

VERSAFLEX

FUSION LABELING SYSTEM

SET-UP & DECORATING INSTRUCTIONS



GRAPHICS STORAGE CONDITION REQUIREMENTS

Prior to application, GRAPHICS must be stored in climate controlled environment as follows:

GRAPHICS should not be pressed or stacked upon. GRAPHICS should be stored at a temperature between 10°C - 35°C / 50°F - 95°F, and should not be stored in direct sunlight or high humidity. Partially used GRAPHICS rolls need to be re-rolled tightly and taped in place after initial use. Store in a box with an airtight lid if possible.

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Applying Polyfuzer Labels to PP and PE components using the VersaFlex system is similar to hot stamping and heat transfer decorating while utilizing "Pad Printing" style equipment. The Versa Flex system allows much greater flexibility and the ability to compensate for part variation, surface imperfections and the unique ability to decorate hollow parts using the same basic principals of other decorating techniques. The combination of pressure, temperature and dwell is required to transfer an image from a carrier to a part. These three components are interdependent and a change in any one of them, may affect success or failure in the application process. Unlike standard heat transfers and hot stamp foils, Polyfuzer Labels do not have any ink or adhesives used in their composition.



1) PRESSURE

There is no specific pressure setting on a VersaFlex machine. The air pressure regulator should be set at 0.7 bar. Allowing you to achieve 25% compression of the stamping pad on both the hot plate and the part. The compression of the stamping pad is controlled by the stroke length adjustments on the side of the stamping head.

The part should be well supported to prevent shifting during the stamping process.



2) TEMPERATURE

The Polyfuzer Label requires an application temperature of 450°F.

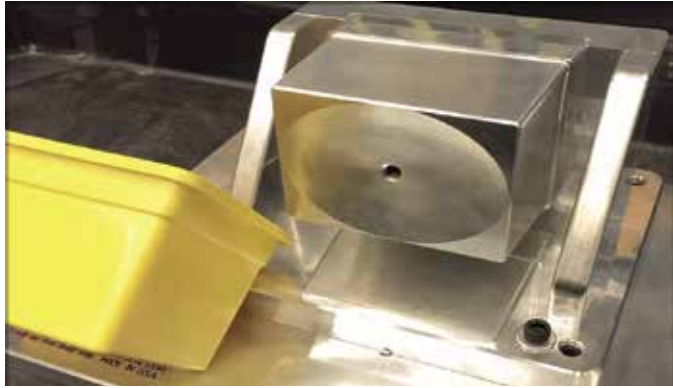
Hot parts may require a lower temperature or a shorter dwell time.



3) DWELL TIME

The time that the VersaFlex Heating Element is in contact with the Polyfuzer Graphic and the part. This depends on the temperature of the part and the VersaFlex Heating Element. **This time should be set at 3 seconds to start and can be adjusted as needed.**

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4) PART SUPPORT FIXTURES

Part Support Fixtures are required to secure and hold parts while being decorated, support the stamping area and locate/position part for repeatability. Support fixtures should be manufactured to be user friendly and easy for automation or an operator to load and unload parts.

Fixtures are manufactured out of various materials as dictated by the part shape, substrate, size and support requirements. The fixtures should minimize movement or deflection of the part as much as possible.

VersaFlex machines are much more forgiving than traditional Hot Stamp machines as the soft stamp pad can conform to surface imperfections and compensate for some deflection when working with hollow parts. Hollow parts may need to be pressurized with air or internally supported depending on the wall thickness and rigidity.



5) SILICONE RUBBER PRINTING PADS and VERSAFLEX HEATING ELEMENT

VersaFlex Heat Elements combined with Silicone rubber stamp pads are used to apply graphics when using a VersaFlex machine. The Pad Printing pads provide the pressure and the Heat Element provides the heat. Pads are available in a wide variety of shapes, sizes and durometers. We recommend



using stamp pads provided by authorized manufacturers of VersaFlex equipment. Polyfuzze Graphics Engineers can assist you with VersaFlex Heat Element and printing pad selection based on your parts and specific application parameters.



6) STRIP DELAY VARIATIONS

Strip delay is a function that allows the part to cool for just a few seconds before the carrier material is stripped off. Two ways to accomplish "strip delay" using a VersaFlex system. The "Table Up / Down" or "Strip Bar"

functions can be used to achieve the same result. Both are timed functions that use different mechanical actions of the machine to help strip off the carrier material after a set amount of time following the stamping process. There are different timers for these features and your machine may have one or the other or both functions available but only one will be used at any given time. The timers start when the stamping head lifts off the part after stamping. For the "Table Up / Down" function the table will be in the "Up" position during stamping, then after the delay timer ends, the table will drop, moving the part away from the carrier material. For the "Strip Bar" function, a steel bar will move across between the part and the carrier material after the delay timer has ended. This bar will separate the carrier material from the part surface in one quick, clean motion. The "Table Up / Down" and the "Strip Bar" timers are usually set between 1 and 3 seconds. This allows the part to have air flow around it for that time to allow cooling. By allowing this cooling and then removing the carrier material in one clean motion, the resulting finish on the part is much more consistent.

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BEFORE YOU START STAMPING

- 1) Make sure the face of your VersaFlex Heating Element is at least 450°F and clean from all debris.
- 2) Make sure your tooling is lined up with the application die and everything is bolted tight.
- 3) Make sure the Polyfuzer Graphics™ are tracking straight through the press. The guide rollers should have the film approximately 1/2" above the part.
- 4) Set the correct stroke for the "Back" position over the hot plate as well as the "Front" position over the part.
- 5) Set stamp time and be sure "Table Up/Down" is turned on and proper delay is set. Or, the stripper bar is activated and the proper delay is set.
- 6) Check all safety devices on the press.

Remember: Your part should be well supported in the machine. A solid fixture will help insure success!

DETERMINING WHAT IS A GOOD APPLICATION

To determine if the graphics have been applied properly there are a few tests that can be done after the part cools.

- 1) **Visual Inspection.** Was all of the graphic applied and is it straight with no wavy lines? Do you see an impression from the VersaFlex Heating Element showing the melt line around the graphic? This is our Quality Control mark. When you see this mark you know that the graphic is fused into the part.
- 2) **Touch Test.** Run your finger across the graphic. Does it feel like it is on top of the plastic? Polyfuzer Graphics™ are designed to fuse into the plastic. The surface should feel smooth depending on the base material.
- 3) **Scratch Test.** If the graphic scratches off easily with a fingernail, it isn't fused. However, if you dig at it to remove it, and damage the part in doing so, it's fused.
- 4) **ASTM D3359-09 Crosshatch Tape Test.** Score the graphic with a knife into 1/8" squares. Apply Scotch 893 tape over the crosshatch pressing firmly. Peel the tape off perpendicular to the graphic and inspect for any graphic on the tape.

For any additional help or concerns in starting your Polyfuzer Graphics™ decorating, please contact Jason Brownell, VP, Polyfuzer Graphics™ Corporation at (928) 634-8888 x156.