Points to Consider in Microfabrication

(1) Coating Coverage

→ Consider sputtering

Al layer builds up on flat surface

→ consider thermal oxidation (TO)

Micromachined Si wafer:

all exposed Si gets oxidized → conformal coating
2) Coefficient of Thermal Expansion: CTE

- a material property
- the relative amount a material expands with increasing temperature or shrinks with decreasing temperature

Consider effect of high temp processing:

Created at 250°C

Let CTE1 > CTE2

Possible Effects →
1) structure deform, warp, bend
2) stresses in layers affect properties
3) cracking, pealing, fracturing