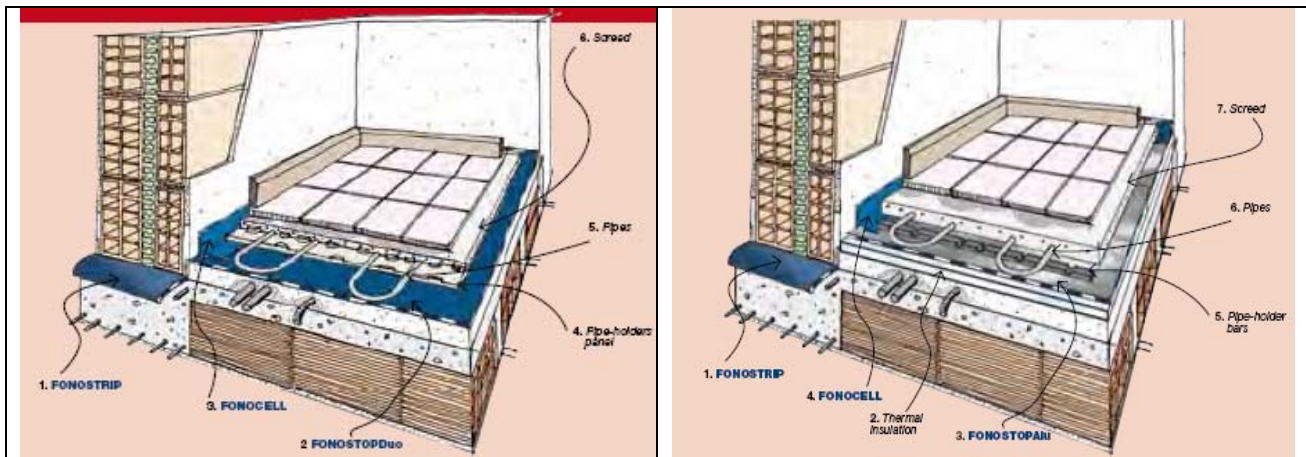


ACOUSTIC INSULATION AGAINST FOOT TRAFFIC NOISE OF FLOOR SLABS WITH UNDERFLOOR HEATING



Acoustic insulation under the thermal insulation panel with shaped face

The acoustic insulation of floors against foot-traffic noise will be performed with the "floating floor" technique on acoustic insulation against foot-traffic noise, made up of sound resilient foil coupled with non-woven polyester fabric, type **FONOSTOPDuo** with dynamic rigidity of $s' = 21 \text{ MN/m}^3$ measured in compliance with standard UNI-EN 29052 part 1st and approved by ITC-CNR (ex ICITE). The insulating material will be supplied in 105 cm width rolls with a 5 cm overlap wing. The insulating sheets will be laid on the smooth laying surface with a 5 cm overlap between the sheets and the overlapped parts will then be sealed with special adhesive **SIGILTAPE**. The head ends of the insulating sheets will be not be overlapped but brought up to each other and sealed with the same adhesive tape. The reinforced floating screed will be separated from the projecting walls by use of a self-adhesive strip in extruded polyethylene called **FONOCELL**. The insulating panels and the floor heating pipes will then be laid over **FONOSTOPDuo**, which will be covered with a screed in compliance with the instructions of the supplier of the heating system and on which the foreseen flooring will then be laid. The excess insulating material around the perimeter will be trimmed-off and the skirting board will be laid, which must be detached from the floor in order to prevent "acoustic bridges". The partition walls will be insulated from the floor using strips of sound dampening elastomer material with dynamic rigidity

Acoustic insulation and heat diffusion over the thermal insulation panel with smooth face

The acoustic insulation against foot traffic noise will be performed with the "floating floor" technique on an acoustic insulation product, type **FONOSTOPALI** with dynamic stiffness $s' = 21 \text{ MN/m}^3$, obtained by coupling a soundproof foil and a non-woven sound-resilient fabric, which will be laid over the smooth thermal insulation panel of the heating system in compliance with the instructions of the supplier of the same system. The top face of the acoustic insulation layer will be coated with an aluminium foil with thickness = 0,012 mm and diffusivity $\alpha = 8,2 \cdot 10^{-5} \text{ m}^2/\text{s}$ in order to distribute the heat evenly. The acoustic insulation is produced in rolls of 15x1.05 meters and the top aluminium coated face has a textile overlap wing of 5 cm. The sheets are to be unrolled in their natural unrolling direction on the thermal insulation panels and are to be overlapped at the sides by arranging the overlap wing on the adjacent sheet whereas, on the short side, the sheets are carefully brought together end-to-end. They will cover the whole floor slab surface and are to be blocked and trimmed-off at the foot of the perimeter walls of the room to be insulated. All the longitudinal overlap lines and the transversal joining lines of the sheets are then to be carefully sealed with the special adhesive **SIGILTAPE**, stuck over the same. The floating screed will be detached from the perimeter walls with a self-adhesive strip of expanded polyethylene called **FONOCELL**. In the case of unreinforced screeds, the plastic profiles will

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| <p>under a load of 200 kg/m^2 $s'=449 \text{ MN/m}^3$ and under a load of 400 kg/m^2 $s'=937 \text{ MN/m}^3$ type FONOSTRIP with thickness of 4 mm and at least 4 cm wider than the thickness of the walls, which will be laid between the floor and the wall.</p> | <p>be subsequently laid over the acoustic insulation layer, which are complete with pipe seats, in which the heating pipes will be fitted and which will be glued to the aluminium coated face with hot extruded adhesive, using the special electric glue gun, or in the case of screeds reinforced with metal mesh, the pipes will be secured to the reinforcement. The pipes will then be covered with a screed in compliance with the instructions of the supplier of the heating system and on which the foreseen flooring will then be laid. The excess insulating material that protrudes from the perimeter will be trimmed-off and the skirting board will be laid, which must be detached from the floor in order to prevent "acoustic bridges". The dividing walls will be insulated from the floor slab using strips of sound-damping elastomer material with dynamic stiffness under a load of 200 kg/m^2 $s'=449 \text{ MN/m}^3$ and under a load of 400 kg/m^2 $s'=937 \text{ MN/m}^3$, type FONOSTRIP with thickness of 4 mm and at least 4 cm wider than the thickness of the walls, which will be laid between the floor slab and the wall.</p> |
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