Lab : DLL-STI
Operator Name : **MT-BA students**
Supervisor Name : A. SAYAH
Process Flow Date : 09/07/2025

Phone : 36583
Office : ME-D3.1022
E-mail : abdeljalil.sayah@epfl.ch

☐ Semestral Project ☐ Master Project ☐ Thesis ☑ Other

TP Micro 332

Description of the fabrication project

The TP MICRO 332 focuses on the use of the cleanroom in CMI to fabricate and characterize a metallic resistor structure. Students are exposed to lithography, etching, and electrical characterization as part of this process. Such a structure could be used as an interconnect to connect components together in a microprocessor, for example, or could be used to implement a resistive sensor such as a temperature detector or a chemical sensor.

Technologies used
Photolithography, positive resist, wet etching

Photolitho masks			
Mask #	**Critical Dimension**	**Critical Alignment**	**Remarks**
Mask 1	**2 µm**		For aluminium etch

Substrate Type and size
Silicon <100>, Ø100mm, 525um thick, Single Side polished, p type Aluminum on SiO2/Si, Ø100mm, Aluminium thickness 0.8 µm

Interconnections and packaging of final device

Thinning/grinding/polishing of the samples is required at some stage of the process.
☑ No ☐ Yes => confirm involved materials with CMi staff

Dicing of the samples is required at some stage of the process.
☑ No ☐ Yes => confirm dicing layout with CMi staff

Wire-bonding of dies, with glob-top protection, is required at the end of the process.
☑ No ☐ Yes => confirm pads design (size, pitch) and involved materials with CMi staff

Lab : DLL-STI
Operator Name : **MT-BA students**
Supervisor Name : A. SAYAH
Process Flow Date : 09/07/2025

Phone : 36583
Office : ME-D3.1022
E-mail : abdeljalil.sayah@epfl.ch

Wet etching

Step	Process description	Cross-section after process
01	**Substrate**: ***Si test*** *RCAcleaning* Machine: *Plade RCA- Z3* *Wet Oxidation* Machine: *Centrotherm -Z3* **Thickness: *0.49 µm***	
02	*Metallization* Machine: *Spider 600- Z4* *Couche:AlSi 1%* Thickness: *8000 A*	
03	*Photolith PR coat* Machine: EVG 150 *Coater Z6* PR : *AZ ECI 3007– 1 µm* Pr: C4_H_3007_1ux (With HMDS)	
04	*Photolith expo+ develop* Machine: MLA 150 Z16 EVG 150: *DEVELOPER AZ 726 MIF –Z6*	
05	*Wet Etch* Material : *AlSi 1%* Machine: *Plade Metal Z2* *ANP bath* Depth : *8000 A* *Time: (5 to 10 min)*	
06	*Resist Strip* Material: *AZ ECI 3007– 1 µm* (Z2) Bain remover 1165 Or plasma Oxygen Or Acetone + IPA	
07	*Thickness measurement* *Dek Tak Z15*	