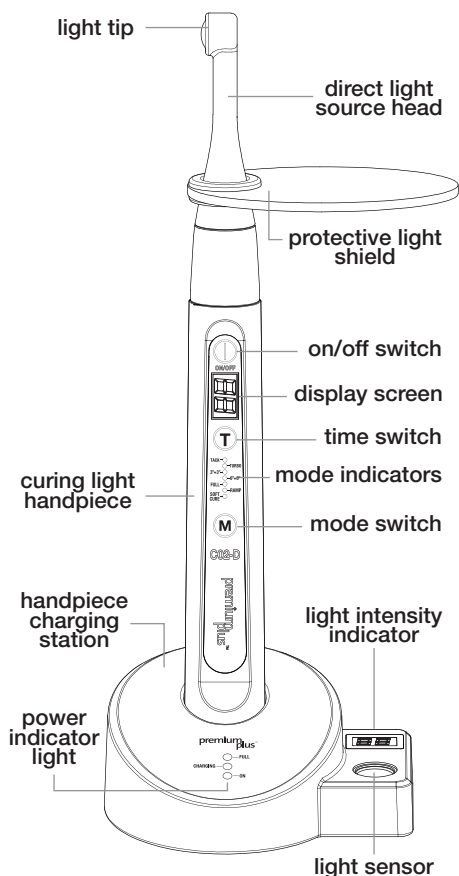


# C02-D CURING LIGHT INSTRUCTIONS



**Intended use:-** This curing light is intended for use by trained dental professionals only for the purpose of light curing dental resins and composites

C02-D SPECIFICATIONS (dual range)	
DIRECT LIGHT SOURCE HEAD	10 mm ( dia. )
LIGHT WAVELENGTH	390~430 nm 440~480 nm
APPLICATION	General / Ortho

## Contents:-

- C02-D Curing Light Handpiece with Charging Station
- C02-D-1 10 mm Direct Light Source Head
- C02-2 Protective Light Shield
- C02-3 Autoclavable Heat Protective Rings (6 pcs)
- C02-4 Autoclavable Tack Rings (6 pcs)
- 125 Disposable Curing Light Sleeves (100 pcs)
- C-S3 Power Adaptor 100 - 240V

## ENVIRONMENTAL FACTORS:-

Operation: 10°C~40°C / 30%~75% relative humidity / 500hPa~1060hPa atmospheric pressure

Transportation and Storage: -10°C~55°C / 10%~95% relative humidity / 500hPa~1060hPa atmospheric pressure

## PRIOR TO INSTALLATION AND START-UP OF THE UNIT READ THESE INSTRUCTIONS CAREFULLY.

This device must be used in strict conformity with these instructions.

The manufacturer rejects all liabilities if instructions are not followed or if the device is used for any other applications.

## ⚠ WARNINGS AND CAUTION:-

- High intensity curing lights produce more heat. This is a direct indication of the power of the light being emitted.
- The light radiation produced by this type of device can be dangerous and MUST NOT be pointed at the eyes.
- The light produced by this device must be directed only at the zone to be treated in the oral cavity.
- When using the device for more than 10 seconds, do not keep the light tip in one position. It is always recommended to use a dental syringe to blow a cold air flow on the area during long periods of curing. This will maintain a lower temperature for the composite and surrounding area, particularly when using rubber dam so as to avoid any rubber dam breakage due to heat built-up.
- Uninterrupted exposure times of the same tooth surface in excessive time and direct contact with oral mucosa or skin must be strictly avoided. Polymerization at intermittent intervals is recommended.
- Avoid the light guide tip coming into contact with any soft tissue in the mouth and do not expose soft tissue to the light being emitted for more than 2 seconds or burns may occur.
- There are many variables (distance and angle between the light tip and composite, area, shade thickness and type etc.) affecting composite curing times. It is recommended to place and cure a maximum of 2 mm for each composite placement. The light guide tip should be placed approximately 1-2 mm above the composite or resin and pointed perpendicular to the tooth surface.
- Using a barrier sleeve on the curing light will reduce light intensity by 5-10% affecting curing times.
- Always use protective shields and eyewear during curing light operation.
- Do not use the device near a heat source. Do not use solvents, detergents or flammable products to clean or immerse the device in, this may damage the device or cause a short-circuit.
- Prevent any liquid from entering the curing light, charging station or power adaptor.
- Never modify the device or any of its components. Any modification may compromise its safety and effectiveness.

- The curing light is not field-repairable. Do not disassemble this product. Unqualified repairing or tampering with internal parts may lead to serious injury and will VOID the manufacturer’s warranty.
- Use only with the adaptor provided by the manufacturer.
- Check the device before every use. Do not use the device if it is damaged in any way. The continuous use of a damaged device may cause injury or improper results.
- Do not place the device in a position where it is difficult to disconnect from the power supply.
- Charge the device for no less than 2 hours before use if it has not been used for longer than one month.
- US Federal Law restricts this device to sale by or on the order of a health care professional/dentist.

## INSTALLATION:-

### A. CHARGING STATION:-

- Plug in the power adaptor connection to the charging station and the power supply.
- Turn on the **[ON/OFF]** switch at the back of the charging station.
- The Charging Station power indicator light will be on if the power is connected and the **[ON/OFF]** switch is in the “ON” position.

### B. CURING LIGHT HANDPIECE:-

- Insert the direct light source head into the curing light handpiece with a TWISTING motion. Ensure the direct light source head fits securely in the curing light handpiece.
- Put the curing light onto the charging station as shown in the above diagram. The “CHARGING” indicator light will be on if the curing light fits correctly into the charging station.
- The battery is not fully charged prior to shipment. Please charge the battery for a minimum of 2 hours prior to the first use.
- When the curing light is fully charged, the “FULL” indicator light on the charging station will turn on.
- The curing light circuitry will automatically compensate for power fluctuation during use for a constant light intensity output.
- When the battery is low, the display screen will show “LO” and the curing light will cease working.
- Please recharge the curing light in the charging station.
- We recommend placing the curing light into the charging station to charge whenever it is not in use.
- Continually charging the curing light will not affect the life of the battery as it has a built-in safety function that will stop charging the battery when it is full.

### C. LIGHT INTENSITY:-

- The light intensity should be checked regularly with the light intensity indicator that is built into the charging station. The light intensity output should be within the ranges indicated in our specifications. This provides a general indication and a benchmark but not an accurate reading.
- To check the light intensity, make sure the charging station connects to the power supply and the power indicator light is on, clean both the light tip and light sensor, hold the curing light and place the light tip (as shown Fig. 1-3) at a 90° angle against the light sensor next to the light intensity indicator on the charging station and switch on the curing light (Check CHANGING OF SETTINGS AND USE for how to switch on this curing light). The light intensity will be shown on the light intensity indicator (The readout is in multiples x100).

**Fig.1**



Light tip to far away.  
Unit will display low or no results.

**Fig.2**



Light tip not held flat against the light sensor.  
Unit will display incorrect results.

**Fig.3**



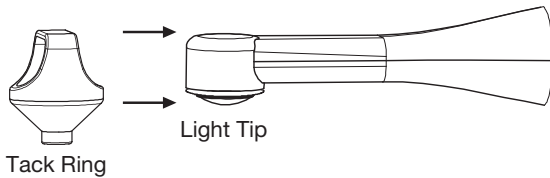
Light tip held flat and fitting exactly on the  
light sensor. Unit will display correct results.

- If the curing light intensity reading indicated is less than 20 percent of the range in our specifications, it should be sent to a Premium Plus authorized dealer for repair. It may also indicate it is time to replace it with a new curing light.

## CHANGING OF SETTINGS AND USE:-

- Activate the curing light by pressing the **[ON/OFF]** switch ONCE, the display screen will show the curing light manufacturer’s preset time of **[10]** seconds while the mode is on FULL.
- To change the time, press the time switch **[T]** for 0.5 seconds. Time can be selected in 5 second increments in the FULL, RAMP and SOFT CURE modes. Time is fixed for the TACK, TURBO, 3”+3” and 6”+6” modes.
- To change the mode, press the mode switch **[M]** and hold for 3 seconds, select TACK, TURBO, 3”+3”, 6”+6”, FULL, RAMP or SOFT CURE by continually pressing to locate the mode.

- The mode will be locked after 30 seconds if there are no further changes to the settings. To change, press and hold the mode button for 3 seconds to unlock.
- Every start and end of the programme or every change of time or mode will be signaled with a “beep”.
- The curing light will automatically turn off if it is not in operation for 1 minute. It will keep the last selected programme in memory once restarted.
- Put on the disposable curing light sleeve to cover the entire curing light for cross infection control. The curing light is now ready for use. Press the **[ON/OFF]** switch to activate the curing light if the display screen is off. When the preparation for light curing is ready, press the **[ON/OFF]** switch to start using the curing light.
- After the light curing process is finished, remove and dispose the curing light sleeve for every patient.



#### TACK MODE APPLICATION:-

Cover the curing light with a disposable curing light sleeve. Place the Tack Ring (included inside the packing box) onto the light tip as shown left. Ensure the Tack Ring is securely positioned on the light tip before starting the cure.

#### CURING LIGHT MODE APPLICATIONS:-

MODE	APPLICATION	SPECIFICATION
<b>TACK</b>	A very short initial cure for temporary processing before the final cure. For example when removing excess materials whilst bonding veneers or using temporary cement. Tack rings are included inside the box.	900 mW/cm <sup>2</sup> for 1 second±10%
<b>TURBO</b>	Super fast curing for resin and composite that is no more than 2 mm thick. Also recommended for ceramic brackets, bonding veneers etc.	2,500 mW/cm <sup>2</sup> for 3 seconds±10%
<b>3”+3”</b>	3 Second Mesial + 3 Second Distal for metal brackets resin bonding (with 1 second blink in-between).	2,000 mW/cm <sup>2</sup> for 3 + 3 seconds±10% (with 1 second blink in between)
<b>6”+6”</b>	6 Second Mesial + 6 Second Distal for metal brackets with bonding resin requiring more curing time and for buccal tube bonding (with 1 second blink in-between).	1,500 mW/cm <sup>2</sup> for 6 + 6 seconds±10% (with 1 second blink in between)
<b>FULL</b>	For general applications.	1,200 mW/cm <sup>2</sup> for 5, 10, 15, 20 seconds±10%
<b>RAMP</b>	First 0-5 seconds are ramped for general application.	1st five seconds from 0-1,200 mW/cm <sup>2</sup> ±10% next 5, 10, 15, 20 seconds 1,200 mW/cm <sup>2</sup> ±10%
<b>SOFT CURE</b>	First 0-5 seconds are ramped for more gentle processing, designed for patients sensitive to heat.	1st five seconds from 0-900 mW/cm <sup>2</sup> ±10% next 5, 10, 15, 20, 25 seconds 900 mW/cm <sup>2</sup> ±10%

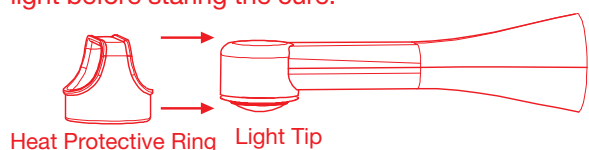
#### DEPTH OF CURE:-

MODE	Intensity mW/cm <sup>2</sup>	Time	Depth Measurements	ISO 4049 Depth Measurements (-50%)
<b>TURBO</b>	2,500±10%	3 seconds	4.5 mm	2.25 mm
<b>FULL</b>	1,200±10%	10 seconds	5.2 mm	2.60 mm
<b>RAMP</b>	1,200±10%	10 seconds	4.9 mm	2.45 mm
<b>SOFT CURE</b>	900±10%	15 seconds	5.1 mm	2.55 mm

**Data is only for reference, always follow the instructions from your resin and composite manufacturers.**

**Remarks:** Above data is based on test results using an A2 shade composite. The light guide tip was placed above and pointed perpendicular to the composite. Tests were done as per ISO 4049 Standard. The samples were measured and the data was divided by two (50% of the total composite depth cured). ISO 4049 Standard requires that the results for class II restorative materials should be at least 1.5 mm for non-opaque shades and 1.0 mm for opaque shades. All resins and composites have different curing times. It is strongly recommended that you should test your composite and resin performance to determine the curing times required.

Avoid the curing light tip coming into contact with any soft tissue in the mouth. As an option, you may cover the entire curing light with a disposable sleeve and then place the Heat Protective Ring (included inside packing box) onto the curing light head covered with sleeve as shown below. Ensure the Heat Protective Ring is securely positioned on the light before starting the cure.



Increasing the distance between the light tip and the composite or resin will reduce the light intensity. With the heat protective ring on the light tip, it is strongly recommended you should test your composite and resin performance to determine if any extra curing time is required.

## TROUBLESHOOTING:-

MODE	ERROR	CAUSE AND SOLUTION
LO	Low battery	The device requires recharging and will cease working.
E1	Light guide incorrectly connected	Reconnect the light guide correctly. Contact Premium Plus or a technician to repair or replace if problem continues.
E2	Battery failure	Replace the battery.
E3	Light tip high temperature	The light guide temperature is too high. The device will automatically stop working. Cool the device and restart.

## CLEANING AND DISINFECTING:-

- Switch off the curing light and disconnect the charging station from the power supply.
- The curing light handpiece, direct light source head and charging station can only be cleaned with a non-alcohol based disinfectant wipe for cold sterilization only.
- Heat Protective Rings and Tack Rings are autoclavable.
- Take the ring off the tip, remove any dirt or debris using a water soaked nylon brush, clean and dry with a wipe, then autoclave as per ISO 17665-1 121°C (250°F) for a minimum of 15 minutes
- Always follow the autoclave manufacturer's instruction.

**WARRANTY:** Curing light is warranted to the original purchaser against any defective workmanship and materials under accepted installation, use, and service for a period of 24 months from date of purchase.

## SYMBOLS:-

	Symbol for "Class II Equipment"		Electronic Waste: properly dispose of when use is discontinued
	Symbol for "Manufacturer"	LOT	LOT Number
EC REP	Symbol for "Authorised Representative in EU"		Symbol for "Type B Applied Part"
UK REP	Symbol for "Authorised Representative in UK"		Follow Instructions for use
	Symbol for "Importer"	IPX0	Symbol for "protection from ingress of liquids into handpiece"
	Symbol for "Distributor"	SN	Symbol for "Serial Number"

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