

Product Application

TechniClean™ CA25 is an acidic semi-aqueous blend design to address post etch residues (PER) removal for all interconnects and technology nodes.

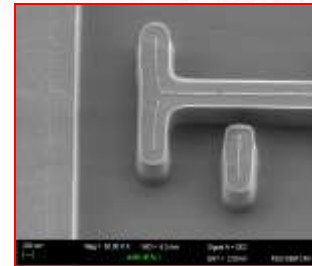
The inherent formulation ingredient proprieties have been proven utterly efficient at removing quickly and selectively organo-metal oxides from the following materials: Al, Cu, Ti, TiN, W and Ni.

TechniClean™ CA25 constituents were finely tuned to attain the most advantageous physico-chemical properties balance in terms of surface wetting, reducing potential, chelating capacity and residue solubility, permitting to accomplish complete PER dissolution at low temperature and short processing time for various electronic vehicles (lines, vias, PAD, Cap MIMS, etc).

TechniClean™ CA25 main features: unmatched PER cleaning versatility, high efficiency at low temperature, no intermediary rinse, low environmental impact (fluoride, amine, hydroxylamine and catechol free), cost effectiveness.

General Process information

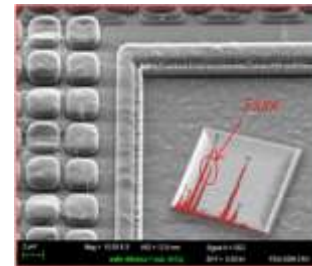
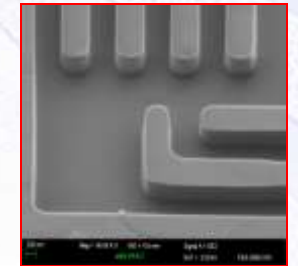
Before cleaning



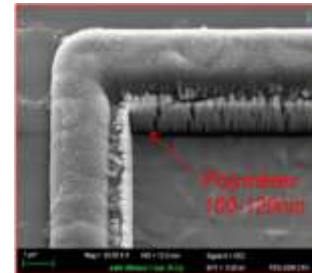
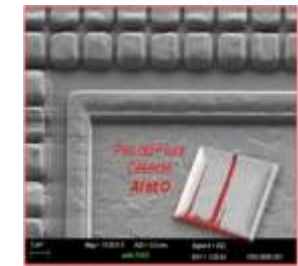
Application/Process

Al/Cu Lines
PER residues
5-10 min, 30°C

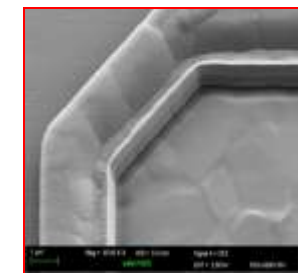
After cleaning in CA25



Al/Cu PAD
Fluoro like residues
15 min, 60°C



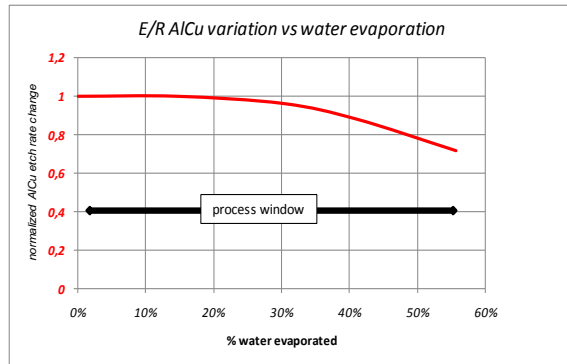
Al/Cu PAD
Heavy Polymer like residues
15min, 60°C



TechniClean™ CA25 Ageing: Water loss over time

As opposed to typical aqueous and/or semi-aqueous solutions,

TechniClean™ CA25 metal compatibility increases while sustaining complete device residues cleaning.



TechniClean™ CA25' organic solvent base hindered all potential precipitation/cluster formation in the mixture until running dry.

Physico-Chemical properties

State: Uncolored liquid

Viscosity (20°C): < 3 cP

Odor: low to no odor

Surface tension (20°C) :< 35 dyn/cm

T°C Flash point (Closed cup): >120°C

T°C boiling: 100°C

Water Solubility: Totally miscible

Impurity level: < 100ppb

Material compatibility

Materials	Etch rate (Å/min) 30°C
TEOS PECVD	< 1
Si3N4 PECVD	< 1
Ti	< 1
W	< 5
Cu	< 5
Al	< 4
Ni	< 1
TiN	< 5

TechniClean™ CA25 is also compatible with SS316, PVDF, PFA, PP, PEHD, PTFE...

Equipment

TechniClean™ CA25 can be utilized in batch immersion and batch spray equipments at low temperature, as well as in single wafer equipments at higher temperature allowing shorter processing time.

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