

## Useful Parameters For Parylene Deposition

**Deposition rates:** Parylene “N” ~.00003 inches/hour (0.762 um/hour)  
Parylene “C” ~.0002 inches/hour (5.08 um/hour)

**Maximum deposition thickness before cleaning chamber walls:** .001 inches (25.4 um)

(Clean yellowish deposit in pyrolysis heater after 400g of parylene used)

### **Typical Process settings**

<u>Parylene</u>	<u>Vapor Heater SP</u>	<u>Pressure SP</u>	<u>Pyrolysis Heater SP</u>
Type N	160 C	Base +55 vacuum units	650 C
Type C	175 C	Base +15 vacuum units	690 C

### **Original System Default Setpoints (for Type C)**

<u>Furnace</u>	<u>Chamber Gauge</u>	<u>Vaporizer</u>	<u>Vacuum</u>
690 C	135 C	175 C	25

**The vacuum pressure controller** provides a displayed value that very nearly represents absolute pressure (in mTorr) for the process range of 10 to 100 units. After that point it becomes non-linear (i.e. display of 500 units is approximately 2.2 Torr)  
For processing it has a factory setpoint of 15 units above base pressure. Increasing or decreasing this value will increase or decrease deposition rates, but too high of a deposition rate can lead to poor quality films.

**Typical foil size for boat form:** 11 x 5 inches (formed boat must be < 7.5 inches long)

**Vaporizer:** Temperature above which coating initiates: 90 C  
Temperature below which more parylene can be added to boat: 60 C

**Surface area of chamber, baffle, fixture, and plate:** ~900 in<sup>2</sup>

**Minimum spacing between product in chamber:** 0.5 inches

### **Machine considerations:**

- Chiller must run in the cold trap for 45 min before initiating the vaporizer heaters
- After turning the chiller off, wait at least 5 minutes before turning it back on