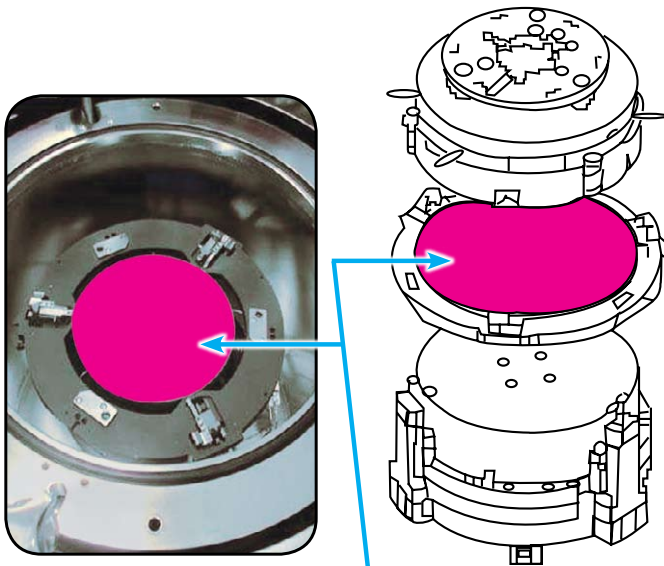


TACTILE PRESSURE INDICATING SENSOR FILM

Application: Wafer Bonding

Fujifilm Prescale® is a unique, affordable and easy to use tool that reveals the distribution and magnitude of pressure in your wafer bonder.

FUJIFILM PRESCALE® IN A WAFER BOND



Place Fujifilm Prescale® tactile surface sensor here

BENEFITS

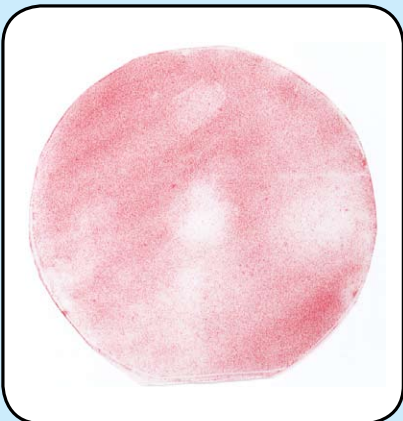
- ▶ Lower incidence of voids
- ▶ Minimize “spill out” into unwanted regions reducing short circuits.
- ▶ Reduce incidence of unbounded wafers
- ▶ More consistent hermetic seals with glass frit bonding
- ▶ Reduce wafer cracking

Fujifilm Prescale® is used to measure pressure on wafer bonding machines to reveal pressure inconsistencies across the wafer surface. By monitoring both pressure magnitude and distribution within your wafer bonding device with Fujifilm Prescale® wafer defects and can sharply reduced.

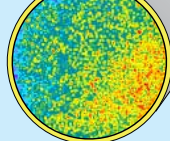
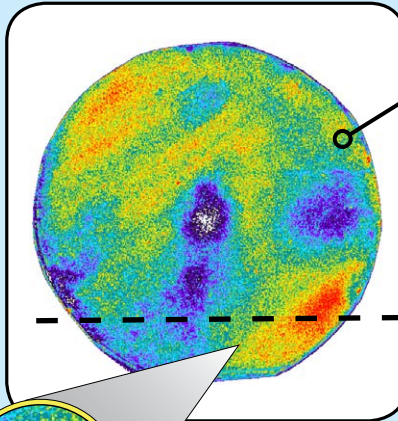
When placed in your wafer bonder, the film instantaneously and permanently changes color in direct proportion to the actual pressure applied. Philosophically similar to the indication given by Litmus paper. Precise pressure magnitude is then easily determined by comparing the resultant color intensity to a standardized color correlation chart No training or instrumentation is required.

Fujifilm Prescale® dramatically reveals a complete pressure “map”

STEP 1



STEP 2



Zoomed View

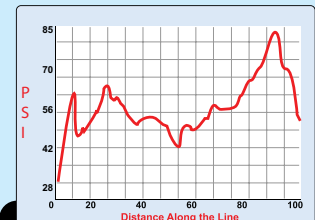


Color Indicates Precise PSI Value

Pressure Statistics

Sample Pseudocolor Rep	
Pressure	
Average	28.050 PSI
Std. Dev	57.93 PSI
Area	0.14 sq.in
Force	39.44 lbf
Minimum	20.319 PSI
Maximum	43.200 PSI
Format :	###

Pressure Profile



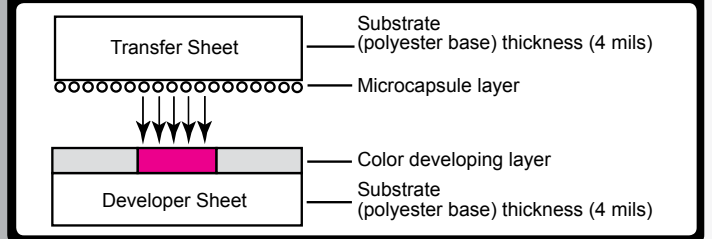
Colorization applied with the Topaq® optical analysis system

Tactile Pressure Indicating Sensor Film

Accurate, Cost-effective, Easy to Employ Pressure Mapping Technology

Have you ever needed to evaluate pressure or force between two touching or mating surfaces? Previously, your only alternatives were strain gauges and load cells, that are both time consuming and difficult to interface. Now with the advent of our disposable one-time use pressure film, Fujifilm Prescale®, evaluating surface contact pressure distribution and magnitude is accurate, quick and highly economical.

CROSS SECTIONAL VIEW OF FUJIFILM PRESCALE® FILM



7 Sensitivities To Accommodate A Wide Range Of Pressures

FILM TYPE	PRESSURE RANGE	
EXTREME LOW	7.2 - 28 PSI	(0.5 - 2 kg/cm ²)
ULTRA LOW	28 - 85 PSI	(2 - 6 kg/cm ²)
SUPER LOW	70 - 350 PSI	(5 - 25 kg/cm ²)
LOW	350 - 1,400 PSI	(25 - 100 kg/cm ²)
MEDIUM	1,400 - 7,100 PSI	(100 - 500 kg/cm ²)
HIGH	7,100 - 18,500 PSI	(500 - 1,300 kg/cm ²)
SUPER HIGH	18,500 - 43,200 PSI	(1,300 - 3,000 kg/cm ²)

INDUSTRY APPLICATIONS

AEROSPACE	Composite Layups, Material Testing, Bolted Joints
AUTOMOTIVE	Gasketing, Impacts, Fuel Cell Stacking, Clutches, Brakes, Tire Tread
ELECTRONICS	Heat Sinks, LCD Bonding, PCB Lamination, Wafer Bonding/Polishing
MEDICAL	Clamping, Gait Analysis, Ergonomics, Orthotics and Prosthetics

PACKAGING	Heat Sealing, Converting
PLASTICS	Lamination Press, Die Extrusion Injection Molding, Stamping
PRINTING/PAPERMAKING	Nip Impressions

PHYSICAL SPECIFICATIONS

OPERATING TEMPERATURE	41°F to 95°F (5°C - 35°C) (much higher for brief exposure)	SUBSTRATE	Polyethylene Terephthalate (PET)
HUMIDITY RANGE	20% to 90% RH	ACCURACY	±10% visual, ±2% utilizing optional optical measurement systems
GAUGE	4, 8, or 20 mils	SHELF LIFE	2 years
SPATIAL RESOLUTION	5 to 15 microns		

MSDS Available Upon Request.



Sensor Products Inc.
300 Madison Avenue
Madison, NJ 07940 USA
Phone: 1.973.884.1755
Fax: 1.973.884.1699
www.sensorprod.com

www.sensorprod.com

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