

Aluminium foams for automotive.

Metal foams have become an attractive research field from both the scientific point of view and the prospect of industrial applications. They are cellular materials constituted of a metallic matrix in which void are embedded. This morphology gives them specific properties like e.g. low density, high weight specific stiffness, extraordinary energy absorption, remarkable vibration damping and high fire resistance and make them promising materials to employ in automotive field. For instance, when used as cores of structural sandwich panels, they offer high stiffness in conjunction with low weight. Their use in energy absorption devices for active and passive safety of vehicles, exploits their capacity to undergo large deformations at almost constant stress.

The talk will describe what metal foams (definition and morphology) are, how they are produced and present some applications relevant in the automotive field.

