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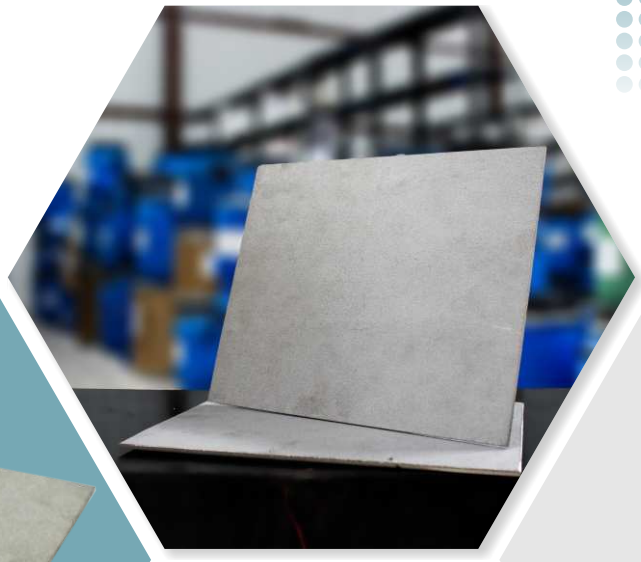
Stainless Steel
Metal Foam

Purity
99.9%



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NS6130-10-1095

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Stainless Steel
Metal Foam

- Stainless steel foams are mainly metallic materials.
- It has various physical and chemical properties that can be used in different fields.
- These foams exhibit high energy absorption, a wide range of strength to elastic modulus ratios & huge ductility.
- In general, two processes have been invariably used for metal foaming. Firstly the liquid metal route where foaming is completed by direct foaming of melt with gas or some foaming agent and the powder metallurgy route where foaming is affected by foaming a sintered compact.
- Other routes involve the sintering of hollow spheres and pressing the material around filler followed by sintering with subsequent filler dissolution or decomposition.
- In addition, the porosity level can be changed with the amount of space holder used.
- The pore morphology depends on the space holder used, sintering temperature and sintering time.
- The stainless steel foams have low weight and large specific rigidity.
- Steel foams are advantageous materials for crash protection, building ships and also for packaging.
- The high energy–absorption properties of stainless steel foams & their lower cost make them prospective competitors.
- They can be utilized in heat exchangers in the form of foam covered tubes.

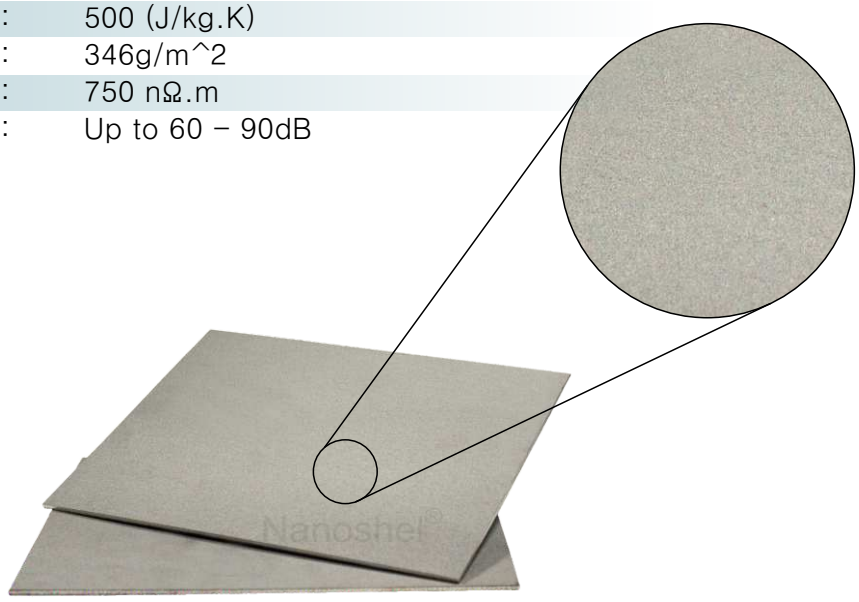
Additional Characteristics

Stock No.	Purity	Thickness	Dimension
NS6130-10-1095	99.9%	3mm	250 X 200mm

Technical Specification

PPI	:	50
Porosity	:	≥95 %
Bulk Density	:	7.65g/cm3
Melting Point	:	2500–2800°F
Thermal Conductivity	:	1.2(W/m–°C)
Tensile Strength	:	515MPa
Specific heat	:	500 (J/kg.K)
Surface Density	:	346g/m^2
Resistivity	:	750 nΩ.m
Electromagnetic Shielding Property	:	Up to 60 – 90dB

Purity
99.9%



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Stainless Steel

Applications Of Stainless Steel Metal Foam

- Sandwich panels
- Structural elements & beam cores
- Crash protection
- Building ships and
- Packaging
- Heat exchangers
- Thermal and acoustic applications

Automotive Advanced Steels

The steel industry of fuel consumption is reduced and also with the supply of steels enabling the lightening of automotive weight. Interstitial free ferritic stainless steels with stabilization elements such as Titanium, Niobium or a combination of both are widely being utilized in parts of automotive exhaust systems for instance manifolds, exhaust pipes, mufflers, catalytic converters, etc. In this field of application for higher efficiency, the designs are becoming more complex and performance criteria are continuously increasing. Austenitic (Cr–Mn) Stainless Steel has good potential for other applications for instance Frame, load–bearing floor panels, reinforcements, Sheet metal cabin components, body panels, all over beam Fuel tanks, Wheels, suspension arm, gear shafts, propeller shafts.

Stainless Steel in Ultralight Urban Bus

Cold worked Cr–Mn Stainless steel such as Nitronic is now being used for the fabrication of full–size urban transit buses. This has been concluded in a bus having a gross vehicle weight of 11 Tons which is approximately less than half of a conventional transit bus. Because of the reduction in weight, 40% more passengers can be carried on the same bus. Such CrMn–N stainless steels give very high strength with high ductility and also induced plasticity. Use of cold–worked high strength Cr–Mn–N stainless steel coupled with manufacturing processes such as roll forming and spot welding has led to a reduction in the cost of bus structure made up of such stainless steel to two–thirds of the cost of conventional steel bus.

Applications in civil engineering

The advantages of using steel instead of aluminum as a base metal are clear manufacturing have been more challenging. Nevertheless, foam core sandwich plates, steel foam bars, rods, and foam–filled tubes have been created and tested at a laboratory scale. a parking garage floor slab utilizing steel mesh reinforced metal foam floor slabs.

Crash protection

The potential for significant energy dissipation in compression is a target for many existing applications. Energy dissipation via large compressive deformations at low, constant stress levels has been used in the automotive industry for crash protection. The ability to absorb the energy of impact or blast while limiting stress levels is crucial to the design of robust hardening systems for civil infrastructure.

ISO 9001:2015
CERTIFIED COMPANY

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