



ENBF / DVLV



Presented by
Reinhard Kohlauer

THE TRANSPORT SECTOR



The transport sector is in the midst of our society.

We all want to be able to quickly and easily get from one place to the other and for this to occur quickly and smoothly.

Economic and social well-being is unthinkable without the transport sector.

However, particularly the growth in freight traffic will increase the strain on the environment.

The resulting noise is a major stress factor for people.

NOISE

Source



- => Motor transport
- => Railways
- => Aviation
- => Water transport
- => Stages, stadiums...
- => Factories, objects of industry...
- => Building sites
- => Other local noise sources

NOISE

How to deal with noise?

Careful planning of the city

Transfer of existing trails

Rescheduling of traffic flows

Improving road coatings

Increasing noise requirements for transport

Plastic windows

Noise barriers


NOISE BARRIERS

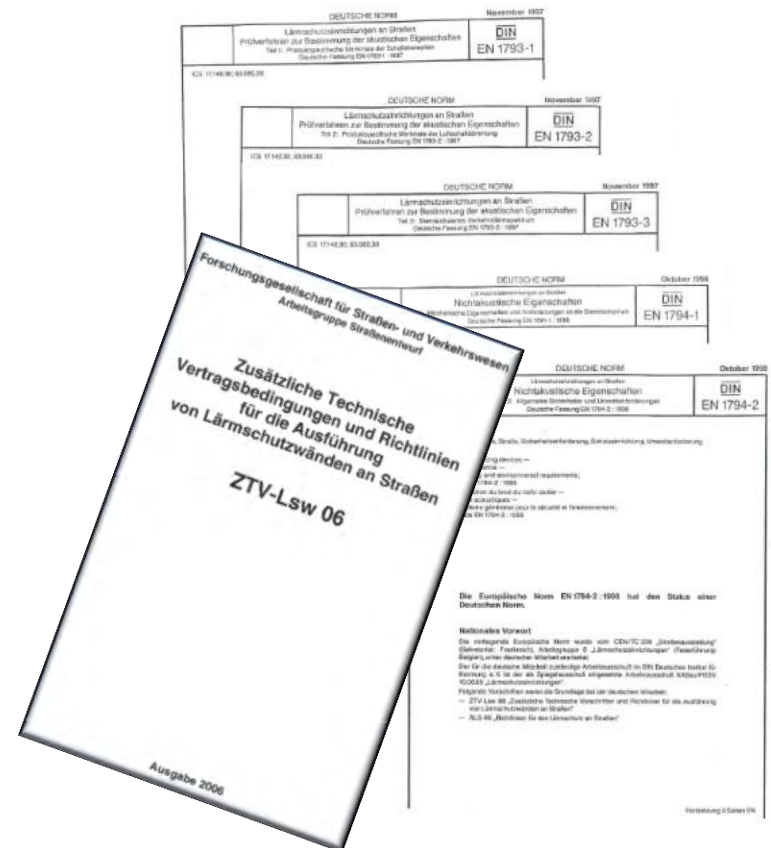
Why not ordinary fence?

Sound barriers are made in accordance with European Standards EN 1793 and EN 1794 and their technical characteristics are approved by test certificate.

The base for standards: ZTV - LSW '06

Sound insulation	- EN 1793-1
Sound absorption	- EN 1793-2
Acoustic characteristics	- EN 1793-3
Wind load resistance	- EN 1794-1
Stone impact strength	- EN 1794-1
Dynamic load from snow clearance	- EN 1794-1
Safety in collision	- EN 1794-1
Resistance to brushwood fire	- EN 1794-2
Light reflection	- EN 1794-2
Transparency	- EN 1794-2

 **With us you will get what you want – ask for *Noise Barrier Wall* – not an ordinary fence!**



NOISE BARRIERS

What kind to choose?

- The cheapest! – Of course!
- But what about appearance? How will it look like after few years?
- That's how!



- But will it be the cheapest in the sense on time?...
- Lets calculate!



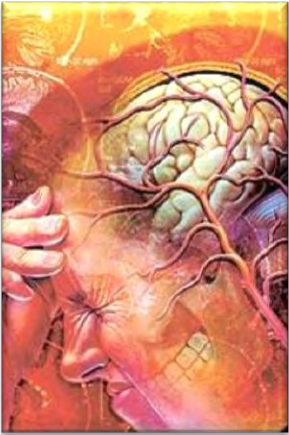
NOISE BARRIERS

Sample: costs for 10 years

Company	Offer	Price Eur/sqm	Guarantee	Service life	Total price Eur/sqm after 10 years
K	Aluminum sound absorbing panels + Acrylic glass sheets "Plexiglass" 15mm in 4-sided aluminum frame	150	10 years	15 years	150
X	Galvanized sound absorbing panels + Acrylic sheets "???" 12mm with L-profile fastening	100	3 years	5 years	300

NOISE

Is it harmful?



- => What do we know about noise?
- => Simple irritating factor?
- => Restless sleep or insomnia?
- => Headache, Migraine?

Official data of World Health Organization is that the pollution is the reason for more then 3% of all heart attacks happening in the world.

NOISE

Makes people ill



Traffic policy is no longer viable without active ecological components.

Public acceptance of a broad expansion of the transportation infrastructure crucially depends on noise reduction.

Noise prevention must be extended!



The European Noise Barrier Federation ENBF is a new non-profit association which coordinates the view of National organizations and experts in the field of noise reducing devices along traffic lines. Based in Brussels, the ENBF is a unique platform at European level which promotes information exchange and research.

The European Noise Barrier Federation promotes specific objectives addressing traffic noise abatement in the spirit befitting a non-profit making organization. These objectives are:

- To support Research & Development on systems and products
- To provide effective support to legislation / administration
- To promote qualification standards
- To advice professionals and inform public

Members

Associazione Costruttori Acciaio Italiani (ACAI), Italy

Associacao Nacional de Empresas de Acustica (ANEA), Portugal

Asociacion Nacional de Industriales de Pantallas y dispositivos Anti-ruido (ANIPAR), Spain

Association Professionnelle des Réalisateurs d'Ecrans Acoustiques (APREA), France

German Association Noise Barriers (DVLV), Germany

DECEUNINCK NV / MICE SA / Gerhard Mosdzianowski, Belgium

Objectives

The Association promotes specific objectives addressing traffic noise abatement in the spirit befitting a non-profit making organization These objectives are:

To support Research & Development on systems and products

To provide effective support to legislation / administration

To promote qualification standards

To advice professionals and inform public

Activities

In order to meet these goals, the association proposes to carry out the following activities:

To exchange knowledge and expertise on products and solutions among members of the Federation;

To provide informative support and cooperation to the bodies in charge of writing European legislation and European technical standards;

To set up the basis for cooperation between industry, public administration and other relevant stakeholders;

To develop communication tools in order to spread knowledge and expertise to a large audience.

CE - CERTIFICATION

European Standards EN 1793 and EN 1794



Notified body # 0800
IT-Report S 2.1/12-008-1
2012-01-13



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Designed by R. Kohlhauer GmbH
Product engineered in Germany

2012

EN 14388:2005

Noise barrier for reduction of traffic and all other noise,
acoustic absorbent and insulating.

Acoustic element type: KOHLHAUER® ALUPERA

Standard size L x H x T (m)	3,96x1,00	4,96x1,00	4,96x1,50
Element thickness T (m)	0,122		
Steel grid a ₁ (mm) x a ₂ (mm)	Ø 6 / (250/200) x Ø 6 / 197		
Post type	HE-A/-B/-M, (U-) 160/180/200		

Dry weight [kN]	0,97	1,36	2,06
Reduced wet weight [kN]	1,52	1,43	2,79

Resistance to loads:

Wind- and dead load [kN/m²]	1,40	1,22	0,96
Vertical load [kN/m]	4,87	4,51	4,43
Snow clearance (dyn. load) [kN/(2 x 2 m)²]	15,00	9,96	NPD

Other resistances:

Impact of stones	Fulfilled
Fire (brushwood)	Class 1

Acoustics:

Sound Absorption	DL _a [dB]	11 / Gruppe A3
Sound Insulation	DL _s [dB]	28 / Gruppe S3

Durability:

Estimated service life, acoustics / structure (years)	NPD
	15 / 30



Notified body #1390
IT-Report 1390-CPD-0661/0/2
29.06.2010



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2010

EN 14388:2005

Noise barrier for reducing traffic and all other noise,
acoustic absorbent and reflective,
for plantable and standalone use.

Acoustic element type: Kohlhauser PLANTA® BASIC

Standard size L x H x T:	3,96 x 1,00 x 0,145 ... 0,122 m
Steel grid:	Ø 6 / 200 x Ø 6 / 144 mm
Post type:	HE-A/-B/-M, (U-) 160/180/200

Dry weight:	1,15 kN
Reduced wet weight:	2,93 kN

Resistance to loads:

Maximal vertical load:	5,20 kN/m
Normal (90°) Load (due to wind and static):	2,10 kN/m²
Normal (90°) Load (due to wind, static external and self weight):	NPD
Barrier Height 2x1 m = 2 m	2,10 kN/m²
Barrier Height 4x1 m = 4 m	2,10 kN/m²
Barrier Height 6x1 m = 6 m	1,90 kN/m²

Bending Moment at ground level (due to Snow Clearance): 4,80 kNm

Normal (90°) Load (due to snow clearance):	12,4 kN/(2x2 m)
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Sound Absorption: DL_a = 9 dB

Airborne Sound Insulation: DL_s = 26 dB

Durability:

Estimated Service Life, Acoustics	NPD
Estimated Service Life, Structure	15 years
Estimated Service Life, Structure	30 years



Notified body # 1390
IT-Report 1390-CPD-0476-1/2
24.01.2011



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2011

EN 14388:2005

Transparent noise barrier for reducing traffic and all other noise, acoustic reflective

Acoustic element type: Kohlhauser SCORSA® FRAME-B XT-15

Standard size L x H x T:	1,95 x 3,00 x 0,07 m
Sheets:	PMMA t = 15 mm
Frame:	ALUMINIUM EN-AW 6060 T6
Post type:	HE-A/-B/-M, (U-) 160/180/200

Dry weight:	1,17 kN
Reduced wet weight:	1,17 kN

Resistance to loads:

Maximum vertical load:	NPD
Normal (90°) load (due to wind and static):	1,31 kN/m²
Normal (90°) load (due to wind, static external and self weight):	NPD
Blending moment at ground level (due to snow clearance):	2,23 kNm
Normal (90°) load (due to snow clearance):	9,22 kN/(2x2 m)

Impact of Stones: Fulfilled

Resistance to brushwood: Class 1

Airborne sound insulation: DL_s = 30 dB

Durability:

Estimated service life, acoustics	NPD
Estimated service life, structure	30 Jahre
Estimated service life, structure	30 Jahre



Notified body #0800
IT-Report S 2.1/10-911-4
19.11.2010



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Product produced in Germany

2010

EN 14388:2005

Noise barrier for reducing traffic and all other noise,
acoustic reflective.

Acoustic element type: Kohlhauser LIGNA®-2

Standard size L x H x T:	3,96 x 2,00 x 0,159 ... 0,112 m
Wooden halfround slats:	0,54 / 112 mm
Wooden rear planks:	152/20 mm
Wooden clappings:	112/105 mm
Post type:	HE-A/-B/-M, (U-) 160/180/200

Dry weight:	0,29 kN/m²
Reduced wet weight:	0,31 kN/m²

Resistance to loads:

Maximal vertical load:	3,62 kN/m
Normal (90°) Load (due to wind and static):	2,10 kN
Normal (90°) Load (due to wind, static external and self weight):	NPD
Barrier Height 2x2 m = 4 m	1,00 kN/m²
Barrier Height 3x2 m = 6 m	0,80 kN/m²
Barrier Height 4x2 m = 8 m	0,63 kN/m²

Bending Moment at ground level (due to Snow Clearance): NPD

Normal (90°) Load (due to snow clearance): NPD

Airborne Sound Insulation: DL_s = 26 dB

Durability:

Estimated Service Life, Acoustics	NPD
Estimated Service Life, Structure	15 years
Estimated Service Life, Structure	30 years



The French Noise Association "Association of Professional Réalisateurs d'Ecrans Acoustique" (APREA) was founded in 1986 by a group of 8 companies. The Association represents and defends the interests of companies like noise companies, engineers and authorities, operating on the french market.

Content and purpose of APREA is to promote the technical and financial foundations and conditions for implementation of noise abatement projects and securing and developing the quality of noise reducing devices.

In particular, urban noise, noise protection on road and rail routes are carried out in working groups in the areas of introduction of quality and certification mark. The APREA is also an essential link between practice and French administration in the fields of standardization, science, infrastructure development, transport and environment.



The “GERMAN ASSOCIATION FOR NOISE PROTECTION ON TRAFFIC ROUTES (DVLV)” was established on 25.01.2012 in Westerburg, Germany. In January 2012 there were 27 founding members laid the foundation for the German Association for Noise Protection on Traffic Routes (DVLV) in Bonn.

Summarized in the slogan “partnership, competence, experience”, the members of the association have set themselves the goal of promoting the professional interests of the noise protection industry. Manufacturers of noise protection components, planning offices and construction companies met at the founding meeting to define the direction of the association and to codify it in the statutes.

As a moderator the association (DVLV) will make contact with ministers, German highway agencies and the German Federal Highway Research Institute (BAST) to exchange information and therefore ensure, inter alia, simplified communication between service provider and contracting authority.

“German Association for Noise Protection along Traffic Routes”

Promoting cost effective for noise barriers to be erected close to traffic infrastructure, defining standards as well as representing the concept of quality rules

Active presence and involvement in the creation of national and internat. policies

Being a competent partner for customers of noise barriers as well as a central unit for feedback

Advising its members in all professional matters with economical, legal or technical regards

Informing the appropriate authorities, clients and third parties about problems, requests and wishes of its members

“German Association for Noise Protection along Traffic Routes”

Opposing unfair competition in marketing and all other variants by all possible means, as well as vigorously countering all violations against commercial practices and propriety

Advising and supporting legislative bodies at federal, state and community levels with the elaboration and preparation of respective legislation

Consistent contact with the media through public relations, informing the media constantly about problems, requests and wishes of the union and its members, as well as ensuring a favourable public image and reputation for the union and its members



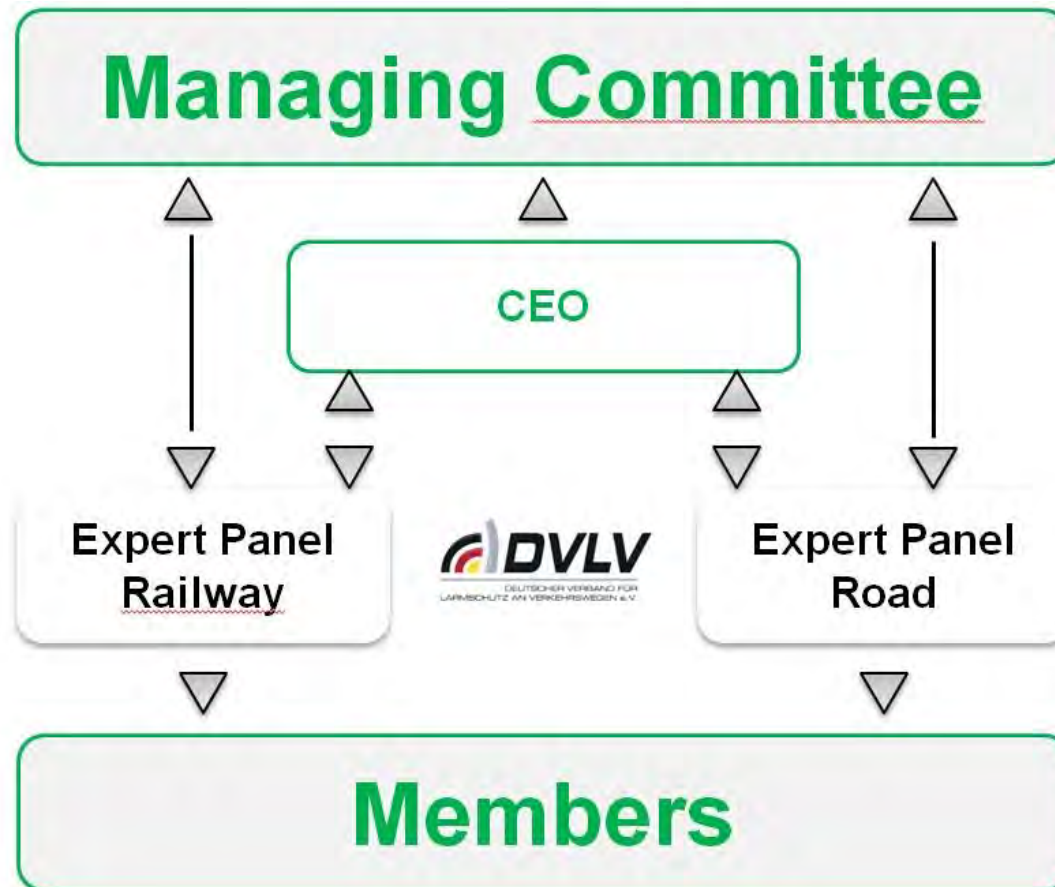
The market for noise barriers is going to grow and it was therefore time to establish an association in order to ensure that some issues can be clarified in advance.

=> DVLV



The Union and its Structures

..we value communication!



The Association as a Network



already more than 50 members!

Noise Protection

Systems and Materials

Systems

- Noise Barriers
- Low-Height Noise Barriers
- Gabion Walls
- Green Walls

Area of Application

- Road
- Railway
- Residential
- Private

Systems

- Aluminium
- Concrete, Stone
- Glass, Plastics
- Timber
- Gabione
- etc.

Examples for Noise Protection Systems



Examples for Noise Protection Systems



Examples for Noise Protection Systems



Examples for Noise Protection Systems



Examples for Noise Protection Systems



Noise Protection and its Regulations:

Directives:

- ZTV-LSW 2006
- Ril 804.5501 (German Railway)

European Norms:

- EN 1793 parts 1 to 5
- EN 1794 parts 1 to 2
- EN 14388 ... „CE Marking“ etc.

DVLV and all ist members participate actively in optimizing as well as creating national and interntional norms and directives.

..how to become a member of ENBF?

Full Membership

Interest in continued existence of the Association

„Active“ member with active and passive voting rights

Direct participation in the Association

Maintaining contact and

Right to participate in expert panels

=> „Member“ with direct Participation Rights

Now you will be asking yourself what we do exactly

How can older regulations be updated; what needs to be amended; does everything still correspond to the current technological standards and what can be omitted.

How should standard service catalogs for tenders look so they have the same requirements for all.

The quality of the planning, construction work and materials, as well as the guarantees are always discussed intensively.

Now you will be asking yourself what we do exactly

The state requires an adequate equivalent value. It is only possible to build in accordance with technical regulations, legislation specifications and approvals.

All the materials to be used in the construction must be tested and licensed.

The durability and longevity must be guaranteed and this can only be achieved by good quality of products.

Now you will be asking yourself what we do exactly

We all know that quality products are more expensive, but in terms of life-cycle costings, the investment is always worth it.

A rethink is needed here.

Now you will be asking yourself what we do exactly

The Association promotes specific objectives addressing traffic noise abatement in the spirit befitting a non-profit making organization. These objectives are:

To support Research & Development on systems and products

To provide effective support to legislation / administration

To promote qualification standards

To advice professionals and inform public

Now you will be asking yourself what we do exactly

In order to meet these goals, the association proposes to carry out the following activities, which are listed on a non-restrictive basis:

- To exchange knowledge and expertise on products and solutions among members of the federation
- To provide informative support and cooperation to the bodies in charge of writing European legislation and European technical standards
- To set up the basis for cooperation between industry, public administration and other relevant stakeholders
- To develop communication tools in order to spread knowledge and expertise to a large audience

Membership to the Federation

is open to:

All professional associations and groups of interest (Effect.Members) established in the European Union, the European Economic Area and the Candidate Countries to the European Union

All companies legally incorporated according to their National Law (Associated Members)

Physical Persons (Associated Members)

EFFECTIVE MEMBERS

Unione Nazionale delle Industrie delle Costruzioni Metalliche e dell'Involucro e dei Serramenti
(<http://www.unicmi.it>) UNICMI, Italy

Asociacion Nacional de Industriales de Pantallas y dispositivos Anti-ruído
(<http://www.aecarretera.com/anipar/>) ANIPAR, Spain

Association Professionnelle des Réalisateur d'Ecrans Acoustiques
(<https://aprea.fr/index.php>) APREA, France

Deutscher Verband für Lärmschutz an Verkehrswegen e.V.
(<https://dvlv.de/>) DVLV, Germany

ASSOCIATED MEMBERS

Bayer Sheet Europe - (<http://bayersheeteurope.com>) Belgium

CIR Ambiente - (<http://www.cir-ambiente.it/>) Italy

DECEUNINCK NV - (<http://www.deceuninck.com>) Belgium

EVONIK - (<http://evonik.com/en/>) Austria

KOHLHAUER GmbH - (<http://www.kohlhauer.com/>) Germany

MICE SA - (<http://www.micesa.be>) Belgium

Van Campen Industries B.V. - (<http://www.campen.nl>) Netherlands

Alfa Bond Kohlhauer Sp. z o.o. - (<http://www.kohlhauer.com/>) Poland

LS Lublow GmbH - (<http://www.lublow-gmbh.de>) Germany

Akripol - (<http://akripol.si/en>) Slovenia

ADVANTAGES

Regular noise sector information updates

Participation in Programmes and Working Groups

Networking and speaking opportunities at workshops and conferences

Advocacy services: specific policy messages delivered to key (EU and national) policy-makers, government officials, academics, opinion leaders

Access to the ENBF Members Area of the website

MEMBERSHIP ANNUAL RATES & CONTACTS

Effective members	EUR 1.175,00 EUR
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Associated members	EUR 666,00 EUR
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Secretariat

European Union Road Federation

Place Stephanie 6/B

1050 Brussels, Belgium

ENBF CONCLUSION

..stays for:

Cost-effective but durable solutions

Standardization in quality and warranty

European quality level

Co-financing of infrastructure and noise barrier / safety barrier, but in accordance to european safety and quality standard

Taxes of all european citizens should be used for Co-financing of same level in safety and quality

Good acceptance of noise barriers, similar to buildings

Thank you for your attention!

