The installation of resilient material between a floating screed, which will be turned over by 5 cm and glued on the insulation material laid on the floor, reduces the spreading of impact noise or foot traffic noise between the flooring screed and the thermal and waterproofing insulation layering often carries the transmission of noise directly to the rooms below. What’s more, if the floor screed is cast directly on the waterproof coat, any cracks that form in the floors of the terraces could damage the waterproof coat underneath.

METHOD OF USE AND PRECAUTIONS

SINGLE LAYER APPLICATIONS. The rolls of FONOSTOPStrato are to be unrolled in their natural unrolling direction with the bottom face covered with softer non-woven fabric facing the laying surface. They are to be overlapped at the sides by arranging the overlap wing on the adjacent sheet and carefully matching-up the non-woven fabric of the faces underneath. The rolls of FONOSTOPStrato are to be unrolled in their natural unrolling direction with the bottom face covered with softer non-woven fabric facing the laying surface. They are to be overlapped at the sides by arranging the overlap wing on the adjacent sheet and carefully matching-up the non-woven fabric of the faces underneath. The rolls will cover the whole floor slab and are to be blocked and trimmed-off at the foot of the perimeter walls of the room to be insulated. All the longitudinal overlapping lines and the transversal joining lines of the sheets are then to be carefully sealed with the special adhesive SIGILTAPE, stuck over the same. To insulate the floating screed from perimeter walls, the latter are to be lined with 10 cm of the extruded polyethylene separation self-adhesive FONOCELL strip, to limit the thickness of the screed, which will be turned over by 5 cm and glued on the insulation material laid on the floor slab where it will be further secured with adhesive SIGILTAPE. Make sure you lay FONOCELL on terraces only after the waterproof coat has been protected by a layer of plaster mortar reinforced with a metal net and make sure to seal the gap between the flooring and the skirting board with a flexible sealant.
Acoustic and thermal insulation for buildings

**FONOSTOPStrato**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>4.0 mm approx</td>
</tr>
<tr>
<td>Roll size</td>
<td>1,00 x 15.00 m</td>
</tr>
<tr>
<td>Mass per unit area</td>
<td>1.0 kg/m² approx</td>
</tr>
<tr>
<td>Heat capacity per unit area (^(*))</td>
<td>0.950 KJ/m²K</td>
</tr>
<tr>
<td>Thermal resistance R</td>
<td>0.075 m² K/W (^(\ddagger))</td>
</tr>
</tbody>
</table>

**Dynamic stiffness**

- **FONOSTOPStrato single-layer**
  - Apparent dynamic stiffness: \( s'_{t} = 20 \text{ MN/m}^2 \)
  - Dynamic stiffness: \( s' = 57 \text{ MN/m}^2 \)

**Theoretical estimate of the reduction level in foot traffic noise \(^(*)\)\(^{(\ddagger)}\)**

- Resistance to tensile stress (UNI-EN 12311-1)
  - Ultimate tensile stress: 500/500 N/50 mm
  - Ultimate elongation: 50/100%

**Impact sound insulating properties\(^{(\ddagger)}\)**

- Superla prova

**Aqueous vapour diffusion coefficient**

- \( \mu = 8.000 \text{ m}^2 / \text{m} / \text{m} \)

- Thermal conductivity coefficient \( \lambda \)
  - 0.045 W/mK

\(^(*)\) Apparent value obtained by calculating values of every component expressed per unit area of whole product (m²) \(^{(\ddagger)}\) Value established on the material subjected to a load of 1 KPa (100 kg/m²)

**THEORETICAL ESTIMATE OF THE REDUCTION LEVEL IN FOOT TRAFFIC NOISE**

- Example of simplified calculation method
- TR UNI 11175 - (Guide to the Standards of UNI EN 12354 series for predicting the acoustic performance of buildings) for
  - FLOOR SLAB of 20+4 IN CLAY-CEMENT MIX OF 300 kg/m²
  - LIGHTENED FOUNDATION with DENSITY of 300 kg/m³
  - thickness 10 cm (\( L_{n,w,eq} = 76 \text{ dB} \))
  - SCREEDS with SURFACE DENSITY \( m' = 100 \text{ kg/m}^2 \)

- Calculation of the resonance frequency of the floating screed system, resilient layer:
  - \( f_o = 160 \sqrt{ \frac{s'}{m'} } = 160 \sqrt{ \frac{57}{100} } = 120 \text{ Hz} \)

- \( \Delta L_n = 30 \log \left( \frac{f}{f_o} \right) + 3 = 21 \text{ dB} \)
  - where \( f = 500 \text{ Hz} \) (of reference)

- \( L_{n,w} = L_{n,w,eq} - \Delta L_n + K \) where \( K = 3 \)

- \( L_{n,w} = 58 \text{ dB} \)

\( f_o \) resonance frequency of the floating screed system, resilient layer.

**WARNING**

- only the dynamic stiffness values \( s' \), ringed in red, are values useful for an estimate calculation conforming to standard EN 12354-2.

**Simplified calculation method TR UNI 11175 (Guide to the Standards of the UNI EN 12354 series for predicting the acoustic performance of buildings) for screeds with surface density of 100 kg/m². The dynamic stiffness was calculated in the Applied Acoustics Laboratory of INDEX S.p.A., after measuring dynamic stiffness and air permeability.**

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**MODULAR ACOUSTIC INSULATION AGAINST FOOT TRAFFIC NOISE**

**ANIT Associated**

**GBC Italia**

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