

Polyimide Oven Instructions

Specifications:

| | |
|-----------------------|---|
| Idle Temperature: | 50°C |
| Max Temperature: | 425°C |
| Maximum Heating Rate: | ~8°C/min |
| Maximum Cooling Rate: | 2 – 1°C/min (varies with oven temperature) |
| Capacity: | Two 6 inch boats of wafers |
| Curing Ambient: | Nitrogen at ~500 Torr |
| Materials Allowed: | Polyimide, Cyclotene, SU-8 – Check with staff about other materials. |

The system is CORAL controlled.

Venting the Chamber

If the chamber door will not open, the chamber is probably under vacuum (system pressure < 800 Torr). Run process 9 until the chamber will open and then press the [Reset] button.

Running A Process

Dial the process you want using the thumbwheel. Close the door and press the [Start] button. The system will go through three pump / N₂ purge cycles to reduce the oxygen concentration in the chamber and then idle at a chamber pressure of about 600 Torr with a constant flow of N₂ through the chamber. The temperature controller will automatically cycle the oven through the temperature profile selected by the program #. When the program is finished the Complete light will flash on and off. The cycle can be aborted at any time by pressing the [Reset] button. This will leave the system under vacuum. To remove your samples, follow the instructions under “Venting the Chamber”.

Recording the Temperature Profile

The computer located on the bench closest to the system can be used as a temperature recorder. Double click the “Omega” icon to load the recorder software. The computer program does not need to be running during the recording, only to start the recording and to download the data.

To start recording:

1. Under “Device” select “Reset Device”. Click “Yes”, and then click “Ok”
2. Under “Device” select “Start Recording”
3. Set the recording interval to 30 seconds or longer and select “Ok”

To finish recording:

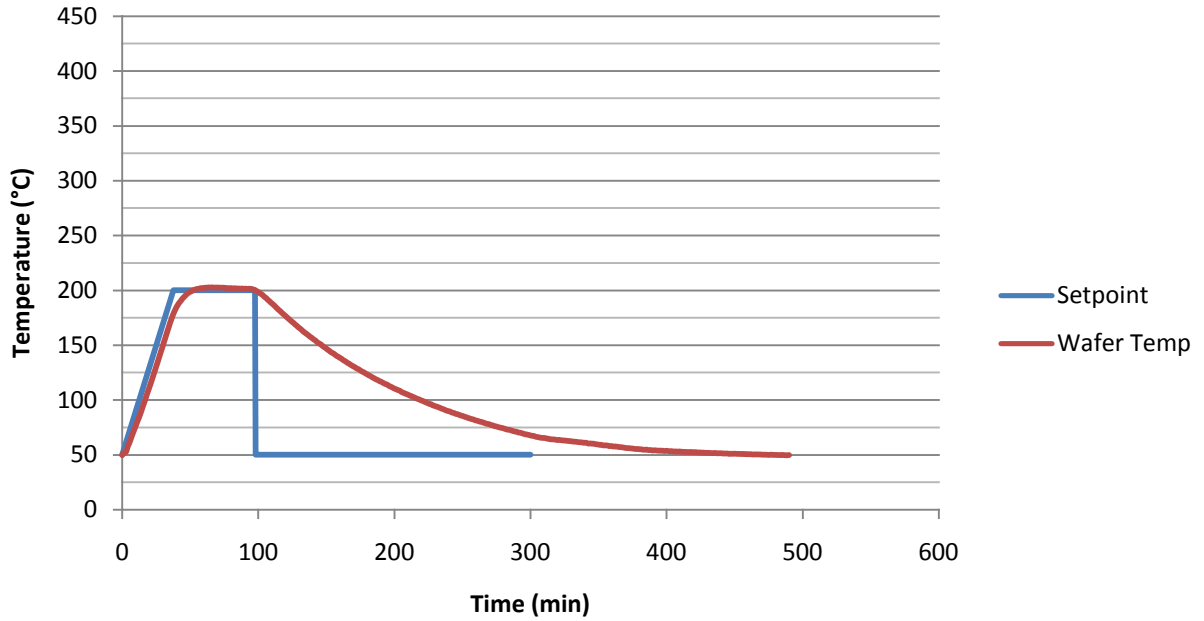
1. Under “Device” select “Stop Recording”
2. Under “Device” select “Download data”

The data can now be viewed in the software or exported into a text file that can be read by Excel or other graphing programs.

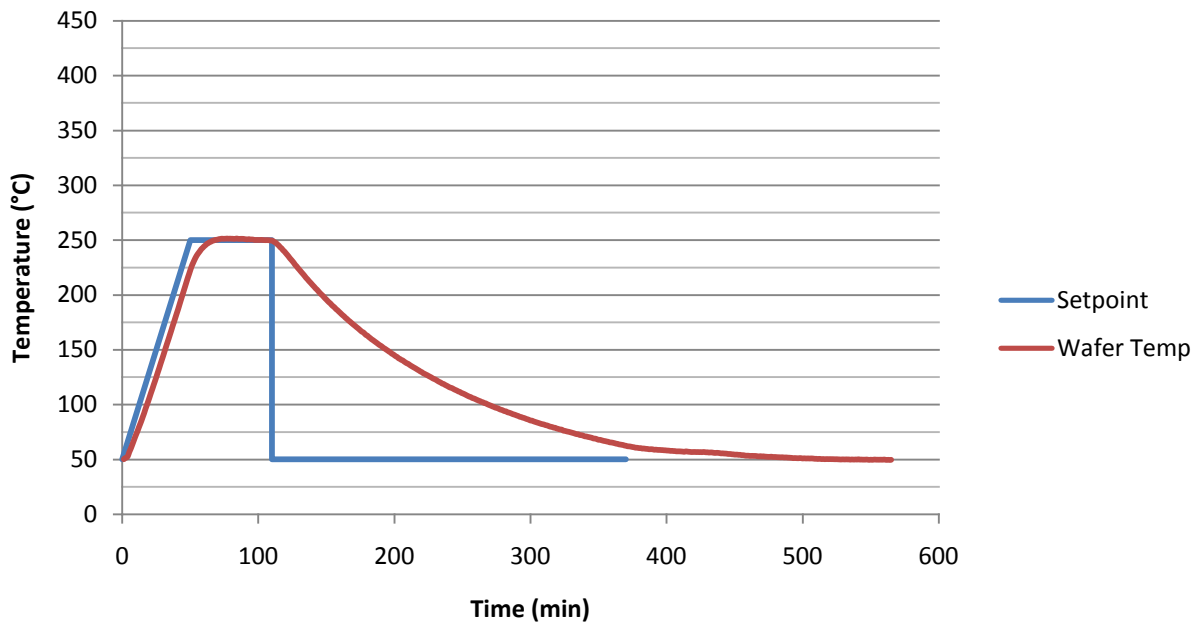
Temperature Programs

| Program # | Program |
|-----------|--|
| 0 | Chamber Vacuum Test |
| 1 | 200°C Cure – 1hour |
| 2 | 250°C Cure – 1hour |
| 3 | 300°C Cure – 1hour |
| 4 | 350°C Cure – 1hour |
| 5 | 400°C Cure – 1hour |
| 6 | 210°C 40 min soft cure for Cyclotene BCB |
| 7 | 250°C 1 Hr hard cure for Cyclotene BCB |
| 8 | HD-8820 Polyimide Cure |
| 9 | System vent |

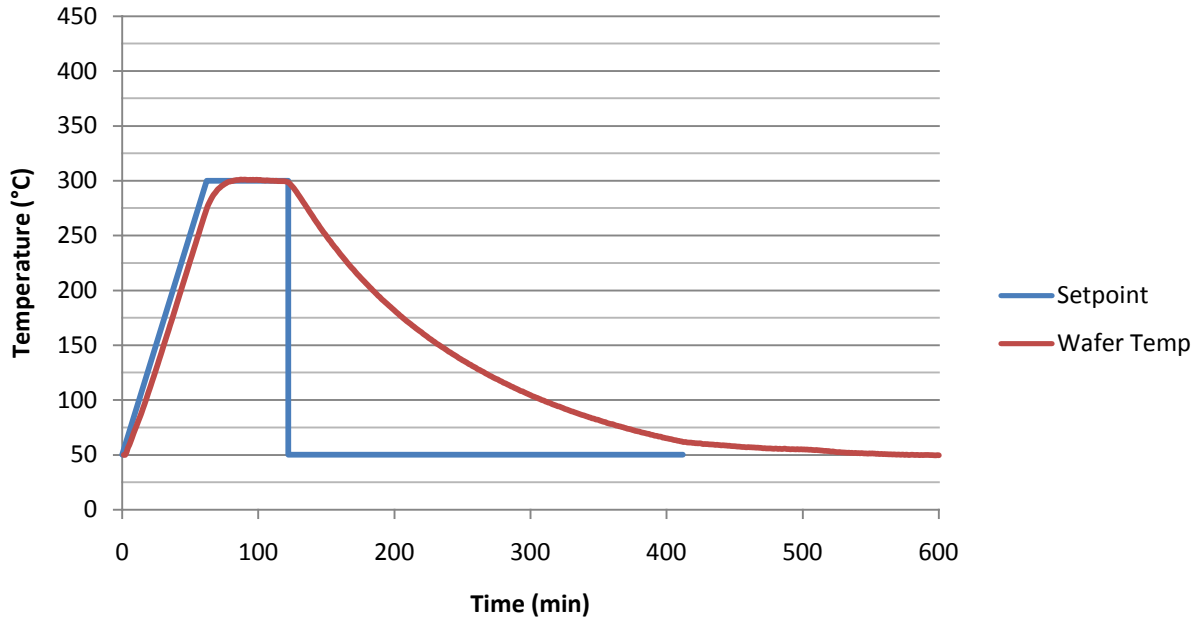
Program 1 - 200°C 1 Hour Cure



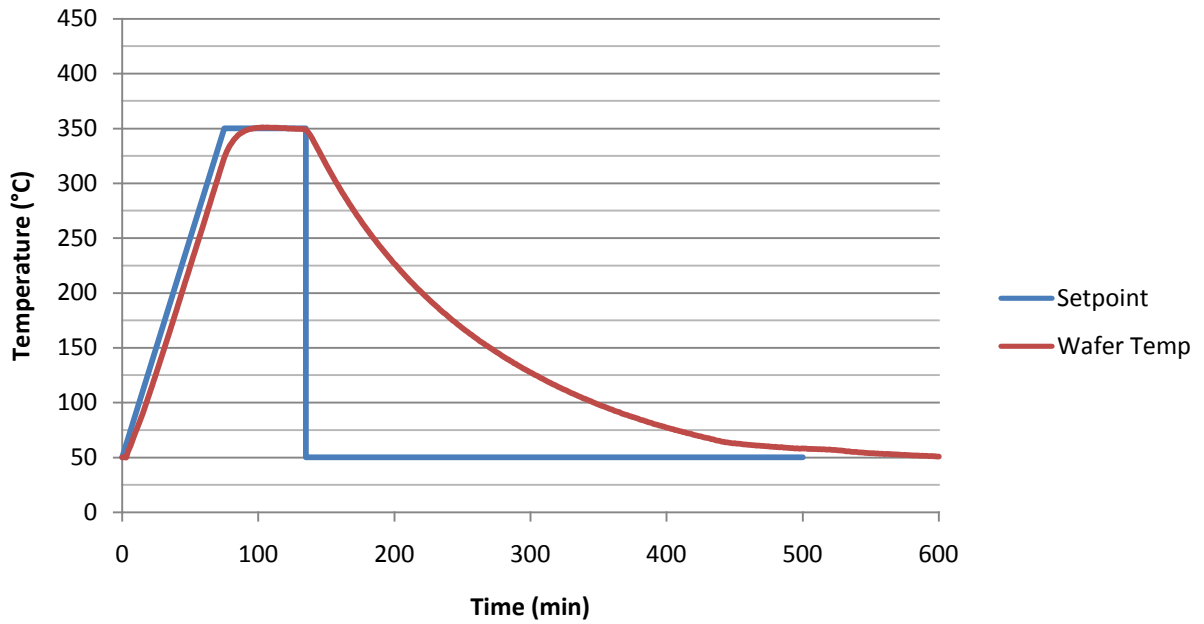
Program 2 - 250°C 1 Hour Cure



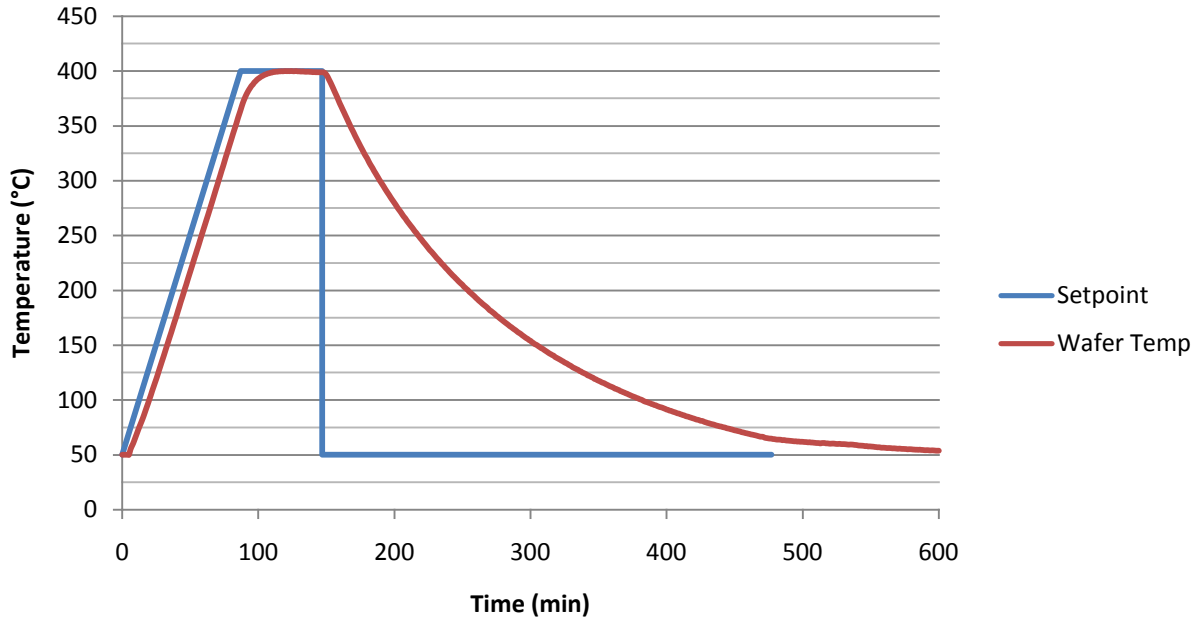
Program 3 - 300°C 1 Hour Cure



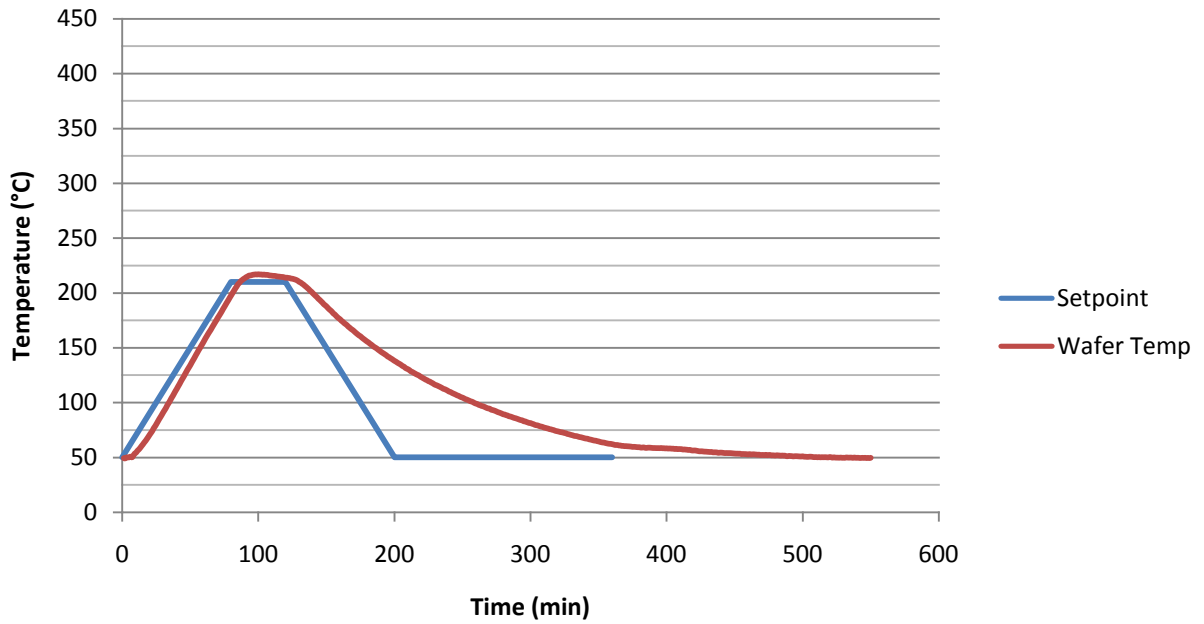
Program 4 - 350°C 1 Hour Cure



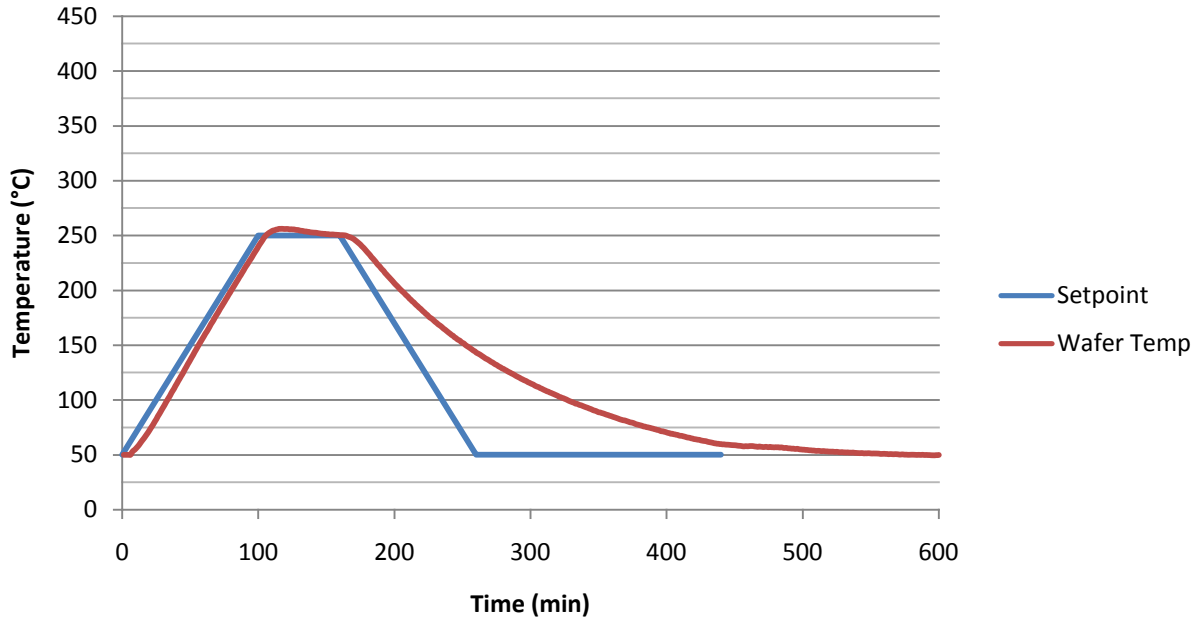
Program 5 - 400°C 1 Hour Cure



Program 6 - Cyclotene Soft Cure



Program 7 - Cyclotene Hard Cure



Program 8 - HD-8820 Polyimide Cure

