

# Ferrule Curing Oven

## CO-6500/CO-6600



# User's Guide

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## Important Safeguards

Before using this electrical equipment, the following basic precautions should always be followed:

1. Read all instructions.
2. Keep oven out of reach of children.
3. Before use, check that the voltage of wall outlet corresponds to the one shown on the rating.
4. Do not operate equipment with a damaged cord or plug, or after the oven malfunctions, is dropped or damaged in any manner. Return oven to Domaille Engineering in order to avoid a hazard.
5. Do not let cord hang over the edge of the table or hot surface.
6. Do not immerse plug, cord or oven into water due to risk of electric shock.
7. This oven is not intended for use by person (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have proper training by a person responsible for their safety.
8. Always wear protective, insulated oven mitts or gloves when removing ferrules or handling the unit. THE OVEN GETS VERY HOT.
9. Do not touch hot surfaces.
10. Place ferrules or connectors in the oven before setting the timer or heating the oven.
11. Do not operate the oven for any other purpose than its intended use.
12. Always move Power Button to OFF Position before removing the plug from the wall outlet.
13. Do not place paper, cardboard, plastic or other flammable materials inside the oven.
14. Unplug from main power socket when not in use.
15. Servicing and repair should only be conducted by an authorized technician.
16. If oven is used in any manner not specified in this manual, the protection provided by the equipment may be impaired.

**CAUTION: DO NOT USE THIS PRODUCT IN ENVIRONMENTS WHERE FLAMMABLE OR EXPLOSIVE GASSES MAY BE PRESENT.**

**WARNING: ACCESS TO THE POWER SWITCH AND PLUG SHOULD BE MAINTAINED FOR EMERGENCY DISCONNECT.**

**WARNING: CAUTION HOT SURFACES: This oven generates high temperatures during use. Proper precautions must be taken to prevent the risk of burns, fires or other injury to persons or damage to property.**

**WARNING: OVEN CORD MUST BE ROUTED AWAY FROM ALL HOT SURFACES.**

**CAUTION: This oven is hot during operation and retains heat for some time after turning off. Always use oven mitts when handling hot materials and allow metal parts to cool before cleaning.**

- Position the oven so that it is never against a wall or in a corner.
- When operating the oven on a work surface keep the surrounding areas clear and free from clutter. Ensure adequate air space surrounding the oven for circulation.
- Do not place anything on top of the oven while it is operating or while it is hot.
- Do not operate this oven with other major equipment plugged into the same power socket- there is a risk of blowing the fuse.
- Do not touch the hot oven surfaces while the unit is on or while cooling.
- All users of this oven must read and understand this user's guide before operating this equipment.
- If the oven begins to malfunction during use, immediately unplug the oven. Do not use or attempt to repair the malfunctioning oven.
- Do not leave oven unattended during use.

## Welcome

Congratulations on selecting the Dommille Engineering Ferrule Curing Oven.

This User's Guide will assist you with the operation and maintenance of the Cure Oven to maximize the use and life of this precision equipment.

## Introduction

The Dommille Engineering Ferrule Curing Oven is specifically designed for curing twenty four (24) MT and MT-RJ type ferrules at a time. It can also accommodate, with the addition of a single fiber connector curing block (available separately), any of the popular single fiber connector designs, including FC, SC, ST, and LC. The oven holds up to forty (48) single fiber connectors in a neatly organized fashion.

Temperature and time controls are conveniently located on the front panel allowing for easy operation. The oven allows for two modes of curing operations: timer mode and temperature hold mode.

The timer mode allows the oven to gradually increase to a selected temperature, maintain the temperature for a selected operating time, and then gradually decrease to room temperature by shutting off power to the heating element.

The temperature hold mode maintains the curing oven at a constant selected temperature indefinitely. The desired mode is selected from the front panel, making set-up simple. The oven can be ordered in either 120 volt (Model# CO-6500) or 240 volt (Model# CO-6600).

## Overview

### Operating Environment

Do not subject the unit to the following conditions:

- Dramatic temperature fluctuations
- High humidity or condensation
- Water, oil, chemicals, or corrosive gasses
- Dusty environments
- Severe shock or vibration
- Improperly grounded electrical outlets

### Operating Location

The unit should be placed on a hard, flat surface that is sturdy enough to support the weight of the oven, jumpers, and any accessories. A lab table or workbench is recommended.

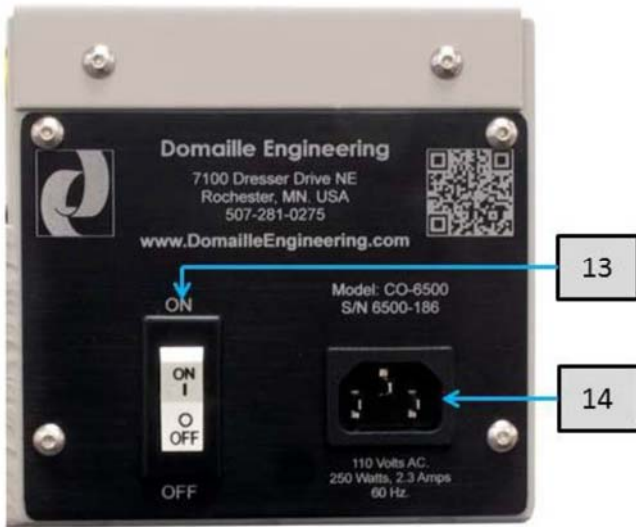
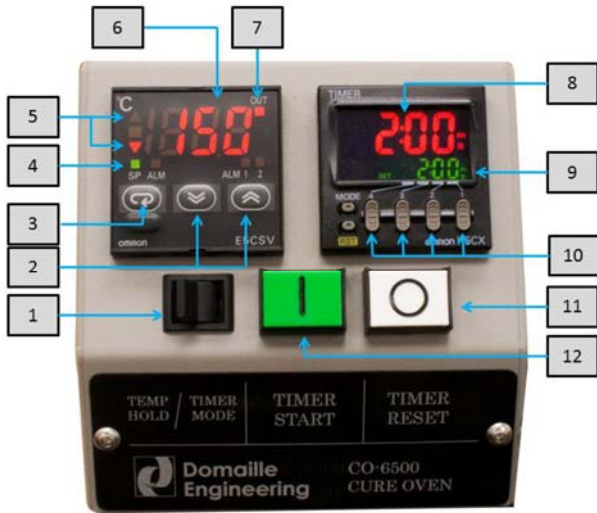
- Proper handling must be maintained in order for the unit to operate correctly
- Do not drop the unit
- Do not shake the unit
- Always ship the unit in the original shipping carton using the original packing materials

### Cleaning

The oven exterior may be cleaned using a slightly dampened cloth and gentle cleaner. The temperature controller and timer should never be exposed to such items as paint thinners, benzene compounds, or strong acid or alkaline.

If cured epoxy builds up on the oven heat plate (or heater block), it may be removed by gently scraping the block with an Exacto knife or similar tool.

# Cure Oven Controls



1. Operation Mode Selector Switch
2. Temperature Set Point "Up" and "Down" buttons
3. Temperature Readout Switching Button (current temperature or set point)
4. Temperature Set Point Indicator
5. Temperature Deviation Indicators (above or below set point)
6. Temperature LCD Readout (current temperature or set point)
7. Heat Controller Output Indicator
8. Timer LCD Readout (turns green when cycling)
9. Timer Set Point Readout
10. Timer Set Point Adjustment Buttons (minutes/seconds)
11. Timer Reset Button
12. Timer Cycle Start Button
13. Power "ON/OFF" Switch/ Circuit Breaker
14. Power Cord Outlet

## Curing Oven Set Up

Place the curing oven on a hard, flat surface that is sturdy enough to support the weight of the oven, jumpers, and any accessories. A lab table or workbench is recommended.

Connect the curing oven to the power supply:

- Attach the female end of the supplied power cord to the curing oven power cord outlet (item# 14) located on the back panel of the unit.
- Attach the male end of the supplied power cord to the power supply (grounded wall outlet).

**WARNING: TO PROVIDE PROTECTION AGAINST RISK OF ELECTRIC SHOCK, CONNECT ONLY TO A PROPERLY GROUNDED OUTLET.**

Turn the curing oven power “ON/OFF” switch/circuit breaker (item# 13) located on the back panel of the unit to the “ON” position.

## Curing Oven Operations: Timer Mode

Select the “TIMER MODE” with the Operation Mode Selector Switch (item# 1). This enables the timer and allows the operator to start the curing cycle when the oven is filled. Power to the heating element will automatically shut off at the conclusion of the set cycle time.

Set the desired curing temperature.

- Press the Temperature Readout Switching Button (item# 3) until the Temperature Set Point Indicator (item# 4) illuminates. The Temperature LCD Readout (item# 6) will now display the current heat controller set point.

**CAUTION: THE CURING OVEN TEMPERATURE SET POINT MUST NEVER EXCEED 140°C. TEMPERATURES ABOVE 140°C WILL TRIP THE OVERHEAT THERMOSAT, SHUTTING OFF THE POWER TO THE HEATING ELEMENT.**

- Use the Temperature Set Point “UP” and “DOWN” buttons (item# 2) to select the desired temperature set point.
- Press the Temperature Readout Switching Button (item# 3) until no mode indicators are illuminated. The Temperature LCD Readout (item# 6) will now display the current curing oven heat plate (or heater block) temperature.

Set the desired cycle time. The cycle time is displayed in the Timer Set Point LCD Readout (item# 9).



- Using the Timer Set Point adjustment buttons (item# 10) numbers “3” and “4”, set the desired number of cycle minutes. Button #3 selects the “ones” digit and button #4 selects the “tens” digit.
- Using Timer Set Point Adjustment Buttons (item# 10) numbers “1” and “2”, set the desired number of cycle seconds. Button #1 selects the “ones” digit and button #2 selects the “tens” digit.
- NOTE: Pressing the top of the button increases the unit value, pressing the bottom of the button decreases the unit value.

Start the temperature cycle.

- Ensure the temperature mode selector switch is set to “TIMER MODE”.
- Depress the timer cycle start button (item# 12).
- The Timer LCD Readout (item# 8) will now turn green and begin to count down from the cycle time set point and the Temperature LCD Readout (item# 6) will gradually increase to the oven temperature set point. When the cycle time has expired, power to the heating element will automatically shut off and the oven will gradually return to ambient temperature.
- NOTE: Depressing the Timer Cycle Start Button (item# 12) during the cycle will restart the timing cycle from the beginning.

Operation of the oven may be stopped by depressing the Timer Reset Button (item# 11) at any time during the cycle.

### Curing Oven Operation: Temperature Hold Mode

Select the “TEMPERATURE HOLD” mode with the Operation Mode Selector Switch (item# 1). This disables the timer and slows the curing oven heat plate to reach the temperature set point and hold constant at that setting until power to the curing oven is manually shut off at the power “ON/OFF” switch/circuit breaker (item# 13) located on the back panel of the unit.

**NOTE:** The heating element is automatically activated when the “TEMPERATURE HOLD” mode is selected.

Set the desired curing temperature.

- Press the Temperature Readout Switching Button (item# 3) until the Temperature Set Point Indicator (item# 4) illuminates. The Temperature LCD Readout (item# 6) will now display the current heat controller set point.



**CAUTION: THE CURING OVEN TEMPERATURE SET POINT MUST NEVER EXCEED 140°C. TEMPERATURES ABOVE 140°C WILL TRIP THE OVERHEAT THERMOSTAT, SHUTTING OFF THE POWER TO THE HEATING ELEMENT.**

- Use the Temperature Set Point “UP” and “Down” Buttons (item# 2) to select the desired temperature set point.
- Press the Temperature Readout Switching Button (item# 3) until no mode indicators are illuminated. The Temperature LCD Readout will now display the current curing oven heat pleat (or heater block) temperature.
- NOTE: Re-selecting “Timer MODE” will also shut off power to the heating element.

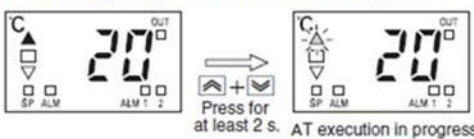
## Setting a 6500/6600 Curing Oven to auto tune PID

1. Start with the oven at room temp.
2. Set the oven to temp hold mode.
3. Set the set point to the temp you will be running at for production.
4. Start the Auto Tuning as shown below.

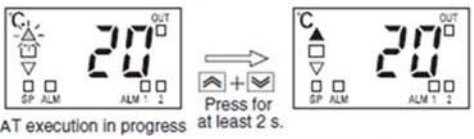
### Executing AT (Auto-tuning)




AT (auto-tuning) is executed by pressing the  Up and  Down Keys for at least 2 s while the PV is displayed. The deviation indicators flash during auto-tuning (AT) execution. AT will be cancelled by performing the same operation that AT is executing during AT operation. Flashing stops when AT is completed.

**AT execution**



**AT cancelled**



**Note:** One of the deviation indicators () will flash.

## Maintenance and Repair

Maintenance of internal electrical parts is not required. Do not disassemble, modify, or attempt to repair the product.

All repair work must be done by Domaille Engineering at our Rochester, MN location. Any attempt to modify or repair the unit will void all warranties, either express or implied.

## Simple Troubleshooting

Simple troubleshooting of the oven for common minor problems is possible by using the following guide:

No Power to the Curing Oven:

- Ensure the power cord is securely attached to both the power supply (wall outlet) and the Curing Oven Power Cord Outlet (item# 14) located on the back panel of the unit.
- Ensure the Curing Oven Power “ON/OFF” Switch/Circuit Breaker (item# 13) located on the back panel of the unit is in the “ON” position.
- NOTE: When the circuit breaker trips, the switch reverts back to the “OFF” position.

No power to the heating element:

- Ensure the thermal overload switch, located on the right end of the heating element under the protective cover, is not tripped. (Access the switch by removing the two screws on the right side of the oven body and lifting the cover off.) If the thermal overload switch is tripped, reset it by pressing the white button in the center of the switch (See image below).



## Service & Support

### Technical Specifications

Machine Height:	6 inches (152 mm)
Machine Width:	8.25 inches (210 mm)
Machine Length:	21.00 inches (533 mm)
Power Requirements:	1.2 amps; 220-240VAC; 50/60 Hz.
Machine Weight:	16.5 lbs. (7.48 kg)
Shipping Weight:	19.0 lbs. (8.61 kg)

### Environmental Operating Specifications:

Altitude:	Up to 2000m
Temperature:	5-40C
Humidity:	40-80%
Voltage Fluctuation:	+/- 10%
Voltage Transients:	To 2500V
Pollution Degree:	2 or as restricted or extended conditions apply

In the event of malfunction, or when other maintenance is required beyond the steps documented in this manual, service must be done by a qualified Domaille Engineering technician. There are no user serviceable parts inside the machine. Do not remove sealed

screws. Evidence of tampering will void warranty. For assistance, contact Domaille Engineering, LLC, USA.

## CE Notice (European Union)

Marking by the symbol CE indicates compliance of the Ferrule Cure Oven Model# 6600 to the following directives of the European Union:

2004/108/EEC EMC Directive

EN 61010-1:2001

EN 61010-2-010:2003

EN 61326-1:2006

EN55011:2009+ A1:2010

Year of CE Marking: 2013

EMC test report TÜV SÜD report #NC1212577.1

Safety test report TÜV SÜD report #092-1212560-000

## LIMITED WARRANTY

Domaille Engineering, LLC (“Domaille”) products are warranted by Domaille to be free from defects in workmanship and materials for a period of one-year from the original purchase date. This warranty covers defects in materials or workmanship only and does not include damage due to abuse, misuse, problems with electrical power, problems with compressed air supply, servicing not authorized by Domaille, failure to properly care for and maintain the products, or normal wear and tear. In addition, use of parts, components, or accessories not supplied or approved by Domaille will void this warranty. Domaille’s sole liability arising from any use of its products and this warranty is limited to repair or, at Domaille's sole discretion, replacement of defective products or defective component parts thereof. To request warranty service, you must contact Domaille at 7100 Dresser Dr. N.E., Rochester, MN 55906, USA. If warranty service is required, Domaille will issue a Return Material Authorization Number (RMA#). You must ship the products back to Domaille in their original or equivalent packaging, pre-pay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. Along with your RMA # include your name, telephone number, return address, proof of original purchase date, and a description of the claimed defect. If the defect is covered by this limited warranty, Domaille will repair or replace (at its option) the product or the defective component part(s) and ship them freight prepaid to an address in the continental U.S. Shipments to locations outside of the U.S. that are not the original shipped to location will be made freight collect or will be shipped to the original shipped to location, at the discretion of Domaille.

NO WARRANTY OTHER THAN THE ABOVE LIMITED WARRANTY IS MADE, EITHER EXPRESS OR IMPLIED. ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE ONE YEAR LIMITED WARRANTY PERIOD.

DOMAILLE SHALL HAVE NO LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RELATING TO ITS PRODUCTS. SOME STATES (OR JURISDICTIONS) DO NOT ALLOW LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, OR EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CERTAIN PURCHASERS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE (OR JURISDICTION TO JURISDICTION).