



Aluminium Metal Foam

Closed Cell

AL

99.9%



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NS6130-10-1215 B

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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

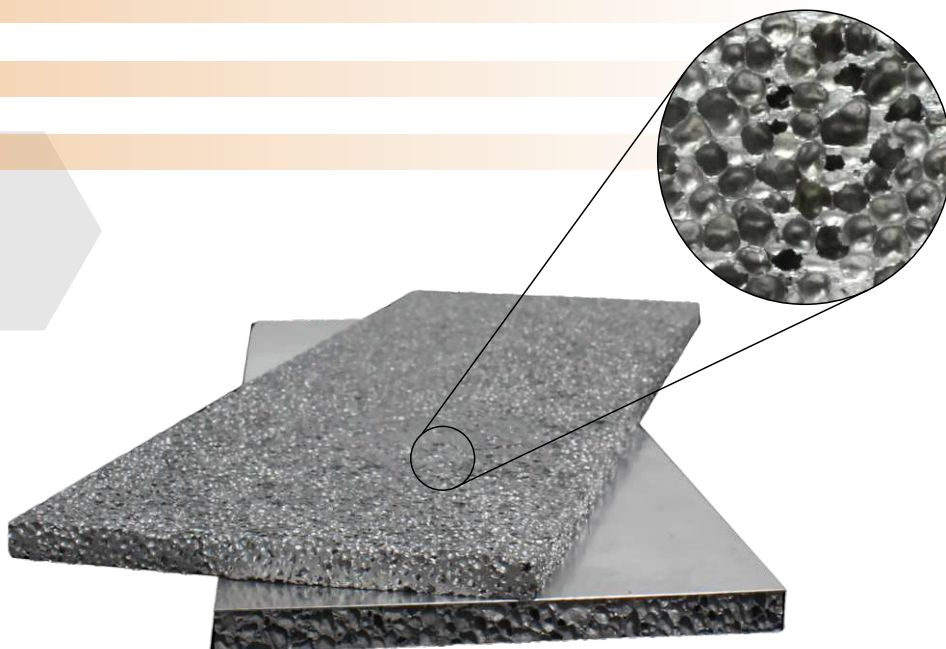
Stock No.	Purity	Pore Size	Dimension	Porosity	Bonded Sheet
NS6130-10-1215 B	99.9%	5 mm (Closed Cell)	600 x 200 x 15 mm	70%	0.5mm (On Either Side)

Properties of Metal Foam

The key properties of metal foam are as follows:

- Ultralight material (75–95% of the volume consists of void spaces)
- Very high porosity
- High compression strengths combined with good energy absorption characteristics
- Thermal conductivity is low
- High stiffness
- High melting point
- Better damping
- Thermal insulation

Purity
99.9%



CHARACTERISTICS OF METAL FOAMS

Ultra-lightweight aluminum foams possess unique microstructural characteristics and physical properties that make them attractive for automotive, as well as other applications:

- Ultra-lightweight foam
- Alluring porous structure and the microstructures tailorable over the range 40 to 80% porosity
- High stiffness-to-weight and strength-to-weight ratios
- Ability to absorb energy from impact, crash, and explosive blasts
- Vibration damping and sound absorption
- Fire resistance and thermal insulating properties
- Metal foams are readily recycled

Applications Of Aluminium Metal Foam

- Through aluminium foam, ships become lighter and consumed less fuel
- Provide individual and unique architecture
- Enhance the crashworthiness design of the vehicle
- Assists in the assembly process of a vehicles
- Protects the battery from external impacts and provide safety in battery failure
- Reduced manufacturing steps in High- speed trains
- Blast mitigation panels in military vehicles
- Foams blot up the sound, vibrations and shocks
- Weight reducing components of Al foam use in aircraft or automotive applications
- Matrix for chemical beds and scrubbers
- Filters and mist elimination of water and oils
- Forged super insulated building
- Mitigate the heating and airconditioning requirements in buildings
- Foamed aluminum cores for aluminium castings
- Heat sinks and exchangers
- Core structure for high strength panels
- Utilizable as catalyst carrier



ISO 9001:2015
CERTIFIED COMPANY



2021CE4589C



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