FUJIFILM

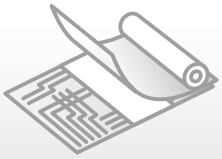
PRESCALE

Pressure Measurement Film

PRESCALE

Application Examples [No.5]

Measured Object



Dry film resist (DFR) lamination

Uses

Process stabilization and quality improvement by ensuring uniform adhesive pressure

Benefits

Higher quality

Time savings

Lower costs

Industry

Printed Circuit Board (PCB), lead frames, liquid crystal glass substrate circuit formation

Applications

Checking adhesive pressure of dry film resist (DFR) lamination

Challenges

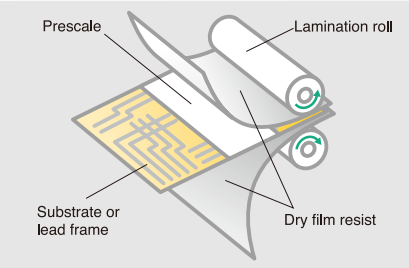
When laminating dry film resist onto print substrates or lead frames, bubbles and wrinkles can be formed if the base material/dry film resist/lamination roll is not set up in balance or if the pressure is not adjusted to be uniform. Also, if the pressure is not set to the optimum value, bubbles can enter surface irregularities and adhesion defects can result. Although pressure uniformity is vital to process stabilization there has been no method available to measure it.

Measure-ment

Used product: Prescale (Ultra low pressure LLLW, Super low pressure LLW)

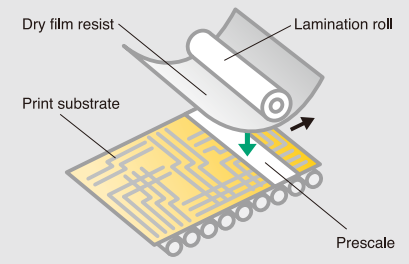
❶Apply the Prescale (LLLW, LLW) to the print substrate or lead frame. Then, convey the Prescale along with the substrate or lead frame.

- Based on the coloring of the Prescale; check whether or not pressure is applied uniformly along the width and the direction of flow. Also, check that the degree of pressure is appropriate.

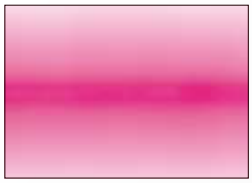


❷Apply the Prescale (LLLW, LLW) to the print substrate or lead frame. Then adjust the lamination roll from its loose state to the prescribed pressure and conduct the measurement.

- According to the coloring of the Prescale; check whether or not the pressure of the lamination roll is applied uniformly and at the prescribed value.



Results (images)

	[Not good]	[Good]
Method 1	 ●Roll pressure is too low at the top and end points of conveyance.	 ●Lamination is conducted at a constant roll pressure during the entire conveyance process.
Method 2	 ●Pressure is too high at the center of the roll.  ●Pressure decreases towards the right side of the roll.	 ●Pressure is applied evenly.

Benefits of Prescale

● Time savings

Without Prescale, schedules may be affected for several days if you need to call out a technician from the manufacturer for maintenance.

● Material savings

Without Prescale, material losses occur due to the need to use trial-and-error processes.

● Quality improvement

Without using Prescale, quality problems can occur due to inspection lapses.

Without using Prescale

When the cause of abnormalities such as wrinkles is not understood, it is necessary to perform repeated corrections by trial and error, resulting in substantial waste.
During maintenance work (e.g., changing rolls) it is necessary to call out technicians from the manufacturer, **resulting in substantial time losses and service costs** (e.g., schedule adjustments and travel expenses).

Using Prescale

It is possible to check that the lamination roll pressure is applied uniformly at the prescribed value.
Also, abnormalities and maintenance can be handled onsite instead of calling out a technician from the manufacturer, **resulting in cost and time savings.**

*Note that the specifications and performance data described in this catalog are subject to change without notice, for the purpose of improvement. Since images are used for illustration purposes they may differ slightly from the actual product.

TACTILE PRESSURE EXPERTS
SPI
SENSOR PRODUCTS INC.

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

Updated 04-15-2014