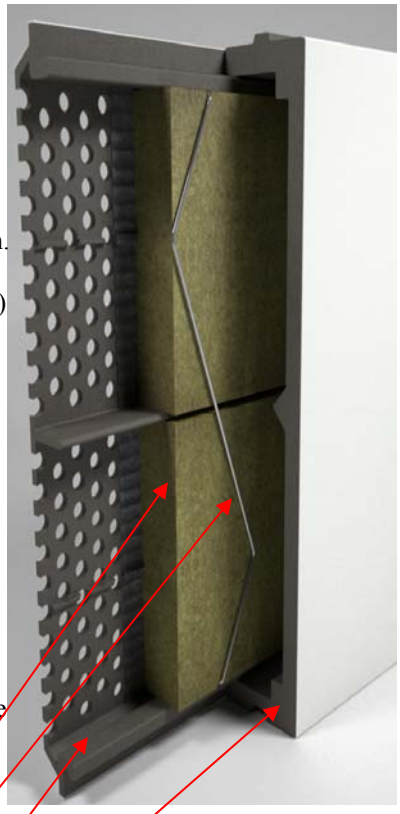
TECHNICAL DATASHEET:

ABSORBING ACOUSTIC BARRIER DLα = 12dB – A4/B3

1. GENERAL.

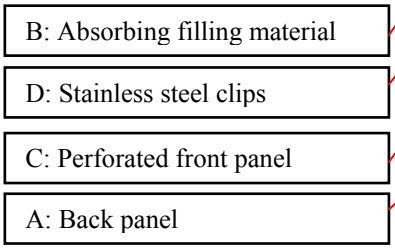


The acoustic barrier consists out of 4 main elements:
- The Back panel (A)
- The Absorbing filling material, thickness 60mm. (B)
- The Front panel (C)
- The Stainless steel clips (D)

After assembling they make an absorbing barrier of 12.5cm thick and 50 cm high. 2 absorbing filling material panels are kept in position in the internal geometric shape of the front panel by means of stainless steel clips. (5 per 2 running metres) The front side and the back side are connected to each other with stainless steel screws. (see cross section)

The external geometry of the back panel is foreseen of a tongue and grove. This tooth and groove increases the acoustic performances and allows a stacking of multiple elements so a stable acoustic wall is obtained, from which the different elements can not be displaced out of their plane.

The acoustics wall, consisting out of different elements, is by preference erected between steel HEA beams. HEA 160 is used till 3m height with elements till 4m long and a HEA 200 for a height till 5m with elements till 3m long.
Other element lengths to be calculated according loads.
The absorbing acoustic wall is erected with the perforated front panel towards the noise source. This can be realised with horizontal as well as vertical positioned elements.



A. The Back panel: A structural U-shaped box, ensuring acoustic transmission insulation, exists out of 100% recycled cellular U-PVC hard foam with a co-extrusion top layer, with a minimal thickness of 18mm.

B. Absorbing filling material: An acoustic absorption material preserving its acoustics characteristics even
in extreme high humid conditions. The absorbing material plate is not touching the backside of the U-shaped box. This material is made out of rockwool, covered at the front side with a black glass fibre protection tissue. The rockwool has a mass density of 60kg/m³ and the black glass fibre protection tissue of 60g/m². The rockwool panel has a 100% form stability in a 95% relative humid atmosphere. The rockwool panel is at the same time moisture repellent and not hygroscopic.

C. Front panel: A 100% recycled cellular U-PVC hard foam perforated front panel with a co-extrusion Top layer. The front panel protects the acoustic absorption material rockwool panel. This spacing is ensuring an acoustic performance longevity. Total thickness = minimum 8mm. The surface of the front panel is ~35% perforated. Thickness rockwool panel: 60 mm.

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2. COLOURS.

PUR based paint, hardened in a furnace. Paint is charged with PA-11 grains.
A. Front side: Standard colour co-extrusion: white (~RAL9016) . Coloured co-extrusion: most common standard RAL range (RAL approx.).
B. Back side: Standard colour co-extrusion: grey (~RAL7042) . Coloured co-extrusion: most common standard RAL range (RAL approx.).

Decoroc 49 standard RAL colours: 1004 – 1015 – 1019 – 3000 – 3005 – 3011 – 5002 – 5003 – 5007 – 5008 – 5010 – 5011 – 5014 –5020 – 5024 – 6002 – 6009 – 6027 – 7016 – 7021 – 7023 – 7024 – 7026 – 7031 – 7033 – 7035 – 7042 – 7043 – 8003 – 8004 – 8016 – 8022 – 9001 – 9005 – 9006 – 9007 – 9016 – rd0204020 – rd2105010 – rd290301 – rd0504050 – rd0505020 – rd0608005 – rd0706020 – rd0708010 – rd0806020 – rd0808005 – rd0856010 – rd0906020. Other colours on request.
Notice: Colours are approaching RAL colours. For Decoroc, see "deuctone" sample flyer.

3. MECHANICAL & PHYSICAL CHARACTERISTICS o/t PROFILES & ELEMENTS

Characteristic	Value	Complying standard
Density co-extrusion layer	~1.5 Kg/dm³	ISO 1183
Density hard foam PVC	~0.8 Kg/dm³	ISO 1183
Weight of the element	~15Kg/lm – ~30Kg/m²	
UV resistance co-extrusion	Conform	EN 1794 part 3.2
Flexion by own weight	Conform	EN 1794 part 1.2
Flexion on 1500Pa wind load (-30°C - +60°C)	Fmax. ≤ 50mm	EN 1794 part 1.1
Dynamic charge due to snow load	Conform	EN 1794 part 1.5
Fire resistance	Class 1	EN 1794 part 2.1
	Class 2	NEN 6065
Optical reflection (visible light)	Reflection 12-30 angle 60°	EN 1794 – part 2.5
Lifetime	Warranty: 20 year minimum	EN 1794 part 3
Water absorption	None	EN 1794 part 3.3
Electrolytic corrosion	None	EN 1794 part 3.5
Stone impact van (-20°C)	Conform	EN 1794 part 1.3
Yield stress	>39N/mm²	ISO 527 type 1B (5 mm/min)
Elongation after rupture	>120%	ISO 527 type 1B (5 mm/min)
Glass transition temperature	Co-extrusion >75°C Hard foam PVC >70°C	ISO 306/B (50N)
Dilatation coefficient	0.07mm/°C/m	DIN 53752
Dilatation coefficient	CEN 1794 part 3.4	Conform
Electrical conductivity	None	
Deflection & absorption of radar Radio waves	None	

4. MECHANICAL & PHYSICAL CHARACTERISTICS of DECOROC®

Characteristic	Value	Complying standard
Minimum thickness co-extrusion	~35 µm	
UV resistance on co-extrusion	Maximum 2 op grey scale	ISO 105/A02
Scratch resistance	> 15N	Erichson test: 15N – plastic wheel
Abrasion resistance	< 9mg	Taber test
Graffiti	Can be removed without affecting the coating	
Impact resistance	Maximum 1 rupture on 10 at -10°C	EN 477
Adhesion	Class 0	NEN 5337

5. ACOUSTIC CHARACTERISTICS o/t ELEMENT.

Characteristic	Value	Complying standard
Acoustic absorption-index Roads & Traffic	12 dB(A)	EN-ISO 354 EN1793-1
Acoustic insulation Roads & Traffic	1) Element loosely stacked on each other DLr = 28 dB(A) 2) Elements with blocking profile on the back DLr = 30 dB(A) 3) Elements with sealing strip & blocking profile on the back DLr = 34 dB(A)	EN 1793-2
Acoustic absorption-index Railway traffic	Part Bulk transport <50% = 9dB(A) Part Bulk transport ≥50% = 10dB(A)	Conform spec's Railway traffic

volume nagalmkamer: 214 m^3

oppervlak monster: 12,04 m^2

opbouwhoogte: 0,129 m

gemeten in: laboratorium

signaal: breedband ruis

bandbreedte: 1/3 octaaf

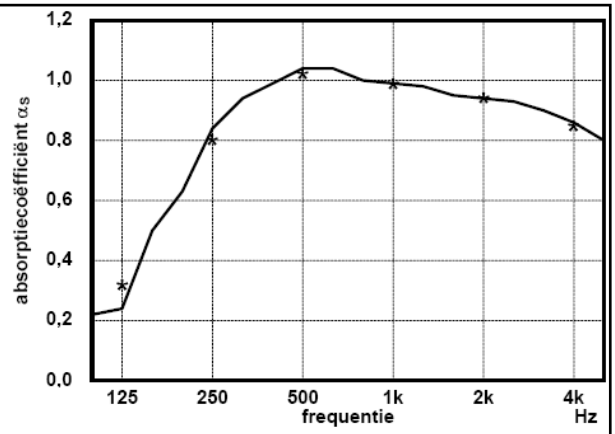
α_w (ISO 11654) = 1,00

NRC (ASTM - C423) = 0,95

DL_α (EN 1793-1) = 12 dB

——— 1/3 oct.

* 1/1 oct.



	125	250	500	1k	2k	4k
1/3 oct.	0,22	0,63	0,99	1,00	0,95	0,90
	0,24	0,84	1,04	0,99	0,94	0,86
	0,50	0,94	1,04	0,98	0,93	0,80
1/1 oct.	**0,32**	**0,80**	**1,02**	**0,99**	**0,94**	**0,85**

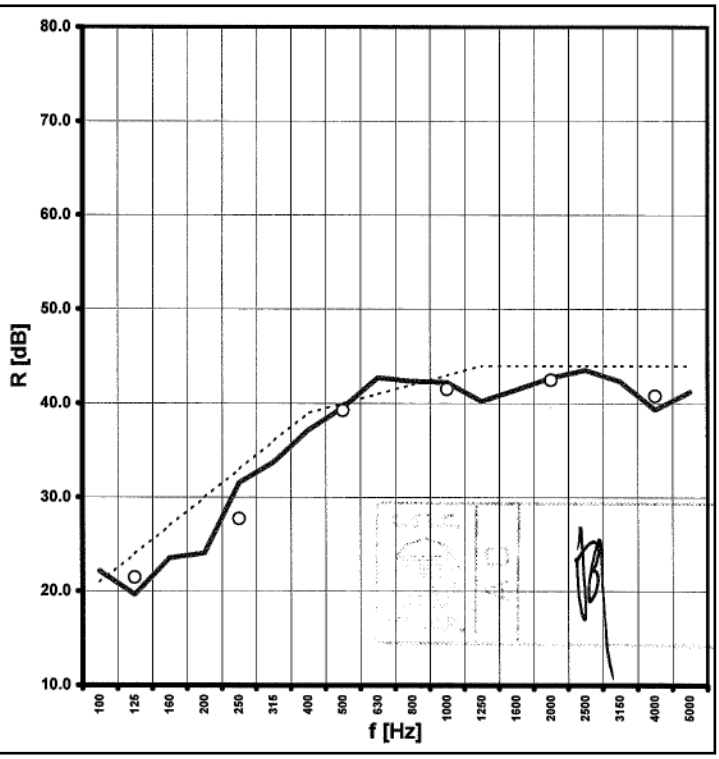
Extract from report A 1822-7 d.d. 12/12/08

f (Hz)	R (dB) ▬ 1/3oct	R (dB) ○ oct
50		
63		
80		
100	22.1	
125	19.6	21.4
160	23.5	
200	24.0	
250	31.5	27.7
315	33.7	
400	37.1	
500	39.5	39.2
630	42.7	
800	42.3	
1000	42.2	41.5
1250	40.2	
1600	41.4	
2000	42.7	42.4
2500	43.5	
3150	42.3	
4000	39.3	40.8
5000	41.2	

R_w (C;C_{tr}) = 40 (-2;-6) dB

DLR = 34 dB

Performance Class : B3



Extract from report AC 4503 d.d. 20/03/08

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6. ECOLOGICAL CHARACTERISTICS.

Part	Ecological performance
Absorbing rockwool	The panels are 100% recyclable in an environmental friendly production process at the manufacturer of the panels. The panels already contain recycled materials.
PVC structure elements	De PVC elements are made out of post-consumer recycled PVC, which is on itself again 100% recyclable.

7. Available element lengths.

Standard lengths: 3m00 – 4m00 – 5m00 (with metal corner reinforcement) ➔5 weeks delivery.
Other lengths available with extended delivery time.

8. Special executions.

- Internal reinforcement: out of profiled steel sheet, thickness 2mm, Sendzimir galvanized 270g/m² for both sides.

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