

# SILENTeco

THERMAL-ACOUSTIC INSULATION IN SELF-SUPPORTING PANELS, MADE OF HEAT-BONDED POLYESTER FIBRE, ADHESIVE FREE, NON-TOXIC, FOR FILLING AND REDUCING THE RESONANCE OF BRICK CAVITY WALLS OR PLASTERBOARD FALSE WALLS AND CEILINGS MOUNTED TO METAL FRAMES

GRANTS *LEED* CREDITS

CHARACTERISTICS			ENVIRONMENTAL		
ACOUSTIC INSULATION	THERMAL INSULATION	REACTION TO FIRE	ECO GREEN	RECYCLABLE	SAFE WASTE

## 1 PROBLEM

When laying in homes that are already inhabited, it is advisable to use a product that can be handled without any particular precautions.

## 2 SOLUTION

**SILENTeco** is an insulation product in panels with base of polyester fibre bonded exclusively with a glue-free thermal procedure. The fibre derives from recycled PET soft drink and mineral water bottles. It may consequently be considered as an ecological product because it frees the environment of high volumes of waste, recovers considerable energy and raw material resources and the panel is also non-toxic seeing as it is fabricated with a physical process that is free from pollutant glues and resins. It does not contain mineral fibres, it is not irritant and does not sting. It is an extremely flexible panel and can be handled without any precautions in particular, seeing as the fibre does not break when folded.

## APPLICATION FIELDS

It is used as an insulating filler for air spaces between traditional brick walls and air spaces between false-walls and false-ceilings in plasterboard. In view of the fact that is non-toxic, it is particularly appreciated in refurbishing homes that are already inhabited.

## METHOD OF USE

The panels are mounted in the air spaces of brick walls as the same are progressively erected, whereas they are inserted in the dedicated seats of metal frames on which plasterboard panels are secured. The panels are to be kept under cover and away from damp. The panel can be cut using a long-bladed Stanley knife or alternatively with a saw with smooth blade. Toothed saws are not suitable.

**Thermal and acoustic insulation of heavy brick walls against airborne noise – page 63**

**Thermal and acoustic insulation of walls with coated plaster false walls against airborne noise – page 85**

**Thermal and acoustic insulation of ceilings against airborne and foot-traffic noise – page 91**

**Thermal and acoustic insulation of wooden roofs against airborne noise – page 97**

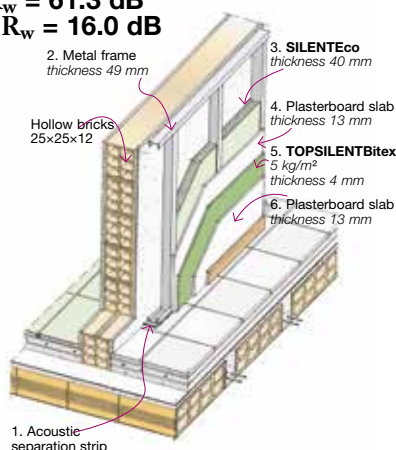
### Single wall (conventional brick) - thickness 12 cm, insulated with contacting plasterboard on a metal frame

Certification "IEN G. Ferraris" n. 35561/07

SOUNDPROOFING POWER

$$R_w = 61.3 \text{ dB}$$

$$\Delta R_w = 16.0 \text{ dB}$$



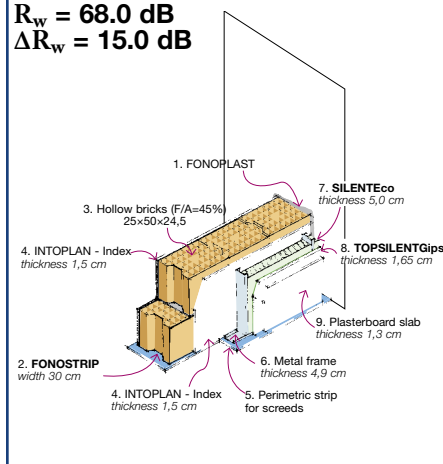
### Single wall (brick with pores) - thickness 12 cm, insulated with contacting plasterboard on a metal frame

Certification "ITC-CNR" n. 4214/RP/06

SOUNDPROOFING POWER

$$R_w = 68.0 \text{ dB}$$

$$\Delta R_w = 15.0 \text{ dB}$$





2<sup>nd</sup> DIVISION  
2<sup>nd</sup> LINE



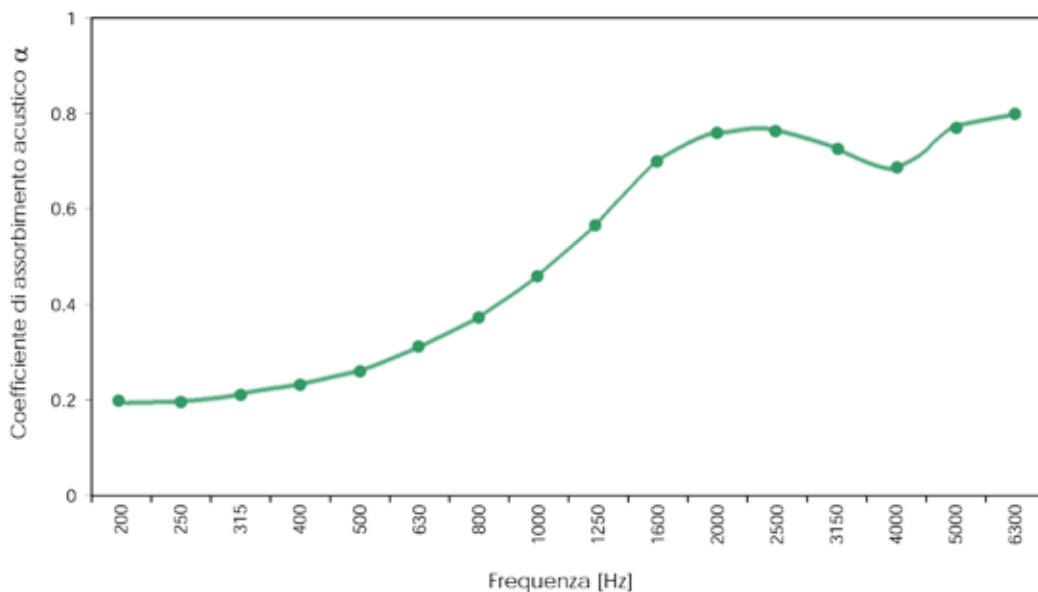
5<sup>th</sup> DIVISION  
2<sup>nd</sup> LINE

# SILENTEco

Type		40	50	60
Thickness		40 mm	50 mm	60 mm
Dimension		0.60x1.45 m	0.60x1.45 m	0.60x1.45 m
Thermal conductivity $\lambda$		0.040 W/mK	0.040 W/mK	0.040 W/mK
Thermal resistance R	EN 12667	1.00 m <sup>2</sup> K/W	1.25 m <sup>2</sup> K/W	1.50 m <sup>2</sup> K/W
Density	UNI 9947		20 kg/m <sup>3</sup>	
Diameter of fibres			17.9±28 $\mu$ m	
Dynamic stiffness	UNI EN 29052/1		$s' < 2$ MN/m <sup>3</sup>	
Resistivity to air flow $r$			2.26 KPas/m <sup>2</sup>	
Aqueous vapour diffusion coefficient			$\mu = 1$	
Specific heat			1.20 KJ/kgK	
Lower heating power			21 600 W/mK	
Operating temperature range			-40°C ÷ +110°C	
<b>Fire reaction classification</b> of the soundproof foil (*)	UNI 9177	<b>Euroclass B, s2-d0 (*)</b>		
<b>Certification</b>		 		

(\*) Certificate LAPI n. 730.0DC0050/06.

## ACOUSTIC ABSORPTION COEFFICIENT



the numerous possible uses and the possible interference of conditions or elements beyond our control, we assume no responsibility regarding the results which are obtained. The purchasers, of their own accord and under their own responsibility, must establish the suitability of the product for the envisaged use.

The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX at any time without previous warning. The advice and technical information provided, is what results from our best knowledge regarding the properties and the use of the product. Considering

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**index**  
Construction Systems and Products

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