Planargard® CMP Cartridge Filters

Bulk filtration of CMP slurries

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 Particles

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 <1 μm to 50 μm | Designed to meet the needs of specific slurry applications |
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Materials of construction</th>
<th>Filter element</th>
<th>All-polypropylene construction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cartridge O-ring</td>
<td>EPR</td>
</tr>
</tbody>
</table>

### 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 (77°F)

## DIMENSIONS

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>246.6 mm ±2.6 mm (9.71&quot; ±0.10&quot;)</td>
</tr>
<tr>
<td></td>
<td>264.0 mm ±2.6 mm (10.40 ±0.10&quot;)</td>
</tr>
<tr>
<td>20&quot;</td>
<td>494.5 mm ±5.0 mm (19.47&quot; ±0.20&quot;)</td>
</tr>
<tr>
<td></td>
<td>512.0 mm ±4.0 mm (20.16 ±0.16&quot;)</td>
</tr>
<tr>
<td>30&quot;</td>
<td>743.7 mm ±4.3 mm (29.28&quot; ±0.17&quot;)</td>
</tr>
<tr>
<td></td>
<td>761.2 mm ±4.3 mm (29.97 ±0.17&quot;)</td>
</tr>
</tbody>
</table>

### End View of PFA Chemlock® Key on Cartridge

- Ø69.3 mm (2.73")
- Ø95.5 mm (3.75")
- 2.0 mm (0.08")
- 3.0 mm ±0.5 mm (0.12" ±0.02")

## 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

<table>
<thead>
<tr>
<th>CM</th>
<th>E 06</th>
<th>Y</th>
</tr>
</thead>
</table>

- **Filtration media**
  - P1
  - P3
  - P5
  - P7

- **Length**
  - 10 = 10”
  - 20 = 20”
  - 30 = 30”

- **Quantity**
  - 06 = 6/pack

- **Y** = Optional Chemlock key attached to cartridge for use with Chemlock housing ONLY. 10” and 20” filters ONLY.

**Example**: CMP901E06Y
- Filtration media = P9
- Length = 10”
- Quantity = 6/pack
- Optional Chemlock key

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### FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](http://entegris.com) and select the [Contact Us](http://entegris.com) link to find the customer service center nearest you.

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