

MetaFoam Copper Foam

Category : Metal , Metal Foam, Mesh, or Honeycomb , Nonferrous Metal , Copper Alloy

Material Notes:

General Description: MetaFoam® Technologies intends to revolutionize the open-cell metal foams industry by alleviating the major constraints of "conventional" metal foams. MetaFoam can significantly increase specific surface area and repeatability, while maintaining the lowest production costs. MetaFoam is uniquely positioned to develop products and address several needs in various industries and markets. **Applications:** There are plenty of fields of applications for open-cell metal foams, including: Thermal management and heat transfer, Electrochemistry and catalysts, Water and air purification/filtration, Biomedical implants, Flow control devices, Acoustic. For now, MetaFoam is focusing on particular applications: Metal foam wicking structure for cylindrical, flat, and loop heat pipes that perform in any orientation, Cold plates with a metal foam core for electronics cooling without the high cost of micromachining, High surface area boiling / evaporator plates for increased critical heat fluxes, High surface area porous electrodes to increase electrochemical reaction efficiency, Water purification with copper-silver foams, two metals having renowned properties against bacteria and algae.

Order this product through the following link:

http://www.lookpolymers.com/polymer_MetaFoam-Copper-Foam.php

Physical Properties	Metric	English	Comments
Porosity	65 - 95 %	65 - 95 %	
Permeability	5.35e-10 - 1.54e-9	5.35e-10 - 1.54e-9	m ² (Darcy)
	1300 - 4100	1300 - 4100	m (non Darcy)

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	0.250 - 2.50 MPa	36.3 - 363 psi	
Modulus of Elasticity	0.100 - 0.370 GPa	14.5 - 53.7 ksi	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	<= 0.115 J/g-°C	<= 0.0275 BTU/lb-°F	
Thermal Conductivity	2.00 - 10.0 W/m-K	13.9 - 69.4 BTU-in/hr-ft ² -°F	

Descriptive Properties	Value	Comments
Nusselt Number in Air	2100	at ReH of 10,000
	4000	at ReH of 50,000
Pores diameter, mm	0.2-2	
slabs size, cm	15x15	
slabs thickness, mm	1-50	

Descriptive Properties	Value	Comments
Sound Absorption	>90%	at over 1kHz
Sound Reduction	>40dB(A)	at over 300Hz
Surface Area, m ² /m ³	10000-40000	
Tortuosity	1.2-1.4	
Windows diameter, Åµm	40-120	

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