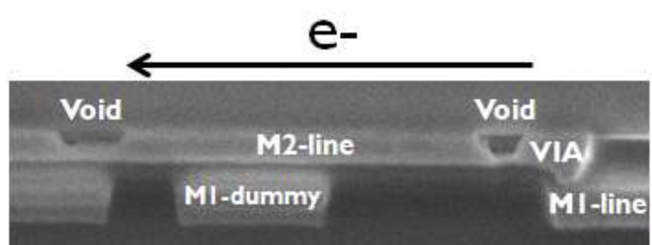
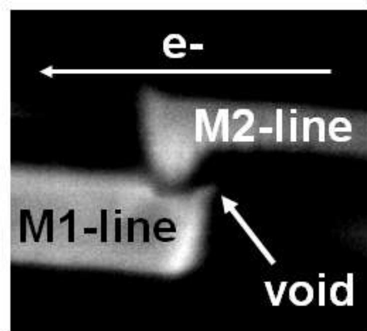
ALLER DE SLIMSTE TER WERELD FALINGSONDERZOEKER

weet alles over ...

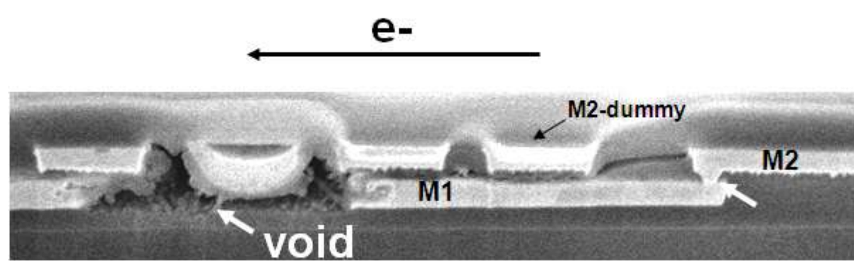
Electro-migration



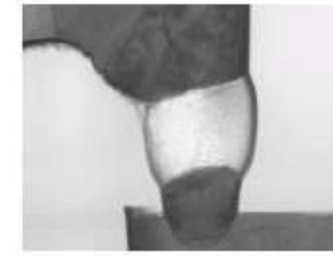
Slit-void under via



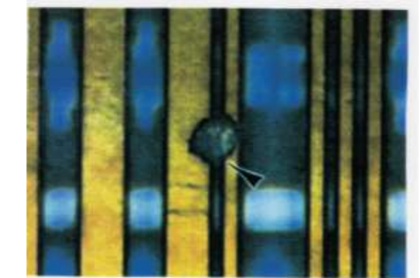
Trench void in-line



Stress-induced voiding

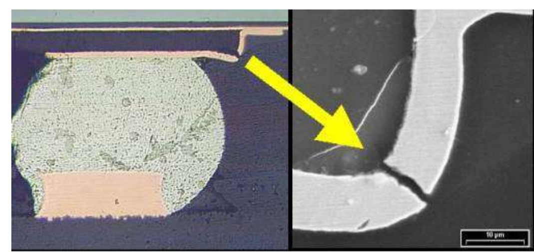


Resistive short between metal lines

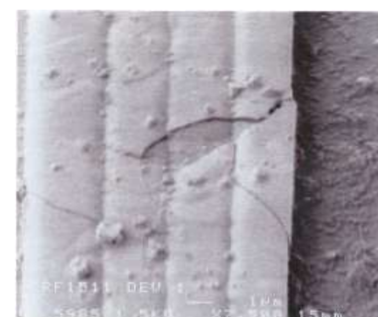


Passivation cracks

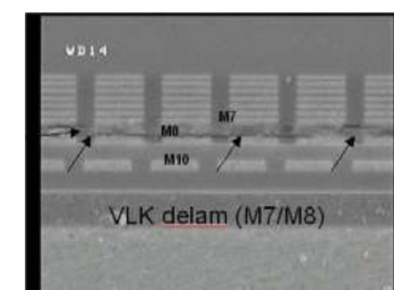
Fatigue crack in Cu thin film metallisation

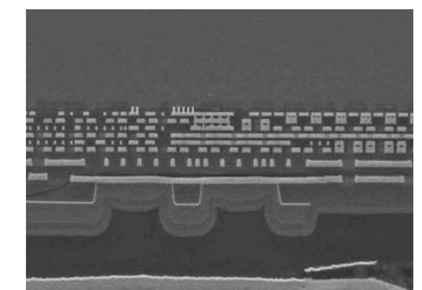


Metal crush (mould particle indentation)

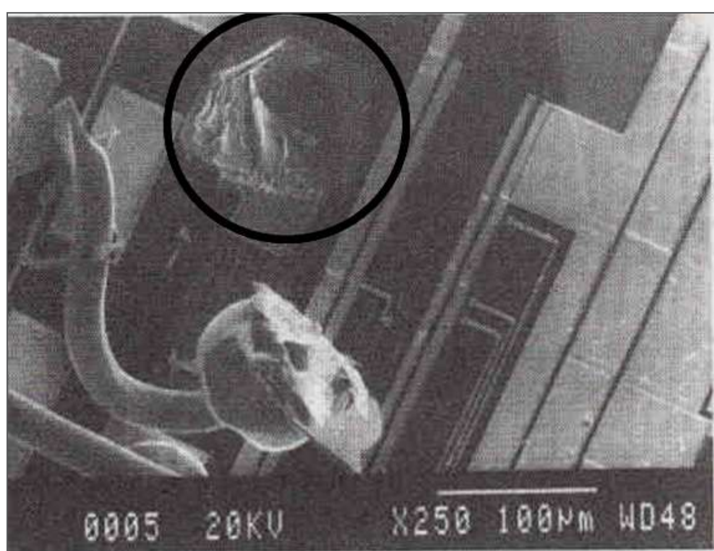


Delamination of BEOL

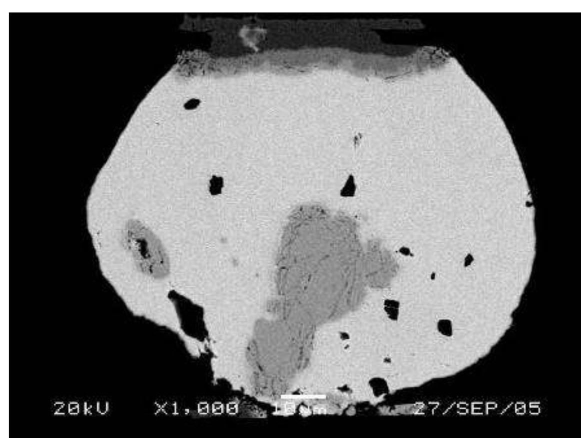




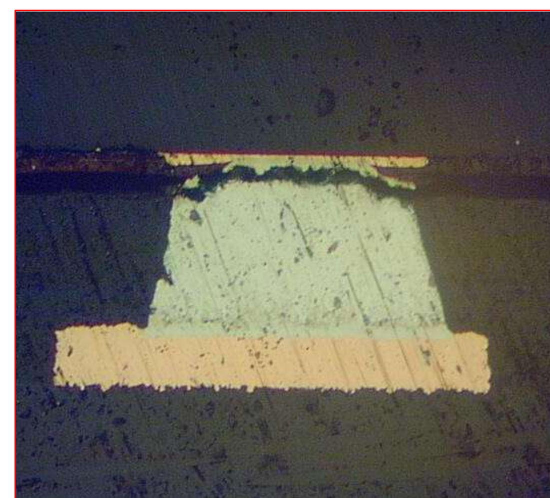
Wire bond rupture



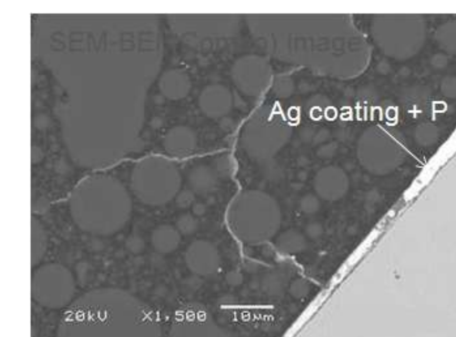
Electro-migration in solder joints



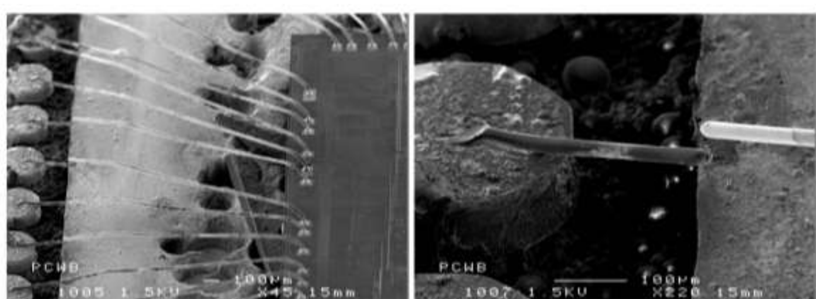
Underfill delamination



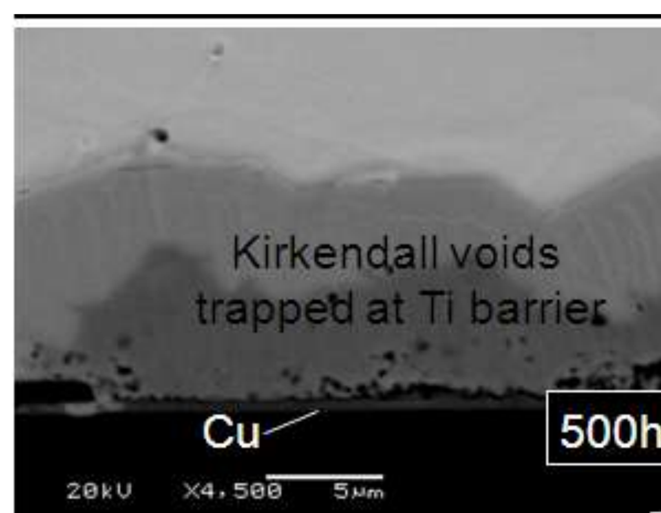
Metal migration in overmoulds



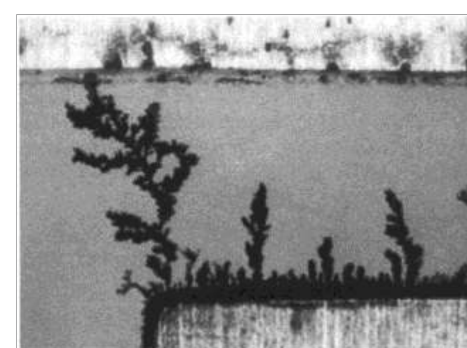
Wire bond necking



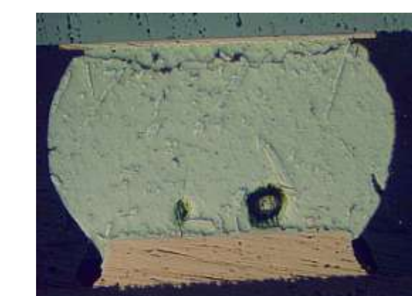
Kirkendall voids

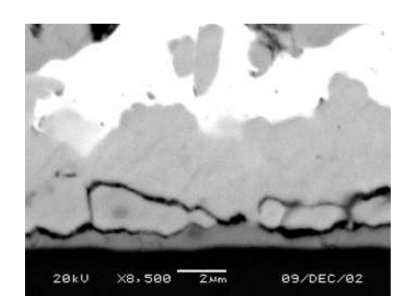


Dendritic growth between metal pads

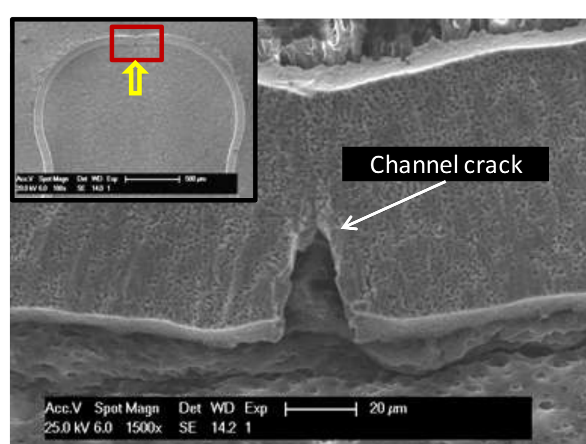


Solder joint
ductile fatigue & brittle fracture



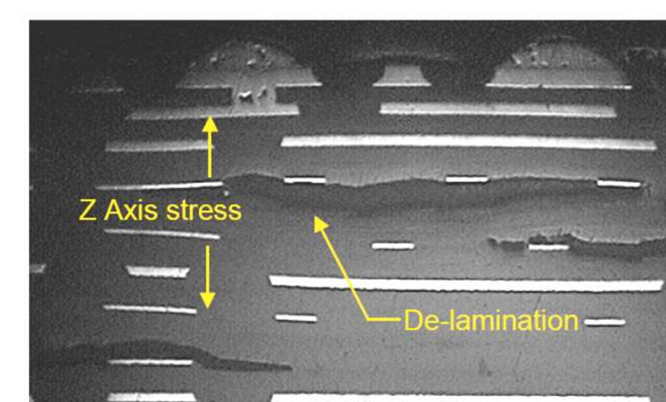


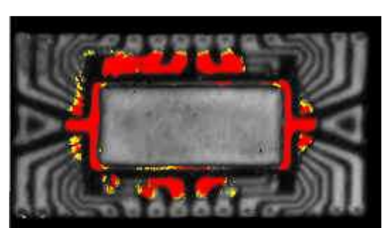
Fatigue in Cu stretchable interconnects



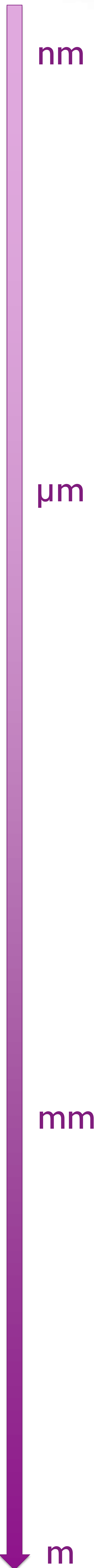
Pin fracture of heavy component

PCB delamination





Package delamination



Enkele bemerkingen:

- een scheur hoeft niet noodzakelijk en meteen tot een elektrisch falen te leiden
- sommige falers zijn haast niet visueel te achterhalen (bijv. Cu diffusie) of zijn verdwenen na het optreden ervan (bijv. doorbranden van een kortsluiting)
- sommige falers treden enkel op bij hoge of lage temperaturen (bijv open solder joint kan bij kamertemperatuur terug elektrisch contact maken)
- component kan ook falen t.g.v. de invloed van mechanische spanningen

imec