TEM Lamella Formation

Rule for Pt Dep,
“2 to 6 pA/μm²”,
but \( I_b = 300 \text{ pA} \) ok.

0) Pt: 2 μm wide X 2.5 to 4 μm thick

10 μm long

20 μm wide

10 μm long

22 μm long
TEM Lamella Formation

Leave: 1.5 to 2 μm wide

1) \( I_b = 5 \text{ nA} \)
   \( Z = 4 \mu m \)

2) \( I_b = 5 \text{ nA}, Z = 3.5 \mu m \)
6) \( I_b = 5 \text{ nA}, Z = 3.5 \mu m \)
7) \( I_b = 3 \text{ nA}, Z = 3.5 \mu m \)
8) \( I_b = 1 \text{ nA}, Z = 3.5 \mu m \)
9) \( I_b = .3 \text{ nA}, Z = 3.5 \mu m \)

\( \text{Regular Cross-Section} \)

22 μm long

\( \approx 18 \mu m \) wide

8 μm long

20 μm wide

\( I_b = 5 \text{ nA} \)
\( Z = 4 \mu m \)

\( I_b = 5 \text{ nA}, Z = 3.5 \mu m \)
\( I_b = 5 \text{ nA}, Z = 3.5 \mu m \)
\( I_b = 3 \text{ nA}, Z = 3.5 \mu m \)
\( I_b = 1 \text{ nA}, Z = 3.5 \mu m \)
\( I_b = .3 \text{ nA}, Z = 3.5 \mu m \)

\( \text{Cleaning Cross-Section} \)

0.5 μm
Lift-Out with Omniprobe
Welding to TEM Grid
Welding to TEM Grid
Cutting Weld from Probe to Lamella
Thinning Sample on Grid
Thinning Sample on Grid