Gel-Probe™ REMOVE Probe Cleaning Sheets

Material and Usage Overview

Gel-Pak®'s Gel-Probe ReMove™ cleaning sheets consist of a proprietary nonabrasive Gel elastomer material backed with a polyimide carrier film and pressure sensitive adhesive for easy installation. Gel-Probe ReMove cleaning sheets 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 sheets are intended for use in both offline and on-line probe cleaning applications.

Gel-Probe ReMove cleaning material efficiently removes and captures 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 Gel-Probe ReFine polishing sheets.

Product Features:

- Cleaning sheet
- Nonabrasive Gel elastomer
- Operating temperature: -40˚C to +200˚C
- Non-conductive, non-corrosive
- Does not transfer residue to probes or bond pads
- Nominal stack height 385 ± 20um
- CoC for installed stack height included with each sheet

Cleaning Sheet Cross section

Coversheet - PEEL OFF PRIOR TO USE
Nonabrasive Gel Elastomer = 233
POLYIMIDE Layer
Adhesive PSA
Backside Release Liner - PEEL OFF PRIOR TO USE

Nominal stack height 385 ± 20µm

GEL-PAK
31398 Huntwood Avenue, Hayward, CA 94544
Toll-Free 888-621-4147 **Phone** 510-576-2220 **Fax** 510-576-2282
Website www.gelpak.com

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Installation

1. Remove the adhesive release liner, align, and carefully apply the cleaning sheet onto the cleaning unit, auxiliary plate, or polishing plate, as appropriate. Important - Do not remove the protective coversheet from the cleaning surface until the sheet has been fully installed.
2. Once the sheet has been installed, use the small corner tab on the coversheet to carefully peel back and remove the coversheet to expose the cleaning surface.
3. The installed working thickness of a Gel-Probe ReMove polishing sheet 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.*
4. Adjust the cleaning parameters to set the cleaning overtravel for probing overtravel + 25µm into the elastomer. The cleaning elastomer is a highly compliant material and the cleaning overtravel can exceed the probing overtravel; however, 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	• T < 25˚C: 150 to 250 die touchdowns • T = 25˚C: 250 to 500 die touchdowns • T > 25˚C: 150 to 250 die touchdowns *Number of cleaning touchdowns is adjusted based on the debris accumulation and electrical requirements.*
Cleaning Insertions per Cycle	• T < 25˚C: 25 to 50 clean insertions • T = 25˚C: 10 to 25 clean insertions • T > 25˚C: 25 to 50 clean insertions *Number of cleaning insertions per cycle is typically increased until the probe tip is clean and free of loose debris.*
Cleaning Index	Index between insertions by approximately 1.25 to 2.25X the probe diameter in both the X and Y directions. *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.*