

Processing a foam work piece

Reference No: B74222

CHALLENGE

The invention relates to the market for metal foams, especially sheet metal-metal foam sandwich structures. Metal foams are a relatively new material, which is particularly characterized by its low density, high stability and good vibration damping properties. Metallic foams have not yet been established in a mass market, but are already used in special applications.

INNOVATION

A novel feature of the inventive process for the production of foam sandwiches is that the cover layer is produced by friction welding, whereas in conventional methods only the pores are compressed but not firmly connected to one another. The novel method, however, connects the pores, creating a surface which is dense with respect to gases and liquids. The inventive method specifically influences the resulting cover properties allowing for variation of parameters such as load bearing capacity and torsional strength.

COMMERCIAL OPPORTUNITIES

The invention is particularly suitable for producing so-called foam sandwiches made of steel or aluminum plates which comprise an aluminum foam core.

DEVELOPMENT STATUS

Feasibility was shown. Hochschule Kempten offers support for the implementation of the technology.

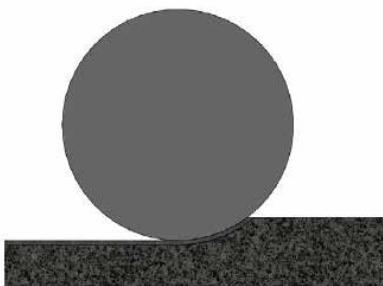


Fig.1: Compression of the metal foam by friction welding

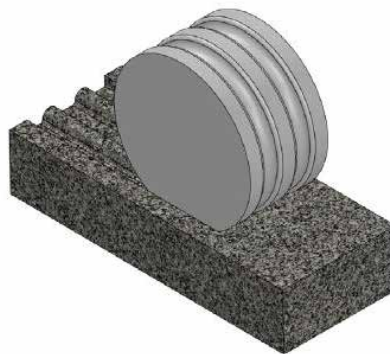


Fig.2: Generating rib structures in metal foams

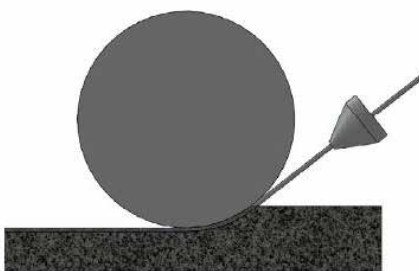


Fig.3: Welding additional wire into metal foam to increase the strength

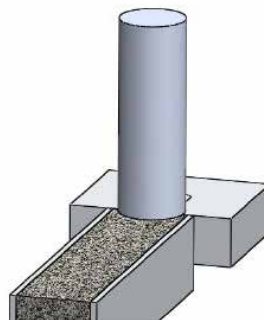
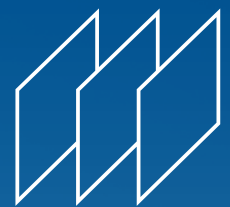


Fig.4: Application of a topcoat to foam by friction coating

REFERENCES:

DE 10 2015 203 375



BayPAT



Technology from
HOCHSCHULE
KEMPTEN

IP rights:
filed 2015
DE (pending)

Contact:
Cornelia Sattler
+49 (0) 89 5480177-37
csattler@baypat.de

**Bayerische
Patentallianz GmbH**
Prinzregentenstr. 52
80538 München
www.baypat.de