

Programmable Oven

Location of Machine: Composites Lab, RFM 1218

Location of SOP and Machine Operating & Safety Manual: Composites Lab website under resources; Composites Lab TRACS site; and Hardcopy near machine.

Emergency Contact:

- Call 911
- Call EHS & Risk Management at 512-245-3616
- Call Head Lab Technician, Dr. Ray Cook (office 512-245-2050)
- Call Dr. Jitendra S Tate (office 512-245-4872)

Before using this machine:

- You must have permission from Dr. Tate.
- You must have received formal training from technician or, trained research student (designated by Dr. Tate) related to machine safety and operation.
- You must read and understand **SOP and Machine Operating & Safety Manual.**
- You must use this machine under direct supervision of Dr. Tate or, Dr. Cook or, trained research student (designated by Dr. Tate).
- You must have signed “Lab Rules” document with Dr. Tate. This document must be signed every semester fall, spring, and summer (as applicable).
- If you do NOT follow above instructions you will be held responsible for your own safety and damages.

Safety Precautions:

Protective Equipment: Prior to performing this procedure, the following personal protective equipment must be obtained and ready for use: **Gloves, Safety Goggles, Lab Coat and Respirator.**

Important Safeguards:

1. To avoid explosion, glassware that has been rinsed with an organic solvent should be rinsed with distilled water before use in oven.
2. Be cautious of chemicals that might pose a hazard because of acute or chronic toxicity. The following safety equipment must be accessible and ready for use: (e.g. chemical fume hood, biological safety cabinet, laminar flow hood, chemical spill kits) **Exhaust system or/and respirators for toxic material.**
3. In the event that a hazardous material spills during a procedure, be prepared to execute the following emergency procedure: **Clean with cleaner according to MSDS of materials used.**
4. This procedure will result in the follow regulated waste which must be disposed of in compliance with environmental regulations

Programmable Oven

1
2
3
4
5
6

1. Heater power
2. Light switch
3. High Limit
4. Timer
5. Temperature Control
6. Main Power.


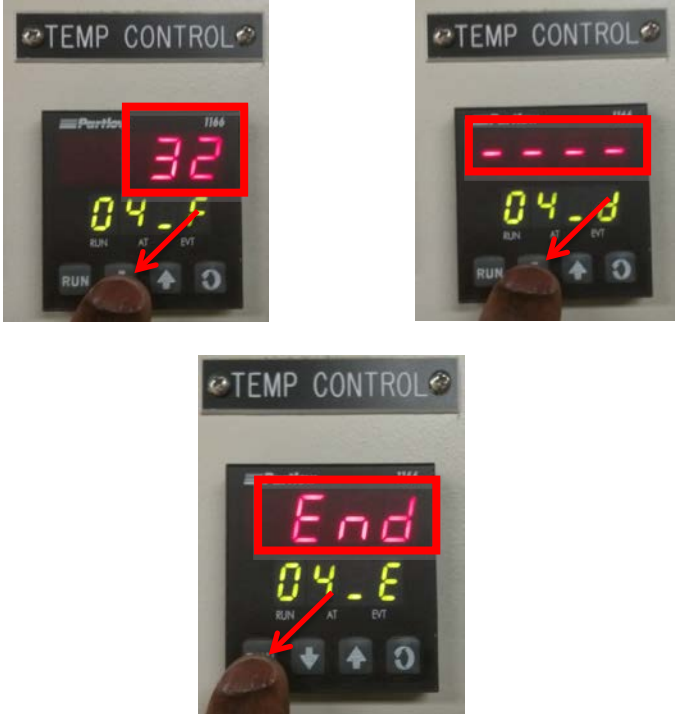
General information



The Programmable Electric oven is ideal for general drying, and both complex and simple curing processes. This oven has the capability to compile various programs regarding curing temperatures, ramp rates, and times. The program number can be selected according to user requirement. The maximum achievable temperature in this oven is 500⁰ F.

Specifications:

- Maximum Temperature: 500⁰ F
- Maximum Voltage: 230
- Phases: 1
- Frequency: 60
- Total FLA: 46
- Rated Heat Input: 9 KW
- FLA: 4.2

Operational Procedure for Programmable Oven	
<p>1.Set Program</p> <ul style="list-style-type: none"> To set program cycle press both “Up” arrow and “Enter” buttons simultaneously. The display will begin to cycle through its “options” menu. Once you see “Program” option press “Enter” button. Select program number by using arrow keys and press “Enter” button. 	
<p>Setting Temperature and Time:</p> <p>1st- Cycle</p> <ul style="list-style-type: none"> Set the desired temperature value by using “UP” and “Down” arrow keys and press “ Enter” Set the time duration for the oven in order to time raise from room temperature to desire temperature by using “ UP” and “Down” arrow keys and press “ Enter (time based on ramp rate found in TDS of specified resin or Prepreg) 	
<p>2nd – Cycle</p> <ul style="list-style-type: none"> The straight line indicates that the desired temperature is going stay for a particular period of time, which we going to set in the next step Set the time duration for the oven, so the desired temperature will with stand for a particular period of time and press “ Enter” 	

<p>3rd Cycle Getting back to room temperature</p> <ul style="list-style-type: none"> Set the temperature value to the oven by using “UP” and “Down” arrow in order to get back the oven to normal room temperature and press “ Enter” Set the time duration for the oven to get back to the room temperature by using “ UP” and “Down” arrow keys and press “ Enter” 	
<p>End Program:</p> <ul style="list-style-type: none"> To end the program press “Down” arrow key and once you see the straight line press “Down” arrow key again. Once you see the word “End” on display press “Run” button. 	

<p>If more cycles are needed:</p> <ul style="list-style-type: none"> • When “end” is displayed, press the up arrow to add another cycle if desired. • It will then prompt you for another temperature and holding period. <p>Note: If a cycle is NOT needed</p> <ul style="list-style-type: none"> • Press the down arrow as soon as the next cycle prompts you for a temperature. The “end” shall appear on the display. 	
<p>Start the oven:</p> <ul style="list-style-type: none"> • To start the oven, make sure that display indicates the program number which you have set for the oven and press “Run” button. • Press “On” the Heater and Main Power 	
<p>To stop the oven:</p> <ul style="list-style-type: none"> • To stop the working of the oven press “Run” button continuously for five seconds. • Once the “Red” light is turned off it means that the oven is stopped working. • Flashing “RED” indicates that the cycle has been paused, or maybe has run too long. Stop the cycle and start again if necessary. 	