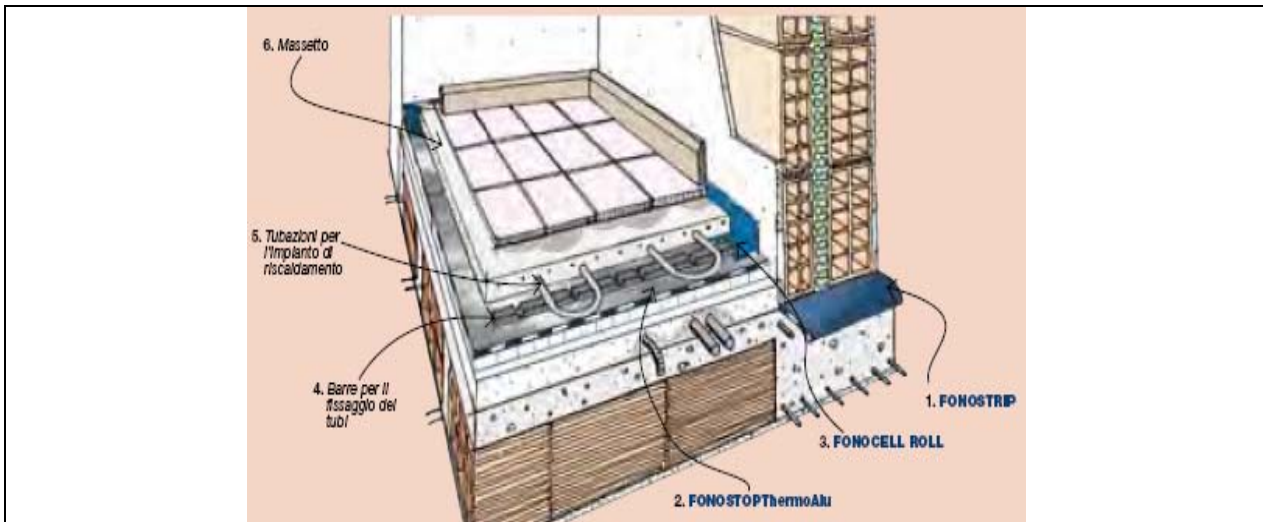


ACOUSTIC INSULATION AGAINST FOOT-TRAFFIC NOISE AND THERMAL INSULATION OF FLOORS SLABS WITH UNDERFLOOR HEATING



Insulation of slabs with floor heating

The acoustic insulation against foot traffic noise and the thermal insulation of the floor slabs on which the heating system will be laid, is to be performed with the "floating floor" technique on a thermal-acoustic insulation product, type **FONOSTOPThermoAlu**, the top face of which will be coated with an aluminium foil with thickness $s = 0.012$ mm and diffusivity $\lambda = 8,2 \cdot 10^{-5}$ m²/s in order to distribute the heat evenly. is an insulation product against foot traffic noise with dynamic stiffness $s' = 21$ MN/m³, obtained by coupling a soundproof foil and non-woven sound-resilient fabric, glued to the sintered expanded polystyrene panel EPS 120. The EPS 120 material is a stable waterproof product with conductivity coefficient $\lambda = 0.035$ W/mK, cut in 50 mm strips. The product is supplied in 100 cm wide rolls, complete with 5 cm textile overlap wing to enable side overlapping. The rolls are to be unrolled in their natural unrolling direction and are to be overlapped at the sides by arranging the overlap wing on the adjacent sheet and carefully matching-up the polystyrene strips of the faces underneath. On the short side, the sheets are carefully brought together end-to-end. They 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 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 **FONOCCELL**. In the case of unreinforced screeds, the plastic profiles will be subsequently laid over the top face of the 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/m² $s' = 449$ MN/m³ and under a load of 400 kg/m² $s' = 937$ MN/m³, 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.