



Equal=Press

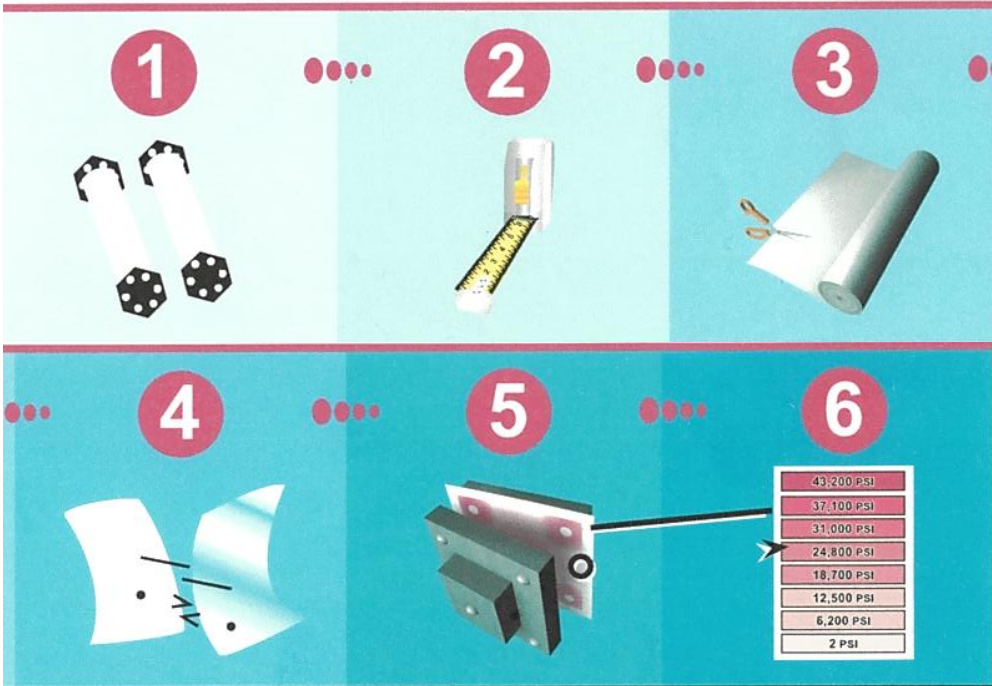
PRESSURE DISTRIBUTION TEST KIT

EqualPress is a unique, affordable diagnostic tool available in a format of 21.25 x 24.50" sheets.

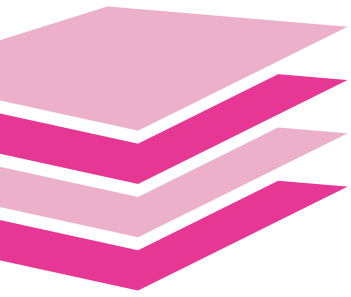
This tool allows the user to create a visual view of the distribution of pressure on the surface area of a circuit board in any specific lamination lay-up. You will witness firsthand the magnitude of pressure between any two contacting, mating, or impacting surfaces. Result takes three minutes to create in a cold press (ambient room temperature below 100°F at pressures anywhere between 350 - 1400 psi). The final film image illustrates a direct reflection of the lamination make-up as it exists (real time).

The sensor film is extremely thin (4 to 8 mils) which enables it to conform to curved surfaces and capture all topography differentials. The full sheet size means less or no cutting to match the film to the surface area of the circuit.

EqualPress is provided in a tube kit package that includes film to run two separate tests and will provide you a clean image as it relates to size.



Finally, an easy-to-use kit to help diagnose potential problems. Poor tooling plate conditions, effect from inferior tooling pins, wear of press platen related to age can be identified and fixed. Inferior press pad conditions or misused remedies such as press pad re-use can be identified and fixed. This includes determining proper positioning of components of the total make-up to improve process yields. EqualPress offers a simple easy to use solution for diagnostics in your lamination press area.



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Illustrations created by EqualPress below, show actual pressure magnitude of high and low pressure spots displayed by intensity of pink. They also show distribution of the pressure (equalization) across the total circuit board surface area in the lamination make-up. The impact from each specific use of Press Pads was included as it impacts each performance significantly.



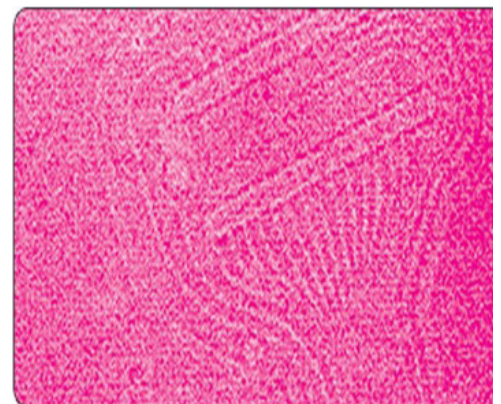
TWO VIRGIN PRESS PADS TOP & BOTTOM OUTSIDE CAUL AND SEPARATOR PLATES

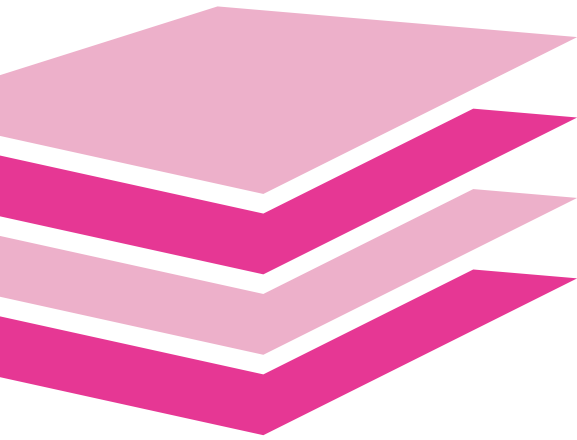
ONE USED, ONE VIRGIN RELEASE COATED PRESS PAD TOP & BOTTOM OUTSIDE CAUL AND SEPARATOR PLATES



TWO PLYS OF BIPLY POSITIONED WITH RELEASE SIDE ADJACENT TO CAUL AND SEPARATOR PLATES TOP & BOTTOM

BIPLY PLACED ADJACENT TO FLEX LAMINATION RELEASE SIDE ADJACENT TO SEPARATOR PLATE, NON-RELEASE SIDE OF PRESS PAD IS PLACED ADJACENT TO CONFORMAL RELEASE FILM





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INSTRUCTIONS

1. Remove

Each Test Kit (tube) contains two sets of pressure test sheets to conduct two separate tests as needed. The "donor" sheet has a matte side (faint green) and a white glossy side. The "receiver" sheet has a white side (matte) and a clear side gloss.

2. Measure

The film kit has been designed to analyze as close to standard size format (18x24) minimizing or eliminating the need to cut to smaller sizes.

Example: Provided film measures 21.25"x24.5" / sheet x 2 sets. A standard 18x24 circuit board format can be measured without cutting to size. Film can be centered on panel size format and test can be completed as is.

3. Cut

If a desired size smaller than the provided size is required, cut a piece of pressure film from the "donor" sheet to the approximate dimension needed using a scissor. Repeat the step using on the receiver sheet matching each sheet to the desired size.

4. Place the sheets together

Take the "donor" and "receiver" sheets as provided or cut to size and gently place the two sheets together so that the textured side (faint tint) and the textured side (white side matte) are in direct contact with one another.

5. Placement

Place the pressure film "sandwich" that you just created on the area within the book where there will be direct contact pressure. Its recommended and OK to position this on the top side of the LAM make-up where there is easy access. Apply force (pressure) for three minutes at full pressure. Once completed open and remove the film sandwich separating the two films from each other. A distinct pink color image will appear illustrating test results.

6. Pressure Management

The concept is like litmus paper not to illustrate specific pressure values but to illustrate a range of equalization across the exposed surface area. Varying intensities of pink correlate to high and low pressure equalization where darker correlates to high and fainter correlates to lower pressure points.

