

HOW TO SUBLIMATE A PolySub™ MUG

The successful sublimation of any substrate depends upon balancing the variables of pressure, temperature and time. We tested the following mug presses with various inks and papers to come up with general parameters that will help you get started. Your combination of ink, paper and mug press is unique to you and will require adjustments to get optimum results with the PolySub mug.

Pressure

The PolySub mug is an injection molded polymer with a uniform tight tolerance surface. As a result, there is no need for high pressure to achieve good contact between the transfer and the mug. No matter which mug press you are using you should set the pressure as low as possible. High pressure can cause deformation of the mug, ghosting of the outline of the transfer paper and impression from the heating element.

It is a good practice to make your transfer paper size either 3 1/2" x 8 1/2" or 3 1/2" x 9 1/4", regardless of the size of the image, to eliminate the potential for ghosting. This also helps with the proper alignment of the image on the mug.

Some mug press heating elements have a pattern on the surface which can transfer to the mug. The use of a teflon sheet can prevent such transfer. The design of one mug press is such that the compression of the heating element is elliptical instead of round and deforms the mug regardless of the pressure setting. Our solution was to design an aluminum tool that slips in the mug to prevent deformation. The tool is also necessary when using mug wraps. The tool is recommended with all presses as it stabilizes the mug.

Temperature

The PolySub mug has a melting temperature of 430° F. If you are melting the surface of the mug you are well above the temperature required for sublimation to occur and should adjust your settings downward. Remember, the temperature setting of the mug press reflects the design of the controls and position of thermocouples and does not necessarily reflect the actual temperature at the surface of the mug.

Time

The PolySub mug heats up faster than a ceramic mug as it is 1/3 the weight of a ceramic mug. In general, the time to sublimate a PolySub mug is less than a ceramic mug.

Mug Press	Temp. Setting	Time Setting	Notes
Cactus	390 F	3 min 15 sec	aluminum tool recommended
George Knight	390 F	4 min	aluminum tool recommended
Hix	390 F	5 - 6 min	aluminum tool recommended
Nova Chrome	390 F	2 min 15 sec	aluminum tool required to prevent mug distortion
Phoenix	340 F	1 min 30 sec	aluminum tool recommended
Printa	390 F	3 min 15 sec	aluminum tool recommended
Stahls	350 F	2 min 15 sec	aluminum tool recommended
Mug Wraps	400 F	15 min	aluminum tool required to prevent mug distortion

Note: The above settings are only intended to give you a reasonable point to begin to determine the best settings for your system.

Warning: The insert tool must be removed immediately after sublimation. It may become lodged in the mug if it cools prior to removal. If the mug cools and the tool sticks inside, reheat the mug/tool until the tool can be removed.