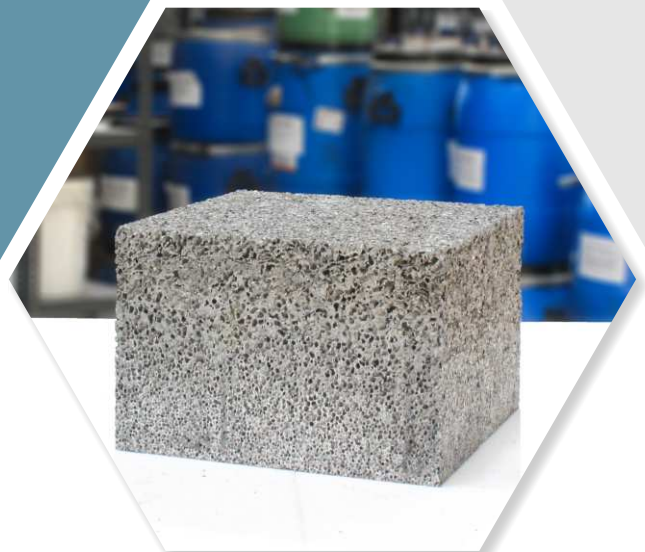




Aluminium Metal Foam

AL

99.9%



Follow us:



NS6130-12-000140

 sales@nanoshel.com

Aluminium

Metal Foam



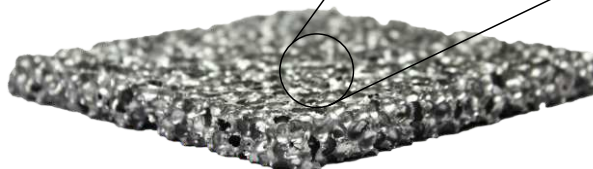
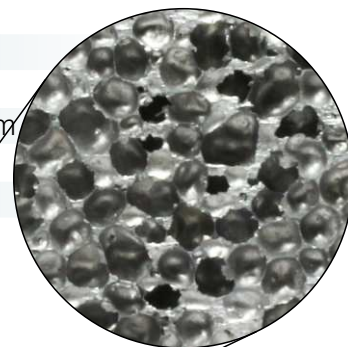
- The metal foams of Al-alloys are commercially most utilized because of their high thermal conductivity, low density, high ductility, and metal competitive cost.
- Aluminium metal foam materials, which can be synthesized into a variety of functional geometries, offer significant performance benefits for weight-sensitive applications.
- Aluminium metal foams are manufactured with distinct methods, for instance, powder metallurgy technique, sintering technique, the addition of a gas in melt injection, using agent in melt foaming, and investing casting.
- Metal foams are materials that show a distinctive combination of physical and mechanical properties like lightweight, high specific stiffness, high strength to weight ratios.
- The highest thermal efficiency of aluminium foam is in the vertical position.
- The aluminium foams produced by the powder metallurgy method, resulting in high pore connectivity which gives better results for the analysis of mechanical applications.
- Aluminium foam as a suitable absorbent material with smart quality performance.
- These are greatly incremented energy absorbing capabilities create use within the automotive and aerospace industries.
- Metal foams show high stiffness-to-weight and strength-to-weight ratios and thus offer potential weight savings.
- They also have the potential to absorb high amounts of energy during compressive deformation for efficient crash energy management.

Additional Characteristics

Stock No.	Purity	Pore Size	Dimension
NS6130-12-000140	99.9%	2-11 mm (Closed Cell)	100 x 100 x 10 mm

Technical Specification

Porosity	:	60–90%	Density : 0.1 to 0.35 g/cm ³
Compressive Strength	:	44 Mpa	
Blending Strength	:	27 Mpa	
Acoustic Absorptive	:	0.48	
Acoustic Frequency	:	Between 125 and 2000HZ	
Noise Reduction Coefficient	:	>0.4	
Thermal Insulation Properties	:	About 1 / 400 of metal Aluminium	
Electromagnetic Wave Frequency	:	Between 2.6 and 18GHZ	
Electromagnetic Shielding Property	:	Up to 60 – 90dB	



Purity
99.9%

Applications Of Aluminium Metal Foam

- Ships
- Battery case for electric cars
- High- speed trains

Ship

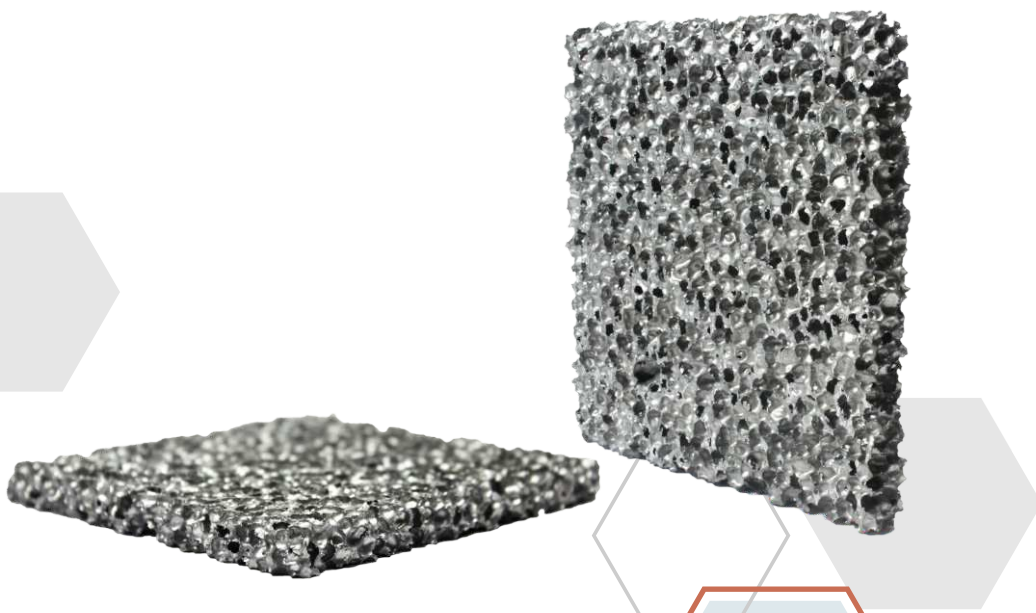
Aluminium foams are being utilized in ship construction. Aluminium foam/aluminium sandwiches are bonded by a high strength adhesive and using fastening elements. There are also shows no signs of corrosion so these can be used in ships. The lightweight aluminium sandwiches are used in the shipbuilding industry manifests an attractive and interesting solution to the increasing environmental demands. Aluminium foams or panels have a lot of benefits for possible applications in ship construction. The structures realized utilizing sandwich technologies combine low weight with high energy absorbing capacity. Thus they can be applied as crashworthy marine structures.

Battery case for electric cars

The aluminium foams have been extensively used in electric cars. These are light-weight and also keeping the bending stiffness constant. The AFS concept battery compartment consists of an underfloor (final layer to the street) and floor panel (border to the passenger cabin). Both were made of AFS and bonded to extruded aluminium alloy profiles by punch rivets and automotive adhesive.

High- speed trains

The railway industry is an important factor in future mobility concepts. It is made of welded AFS plates and carbon fibres in the front. The benefits of metallic foams or AFS panels against honeycomb panels.



ISO 9001:2015
CERTIFIED COMPANY



2021CE4589C



192AZG01274G



2021CE4588M

INTELLIGENT MATERIALS PVT LTD

Derabassi
Punjab (140507)
INDIA

+91 9779 550077, 9779238252

NANOSHEL UK LIMITED

Chapel House,
Chapel St Cheshire,
CW12 4AB United Kingdom

+44 1782 454 144, +44 74 105 48802

NANOSHEL LLC

3422 Old Capitol Suit
1305 Wilmington DE - 19808
United States

+1 646 470 4911