

TACTILE PRESSURE INDICATING SENSOR FILM

Pressure^x[®] is a unique, affordable and easy to use tool that reveals the distribution and magnitude of pressure between any two contacting, mating or impacting surfaces.

How It Works

Pressure^x[®] is a mylar based film that contains a layer of tiny microcapsules. The application of force upon the film causes the microcapsules to rupture, producing an instantaneous and permanent high resolution "topographical" image of pressure variation across the contact area.

Simply place Pressure^x[®] pressure indicating sensor film between any two surfaces that touch, mate or impact. Apply pressure, remove it and immediately the film reveals the pressure distribution profile that occurred between the two surfaces. Conceptually similar to Litmus paper, the colour intensity of Pressure^x[®] is directly related to the amount of pressure applied to it. The greater the pressure, the more intense the colour.

Pressure^x[®] is extremely thin (4 to 8 mils) which enables it to conform to curved surfaces. It is ideal for invasive intolerant environments and tight spaces not accessible to conventional electronic transducers.



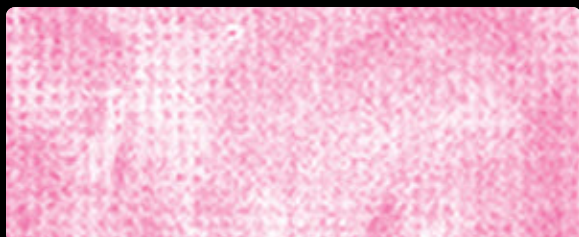
HEAT SEALING

Non-uniform Platen Contact / Parallelism Issues



GASKETED INTERFACE

Uneven / Insufficient Loading



HEAT SINK

Insufficient / Problematic Thermal Transfer



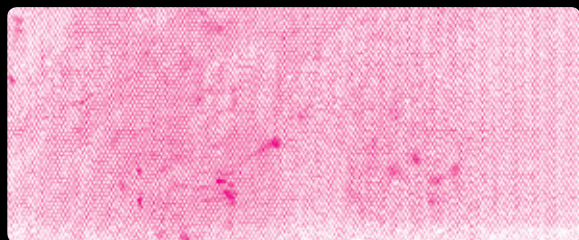
LAMINATION/PRESS

Platen Planarity Problems



NIP IMPRESSION

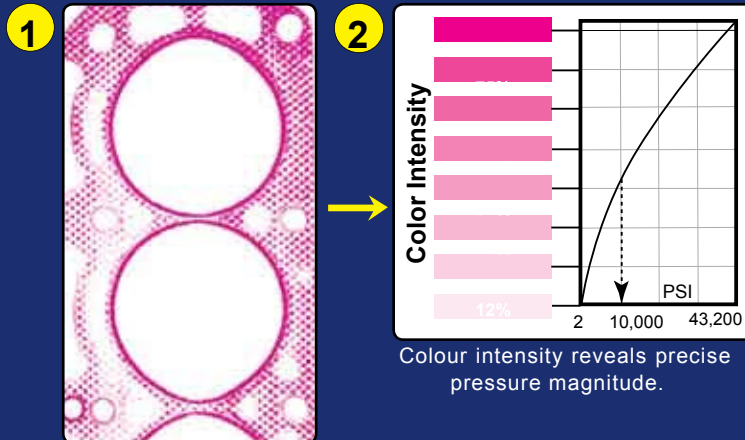
Roller / Nip Defects, Parallelism / Crown Correction Problems



COMPOSITE LAYUP

Registration / Parallelism / Planarity Issues

HOW TO INTERPRET PRESSUREX[®] IMPRESSIONS



Pressure variation across a flange surface

Colour intensity reveals precise pressure magnitude.

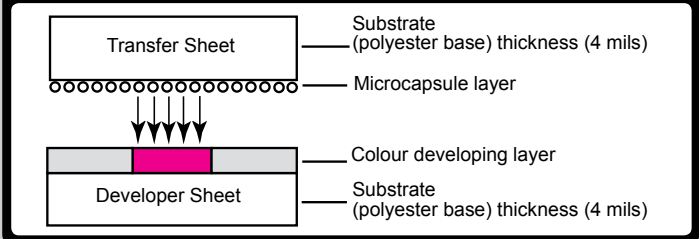
Like Litmus paper, the colour that Pressure^x[®] sensor film turns has significance. It is directly related to PSI (kg/cm²), and can be visually compared to our colour correlation chart or scanned and quantified with one of our optional optical imaging systems.

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, Pressurex®, evaluating surface contact pressure distribution and magnitude is accurate, quick and highly economical.

CROSS SECTIONAL VIEW OF PRESSUREX® FILM



7 Sensitivities To Accommodate A Wide Range Of Pressures

FILM TYPE	PRESSURE RANGE	
MICRO*	2 20 PSI	(0.14 1.4 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)

* Shows relative pressure distribution only

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 Moulding, 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		



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