

MATERIAL AND USAGE OVERVIEW

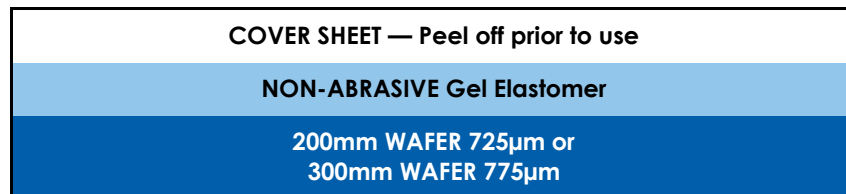
Gel-Pak®'s Gel-Probe REMOVE™ cleaning wafer consists of a proprietary nonabrasive Gel elastomer material laminated to a SEMI Standard silicon wafer that meets SEMI specifications for physical, dimensional, thermal and electrical properties, as outlined in the SEMI standard. Gel-Probe REMOVE™ cleaning wafers are designed for all types of cantilevered probe needle materials as well as for more advanced vertical and array technologies. The Gel-Probe REMOVE™ cleaning wafers are intended for use in both offline and on-line probe cleaning applications.

Gel-Probe REMOVE™ cleaning wafers efficiently REMOVE™ and capture loose debris, which accumulates on the probe tip, tip length, and electrical contact area of the tip during probing. The cleaning Gel elastomer only exerts forces on the probes in the Z (vertical) direction and the force is less than that imparted during normal test conditions. No lateral force is applied to the probe tips. Gel-Probe REMOVE™ is not intended to eliminate embedded or bonded debris. For that type of application, we recommend the Gel-Probe REFINE™ polishing wafer.

PRODUCT FEATURES

- Standard: 200mm and 300mm SEMI Standard Silicon Wafer
 - Gel-Pak's silicon wafers comply with SEMI standards for physical, dimensional, thermal and electrical specifications, guaranteeing material thickness, hardness, and tackiness for maintaining accurate electrical measurements to assess cleaning results.
- Optional: 150mm SEMI Standard Silicon wafer (Nominal wafer stack height = 908um ± 30um)
Note: Contact factory for other wafer size options
- Non-conductive, non-corrosive
- Operating temperature: -60°C to +200°C
- Does not transfer residue to probes or bond pads
- CoC for wafer total stack install height (w/o coversheet) included with each wafer

CLEANING WAFER CROSS SECTION

**Nominal Wafer stack height:**

200mm Wafer stack height: 958 ± 30µm

300mm Wafer stack height: 1008 ± 30µm

*Graphic not to scale

INSTALLATION

- Once the wafer has been installed into the prober, use the small corner tab on the coversheet to carefully peel back and remove the coversheet to expose the cleaning surface.
Important - Do not remove the protective coversheet from the cleaning surface until the wafer has been placed into the prober wafer tray.
- The installed thickness of a Gel-Probe REMOVE™ cleaning wafer is provided on the product label. Failure to properly define the cleaning contact height for the prober may result in excessive penetration of the elastomer causing damage to the cleaning material and/or probes.
- Adjust the cleaning parameters so that the cleaning overtravel is equal to the probing overtravel or up to 25µm greater than the probing overtravel. For the highly compliant elastomer, AOT = POT due to the tips penetrating the Gel layer. It is recommended to confirm with the probe card supplier regarding the allowable overtravel limits.

CLEANING RECIPE GUIDANCE

Cleaning recipe optimization is typically performed based on the individual customer test requirements. Gel-Pak can provide a starting point for the cleaning recipe development.

CLEANING RECIPE PARAMETER	STARTING RECOMMENDATION FOR ALUMINUM PADS
Cleaning Frequency	<ul style="list-style-type: none"> T < 25°C: Cleaning is recommended at LOT start; and more frequently during the probing process, as needed. T = 25°C: Cleaning is recommended at LOT start; and more frequently during the probing process, as needed. T > 25°C: Cleaning is recommended at LOT start; and more frequently during the probing process, as needed. <p><i>Number of cleaning touchdowns is adjusted based on the debris accumulation and electrical requirements.</i></p>
Cleaning Insertions per Cycle	<ul style="list-style-type: none"> T < 25°C: 25 to 50 clean insertions T = 25°C: 10 to 25 clean insertions T > 25°C: 25 to 50 clean insertions <p><i>Number of cleaning insertions per cycle is typically increased until the probe tip is clean and free of loose debris.</i></p>
Cleaning Index	<p>Index between insertions by 25µm / 25µm in the X and Y directions. Rotation angle of the cleaning wafer 10 to 20-degrees each cleaning cycle execution.</p> <p><i>Cleaning surface should be frequently inspected during regular usage.</i></p>