



How to Check Heat Press Temperature

The heat press temperature and control panel on StarCraft Heat Presses are calibrated during the quality control process. However, we often receive inquiries from customers regarding the accuracy of temperatures. Checking your heat press temperature is not as easy as one would think. The purpose of this document is to explain how to properly check the temperature of a heat press and things to consider when using readily available tools.

One of the common issues surfaces when users attempt to read temperatures with a basic infrared thermometer or a cooking temperature probe. When using a probe with a heat press it is difficult if not impossible to introduce ideal factors to use these types of devices to obtain consistent and accurate readings in most cases. A cooking thermometer probe is intended to have heat surrounding the entire probe such as in boiling water or when inserted into meat or other food. Likewise, due to many variables involved with light reflections and other factors, infrared thermometers tend to provide wide varying results. Another factor is checking surface temperature while the unit is heating, the very surface temperature of the platen is also being cooled by air around it.

An infrared temperature gun is good for generalized temperatures but can often read 30-50°F or more from one spot to the next due to angles, distance, reflections, surrounding air temperature, etc. While an infrared temperature gun can be used to generalize temperatures, to properly check a surface temperature a more expensive device called a Pyrometer is required, like the one shown below. Quality pyrometers usually cost in excess of \$100, but allow for a more accurate check of platen temperature since you are touching particular areas with the tip of a probe designed to check surface temperatures--not generalized temperatures. Even then temperatures can vary while heating elements are turning on and off to maintain temperatures. The intention of a heat press is to provide an overall average temperature across the platen and all of these devices, even a pyrometer, checks temperatures based on a given point, not overall average across the device. The proper way to verify temperature is to check at least 10 points or more across the platen and average temperatures using a pyrometer.



Pyrometer



If you are checking the temperature of your heat press with an infrared thermometer, consider the following points:

1. If the platen is silver, white, or another color, the temperature is likely to read far differently than expected due to reflection of the infrared light. Black bare platens will usually read more accurately but there can still be large variances and factors that will cause this to be skewed.
2. The very surface of the platen while being heated from the back by a heating element, is being constantly cooled on the surface by the surrounding air.
3. If your heat press has a protective sheet such as a Teflon/PTFE sheet or parchment paper attached, this will create an air gap between the platen and the sheet and will never read accurately.
4. Surrounding air temperature the infrared light must pass through can affect the reading a small amount, though not expected to be a large factor in most environments.

The importance of temperature for a heat press is to heat the garment to the proper temperature for applying a heat transfer product--not necessarily the exact temperature of the platen which is more difficult to measure. Although this process will still yield some inconsistent readings, if you only have an infrared thermometer the most accurate reading will likely be the following procedure.

1. Set your press to a temperature to check, such as 300°F and allow the press to sit for a few minutes (5-10 minutes) to stabilize the temperature.
2. While idle heat presses will turn themselves on and off to maintain temperature, this is normal. Just like your home oven, the heating elements will continue to turn themselves on and off to maintain temperature.
3. Your heat press came with a rubber pad that rests on the lower platen to place your garment on. With this pad in place, close your heat press for 60 seconds.
4. After 60 seconds, open the press and IMMEDIATELY check the temperature of the pad using the infrared thermometer.

Again, we do not feel this will always yield consistent results, but if you only have an infrared thermometer to check the temperature this is usually a better test than pointing the infrared thermometer directly at the platen.

Please note that while a heat press is closed and in operation it is normal for the temperature to decrease a few degrees as the heat transfers into the garment, pad, and lower platen.

If you have checked your heat press temperature using a pyrometer and strongly feel the temperature is inaccurate, please contact our support department via email at support@starcraftvinyl.com