

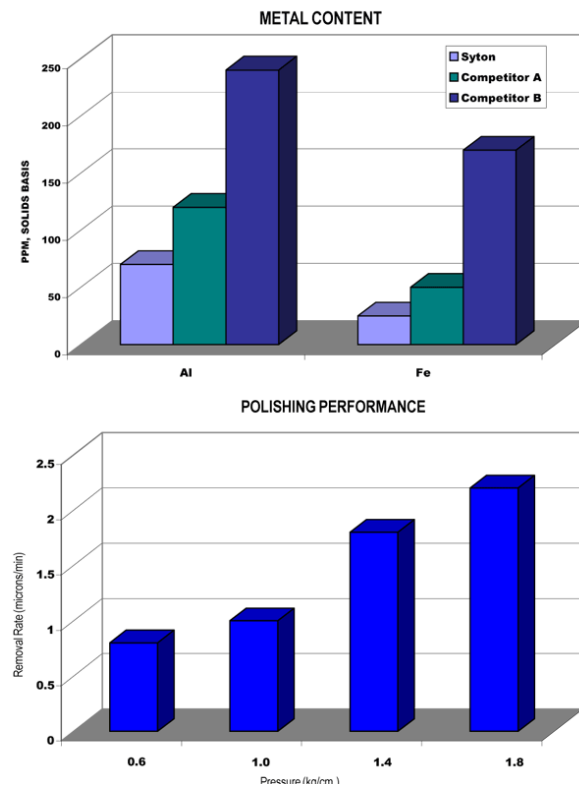


SYTON® HT-50 Colloidal Silica Slurry

Offering Slurries with Extended Technology Range Capability

Syton HT-50 is an aqueous colloidal silica with an average particle size of 40 nm. This product is sodium stabilized and has a unique particle size distribution. In addition, it has one of the lowest metal contents of any commercially available colloidal silica (Figure 1). These properties make Syton HT-50 an excellent choice as a base material for polishing prime silicon wafers.

FIGURE 1: Comparative Metal Data



Typical Properties

Property	Typical Value
Specific Gravity@20°C (gm/cm ³)	1.390
SiO ₂ (weight %)	49.8
pH@20°C	10.2
Average Particle Size (nm)	40.0
Trace Metals	
Iron (ppm)	15.0
Aluminum (ppm)	55.0
Copper (ppb)	40.0
Chromium (ppb)	350
Nickel (ppb)	130
The above metal results are based on 100% solids	

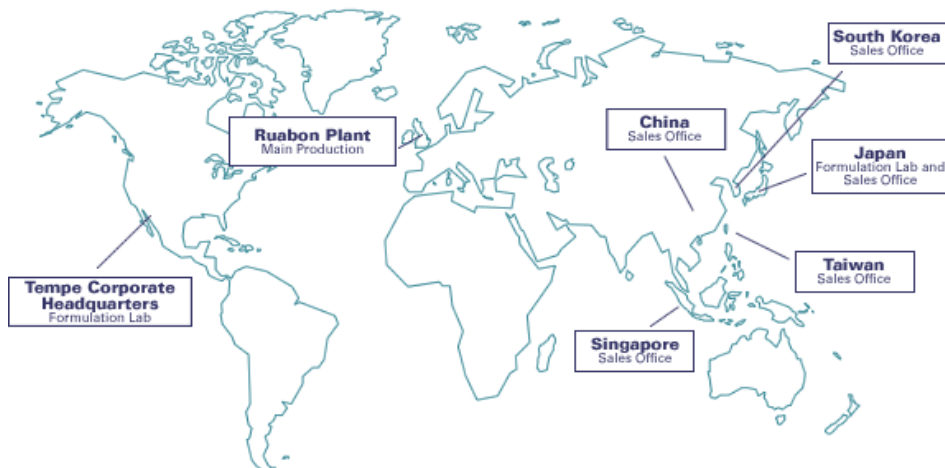
Test Conditions

Equipment	Pres 660E Polisher
Wafer Type	4 inch p-type (100)
Pad	Suba 500
Platen speed	150 rpm
Slurry flow	40 ml/mm.
Dilution	15:1

Application

For polishing of prime silicon wafers dilute Syton HT-50 with deionized wafer. Dilution ratios of 15-20 parts deionized wafer to 1 part Syton HT-50 are recommended.

The diluted slurry should be adjusted to pH 10.8-11.0 with either diluted KOH or NaOH for optimum removal rates. Care should be taken when adding the dilute alkali to the colloidal silica solution. The concentration of the dilute alkali solution should not exceed 10% and the addition should be made in a well-agitated tank.



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DA NanoMaterials Product Portfolio includes:

- Cu and Barrier DCmP™ products for 130 nm to 45 nm
- Tungsten DCmP™ products tunable around high and low selectivity
- Direct STI DCmP™ products for low and high overfill with the AutoStop™ feature
- Advanced ILD CMP extended from STI technology
- High Planarization PMD CMP extended from STI technology