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**Sound absorption with fibre-free sintered aluminium in
combination with thermally activated concrete slabs**

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Due to increasing ecological awareness and growing requirements of human well-being in working environments, contemporary interior design requires sustainable solutions. Consequently, cooling ceilings are an efficient alternative to conventional air conditioning systems with high energy demands. In order to maintain its thermal efficiency however, the ceiling surface must remain uncovered as much as possible. Conventional perforated or grooved acoustical materials allow for sound absorption only in combination with mineral wool or foam, thus presenting a thermal isolating barrier: they obviously decrease the performance of a thermal ceiling. Porous panels made of pure sintered aluminium offer a conductivity up to 96 kcl / mhC with a thermal radiation of $18.4 \text{ W / m}^2\text{K}$, combined with a broadband sound absorption up to $\alpha_w = 0.7$ without the use of any additional thermally isolating material. The panels meet the environmental, hygienic and fire safety requirements: they are fibre-free, non-combustible (Euroclass A1), rust-, moisture- and chlorine-proof and can be recycled. The invisible porosity does not give away the outstanding acoustical qualities. Available in several designs and any colour, the sheets are optically identical to a plain, matt aluminium panel. Several possible configurations are discussed.