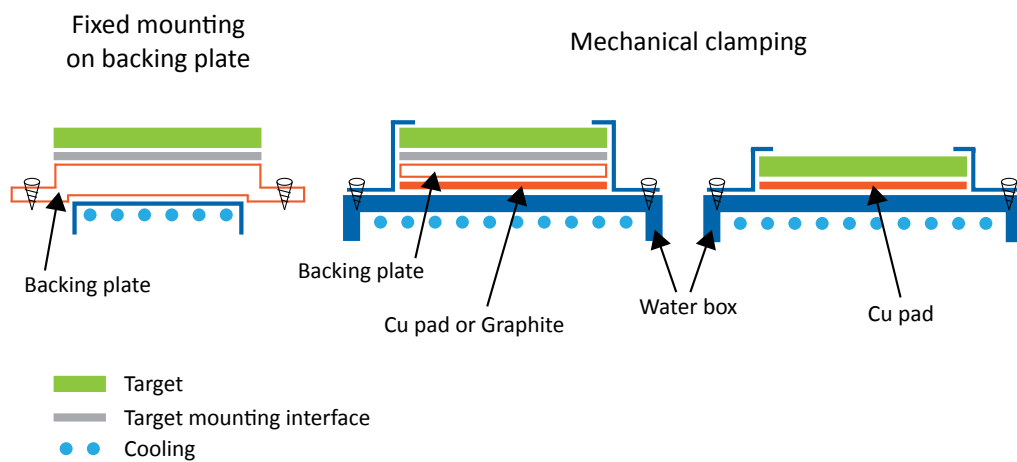


MATERIALS SPUTTERING TARGETS

- Mounting of Sputtering Targets..... D 21

Mounting of Sputtering Targets



MAIN MOUNTING CHARACTERISTICS

	ADHESIVE MOUNTING					MECHANICAL MOUNTING	
	Ag	In	InSnPb	Elastomeric	Elastomeric + Cu	Graphite Foil	Cu Pad
DC	••	•	•••	-	•••	••	•••
RF	•••	•••	••	•	•••	••	•••
High power DC >5 W/cm ²	•	•	•••	-	•	••	•••
High power RF >3 W/cm ²	••	••	••	•	••	••	•••
Easy mounting	•	•	-	•••	••	•••	•••
Temperature compatibility	•	•	••	••	•••	•••	•••
Mechanical adjustment	••	••	-	-	-	-	•••
Low cost	••	-	-	•••	•••	•••	•••

- not applicable • possible •• good ••• excellent

TARGET MOUNTING IN NEYCO'S LABORATORY

Neyco offers a complete target bonding service on new or existing backing plates:

- Debonding or debrazing of your target
- Backing plate cleaning
- Target bonding: Cu/elastomeric bonding (200°C) or silver based mounting (150°C)
- Cleaning and packaging of the assembly with UHV quality



	ADVANTAGES	DISADVANTAGES
Cu based bonding	<ul style="list-style-type: none"> • Low price • Very good thermal and electrical conductivities • Excellent adhesion between many metals • Suitable for low melting point target materials • Suitable especially for fragile targets 	<ul style="list-style-type: none"> • No mechanical adaptation
Ag based bonding	<ul style="list-style-type: none"> • All types of targets, including very fragile • Good thermal and electrical conductivities • Mechanical adjustment up to 0.4 mm 	<ul style="list-style-type: none"> • The cost of Ag metal • Degrades over 150°C

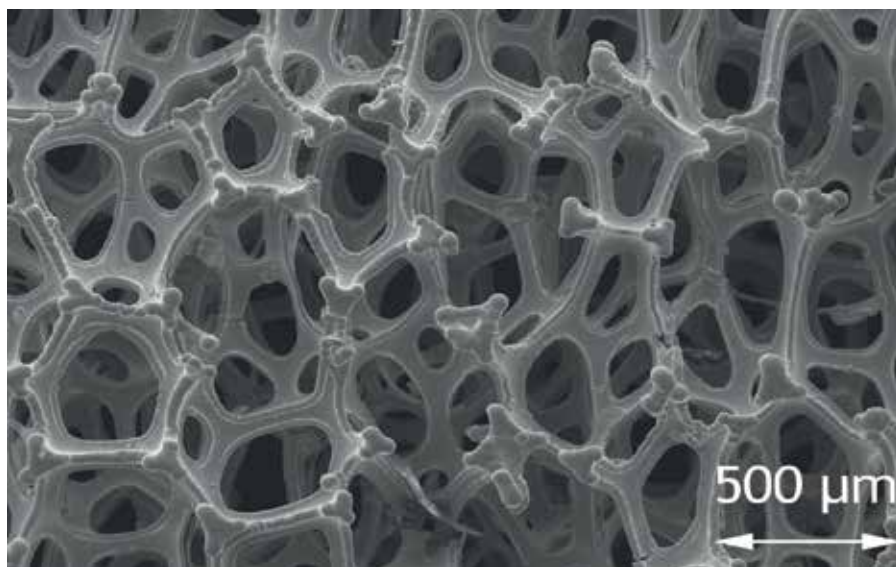
COPPER PADS FOR SPUTTERING

NEYCO has developed sputtering pads, as a replacement of Indium, Graphite foils or other bondings, for clamped targets.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Excellent thermal and electrical conductivities • High DC and RF power • Low cost • Mechanical adjustment up to 0.5 mm 	<ul style="list-style-type: none"> • Only for clamped targets

CHARACTERISTICS

- 100% metallic
- Initial thickness 2 mm
- Purity 99.95+%
- Vacuum packed for a direct mounting in secondary vacuum
- 200 mm wide x length on request (up to 1000 mm)
- HV compatible



Copper foam pad

GRAPHITE PADS FOR SPUTTERING

NEYCO offers you Graphite pads for sputtering.

The size from ~500 mm wide x length on request. Thickness of 0.2 mm.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Good thermal and electrical conductivities • Enabling high DC and RF power • Temperature > 250°C • Low cost 	<ul style="list-style-type: none"> • Only for clamped targets • No mechanical adjustment

SILVER-FILLED EPOXY BONDING CEMENT

Silver-filled epoxy cement is a silver-colored thick paste containing the optimum ratio of silver powder to epoxy resin for maximum thermal and electrical conductivity and mechanical strength. The catalyst is a clear to yellow liquid. Both the epoxy cement and the catalyst should be stored in a refrigerator. This will give a shelf life of 6 months.

TYPICAL PROPERTIES OF EPOXY

Volume resistivity	Less than 0.001 Ω.cm
Pot life (after catalyst addition)	30 min at 25°C
Use temperature	-50°C to 115°C
Packaging	114 g



neyco

30 avenue de la Paix
92170 Vanves - France
Tel: +33(0)1 41 90 50 50
Fax: +33(0)1 41 90 50 51

www.neyco.fr



Materials D 2018-1

neyco