

TPC

User Manual



LED 55N Cordless LED Curing Light

- LED55N must be installed and operated by a qualified dental professional.
- All instructions in this USER'S MANUAL must be completely read before installation or operation.
- The user should wear colored protective glasses to avoid eye injury by the LED light.

Table Of Contents

1. INTRODUCTION	1
1.1 TECHNICAL INFORMATION	1
2. FEATURES	2
3. ACCESSORIES	3
4. INSTALLATION	3-4
5. OPERATION	5
6. MAINTENANCE	6
7. TROUBLESHOOTING	6
8. WARRANTY	7

1. INTRODUCTION

Thank you for purchasing the LED 55N LED curing light. The LED 55N is a dental curing light which uses the latest LED technology to polymerize composite resin.

Caution



Attention: Important information is being presented. Refer to the Operator's Manual for more information.



High intensity Light: Protect your eyes from the light generated by this product



Shock Hazard: Beware of electrical shock or injury. Type B Applied Part



Class II Medical Equipment



Electronics Waste: Properly dispose of when use is discontinued.

1.1 Technical Information

Range of Light (in nm)	430 - 490 nm
Light Intensity at the Tip (mW/cm ²)	1200 mW
Battery Life	200 cycles at STANDARD mode, 10 seconds per cycle; 135 cycles at STANDARD mode, 20 seconds per cycle.
Charging Time to Complete	5 Hours
Battery Type	Lithium Ion
Cradle Battery	Rechargeable
Operating Temperature	15 - 30°C (60 - 86°F); Unit turns off automatically when the temperature at the wand tip reaches 48° C
Power Input, Curing Light	5.2 VDC @ 1.0 A
Power Input, Power Supply	90 - 240 VAC @ 50 - 60 Hz
Pulse Rate	10 Hz
Pulse Duty Cycle	50%
Storage and Transport Conditions	0 - 40°C (32 - 104°F) 0 - 100% RH -1000 to + 9000 meters elevation

2. FEATURES

1. Latest LED technology.
2. Minimal heat output.
3. Three preset programs

□ FAST : Full power output.

⏏ PULSE : 0.5 second intermittent output.

↙ RAMP : Soft Start.

4. Timer

The Led 55N has a fixed timer. The unit will cure for a total of 20 seconds. At 10 seconds the light will beep indicating that you have reached the 10 second time mark. At 20 seconds the light will beep again and automatically stop the curing process.

5. Built-in light intensity sensor

The led 55N base has the a built in light intensity sensor on the charging base. This will allow the end user to verify if there is sufficient power to cure materials. To verify light intensity you must use a LED light radiometer.

6. Sleeping Mode

The LED 55N will be in “trickle” charging mode after 3 min of non - use. Trickle charging mode only applies if the handpiece is placed on the charging base. If left off of charging base the light will be in sleep mode.

7. Auto Memory

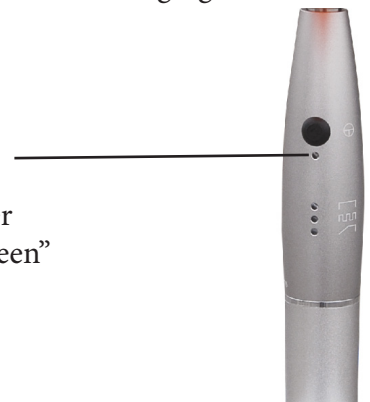
LED 55N will remain in previous setting, including the curing time and the curing program.

8. Cordless

The LED 55N comes with two re-chargable lithium ion Batteries. once one battery is drained you may switch to the other battery that will be fully charged if it has been placed on the charging base.

9. Low Battery / Over Heat indicator

The low battery indicator light will illuminate “red” when the battery does not have sufficient power to operate the light. The over heat light will illuminate “yellow” if the handpiece has over heated. If the light over heats allow the light to rest for 10 min. When the light is illuminated “green” the light has sufficient power to cure.



3. Accessories



- | | | | |
|---|-------------------------------------|-------------------------------|----------------------------|
| 1. Curing Light Handpiece
PN: LED55HP | 2. Charging Base
LED55Base | 3. Oval Protector
PN: P219 | 4. Light guide
PN: P109 |
| 5. Switching Power Adapter
PN: LED55N-TF | 6. Function Switch
PN: LED55-BTN | 7. Battery
PN: LED55-BATT | |

4. Installation

Step 1 : Connect Power Adapter to charging base.

Step 2 : Remove protective battery contact covers.

Step 3: Place the batteries in the charging base. Allow the batteries to fully charge.

For the best performance, charge curing light handpiece continually for 4 hours (charge battery at least 8 hours for first time using). The battery indicator on the charging base will show the sign of full power when battery is fully charged. LED 55N will detect the charging automatically. There will be one short beep tone generated when it has been properly put on to the Charging Base.

Step 4 : After charging is complete attach one battery to the handpiece. Align the threads of the battery to the back of the handpiece and turn clockwise to fasten. Be sure not to over tighten the battery to the handpiece.

Step 5 : Install light guide into the handpiece. Directly insert it onto the front of the curing light handpiece. The light guide can be rotated after installation.

Step 6 : Place the light shield over the light guide. Verify it is secure on the silver chuck of light guide.

4. Installation



Connect power adaptor to the charging base.



Remove protective battery covers.



Place batteries in the charging base.



Attach battery to light handpiece.



Insert light guide.



Attach light shield.

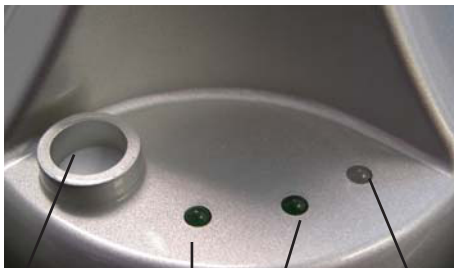
4.1 Charging Base

Charging base indicators

1. light intensity sensor. Place the light guide on this sensor to verify there is sufficient light to cure. If there is sufficient light and battery power the light sensor will illuminate “purple”. If there is not sufficient light, power or the light guide is damaged or dirty the light indicator will illuminate “red”.

2. Battery charging indicators. When flashing red the batteries are charging. When the light is solid “green” the batteries are fully charged.

3. light sensor indicator. This light is only activated when the light intensity sensor is being used. A “purple” light indicates that there is sufficient power to cure. A “red” light indicates that there is not sufficient power to cure. Possible reasons for a “red” light are Low battery, Damaged / dirty light guide or damaged LED.



1. Light intensity tester

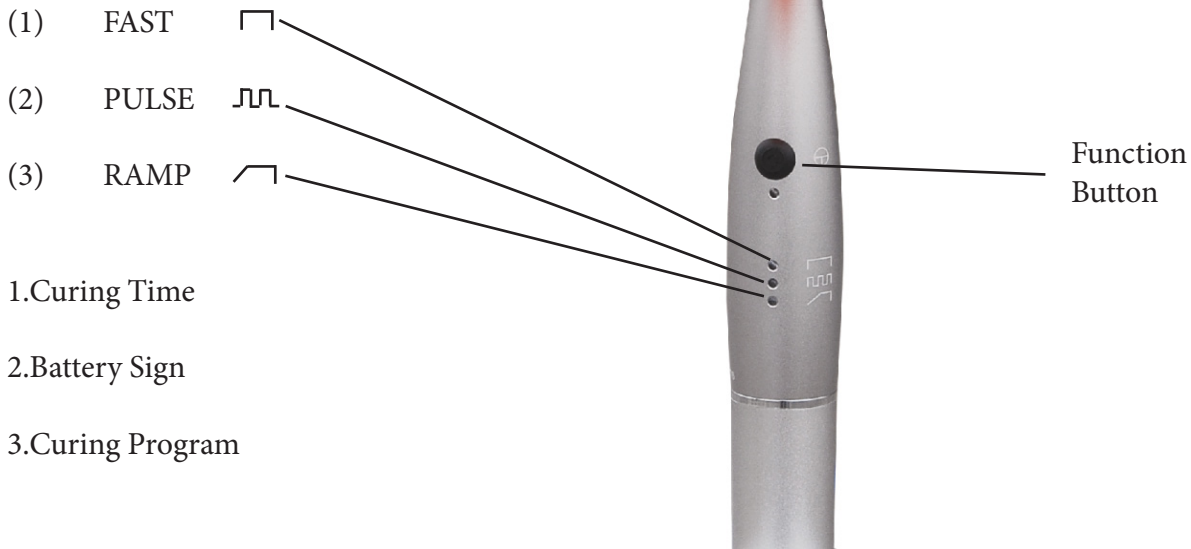
2. Battery Charging indicator

3. Light intensity indicator

5. Operation

A. Set Curing Program

Press and hold the function switch for two seconds and you will see the modes change every second. To stop on the desired mode simply let go of the depressed button for the desired mode.



B. Set Timer

The LED55N has a fixed curing time of 20 seconds. The light will beep at 10 seconds and then automatically stop the curing process at 20 seconds.

C. Start to Operate

Press button to start curing program. To interrupt a program, press curing button again. When the program finishes, the curing light handpiece will beep again then turn off the light immediately.

D. Turn off the Power

Allow curing light handpiece to enter into sleeping mode automatically. This will shut down all the curing function to save the power. To completely shut down curing light disconnect battery.

6. MAINTENANCE

1. Be sure there is no resin or material sticking to the surface of the light guide.
2. If materials are sticking on the light guide immediately clean it with soft cloth. Keep light guide clean for better light intensity and curing performance.
3. The light guide should be sterilized after each use. It can be safely autoclaved at 121 °C. For no more than 15 minutes. Let cool before handling.
4. The other accessories such as curing light handpiece and eye protector should be scrubbed with pure water and sheathed in accordance with standard disinfection procedures.
5. Keep curing light handpiece in charging station while not in use.
6. Dispose Lithium battery according to the federal and state laws.
7. The User should wear colored protection glasses to avoid eye injury due to LED light.

7. TROUBLESHOOTING

Fault	Possible Cause	Solution
The low battery indicator on the curing light is solid red	Battery Low	Charge Battery
The overheat indicator light is orange	The curing light has overheated	Allow to cool for 10 min
When the light is placed on the charging base the LED emits a low light while not in use	Battery is very low	Disconnect battery and charge battery while disconnected from light for 10 min or till fully charged
My light guide is very loose when placed in the curing light	O-ring damaged or missing	Check o-ring or replace
The light changes modes on its own	Function button is depressed in	Verify the function button is not stuck. Press and release the function button
None of the mode or status lights are illuminating	Drained battery Contacts are dirty on the battery Depleted battery	Charge battery Clean contacts Replace battery
Charging base does not beep when batteries are placed on the charger	No power to base.	Connect power supply to base.
The light intensity indicator on the base illuminates red when checking the light intensity	Light guide had debris on it. Not enough battery power to cure	Clean light guide Charge battery
When I try to attach the battery it's very tight and will not fully attach	Battery may have been dropped and the threads are dented in	Replace battery
I see a halo pattern when the light is being used	Light guide has cracks in the fiber	Replace light guide

Warranty Information

All of our products sold are guaranteed to be free from defects in workmanship and materials for a 1 year from date of purchase, unless otherwise stated. TPC will repair or replace any defective part at no charge. During the warranty period. TPC will not be responsible for labor charges or shipping charges to / from the TPC facility. This guarantee does not cover normal wear or stains on surface finish. The guarantee does not cover damage resulting from improper installation or misuse. All claims against the freight carrier must be initiated at the time the damaged items are received. The claim is the responsibility of the customer. We are improving our products on a continuous basis. We reserve the right to make modifications without the need for prior notification and are not obligated to modify previously manufactured items. Light guides and batteries are not covered under any type of warranty.

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Warranty Card

Name: _____
Address: _____
City: _____ State: _____ Zip _____
Phone Number:(____) _____ - _____ FAX:(____) _____ - _____
Email Address _____
Model: LED 55N

Handpiece: SN _____

Base: SN _____

Please complete this card and return it to TPC. Include a copy of your invoice or packing slip.

Return to:

TPC Advanced Technology

851 S. Lawson St

City Of Industry, CA 91748

Or Email a scanned copy to service@tpcdental.com