

# Flooring System

## Impact Noise and The Flooring System



**High Thermal  
Insulation**



**Impact  
Resistance**



**Quick and Easy  
Installation**



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

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# Floring System

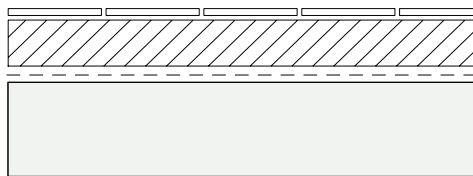
## Impact Noise and The Flooring System

### Impact noise: what it is and how to resolve it

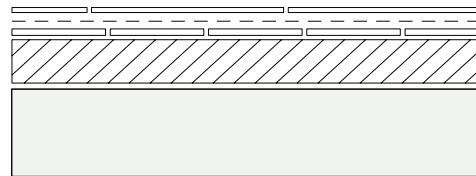
Impact noise or footfall stamping is defined as all noises caused by shocks, impacts, and mechanical stresses within a building. The majority of impact noise affects horizontal partitions. They are transmitted structurally and are caused by footsteps and falling and dragging objects. The solution for reducing stamping noise transmission is the construction of a technological package consisting of layers of materials with different physical and mechanical characteristics capable of dissipating the energy caused by impacts. The construction method of the floating screed system consists of decoupling the finishing screed and flooring from the adjoining structures by means of a layer of elastic material placed below the screed supporting the flooring, and along the perimeter of the room. By interposing the resilient layer, a "basin" containing the supporting screed is created, in which it is free to float, not being rigidly constrained to the lateral structures. This creates an oscillating system that absorbs and dissipates the sound energy caused by the impact.

### The flooring system logic

In the case of acoustic insulation, underscreed insulation is not enough. A "Flooring System" is required, within which every element of the structure must be aware of the other elements present and all must work in unison to achieve the desired result. Within the "Flooring System", the horizontal structures fall into two categories: Structures for underscreed acoustic insulation and structures for underfloor acoustic insulation.



Underscreed Insulation



Underfloor Insulation



## PET Felt Panel Technical Specifications

### ARKETA-03

<b>Composition</b>	100% PET, 60% recycled content
<b>Thickness &amp; Weight</b>	5mm ( $\pm 0.5$ mm) 700 g/m <sup>2</sup> ( $\pm 10$ %)
<b>Reaction to Fire</b>	ASTM E 84 Class A
<b>Impact Sound Insulation</b>	$\Delta L_w = 18$ dB / TS EN ISO 717-2:2021
<b>Aging Test</b>	5.90% / TS EN 1606- 2013-06
<b>Thermal Resistance</b>	$\lambda = 0.0371$ W/m <sup>2</sup> K / ISO 11092-2024

### ARKETA-05

<b>Composition</b>	100% PET, 60% recycled content
<b>Thickness &amp; Weight</b>	5mm ( $\pm 0.5$ mm) 700 g/m <sup>2</sup> ( $\pm 10$ %)
<b>Reaction to Fire</b>	ASTM E 84 Class A
<b>Impact Sound Insulation</b>	$\Delta L_w = 19$ dB / TS EN ISO 717-2:2021
<b>Aging Test</b>	5.90% / TS EN 1606- 2013-06
<b>Thermal Resistance</b>	$\lambda = 0.0365$ W/m <sup>2</sup> K / ISO 11092-2024

### 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

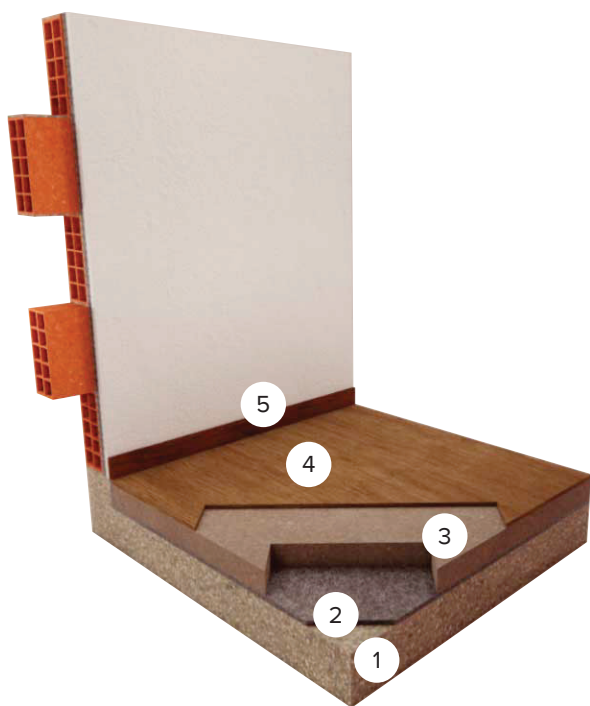
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# Under-screed Insulation

When insulation is positioned under the screed, the solution is typically part of a designed floor build-up—whether for new construction or renovation.

Under-screed insulation remains one of the most common methods for reducing impact noise transmission through horizontal partitions. The performance of an acoustically efficient floor build-up depends on the system as a whole, and the resilient (elastic) layer must be selected according to the loads it will carry. Key parameters include the screed type, weight, and thickness, which directly influence the required stiffness and behavior of the resilient layer.

## Applications Types



### Under-screed Insulation

1. Ground
2. Arketa-WR Water-Resistant PET Felt Panel
3. Concrete Screed
4. Flooring Board
5. Skirting Board



### Underfloor Heating Sound Insulation

1. Ground
2. Arketa-WR Water-Resistant PET Felt Panel
3. Heating System
4. Concrete Screed
5. Flooring Board
6. Skirting Board

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# Underfloor Insulation

When the insulation material is placed underneath the flooring, we are moving in a constantly evolving field, where the requirements range widely and where the issue of comfort is a priority, especially for the end customer. Installation of flooring, whether in new construction or renovation, has undergone the greatest changes in recent years in terms of regulatory references and guidance on good installation practice. An important role has also been played by the technological development of the sector, which has led to innovative drives, not only for the finish itself, but also for the layers immediately below, primarily the acoustic mat and underfloor heating.

In this context, the choice of the insulation material takes on fundamental importance in defining the acoustic and mechanical performance of the floor, and it must be made precisely from the perspective of the “system”, evaluating the type of flooring, the installation method deemed most suitable in the specific case, and the layers underneath. Arketa Basic PET Felt Panel underfloor solutions can also be used with underfloor heating, thanks to their low thermal resistance.

## Applications Types



### Underfloor Insulation

1. Ground
2. Arketa-WR Water-Resistant PET Felt Panel
3. Parquet Flooring
4. Skirting Board



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