Gel-PROBE™

PROBE CLEANING TECHNOLOGY

Gel-PROBE™ RECOVER

Probe Reshaping Wafer

TECHNICAL DATASHEET

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MATERIAL AND USAGE OVERVIEW

Gel-Pak®'s Gel-Probe RECOVER™ wafer consists of a proprietary Gel elastomer material that is uniformly blended with abrasive particles then laminated to a SEMI Standard silicon wafer. Gel-Probe RECOVER, designed for cantilevered probe technologies, offers an economical way to uniformly reshape the surface area of new and worn flat probe tips to form smooth, radius tips with optimized contact surface.

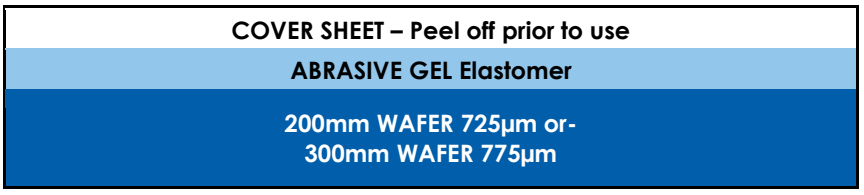
The Gel-Probe RECOVER™ reshaping process can be easily implemented into a probe card build process to form radius tips or into a probe card maintenance cycle to restore worn or deformed probe tips.

PRODUCT FEATURES

PRODUCT	ABRASIVE LOADING	NOMINAL STACK HEIGHT	OPERATING TEMP
Gel-Probe RECOVER U5	Ultra-High Load (~300%) 5µm SiC	200mm = 958 ± 30µm 300mm = 1008 ± 30µm	-60˚C to +200˚C
Gel-Probe RECOVER U10	Ultra-High Load (~300%) 10µm SiC	200mm = 958 ± 30µm 300mm = 1008 ± 30µm	-60˚C to +200˚C

- Standard: 200mm and 300mm SEMI Standard Silicon Wafer
- 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

RESHAPING WAFER CROSS SECTION



Nominal Wafer stack height:

200mm Wafer stack height: 958 ± 30µm

300mm Wafer stack height: 1008 ± 30µm

*Graphic not to scale

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INSTALLATION

1. 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 polishing surface.
   Important - *Do not remove the protective coversheet from the polishing surface until the wafer has been placed into the prober wafer tray.*
2. The installed thickness of a Gel-Probe RECOVER™ polishing 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 polishing material and/or probes.
3. Adjust the cleaning parameters to set the cleaning overtravel to the operating programmed overtravel (POT) into the elastomer. 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.

ONLINE CLEANING RECIPE GUIDANCE

Online 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	• 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. *Number of cleaning touchdowns is adjusted based on the debris accumulation and electrical requirements.*
Cleaning Insertions per Cycle	• T < 25˚C: 20 to 50 clean insertions • T = 25˚C: 20 to 50 clean insertions • T > 25˚C: 20 to 50 clean insertions *Number of cleaning insertions per cycle is typically increased until the probe tip is clean and free of adherent debris.*
Cleaning Index	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. *Cleaning surface should be frequently inspected during regular usage.*
Utilization	*The Gel elastomer does not break down easily when repeatedly used in the same location; however, the probe type, and amount of debris generated will affect the total number of cleaning rotations before the cleaning performance is affected.*