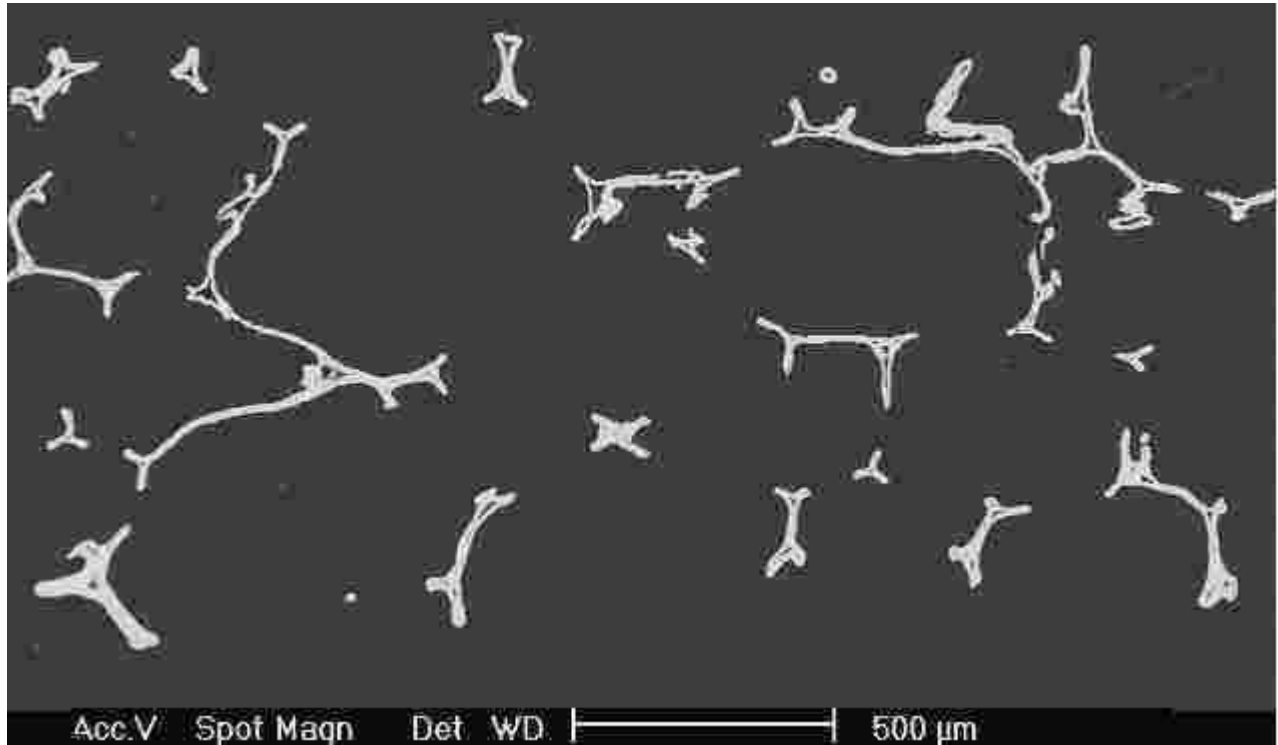




COPPER FOAM

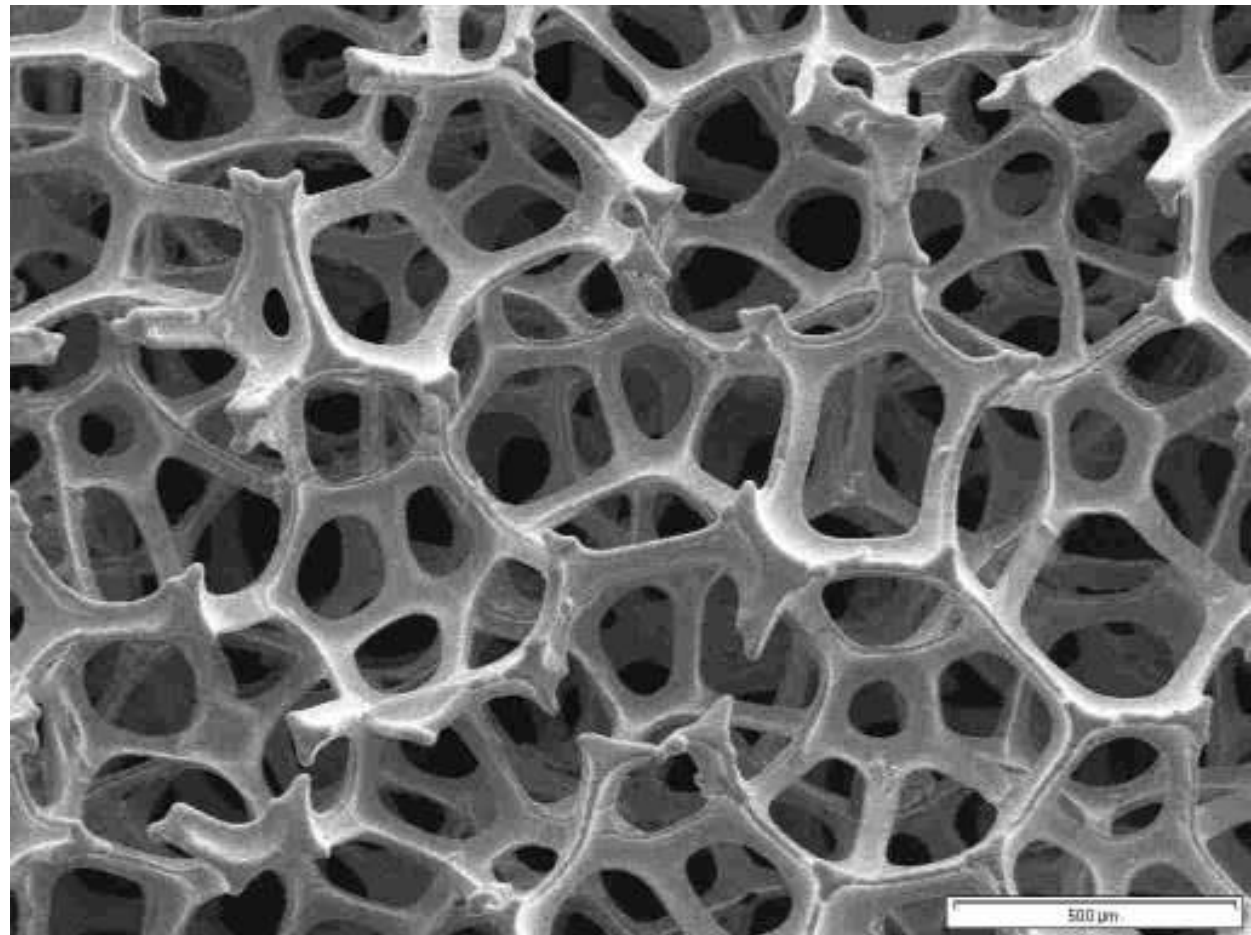
04/02/2008

PROJECT EUREKA 2179
COPPER FOAM



04/02/2008

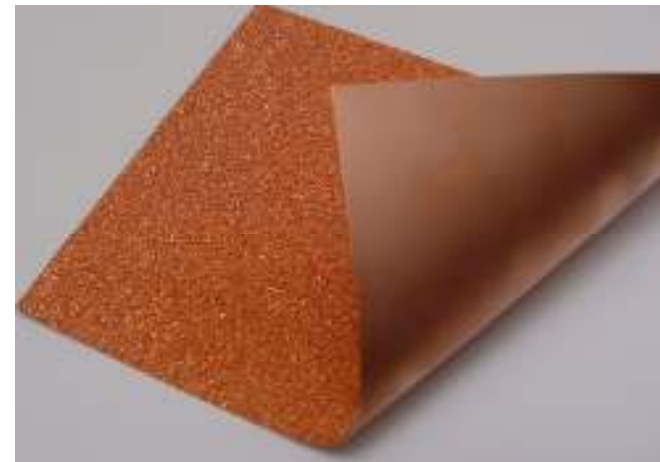
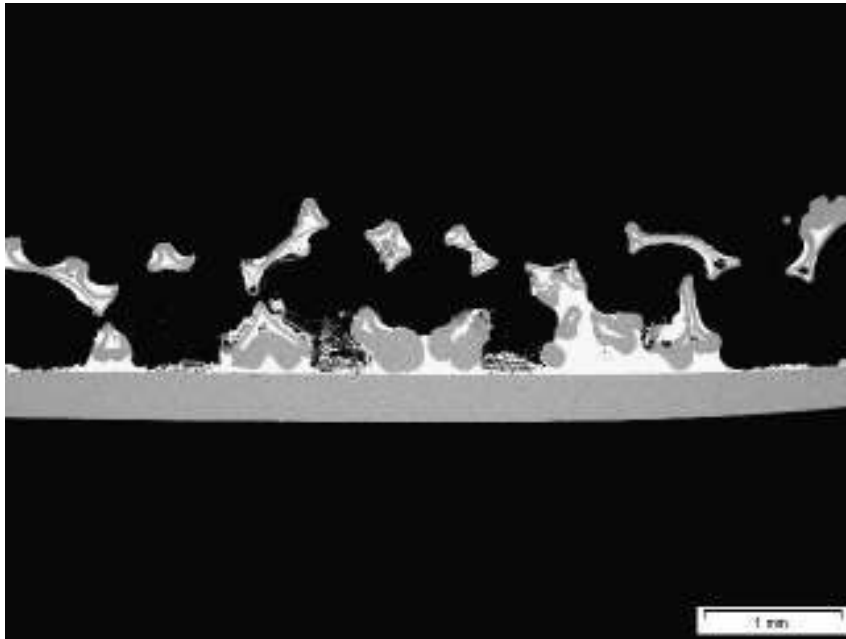
The **RETICULATED** foam structure



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Its good **SOLDERABILITY** and aptitude
for **ADHESIVE BONDING**.



Allow for various foil / foam assemblies.





COPPER FOAM MANUFACTURING THE PROCESS

1. **Activation** of the organic foam
i.e. making it electrically conductive.
 2. **Electrolytic copper plating.**
 3. **Combustion** of the organic substrate.
 4. **Recrystallization** of the metallic foam.
-
5. **Additional coating** (optional).



METAL FOAM MANUFACTURING

THE PROCESS

Reticulated polyurethane foam(50g/m ²)	+evaporative Cu-coating (5gCu/m ²)	+electrochemical Cu-coating (150-600gCu/m ²)	Removal of polyurethane foam @920°C
			



The pilot **PLATING LINE**



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Thermal treatment

Combustion of the organic substrate and recrystallization are realised in **ONE SINGLE STEP.**

Advantages :

- **Maintenance**
- **Energy & Fluids**
- **Investment**

PILOT-LINE

Strip width: 150 mm max. (edges trimmed).



Physical properties	Currently realized on pilot-line
Porosity (ppi)	45 – 100
Area Weight (g/m²)	150 – 600
Thickness (mm)	1.0 – 2.0
Width (mm)	Up to 150
Length (m)	Up to 100
Tensile (N/m)*	1 000
Elongation (% long.)	> 4



* Typically, at 400 gr/m²/1.5 mm/90 ppi



Patents granted!



1st PRICE for INNOVATION.

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APPLICATIONS:

Porosity from 95% to >98% and
high thermal / electric **conductivity:**

- HEAT EXCHANGE.
- CONTACTING.
- CURRENT COLLECTOR.
- WATER TREATMENT.
- SHIELDING.





Potential for **INDUSTRIAL DEVELOPMENT.**

Both the **electroplating and heat-treatment** processes:

- Offer substantial advantages over traditional processes:
investment / manufacturing cost / foam quality.
- Allow for a wider / adaptable range of foam **specifications**, including very light / thin metal foam.