



PLANARGARD® CMP CARTRIDGE FILTERS

Bulk filtration of CMP slurries



graded-density filter technology

Overview

The Planargard® filter relies on a graded-density depth filter design that enables it to retain defect-causing agglomerates in each of its four layers. This design provides excellent retention of agglomerates while allowing desired slurry particles to reach the surface of the wafer. Because particles are retained throughout the filter matrix rather than on a single surface, the potential for premature filter “plugging” is greatly reduced.

Performance

Planargard filters remove only those particles that are disruptive to the CMP process, not all particles. The particle size distribution of the desired slurry particles does not change after filtration. As a result, consistent slurry is delivered to your process.

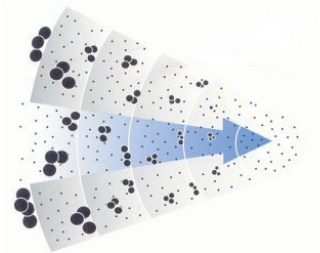
Filter Selection

Entegris offers Planargard filter options to match your application filtration objectives. For example, a tight structure (i.e., CMP5) is recommended to minimize wafer defects when polishing a polysilicon layer. If filter life is a priority, a more open structure (i.e., CM13) may be used. Entegris’ worldwide technical support team stands ready to support you with product recommendations and evaluation assistance.

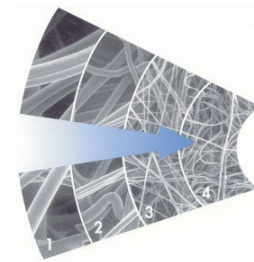
The Effect of Filtration on Working

Results of tests conducted by Entegris demonstrate that Planargard cartridges do not affect the particle size distribution of working particles. Our testing also shows that filters tighter than CMP1 can remove desirable working particles, causing premature plugging and reduced removal rates.

Features	Benefits
Relies on a graded-density depth filter design	Enables filter to retain defect-causing agglomerates in each of its four layers
Removes only those particles that are disruptive	The particle size distribution of the desired slurry particles does not change after filtration
Available in a range of sizes from <math><1 \mu\text{m}</math> to 50 $\mu\text{m}</math>$	Designed to meet the needs of specific slurry applications



Depth filter with four-layer construction to trap particles and ensure long filter life. Critical slurry particles pass through all four layers and are delivered to the polishing tool

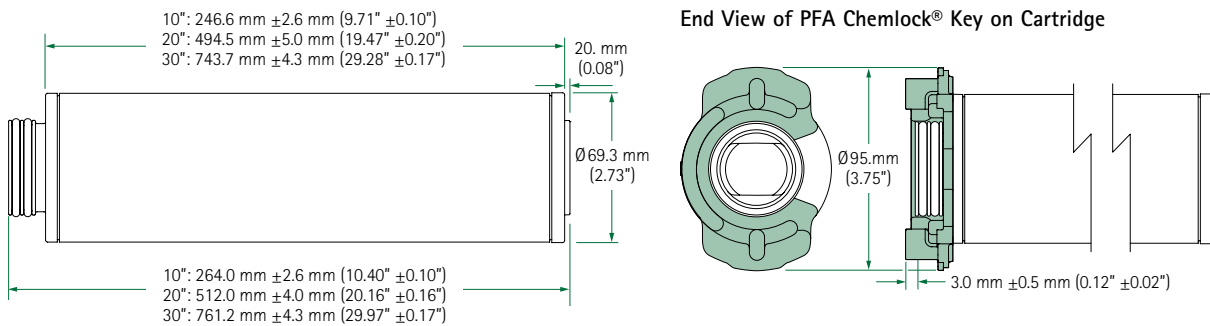


Scanning electron micrographs show the progressive tightening of the Planargard filter structure

Specifications

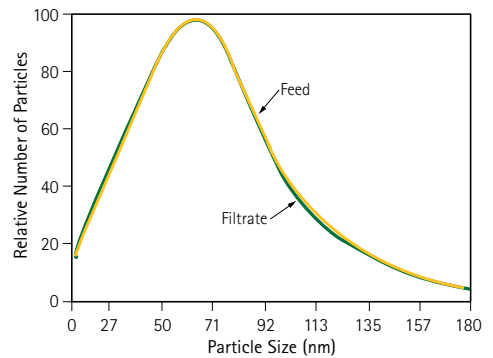
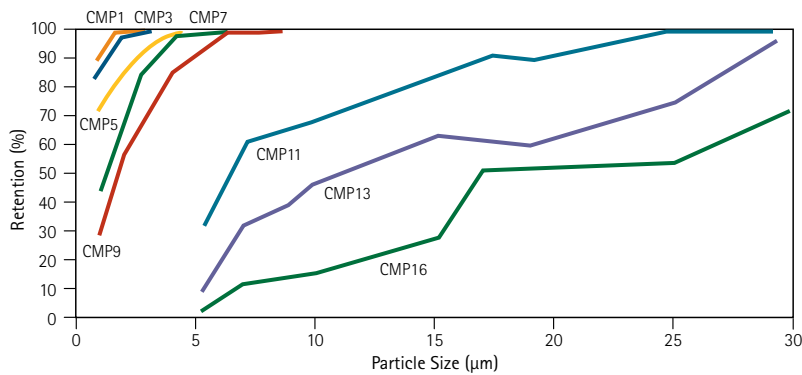
Materials:	Filter element	All polypropylene construction
	Cartridge o-ring	EPR
Connections:	Code 0, 2-222 double o-rings	
Dimensions:	See ordering information	
Maximum operating conditions:	Maximum forward differential pressure 0.48 MPa (4.8 bar, 70 psi) @ 25°C	

Dimensions



Performance Data

Planargard CMP Cartridge Filters

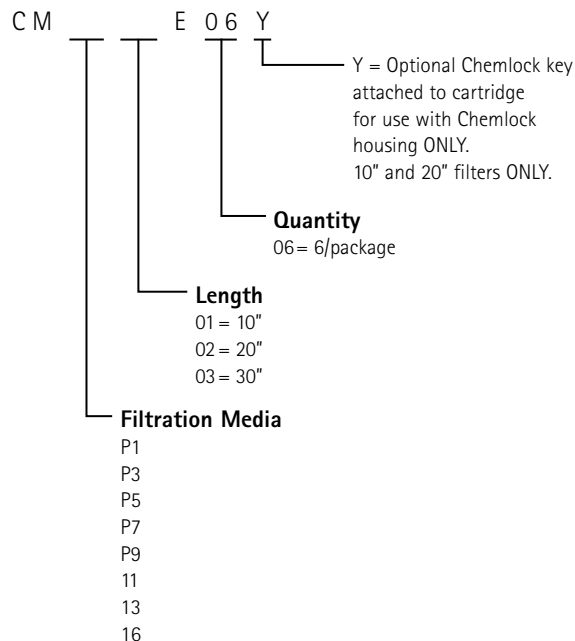


NOTE: Filtration effects on slurry – in the range of critical particle size, Planargard filters do not remove significant numbers of working particles. Testing was conducted using a commercially available oxide slurry in a point-of-use configuration.

Ordering Information

Planargard CMP Cartridge Filters

Part Number



Example: **CMP901E06Y**

Filtration media = P9

Length = 10"

Quantity = 6

Optional Chemlock key

For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the Customer Service link for the center nearest you.

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