

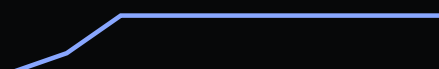
## PROGRAMMABLE KILN CONTROLLER

### Five-program firing reference

#### TEMPERATURE / TIME

##### P01 Drying

200°C peak / 8 h



##### P02 Purple clay and Zisha

1160°C peak / 9 h 30 min



##### P03 Decoration firing

780°C peak / 4 h



##### P04 Plaster profile

730°C peak / 13 h 30 min



##### P05 Glaze firing

1250°C peak / 8 h 20 min



Profile sketches use independent scales. Full charts and tables inside.

Controller operation • C/T program tables • Custom settings  
Read with the kiln installation and operating manual.

## 01 / PROGRAM LOGIC

# Read the curve correctly

These five default profiles are editable starting points. Confirm that the stored controller values and the selected materials match before firing.

## C is a temperature point; T is the time to the next point

**C01 → C02 takes T01 minutes.** The next transition, C02 → C03, takes T02 minutes. Repeating the same C temperature in consecutive entries creates a hold. A lower next C temperature creates a programmed cooling segment.

### Example from P01

C01 = 50°C, C02 = 100°C and T01 = 60 minutes means a 60-minute rise from 50°C to 100°C. C03 = C04 = 200°C with T03 = 360 minutes produces a six-hour hold at 200°C.

## Five-program overview

| Profile                   | Peak / end      | Program time          | Page |
|---------------------------|-----------------|-----------------------|------|
| P01 Drying                | 200°C / 200°C   | 480 min / 8 h         | 4    |
| P02 Purple clay and Zisha | 1160°C / 1160°C | 570 min / 9 h 30 min  | 5    |
| P03 Decoration firing     | 780°C / 780°C   | 240 min / 4 h         | 6    |
| P04 Plaster profile       | 730°C / 630°C   | 810 min / 13 h 30 min | 7    |
| P05 Glaze firing          | 1250°C / 1250°C | 500 min / 8 h 20 min  | 8    |

**Peak** is the highest programmed temperature; **end** is the final C value before STOP. Total time includes every positive T value, including holds and any programmed cooling. Subsequent natural cooling is additional.

## STOP and program identification

- STOP marks the end of the sequence and adds no time. The controller described in the supplied 2024 guide uses **-121 in the final T field**. Confirm the end instruction for the fitted controller.
- **P01-P05 are the profile identifiers used in this guide.** C/T numbering restarts in each table. Match the profile to the actual controller preset or enter it as a separate sequence; do not concatenate the five tables.
- Charts show the programmed temperature path, not measured chamber temperature. A listed peak temperature does not establish the kiln's rated operating limit.

## 02 / CONTROLLER OPERATION

# Set up and run a program

The key operations below follow the supplied 2024 controller guide. Confirm that the controls on the fitted unit match before use.

**PV** Measured chamber temperature

**SV** Program setpoint

During a ramp, the SV demand changes with time; PV may lag behind it.

| Function             | Operation                                                                                                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Open the editor      | With the controller stopped, press LEFT briefly to display a C value. Use UP / DOWN to edit; LEFT selects a digit where supported.                                                                 |
| Advance / exit       | Press SET to move through C01, T01, C02, T02 and subsequent pairs. Press LEFT + SET together to return to the normal temperature display.                                                          |
| Choose start segment | Press SET until STEP is displayed. Select the intended segment and return to the normal display. STEP selects a segment within the stored sequence; it does not identify one of the five profiles. |
| Start                | Press and hold DOWN for approximately 3 seconds until RUN is displayed.                                                                                                                            |
| Hold / resume        | During operation, press and hold DOWN to select HOLD. Use DOWN to resume and verify RUN. HOLD pauses program progress and may continue heating.                                                    |
| Stop                 | Press and hold UP for approximately 3 seconds until STOP is displayed. STOP does not electrically isolate the kiln.                                                                                |

## Before pressing RUN

- Verify the selected profile, every C/T pair, the starting segment and the final stop instruction. Check that the first C value suits the approved starting procedure.
- Check the kiln rating, material compatibility, loading clearances and ventilation. Keep the thermocouple unobstructed and use temperature-rated shelves and supports.

### Keep service settings as commissioned

Use short LEFT presses when editing; a long press can activate AT self-tuning. Do not change alarm limits, output limits, manual output or hidden settings to compensate for a firing fault.

P01 / DEFAULT PROGRAM

# Drying

Low-temperature drying reference

200°C

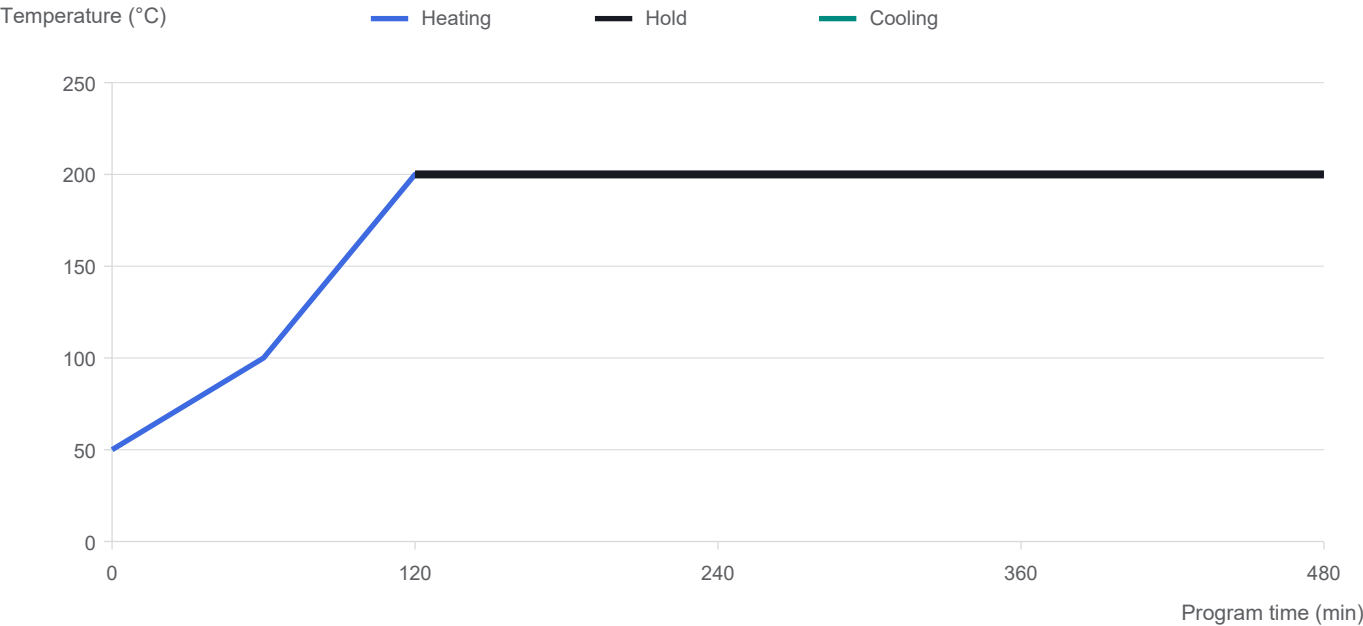
PEAK

200°C

END POINT

8 h

PROGRAM TIME



| Entry | C value (°C) | T value (min) | Next interval    |
|-------|--------------|---------------|------------------|
| 01    | C01 = 50     | T01 = 60      | Heat 50 → 100°C  |
| 02    | C02 = 100    | T02 = 60      | Heat 100 → 200°C |
| 03    | C03 = 200    | T03 = 360     | Hold at 200°C    |
| 04    | C04 = 200    | T04 = STOP    | End program      |

A two-stage rise to 200°C followed by a six-hour hold. Total: 480 minutes; subsequent natural cooling is additional.

**Application notes**

Start with thoroughly air-dried ware. Thick or enclosed pieces can retain moisture; use a drying procedure confirmed for the material and load. This profile does not make wet or sealed pieces safe to fire.

## P02 / DEFAULT PROGRAM

# Purple clay and Zisha

Staged firing reference for compatible clay bodies

## 1160°C

PEAK

## 1160°C

END POINT

## 9 h 30 min

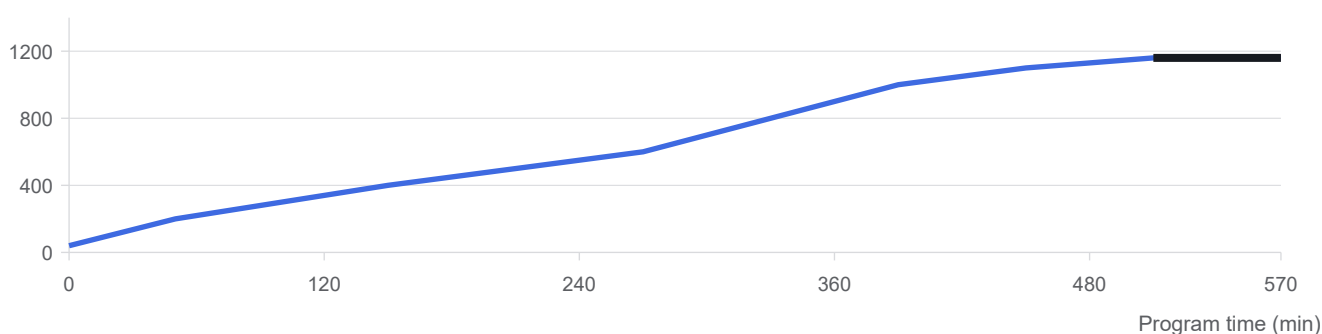
PROGRAM TIME

Temperature (°C)

Heating

Hold

Cooling



| Entry | C value (°C) | T value (min) | Next interval      |
|-------|--------------|---------------|--------------------|
| 01    | C01 = 40     | T01 = 50      | Heat 40 → 200°C    |
| 02    | C02 = 200    | T02 = 50      | Heat 200 → 300°C   |
| 03    | C03 = 300    | T03 = 50      | Heat 300 → 400°C   |
| 04    | C04 = 400    | T04 = 60      | Heat 400 → 500°C   |
| 05    | C05 = 500    | T05 = 60      | Heat 500 → 600°C   |
| 06    | C06 = 600    | T06 = 60      | Heat 600 → 800°C   |
| 07    | C07 = 800    | T07 = 60      | Heat 800 → 1000°C  |
| 08    | C08 = 1000   | T08 = 60      | Heat 1000 → 1100°C |
| 09    | C09 = 1100   | T09 = 60      | Heat 1100 → 1160°C |
| 10    | C10 = 1160   | T10 = 60      | Hold at 1160°C     |
| 11    | C11 = 1160   | T11 = STOP    | End program        |

Nine heating transitions followed by a one-hour hold at 1160°C. Total: 570 minutes; subsequent natural cooling is additional.

### Application notes

Use only when the specific clay body is suitable for this firing range. The required peak and heatwork depend on the material; validate adjustments with representative test pieces before firing valuable work.

## P03 / DEFAULT PROGRAM

# Decoration firing

Overglaze and decorative firing reference

**780°C**

PEAK

**780°C**

END POINT

**4 h**

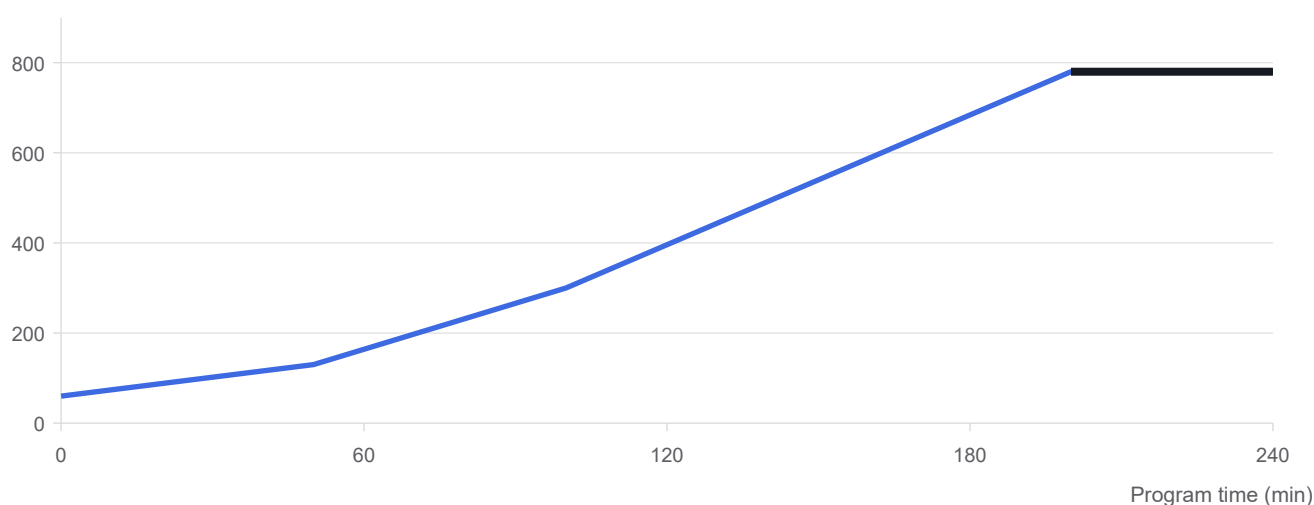
PROGRAM TIME

Temperature (°C)

— Heating

— Hold

— Cooling



| Entry | C value (°C) | T value (min) | Next interval    |
|-------|--------------|---------------|------------------|
| 01    | C01 = 60     | T01 = 50      | Heat 60 → 130°C  |
| 02    | C02 = 130    | T02 = 50      | Heat 130 → 300°C |
| 03    | C03 = 300    | T03 = 100     | Heat 300 → 780°C |
| 04    | C04 = 780    | T04 = 40      | Hold at 780°C    |
| 05    | C05 = 780    | T05 = STOP    | End program      |

A staged rise to 780°C followed by a 40-minute hold. Total: 240 minutes; subsequent natural cooling is additional.

## Application notes

Check the decoration supplier's firing temperature, hold time and ventilation instructions. Overglaze colours, decals and lustres are not interchangeable. Use a test tile for a new product or combination.

P04 / DEFAULT PROGRAM

# Plaster profile

Material-specific heating and cooling reference

730°C

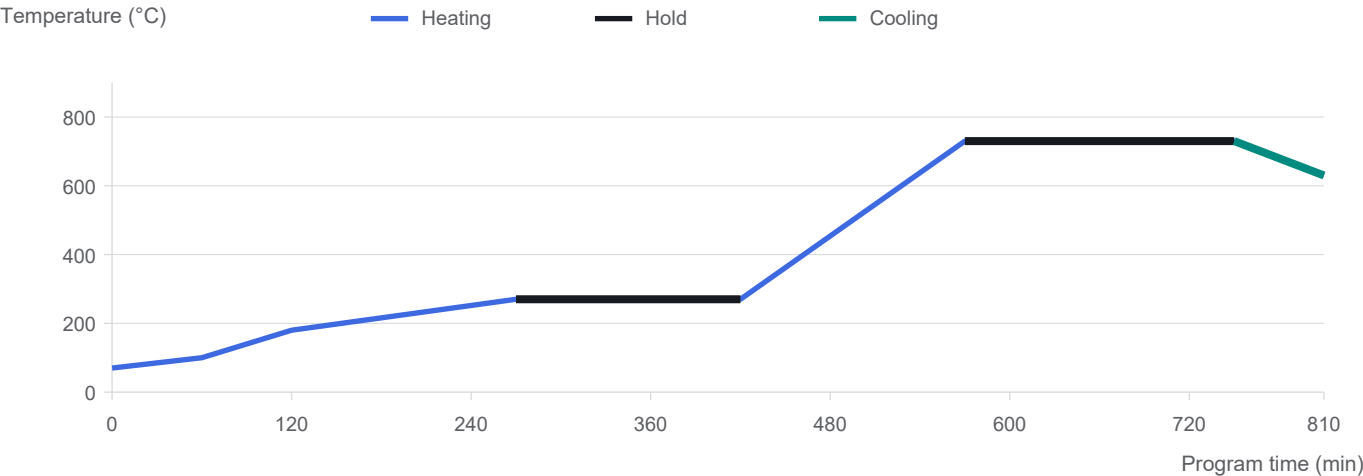
630°C

13 h 30 min

PEAK

END POINT

PROGRAM TIME



| Entry | C value (°C) | T value (min) | Next interval    |
|-------|--------------|---------------|------------------|
| 01    | C01 = 70     | T01 = 60      | Heat 70 → 100°C  |
| 02    | C02 = 100    | T02 = 60      | Heat 100 → 180°C |
| 03    | C03 = 180    | T03 = 150     | Heat 180 → 270°C |
| 04    | C04 = 270    | T04 = 150     | Hold at 270°C    |
| 05    | C05 = 270    | T05 = 150     | Heat 270 → 730°C |
| 06    | C06 = 730    | T06 = 180     | Hold at 730°C    |
| 07    | C07 = 730    | T07 = 60      | Cool 730 → 630°C |
| 08    | C08 = 630    | T08 = STOP    | End program      |

Holds at 270°C and 730°C, followed by a programmed descent to 630°C. Total: 810 minutes; subsequent natural cooling is additional.

### Application notes

The 730°C peak is not the end temperature. T07 specifies 60 minutes from 730°C to 630°C, then STOP. Actual cooling depends on the kiln and load. Use only a plaster or investment product explicitly approved for the full process.

## P05 / DEFAULT PROGRAM

# Glaze firing

High-temperature firing reference

**1250°C**

PEAK

**1250°C**

END POINT

**8 h 20 min**

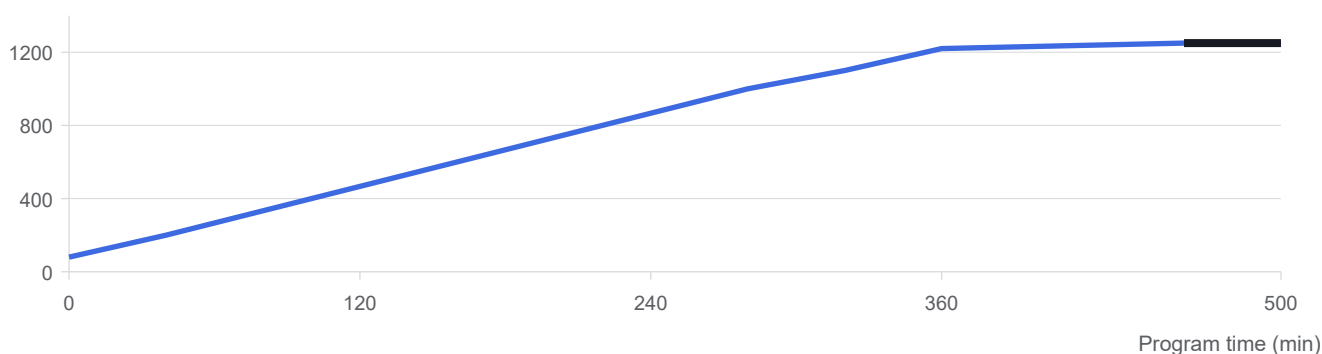
PROGRAM TIME

Temperature (°C)

— Heating

— Hold

— Cooling



| Entry | C value (°C) | T value (min) | Next interval      |
|-------|--------------|---------------|--------------------|
| 01    | C01 = 80     | T01 = 40      | Heat 80 → 200°C    |
| 02    | C02 = 200    | T02 = 60      | Heat 200 → 400°C   |
| 03    | C03 = 400    | T03 = 60      | Heat 400 → 600°C   |
| 04    | C04 = 600    | T04 = 60      | Heat 600 → 800°C   |
| 05    | C05 = 800    | T05 = 60      | Heat 800 → 1000°C  |
| 06    | C06 = 1000   | T06 = 40      | Heat 1000 → 1100°C |
| 07    | C07 = 1100   | T07 = 40      | Heat 1100 → 1220°C |
| 08    | C08 = 1220   | T08 = 100     | Heat 1220 → 1250°C |
| 09    | C09 = 1250   | T09 = 40      | Hold at 1250°C     |
| 10    | C10 = 1250   | T10 = STOP    | End program        |

A staged rise to 1250°C followed by a 40-minute hold. Total: 500 minutes; subsequent natural cooling is additional.

## Application notes

Confirm that the kiln, elements, thermocouple, shelves, clay and glaze are suitable for 1250°C before use. This profile is not a statement of the kiln's maximum rating. Use witness cones when verification of heatwork is required.

## 08 / CUSTOM PROGRAMS

# Document every change

Record the original program before editing. Change one process variable at a time and test the result on representative samples.

- Select the closest verified profile and check the clay, glaze or material instructions. Keep every temperature within the confirmed ratings of the kiln and its contents.
- Enter C and T values in order. Use repeated C values for a hold, check the complete sequence and finish with the correct stop instruction. Record the outcome before making further changes.

Program name / based on profile

Date / operator / revision

| Entry | Temperature C (°C) | Time T (min) | Purpose / observations |
|-------|--------------------|--------------|------------------------|
| 01    |                    |              |                        |
| 02    |                    |              |                        |
| 03    |                    |              |                        |
| 04    |                    |              |                        |
| 05    |                    |              |                        |
| 06    |                    |              |                        |
| 07    |                    |              |                        |
| 08    |                    |              |                        |
| 09    |                    |              |                        |
| 10    |                    |              |                        |
| 11    |                    |              |                        |

Record STOP in the final T row (the documented controller uses -121). Use an additional sheet for longer programs. The supplied kiln specification states a maximum of 30 segments per curve.

## Firing result and next adjustment

Clay / glaze / load / kiln furniture / witness-cone result

# Complete the firing safely

Use this programming guide with the kiln installation and operating manual. It does not replace the equipment rating, electrical requirements or material instructions.

## **WARNING / High temperature and live elements**

Keep people clear of hot surfaces. Never reach into the kiln while energised. Isolate the supply before loading, cleaning or maintenance; RUN, HOLD and STOP are controller states, not electrical isolation.

## Before and during firing

- Confirm the selected profile is appropriate for the kiln, material and load. Never exceed the lowest relevant temperature rating. Do not fire unknown, sealed, pressurised, flammable or unsuitable items.
- Use the approved ventilation arrangement and keep combustible materials away. Inspect the visible condition of the thermocouple, elements and wiring before use.
- Monitor the kiln during operation. Record PV, SV, elapsed time and any unusual behaviour; on the first firing, the supplied operating guide recommends readings every 30-60 minutes.
- Stop if there is an alarm, unreliable temperature reading, burning smell, repeated protective-device trip or abnormal heating. Do not bypass protection or force the kiln to continue.

## At STOP and during cooling

Confirm that heating has stopped. A program end point can still be extremely hot: P04 ends at 630°C, and the other profiles stop at their listed peaks. Allow the kiln to cool naturally with the door closed until safe for unloading. Do not force cooling by opening a hot door.

If heating continues after STOP, use the external isolator if safe, keep the door closed and arrange service. Do not restart until the fault has been corrected.

### PROPICK SUPPORT

**propick.co.nz**

Controller and firing-program assistance

Provide the kiln serial number, a controller photo, the complete C/T values and a description of the load and fault when requesting assistance.

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Program values: supplied PROPICK five-program firing guide. C/T interpretation and key operations: supplied 2024 English-panel controller guide. All five source temperature and time tables retained.