

# Wall System

**Airborne Noise and Sound Insulation**



**High Thermal  
Insulation**



**Sound  
Insulation**



**Quick and Easy  
Installation**



**Versatile**  
Ideal for all environments -  
residential / commercial / public

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# Wall System

## Airborne Noise and Sound Insulation

Airborne noise includes sounds such as voices, music, and appliances that travel through the air. It commonly affects vertical partitions, transmitting between rooms or from outside to inside, and can also pass through floor slabs between levels.

When discussing wall sound insulation, it is important to highlight that there is no single material that provides absolute soundproofing on its own. Effective sound insulation is achieved through a well-designed soundproofing system.

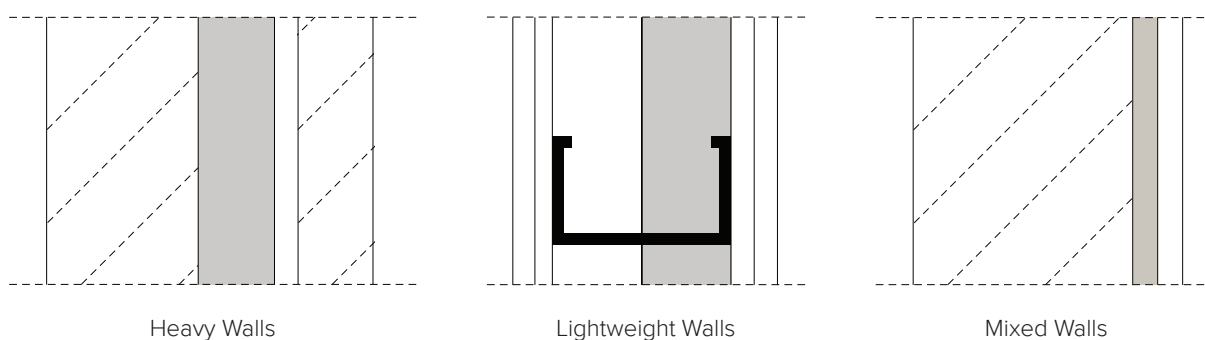
The most efficient solution is not merely a product, but a complete structure that performs acoustically as a whole. When designing a "Wall System," it is essential to balance the presence of mass with the need to elastically dampen certain disturbing noise frequencies passing through that mass.

To achieve this, it is crucial to install an appropriate sound-absorbing material within the cavity of the wall system.

## Installation Options

Traditional construction methods considered heavy partitions to be the most effective solution for sound insulation, as the soundproofing performance of a structure was largely attributed to its mass. However, the evolution of building techniques, design approaches, and the wide range of products available on the market has significantly increased the use and importance of lightweight wall systems. Today, these solutions are widely adopted not only in renovation projects but also in new constructions.

In renovation works, where limited thickness is often a key requirement, acoustic improvement solutions commonly involve the use of coupled plasterboard panels to enhance the sound insulation performance of existing walls.



## Cavity Walls, Heavy Walls and Lightweight Walls

Double walls separating housing units, with a cavity, can provide excellent airborne sound insulation by combining mass with the dissipative effect of fibrous insulation within the cavity. For lightweight plasterboard walls on metal frames, acoustic (and thermal) performance can likewise be improved by inserting suitable fibrous material inside the stud frame to create an acoustically efficient system.



#### ARKETA-07

<b>Composition</b>	100% PET, 60% recycled content
<b>Thickness &amp; Weight</b>	7mm ( $\pm 0.5$ mm) 700 g/m <sup>2</sup> ( $\pm 10$ %)
<b>Reaction to Fire</b>	ASTM E 84 Class A
<b>Impact Sound Insulation</b>	$\Delta L_w = 27$ dB / TS EN ISO 717-2:2021
<b>Aging Test</b>	5.90% / TS EN 1606- 2013-06
<b>Thermal Resistance</b>	$\lambda = 0.0373$ W/m <sup>2</sup> K / ISO 11092-2024

#### ARKETA-09

<b>Composition</b>	100% PET, 60% recycled content
<b>Thickness &amp; Weight</b>	9mm ( $\pm 0.5$ mm) 1100 g/m <sup>2</sup> ( $\pm 10$ %)
<b>Reaction to Fire</b>	ASTM E 84 Class A
<b>Impact Sound Insulation</b>	$\Delta L_w = 27$ dB / TS EN ISO 717-2:2021
<b>Aging Test</b>	4.20% / TS EN 1606- 2013-06
<b>Thermal Resistance</b>	$\lambda = 0.0350$ W/m <sup>2</sup> K / ISO 11092-2024

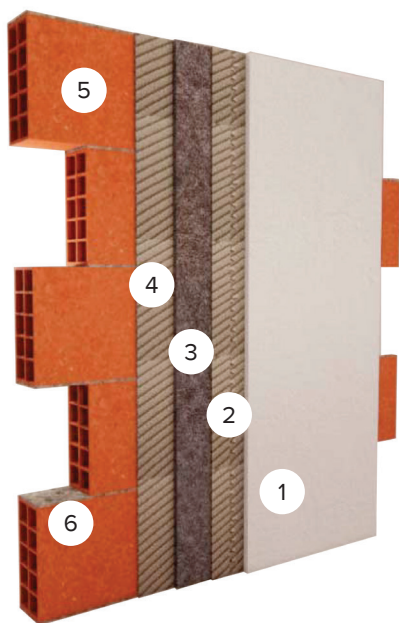
#### ARKETA-15

<b>Composition</b>	100% PET, 60% recycled content
<b>Thickness &amp; Weight</b>	15mm ( $\pm 0.5$ mm) 1100 g/m <sup>2</sup> ( $\pm 10$ %)
<b>Reaction to Fire</b>	ASTM E 84 Class A
<b>Impact Sound Insulation</b>	$\Delta L_w = 29$ dB / TS EN ISO 717-2:2021
<b>Aging Test</b>	2.86% / TS EN 1606- 2013-06
<b>Thermal Resistance</b>	$\lambda = 0.0331$ W/m <sup>2</sup> K / ISO 11092-2024

# Heavy Walls

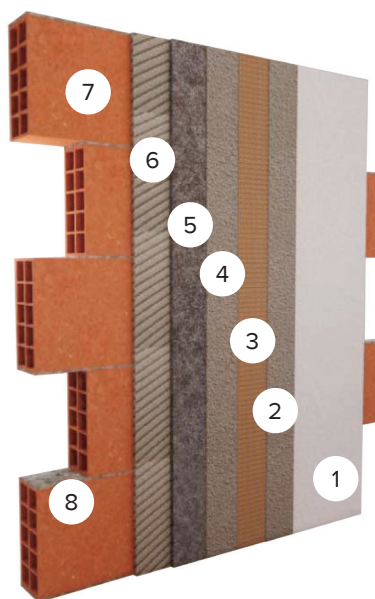
Double or triple wall systems with a cavity separating housing units can provide very high airborne sound insulation by combining mass with the sound-absorbing effect of fibrous insulation inside the cavity. In addition, Arketa felt panels can support both acoustic and thermal insulation within wall build-ups.

## Applications Types



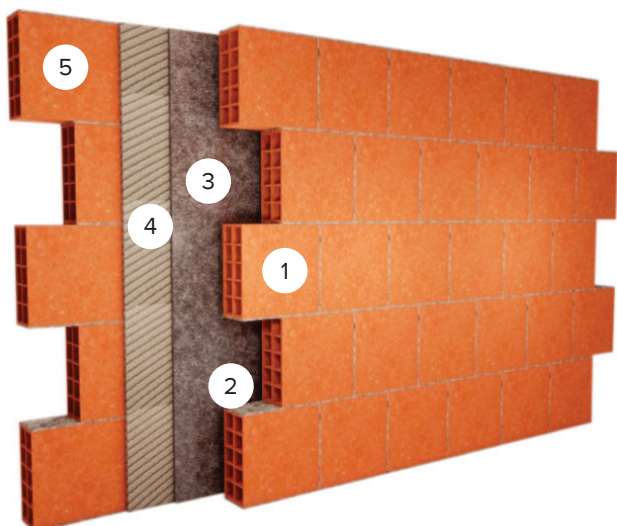
### For perimeter walls

1. Plasterboard
2. Finish plaster
3. Arketa PET felt panel
4. Finish plaster
5. Brick
6. Felt Tape



### Wall with a small cavity

1. Wall paint
2. Plaster
3. Wall Mesh
4. Plaster
5. Arketa PET felt panel
6. Finish plaster
7. Brick
8. Felt Tape



### Heavyweight cavity wall

1. Brick
2. Felt Tape
3. Arketa PET felt panel
4. Tile adhesive
5. Brick

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# Lightweight Walls

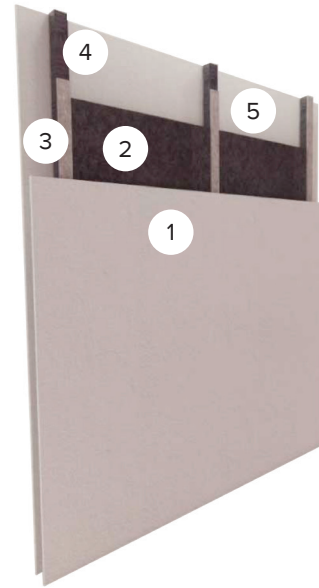
Acoustic and thermal performance of lightweight plasterboard walls on metal frames can be improved by designing high-performance systems with suitable fibrous insulation installed within the stud frame.

## Application Types



### Constructed wall

1. Gypsum board
2. Low-density sound insulation felt
3. Adhesive felt vibration band
4. Arketa PET felt panel
5. Supporting steel structure
6. Brick



### Drywall partition wall

1. Gypsum board
2. Arketa PET felt panel
3. Supporting steel structure
4. Adhesive felt vibration band
5. Gypsum board



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