



EVOLUTION
OF
SILENCE

NOISE
PROTECTION
WITH
VISIBLE
ADDED
VALUE

OP A OU E



Noise is a worldwide environmental problem. Noise levels caused by road and rail traffic, but also by other sources, reduce quality of life and cause damage to health. We at KOHLHAUER are doing something about it. With foresight, innovative strength and know-how, we create noise protection elements that make an active contribution to environmental protection and improve the quality of life. **Welcome** to the solution specialist for noise protection with visible added value.

WHO
WE
ARE

R. KOHLHAUER GmbH, based in Gaggenau, is one of the leading service providers for noise and environmental protection technology in Germany and Europe.

As market-shaping specialists, we develop and produce innovative noise control elements with added value for the environment, climate and resource conservation. At the same time, we drive the progress of noise protection - at KOHLHAUER, the focus is on the multifunctionality of the noise barrier. Additional benefits, for example through higher aesthetics, PV integration or possibly integrated pollutant reduction in the future, also create a higher level of acceptance among the population for the landscape intervention that a noise barrier represents.

Experienced experts at the headquarters in Gaggenau and in the subsidiaries in other European countries work with great passion and technical know-how to achieve this.

The KOHLHAUER Group combines innovative ideas and site-specific resources to form a network that makes services available in the fastest possible way. With our European production sites, we have a total of 4,000 sqm of production area and 7,000 sqm of storage capacity. Here, noise barriers are created that fit the needs of our customers and comply with the „Made in Germany“ quality philosophy.



Because quality of life is indivisible

Noise protection from the experts
for forward-looking solutions

CA

L

Opaque
Noise barriers with a sustainable perspective

ME

D

KOHLHAUER noise protection solutions create peace and quiet where people are confronted with disturbing noise. They make the environment a bit more livable. In inner-city areas, the demands on noise protection measures are high. They must be quick and flexible to install and easy to place between

existing buildings. Where space is at a premium, noise protection needs to be designed to blend in well with the surroundings. For noise protection along roads and rails, on bridges and in aisles, it is also important to make the right choice. KOHLHAUER offers a solution for everything. Unique noise barriers

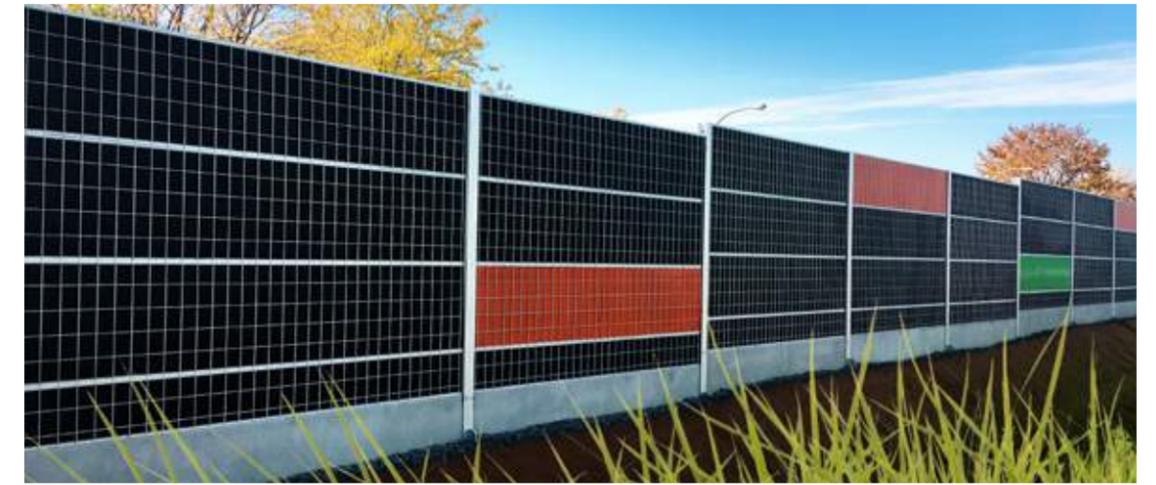
that perfectly combine high technical standards, environmentally conscious construction and an attractive appearance. In addition to pure, aesthetic noise protection, they also serve to conserve resources.

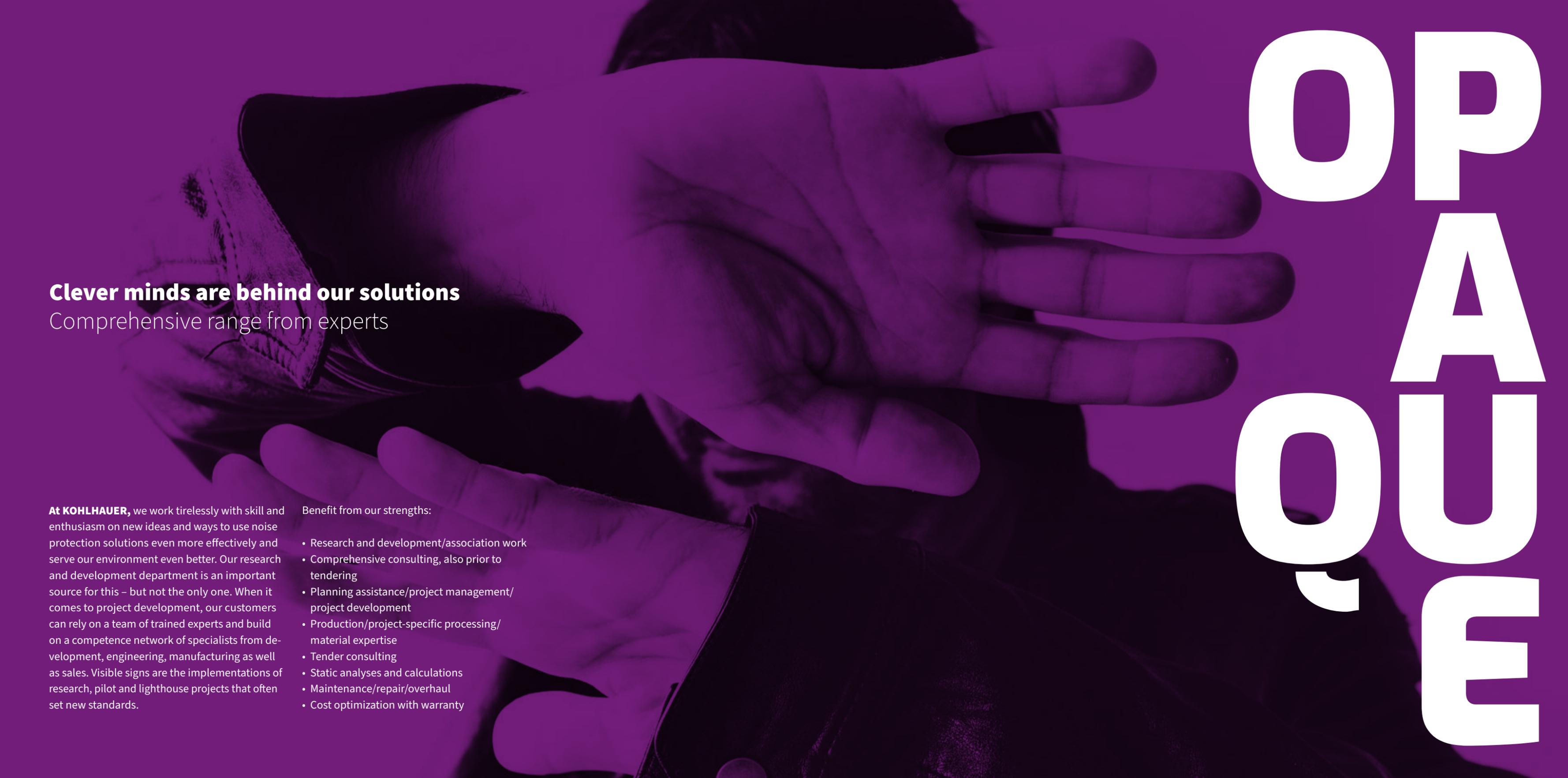
Today, the KOHLHAUER product range in the field of opaque noise protection extends from grid insulation systems to greenable walls made of rock wool or walls made of wood to walls made of aluminum elements.

*D-Frankfurt-Heddernheim,
waste-to-energy plant,
KOHLHAUER ALUMNA®*



*CAN-Ville de Lavalle,
KOHLHAUER ALUFERA®*





Clever minds are behind our solutions

Comprehensive range from experts

At **KOHLHAUER**, we work tirelessly with skill and enthusiasm on new ideas and ways to use noise protection solutions even more effectively and serve our environment even better. Our research and development department is an important source for this – but not the only one. When it comes to project development, our customers can rely on a team of trained experts and build on a competence network of specialists from development, engineering, manufacturing as well as sales. Visible signs are the implementations of research, pilot and lighthouse projects that often set new standards.

Benefit from our strengths:

- Research and development/association work
- Comprehensive consulting, also prior to tendering
- Planning assistance/project management/project development
- Production/project-specific processing/material expertise
- Tender consulting
- Static analyses and calculations
- Maintenance/repair/overhaul
- Cost optimization with warranty

OPERATION

KOHLHAUER
ALUFERA®



EFFICIENT

// A new generation
of aluminum elements

*Shown here: D-Nuremberg, US parcel and logistics
service provider, KOHLHAUER ALUFERA®*

The allround grid-insulation system

KOHLHAUER ALUFERA® has been adapted exactly to the requirements of the European markets of the future. It follows the proven design principle of KOHLHAUER PLANTA®. The result is a lightweight, large-format, visually appealing sound insulation element with highly efficient acoustic properties and an easy-to-assemble, patented fastening system.

Application safety

All KOHLHAUER Grid Insulation Systems (GDS), including KOHLHAUER ALUFERA®, have been tested and certified by renowned institutes with regard to acoustic and mechanical properties.

Advantages and properties

- Innovative system frame made of aluminum for large-area applications
- Stable element structure for a constant, natural appearance
- Excellent sound-absorbing and highly absorbing properties on both sides, classified in B3 and A3 according to ZTV-Lsw (German standard) (also available in A4 as an optional extra!)
- CE certifications are available
- Stable tongue and groove locking for easy insertion of several elements on top of each other
- Stable vertical bars for large stacking loads
- Ventilation and drainage channels for constant noise control and water drainage
- Innovative, patented fastening system for different post profiles reduces installation time on site and protects the posts
- Different height compensation modules (can also be used several times on top of each other) for easy adaptation to different terrains
- Modular standard elements for cost-effective realization of large projects
- Color variants for anti-evasion nets allow individual design
- Materials used 100 % recyclable
- Very high resistance to aging and corrosion
- High UV and color resistance of all materials used
- Can be combined with other noise protection elements (e.g. KOHLHAUER SCORSA®/ KOHLHAUER VOLTA®)

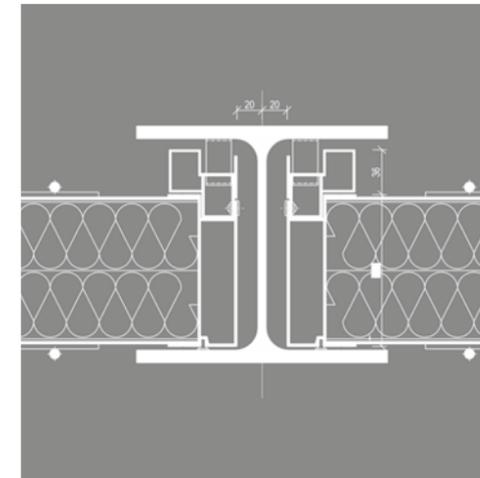
KOHLHAUER ALUFERA®

Optimized and large-format for convincing economic efficiency

BIH-Prnjavor-Doboj,
KOHLHAUER ALUFERA®



Example drawing
KOHLHAUER ALUFERA®



D-Metzingen, Eichbergstraße,
KOHLHAUER ALUFERA®
with digital printing



System structure

Basic elements

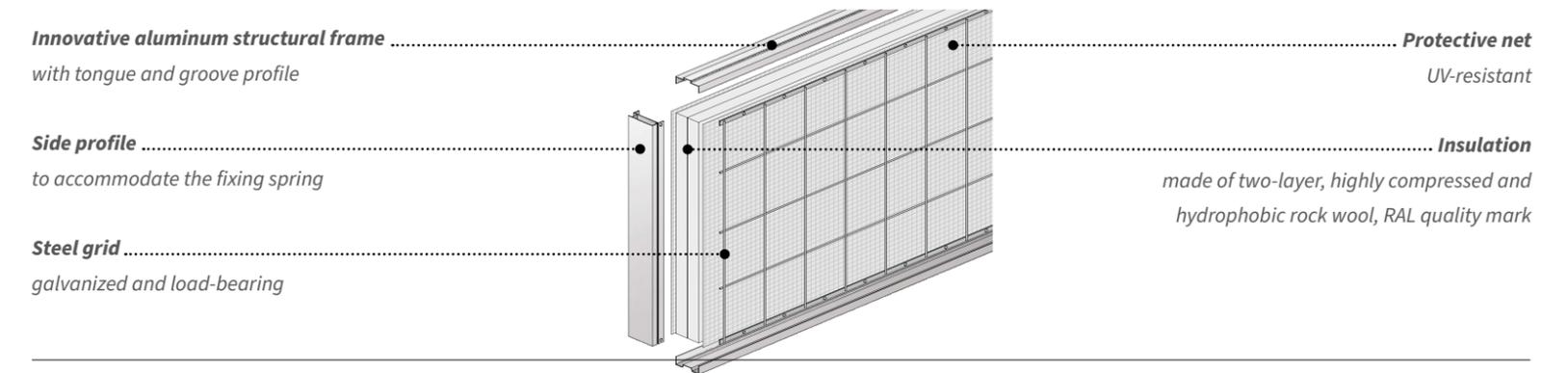
- Available in the following formats:
3,960 x 500 / 3,960 x 1,000 / 3,960 x 1,500 mm
4,960 x 500 / 4,960 x 1,000 / 4,960 x 1,500 mm
- Elements can be moved using reusable eye-bolts and screw-in sleeves integrated in the top chord
- Standard equipment: innovative aluminum frame, galvanized (80 µ) load-bearing steel mesh (334 x 250 mm mesh width), protective net (gray, 2 x 2 mm mesh width), basic insulation of class B3/A3
- Fixing by means of patented fixing spring in the post (HE 160/180)
- Distance profile for mullion (HE 200/220) possible

Special equipment/accessories

- Height compensation 100 to compensate for different terrains, as base element for integration into the terrain or as design variant between the elements
- Height compensation 25 for use between the elements
- Covering for a successful finish of elements mounted on top of each other with innovative tongue and groove technology
- Adaptation to posts larger than HEA/U 160 possible
- Color design options of the protective net for an individual appearance
- Digital motif prints for sophisticated design solutions
- Acoustic foils to meet special sound absorption requirements (A4)
- The price-optimized mesh (334/250 mm) has an aesthetically light appearance

Wall structure

(from the outside to the inside)



Detail view
KOHLHAUER ALUFERA®



BIH-Prnjavor-Doboj,
KOHLHAUER ALUFERA®



D-Eggolsheim,
Fährstraße,
US online mail order company,
KOHLHAUER ALUFERA®



// Attracting attention with
digital printing

Shown here: F-Saint Victoret Zac Empalières
(Paysages Méditerranéens), KOHLHAUER ALUFERA®

// **Aiming high**
and going sustainably green

Shown here: I-Bergamo, KOHLHAUER PLANTA®

NAT UR AL



Ecological noise protection solutions

with KOHLHAUER PLANTA® convince with their natural design that adapts harmoniously to any environment – with or without planting. The well thought-out element construction and clever system components make the noise barriers particularly easy to install and a sensible solution for any budget.

Application

In inner-city areas, noise protection measures are required that can be installed quickly and flexibly and can be placed between existing objects without any problems. Whenever there is little space available, it is important to implement noise protection measures that are suitable and fit in well with the surroundings. Thanks to the high environmental compatibility and sustainability combined with functionality and acceptance by residents, planners, landscape

architects and authorities rely on KOHLHAUER PLANTA®. The well thought-out noise barriers perfectly combine an attractive appearance, environmentally conscious construction and high technical requirements. All KOHLHAUER PLANTA® noise barriers have been tested and certified by renowned institutes with regard to acoustic and mechanical properties.

Advantages and properties

- Innovative aluminum profile frame for adaptation to regional structural requirements
- Stable element structure for a constant, natural appearance even without planting
- Excellent sound-absorbing and highly absorbent properties on both sides, classified as B3 and A3-A4 according to ZTV-Lsw
- A close-meshed grid gives stability to the wall planted with climbing plants and gives the plants a firmer hold
- Suitable for extensive planting on both sides
- Sturdy tongue and groove locking system for easy placement of multiple elements on top of each other
- More robust vertical bars for even higher noise barriers
- Ventilation and drainage channels for constant noise protection performance
- Innovative patented fastening system for different post profiles reduces installation time
- Modular standard elements (3,960 x 500 mm, 3,960 x 1,000 mm) for cost-effective and short-term realization of small and large projects
- Different height compensation modules (can also be used several times on top of each other) for easy adaptation to different terrains
- Materials used 100 % recyclable
- Very high aging and corrosion resistance
- High UV and color resistance of all materials used
- Can be combined with other KOHLHAUER noise protection elements

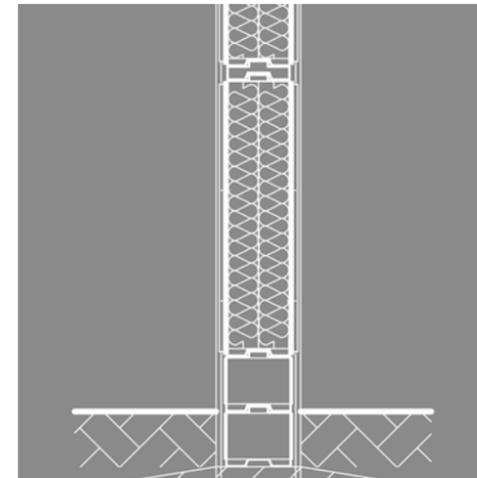
KOHLHAUER PLANTA®

Greenable, adaptable noise protection solution for any environment

I-Bergamo,
KOHLHAUER PLANTA®



Example drawing
KOHLHAUER PLANTA®



CH-Nyon,
KOHLHAUER PLANTA®



System structure

Basic elements

- Available in sizes 3,960 x 500 mm or 3,960 x 1,000 mm (for use in the lower or upper wall area)
- Can be relocated using reusable eyebolts and screw-in sleeves integrated in the top chord.

- Standard equipment: innovative aluminum frame, galvanized (80 µ) load-bearing steel mesh (144 x 200 mm mesh size), PES grid mesh (green, 7 x 7 mm mesh size), basic insulation class B3/A3
- fastening by means of patented fixing springs in the post

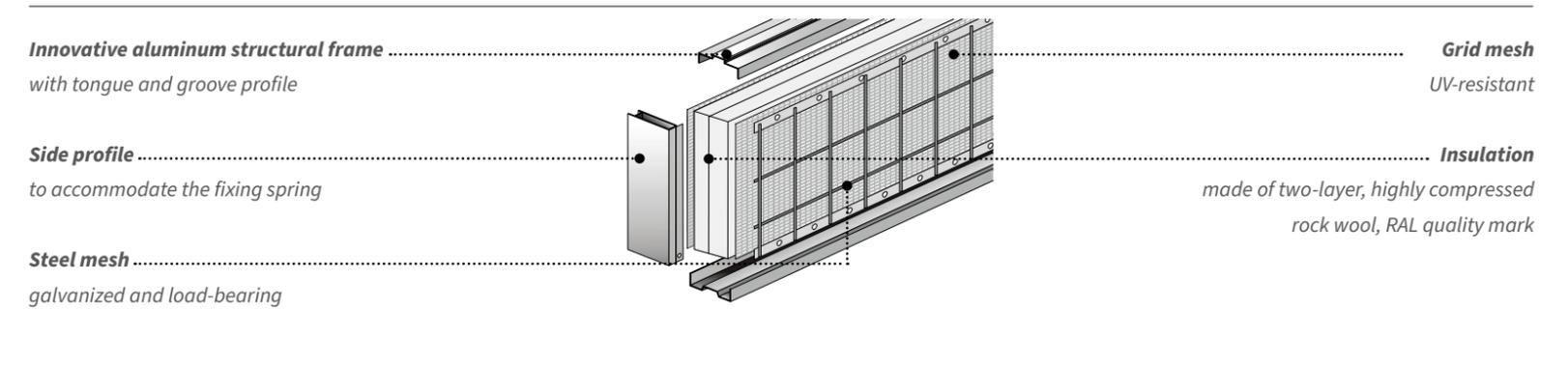
Special equipment/accessories

- Height compensation 100 to compensate for different terrains, as base element for integration into the terrain or as design variant between the elements

- Height compensation 25 for use between the elements and as post adjustments
- Covering for a successful finish of elements mounted on top of each other with innovative tongue and groove technology

- Adaptation to mullions larger than HEA/U 160 possible
- Acoustic foils to meet special requirements for sound insulation and sound absorption

Wall structure (from the outside to the inside)



CH-Baden,
Schlossberg Tunnel,
KOHHLAUER PLANTA®



KOHLHAUER
ALUMNA®



// **With decors**, KOHLHAUER can also meet local requirements individually

Shown here: QAT-Qatar Metro Rail, KOHLHAUER ALUMNA®

FUNCTIONAL

KOHLHAUER ALUMNA® elements combine the industrial, purist look of a metal facade with the best acoustic and static properties. The elements consist of statically effective top and bottom chords made of extruded aluminum. The front and rear panels of high-quality alloyed aluminum are permanently connected to the horizontal chords and the

side caps. Top and bottom chords act as a tongue and groove system to prevent the passage of sound. The side caps are also made of extruded profiles with incorporated gaskets. The structure of the product is also the basis for aluminum large-area elements in various designs.

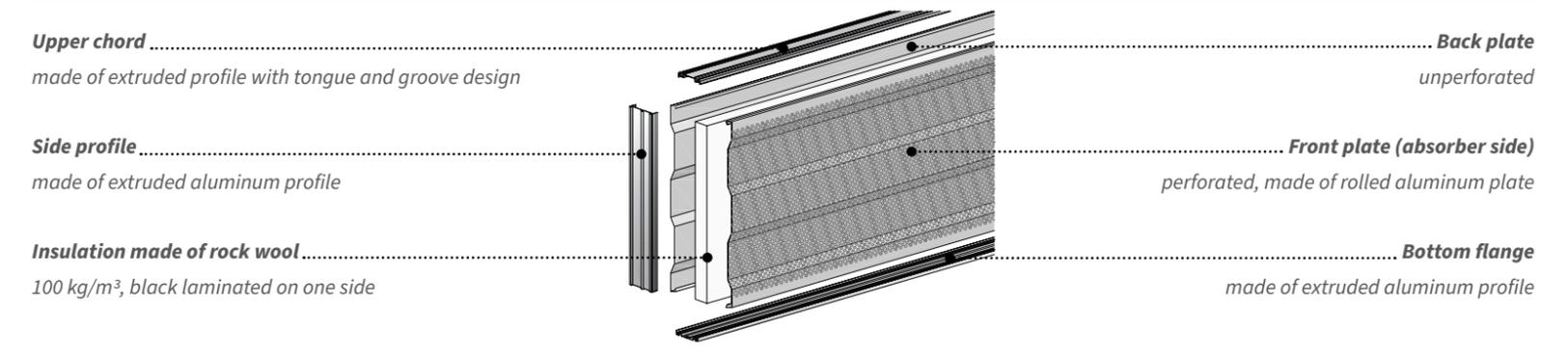
Advantages and properties

- Excellent sound insulation and absorption
- Absorbent on one/both sides
- Dimensionally stable and seawater resistant
- Top and bottom chords provide stability
- Meets the requirements of EN 1793, EN 1794 and ZTV-Lsw
- Easy to install
- Integrated seals on both sides
- Different color coatings possible
- Imperishable appearance
- Can be combined with KOHLHAUER SCORSA® FRAME systems

KOHLHAUER ALUMNA®

Modern design with excellent functionality

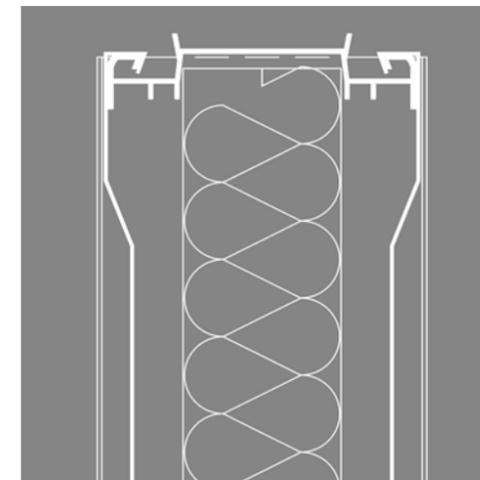
Wall structure (from the outside to the inside)



SGP-Canberra MRT Station,
KOHLHAUER ALUMNA® +
KOHLHAUER SCORSA® FRAME



Example drawing
KOHLHAUER ALUMNA®



D-Würzburg-Randersacker,
A3 Nuremberg-Frankfurt,
KOHLHAUER ALUMNA® +
KOHLHAUER SCORSA® FRAME



KOHLHAUER
LIGNA®



CLOSE TO NATURE

// **High-quality noise barriers** made of natural materials by KOHLHAUER.

Shown here: NL-Nunspeet, KOHLHAUER LIGNA®

High-quality noise barrier systems made of impregnated pine wood or, on request, other types of wood (such as larch heartwood) in highly absorbent and reflective construction. KOHLHAUER LIGNA® offers advanced noise protection that is at the same time ecological, economical and visually appealing. It is mounted between pre-installed posts, founded in or on individual foundations, driven pile foundations or drilled pile foundations. Suitable for overall heights up to 6 meters.

Advantages and properties

- Environmentally friendly
- Long service life
- Inexpensive design variants
- Test certificates according to ZTV-Lsw regulations are available
- Elements comply with EN standards
- CE certified

Construction

The upper and lower frames are made of profiled crosspieces. On these are vertically arranged tongue-and-groove planks, nailed from the back. All fasteners are made of stainless steel V4A. In front of the planks, an absorption panel with a bulk density of 100 kg/m³, which is laminated with a black

glass fleece on the front side. At the sound entry face, the wall is clad with vertically nailed-on half-round timbers. The vertical frame timbers are milled to accommodate a compression strap. Additional locking of the wall is provided by wedges and a cover at the top completes the design.

Wood protection

- Chemical wood preservation according to the latest environmental standards
- Environmentally friendly and durable impregnation

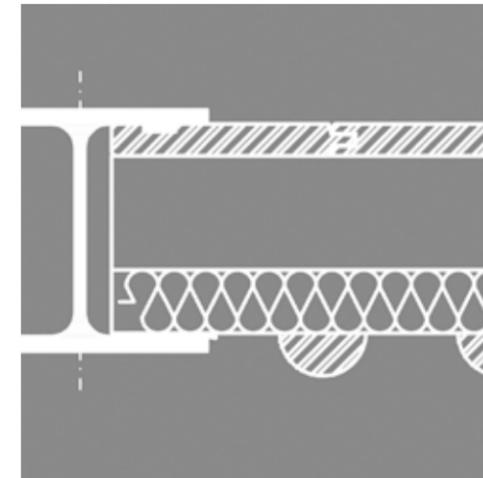
KOHLHAUER LIGNA®

Innovative, environmentally friendly noise protection made from renewable raw material

D-Beilngries,
Altmühl-Jura,
KOHLHAUER LIGNA®



Example drawing
KOHLHAUER LIGNA®



D-Zwickau,
KOHLHAUER LIGNA®





HOW TO REACH US

The way to us is shorter than you think – and it saves you a lot of detours.

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Locations //

Germany

Poland

India



The transparent solution from KOHLHAUER works with proven materials such as acrylic or silicate glass in various aluminum frame systems.

The grid-insulation system is highly absorbent on both sides as well as resource-saving and offers many design possibilities as well as acoustic advantages.

The modular, greenable solution is sustainable and environmentally friendly. It also opens up habitat for small animals and plants.

The solar integration solution in a wide range of system combinations, safe and with high yield due to standard modules.

High-quality aluminum elements, which can be designed to be absorbent on one or both sides, represent industrial style.

The unique wood systems convey naturalness. A boiler pressure impregnation or the material choice of larch heartwood give durability.

A modular frame system combines the necessary absorption with transparency. Specially tested for railroad lines, it offers unobstructed views and the best prospects despite noise protection.

The complete system that adapts to urban conditions and offers a wide range of design options – quick and easy to install, sleek in appearance.

