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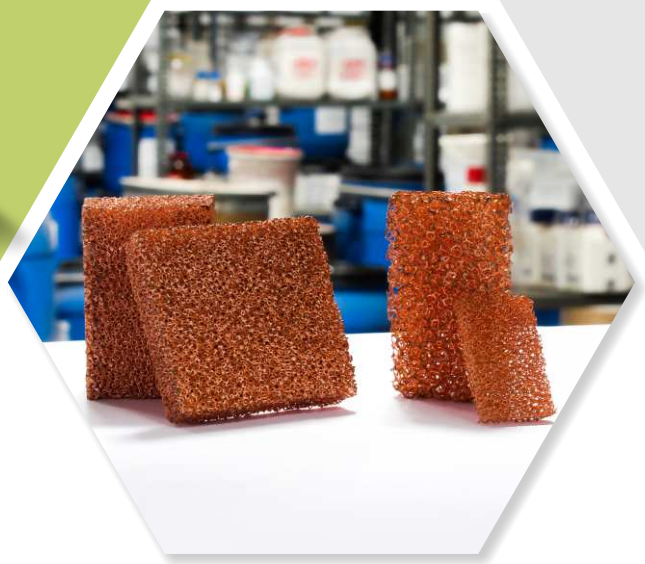
Copper
Metal Foam

Cu

>99.9%



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NS6130-10-1010

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Copper
Metal Foam

- The copper foam exhibits good electrical conductive nature and ductility, and has a lower preparation cost.
- It can be used for preparing a battery negative electrode (carrier) material, a catalyst carrier, and electromagnetic shielding material.
- In particular, the use of copper foam as a base material for batteries as electrodes has some significant advantages, but its corrosion resistance is not as good as that of nickel, which limits its applications.
- Copper foams are synthesized by mixing metal and carbonate powder, removing carbonate processing and sintering.
- The porosity of copper foam can be tuned by applied pressure and the compressive strength of copper foams decreases with the porosity raising.
- Therefore, this material have the potential in industrial applications such as porous electrodes in rechargeable batteries, fuel cells, heat exchangers, catalytic substrates for chemical reactions and filtration applications.
- For such applications, the pore structure is considered a key factor for the sustainable design of high performance porous components and should therefore exhibit a high degree of porosity uniformity and controllable porosity distribution.

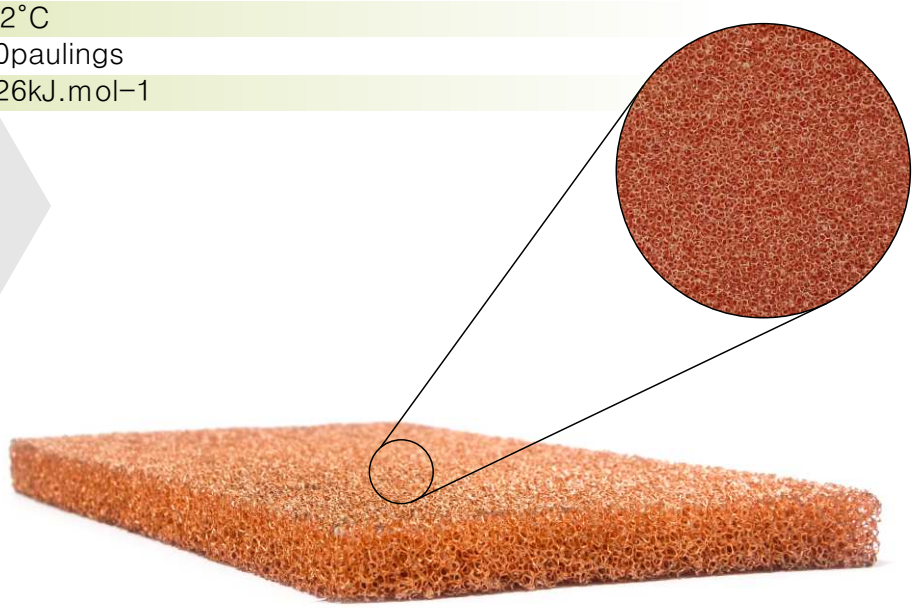
Additional Characteristics

Stock No.	Purity	Thickness	Dimension
NS6130-10-1010	>99.9%	4mm	500mm X 500mm X 4mm

Technical Specification

PPI	:	50
Porosity	:	≥70%
Molecular Weight	:	63.55g/mol
Density	:	8.96g/cm3
Bulk Density	:	0.80–0.85 g/cc
Melting Point	:	1085°C
Boiling Point	:	2562°C
Electro negativity	:	1.90paulings
Heat of fusion	:	13.26kJ.mol−1

Purity
>99.9%



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Copper

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Applications Of Copper Metal Foam

Copper Foam used as Electrode material

Copper foam exhibits excellent electrical conductivity which makes copper foam capable in electrode frame materials of new batteries such as nickel–zinc batteries and electric double–layer capacitors. Currently, foamed copper has been utilized by many nickel–zinc battery manufacturers and put into mass production. In same way, foam Copper is supposed to be popularized as an electrode collector for electric double layer capacitors. Moreover, copper foam is also widely employed as an electrode material for electrolytic recovery of copper–containing wastewater.

As a Catalyst

In many organic chemical reactions, copper plate is directly replaced with copper foam with a large specific surface area as a chemical reaction catalyst. It is also utilized as a photocatalytic air purification carrier.

Thermally conductive materials

It has excellent thermal conductivity, making it a flame retardant material with excellent performance. It has been applied to much advanced fire–fighting equipment abroad, especially as a flame isolation device. And also apparent permeability made into heat dissipation materials for motors and electrical appliances

Silencing and shielding materials

The sound wave is diffusely reflected on the surface of the foamed copper, and the sound–absorbing effect is achieved by the principles of expansion and silencing, micro–hole silencing, etc. The shielding performance of copper is close to that of silver, and it is excellent electromagnetic shielding material.

Filter material

The excellent structural characteristics of foam metal copper products which are basically harmless to the human body so this material has also been successfully utilized as medical filter materials. At the same time, the copper foam is employed in water purification devices.

Fluid pressure buffer material

The dispersing and buffering action of the copper foam on the fluid makes it an excellent pressure reducing protection device for various pressure gauges.

Cu

ISO 9001:2015
CERTIFIED COMPANY

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