This profile was tested according to ISO EN 354 in the echo chamber for sound absorption according to the frequency (0 – 4000 Hz).

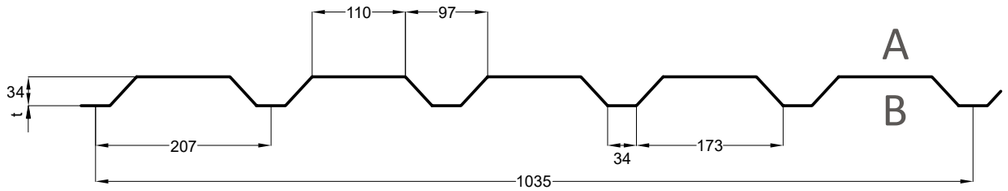


Figure 1, TR 35/207

Corrugated sheet WB 18/76

Profil:	WB 18/76
Material:	Galvanised and coated steel S220
Sheet thickness:	0,75mm
Colour visible side:	RAL 9010
Coating system:	25 my polyester coating
Perforation:	RV 3-5
Free cross-section:	32,7%
Rear of the profile:	Acoustic membrane 80 g, colour black

The dimensions of the WB18/76 acoustic profile are shown in figure 2. The tolerances of the profile are regulated according to EN 508. This profile was tested according to ISO EN 354 in the echo chamber for sound absorption according to the frequency (0 – 4000 Hz).

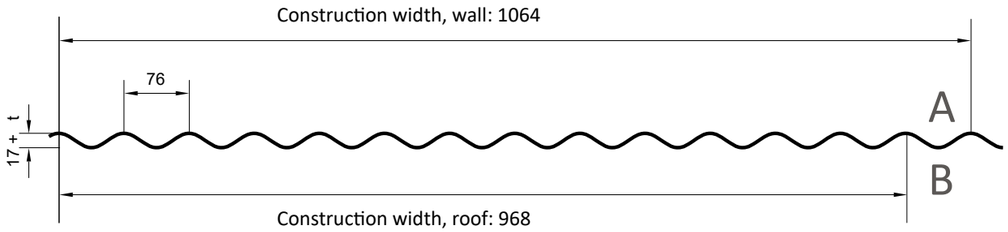


Figure 2, WB 18/76

Perforation

Both the trapezoidal profile and the corrugated profile are perforated. The perforation is an RV 3-5 perforation. Figure 3 shows the perforated pattern.

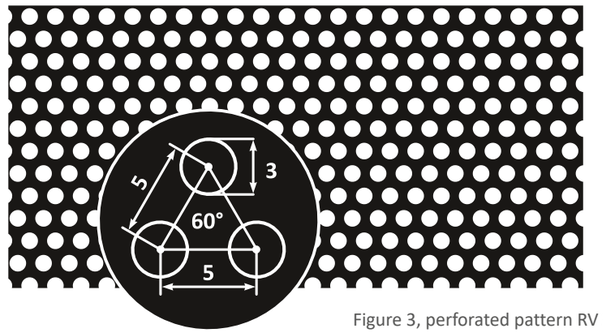


Figure 3, perforated pattern RV 3-5

Acoustic membrane

Material:	PES/PE/synthetic rubber
Characteristics:	Sound-absorbing membrane
Surface weight:	80g/m²
Flammability:	A2 – s1, d0
Colour:	Black

Taborsky acoustic profiles are equipped with a high-quality acoustic membrane. Based on various tests, the membrane guarantees effective sound absorption.

The ability to absorb sound depends on the following factors:

- Spacing between two surfaces (e.g. concrete and suspended ceiling)
- Type and size of the perforation (diameter of holes, total proportion of perforated area)
- Profile of the perforated panel (corrugated profile, trapezoidal profile)

Other advantages of the acoustic membrane are:

- Non-flammable material
- Made from 100% polyester fibres
- Polyester is a bacteria repellent material
- Does not emit harmful substances

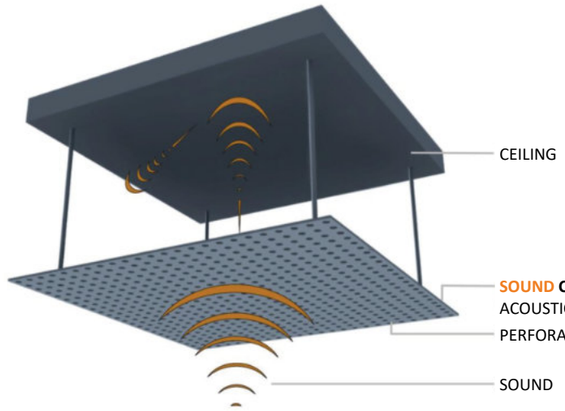


Figure 4, Sound absorbtion

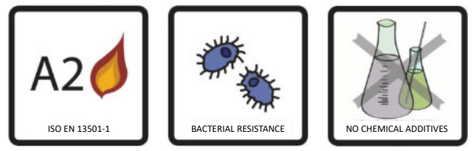


Figure 5, material characteristics

Performance profile

The performance of the Taborsky acoustic profiles has naturally been tested in a laboratory. By means of the alpha-cabin test, it was possible for the products TR 35/207 and WB 18/76 to be tested for their sound absorption capacity. The determined laboratory values approximately reflect the performance of the product.

According to EN13501-1, the fire behaviour of the trapezoidal profile and corrugated sheet together with the acoustic membrane is classified as A2-s1, d0.

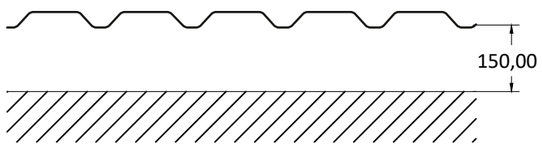
Acoustic profile TR 35/207

This acoustic profile is a TR 35/207 trapezoid profile. The perforated metal profiles have the CE mark according to EN 14782 in compliance with the Construction Products Regulation.
Possible applications include self-supporting ceiling and wall cladding elements for interior areas.

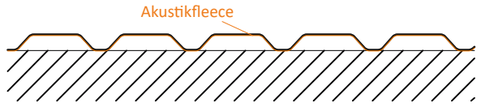
The profile is mounted as a positive layer for the ceiling and wall. This means that side A is the visible side with the 25 my polyester coating. The acoustic membrane has been attached to side B.

The following construction systems were tested:

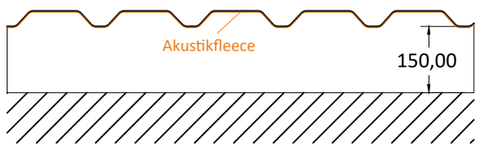
Akustikfleece = **Acoustic fleece**
Mineralwolle = **Mineral wool**



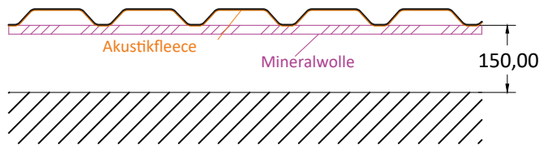
1) Acoustic profile TR35/207 without fleece
+ 150 mm spacing.



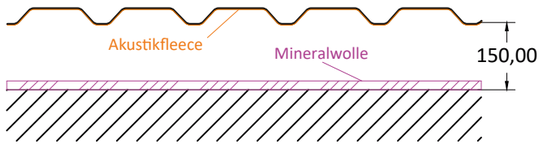
2) Acoustic profile TR35/207 + acoustic membrane
(without spacing)



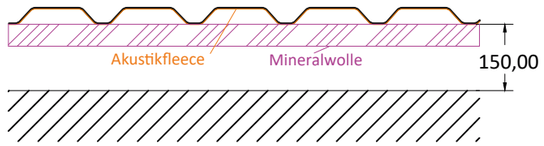
3) Acoustic profile TR35/207 + acoustic membrane
+ 150 mm spacing.



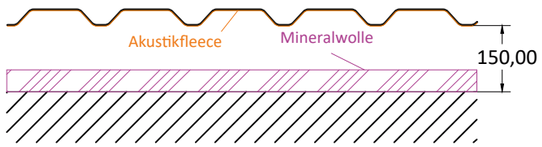
4a) Acoustic profile TR35/207 + acoustic membrane
+ 20 mm mineral wool + 150 mm spacing. The mineral wool is placed on the profile without spacing.



4b) Acoustic profile TR35/207 + acoustic membrane
+ 20 mm mineral wool + 150 mm spacing. The mineral wool is placed on the substrate.



5a) Acoustic profile TR35/207 + acoustic membrane
+ 50 mm mineral wool + 150 mm spacing. The mineral wool is placed on the profile without spacing.



5b) Acoustic profile TR35/207 + acoustic membrane
+ 50 mm mineral wool + 150 mm spacing. The mineral wool is placed on the substrate.

Details of the test procedure

Alpha cabin
Standard PSA D49 1977
Frequency: 400 – 10,000 Hz
Volume: 6.44 m3
Sample: 1.2 m2

Test results

The results of the tested constructions have been illustrated in the diagram below.

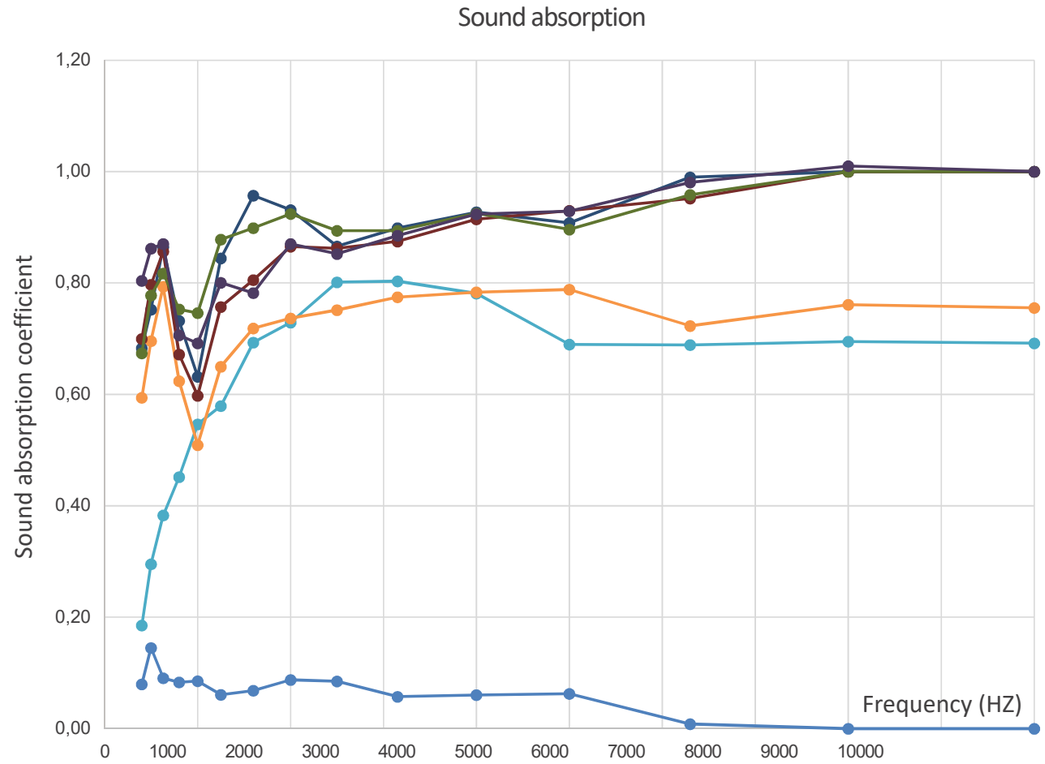


Abbildung 6, Schallabsorptionsgrad in Abhängigkeit zur Frequenz - TR 35/207

1. Acoustic profile TR 35/207 without fleece + 150 mm spacing
2. Acoustic profile TR 35/207 + acoustic membrane (without spacing)
3. Acoustic profile TR 35/207 + acoustic membrane + 150 mm spacing
4. Acoustic profile TR 35/207 + acoustic membrane + 20 mm mineral wool + 150 mm spacing
   a. The mineral wool is placed on the profile without spacing
   b. The mineral wool is placed on the substrate
5. Acoustic profile TR 35/207 + acoustic membrane + 50 mm mineral wool + 150 mm spacing
   a. The mineral wool is placed on the profile without spacing
   b. The mineral wool is placed on the substrate

Performance profile

This acoustic profile is the WB18/76 trapezoid profile.

The perforated metal profiles have the CE mark according to EN 14782 in compliance with the Construction Products Regulation.
Areas of intended use include self-supporting ceiling and wall cladding elements for interior areas.

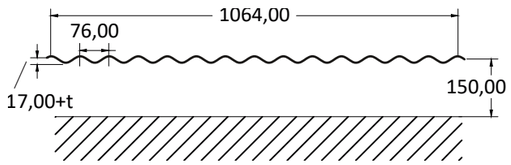
Acoustic profile WB18/76

The profile is mounted as a negative layer for the ceiling and wall.

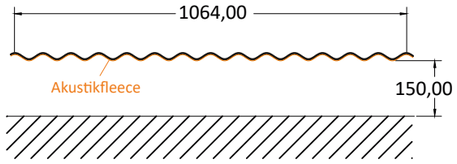
This means that side B is the visible side with the 25 my polyester coating. The acoustic membrane has been attached to side A.

The following construction arrangements were tested:

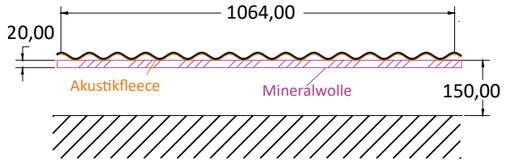
Akustikfleece = **Acoustic fleece**
Mineralwolle = **Mineral wool**



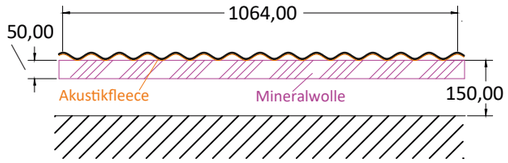
1) Acoustic profile WB18/76 without fleece + 150 mm spacing



2) Acoustic profile WB18/76 + acoustic membrane + 150 mm spacing



3) Acoustic profile WB18/76 + acoustic membrane + 20 mm mineral wool* + 150 mm spacing



4) Acoustic profile WB18/76 + acoustic membrane + 50 mm mineral wool* + 150 mm spacing

Details of the test procedure

Alpha cabin
Standard PSA D49 1977
Frequency: 400 – 10,000 Hz
Volume: 6.44 m3
Sample: 1.2 m2

Test results

The results of the tested constructions have been illustrated in the diagram below.

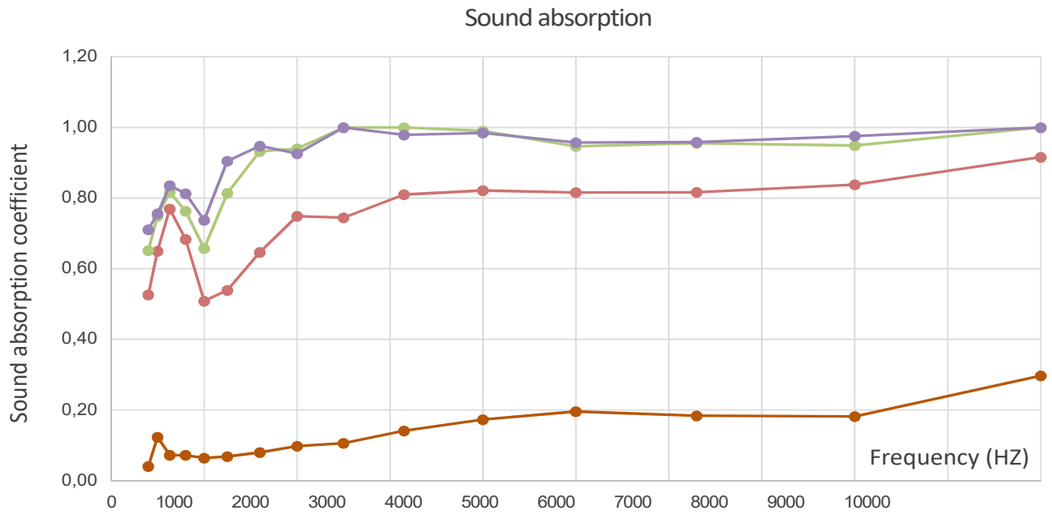


Figure 7, Sound absorption coefficient according to frequency - WB 18/76

1. Acoustic profile WB18/76 without fleece + 150 mm spacing
2. Acoustic profile WB18/76 + acoustic membrane + 150 mm spacing
3. Acoustic profile WB18/76 + acoustic membrane + 20 mm mineral wool* + 150 mm spacing
4. Acoustic profile WB18/76 + acoustic membrane + 50 mm mineral wool* + 150 mm spacing

*The mineral wool is placed on the profile without spacing.

Taborsky

Trapezoid profiles, corrugated profiles, roof tiles

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