

# PANEL

### SOUND INSULATING AND SOUND ABSORBING BARRIER

### WE BUILD SILENCE:

- Sound absorbing and sound insulating
- barriers made of recycled PVC compound.

## **NOISE PANEL**

### **TECHNICAL DATASHEET**

Sound insulating and sound-absorbing PVC barrier NOISE Le Difese<sup>®</sup> Panel

Penel consists of an integral box-shaped profile perforated single sided and equipped with internal sound-absorbing mats and two endcaps with structural functions.

The panels are produced with a unique process: tubular extrusion. The panels are customized, cut at the desired length and perforated single sided. The **holes** have different diameters for maximum sound absorption.



The PVC body is composed of recycled plastic material, while its outer surface (skin), is made of virgin UV-resistant PVC, co-extruded to color the panel with a wide range of RAL colors.

The panels are stackable on site. The alignment and acoustic sealing are guaranteed by a strong tongue and groove connection.

The panels are equipped with internal longitudinal reinforcements to increase flexural strength. The excellent mechanical performance is secured by an internal alveolar stiffening structure, obtained by co-extrusion, with the additional function of centering the sound-absorbing mat.

The end caps, produced by injection molding, have a very solid X-shaped structure. They also have a structural function providing support for the vertical load of the overlapped panels, at the same time serving as a gauge to keep the correct geometry of the panel.

They are equipped with soundproof gaskets made of EPDM for connecting the panels on to the beams that house the barrier.

All barrier components (i.e. body, the end caps and the internal sound-absorbing mats) are made of 100% recyclable plastics.

The internal sound-absorbing mats are made with recycled polyester fiber (PET) coming from recycled plastic bottles. They can be produced in a variety of weights, densities and thicknesses according to the desired acoustic performance. They are **completely recyclable**, self-draining and do not require any protective treatment.

Stone wool and glass wool sound-absorbing mats are also available (min thickness: 50mm; density:  $\geq$  90 kg/m<sup>3</sup>).



### www.noisesrl.it



#### Made of +90% of recycled PVC

They are produced of recycled PVC (>90%) coming from recovered plastic components (shutters, window frames, pipes, etc.).

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#### Entirely recyclable

"Le Difese<sup>®</sup> Panel" is made of 100% recyclable plastic (body, end caps, sound-absorbing mats).



#### Finishing without paint

NOISE Le Difese® Panel do not require any painting process: the color of the skin is obtained directly by dyeing the rough material during plasticization. This procedure prevents any dispersion of residual traces of paint in the external environment at both manufacturing and recycling stage. Consequently, the environmental impact is significantly reduced.



### Acoustic/mechanics according to European Standards

Our sound-absorbing barriers meet European Standards on acoustic performance, mechanical performance and stability requirements, general safety rules and environmental standards, product specifications, as well as long-term performance.

### **TECHNICAL DRAWINGS**



Cutaway view.



Assembly view of the panel from cap side.



Dimensions of the panel and sound absorbing mats.



Overall dimensions of the cap



### noise PANEL

PERFORMANCE					
TESTED PERFORMANCE	Noise Le Difese PANEL Polyester Fiber 50 kg/m³	Noise Le Difese PANEL Polyester Fiber 40 kg/m³	Noise Le Difese PANEL Polyester Fiber <mark>30 kg/m³</mark>	REFERENCE STANDARD	
Sound Absorption	<b>Α5</b> (DLα 16 dB)	<b>Α3</b> ( DLα 10 dB)	<b>Α3</b> ( DLα 9 dB)	UNI EN 1793-1:2013 UNI EN 1793-3:1999	
Sound Insulation	<b>B3</b> (DLr 28 dB)	<b>B3</b> (DLr 27 dB)	<b>B2</b> (DLR 23 dB)	UNI EN 1793-2:2018 UNI EN 1793-3:1999	
<b>In-Situ</b> Sound Reflection Index Airborne Sound Insulation	DLRI 8 dB (8.3 dB) DLSI,G 30 dB (category)				
Wind and Static Load (4.25 meters long panel)	1.6 kN/m²	1.6 kN/m²	1.6 kN/m²	UNI EN 1794-1:2018 Appendix A	
Dynamic Load from Snow Clearance (4.25 meters long panel)	15.0 kN (2mx2m)	15.0 kN (2mx2m)	15.0 kN (2mx2m)	UNI EN 1794-1:2018	
Self-Weight: Dry Reduced Wet (4.25 meters long panel)	36.4 Kg 64.0 Kg	=	Ξ	UNI EN 1794-1:2011 Appendix B	
Load from Upper Elements	1.5 kN/m	1.5 kN/m	1.5 kN/m	UNI EN 1794-1:2011 Appendix B	
Risk of Falling Debris	Class C2	Class C2	Class C2	UNI EN 1794-2:2011 Appendix B	
Light Reflectivity	Rif: White RAL: 9016 Front 5.5 – 26.6 – 53.6 <b>Class 2</b> Back 8.1 – 40.0 – 83.2 <b>Class 1</b>	Rif. White RAL: 9016 Front 5.5 – 26.6 – 53.6 <b>Class 2</b> Back 8.1 – 40.0 – 83.2 <b>Class 1</b>	Rif. White RAL: 9016 Front 5.5 – 26.6 – 53.6 <b>Class 2</b> Back 8.1 – 40.0 – 83.2 <b>Class 1</b>	UNI EN 1794-2:2011 Appendix E	
Brush Fire	<b>Classe 1</b> Class 3 (above 80 cm base concrete wall)	Classe 1 Class 3 (above 80 cm base concrete wall)	Classe 1 Class 3 (above 80 cm base concrete wall)	UNI EN 1794-2:2011 Appendix A	
Impact of Stones	meet requirements	meet requirements	meet requirements	UNI EN 1794-1:2011 Paragraph C.2	





### STANDARD RAL COLOURS PROPOSED

RAL code	Colour name	RGB	Sample
RAL-1000	green beige	200 186 128	
RAL-1001	pale beige	206 177 129	
RAL-1012	lemon yellow	220 181 43	
RAL-6019	pastel green	175 207 170	
RAL-6021	pale green	130 156 120	
RAL-6027	turkish green	116 184 181	
RAL-7038	agate grey	172 174 166	
RAL-7044	silk grey	182 178 166	
RAL-7047	telegrey 4	198 198 197	
RAL-9002	grey white	215 214 202	

Noise srl reserves the right to freely change the composition of this sheet. For other extra standard pastel colors the technical feasibility must be evaluated.



Noise S.r.l. | Via Padania, 21/23 | 31020 San Vendemiano (TV) | Italy | Tel +39 0438 1671515 | info@noisesrl.it www.noisesrl.it