



WHEN TO TURN OFF THE RESIN FLOW DURING VACUUM INFUSION



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INTRODUCTION

Vacuum Infusion can seem like a daunting task. Besides the work that goes into all the set-up, knowing when to stop the resin & avoid overfilling your part is a crucial aspect to make sure all that prep work doesn't go to waste. Hopefully this post can answer any questions you have on this topic & keep all your vacuum infusion parts perfect.

There is an endless amount of detail that goes into any infusion process. Simplifying these details through experience in infusion will be advantageous when choosing when to turn off the infusion. There is not a concrete right or wrong answer to this. The end goal is to have the plies completely wetted before cure. However, waiting too long to turn the infusion off could lead to a resin rich part that does not optimally perform. Turning the infusion off too soon will result in a scrap part.

Note: Placement on the resin tub regarding being below or above the tool is not nearly as important to the process as when turning off resin flow to the infusion. The vacuum pumps are pulling the resin by pressure created by vacuum, the flow from gravity should not be apparent.

BEST PRACTICE

As a rule of thumb for correcting both sides of the scale, allow the entire layup to be wetted out before turning off the resin feed to the part. This will ensure an adequate amount of resin goes into the part. After the part is completely wetted, clamp off the resin line so that no additional excess resin will be pulled from the supply line.

During the process, before the resin begins to gel, leave all vacuum lines open and keep vacuum pump(s) on. The pressure provided by the vacuum continues to pull the resin through the part, thus equalizing pressure throughout the bag. Depending on the size or shape of the part and the layout of the infusion setup, resin wetting could take anywhere between minutes or in some cases an hour. During this time, the resin at lower pressure around the feed line will be able to disperse and any excess be carried into the rest of the part.

Once the resin begins to gel, it will become too thick to pull anymore resin out or further consolidate the plies. The vacuum line can then be clamped off and the vacuum pump turned off. Clamp off the vacuum line first, before turning off the vacuum pump, this will ensure vacuum pressure is kept inside the vacuum bag and all layers inside the bag are pressed tightly together.

It is only a matter of time until the part will completely wet out and a quality part is be made. Note that there is a catch can for resin, it is placed for good reason and should be used



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to ensure the vacuum pump does not pick up any resin. It is better to error on the side of wetting a too much than too little with resin application. As experience grows in fabrication of parts, the exact moment when to turn off the infusion will be even more apparent.

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