

Unitek™ Bonding System

# Ortholux™ Luminous Curing Light

Lunch & Learn



The Leader in  
Adhesive Innovation  
and Excellence

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Unitek™ Bonding System

# Ortholux™ Luminous Curing Light



# Agenda

- Features, Advantages and Benefits
- Technology behind Light Output
- Recommended Cure Times
- Bond Strength
- CPQ Absorbance Spectrum
- Lithium ion Battery
- Handpiece
- Charger Base
- Radiometers
- Light Guide & Eye Shield
- Cleaning & Disinfection
- Safety
- Ortholux™ Luminous Curing Light vs. Ortholux™ LED Curing Light
- The Competition
- Support Resources

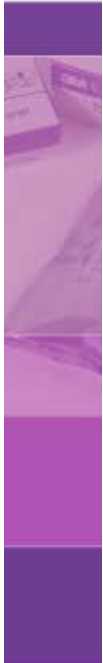
# Ortholux™ Luminous Curing Light

- Light Output Intensity: 1600 mW/cm<sup>2</sup>
  - *Quick 3 sec. Cure for Ceramic Brackets*
  - *3x3 sec. Mesial-Distal Cure for Metal Brackets*
- Timer Settings: 3s, 6s, 9s, 12s, and 15s (Extended Mode)
- Bonus Tack Cure Function
- Rechargeable High Capacity Lithium ion Battery
- Battery Charge Level Indicator on Handpiece
- One-Piece, Hydroformed, Smooth, Stainless Steel Handpiece
- Magnetic Light Guide Mount
- No fan, silent operation
- Built-in light meter



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# Ortholux™ Luminous Curing Light



Features	Advantages	Benefits
1600 mW/cm2	Fast Cure	Less Chair Time, Less Staff Time, Enhanced Patient Experience
LED technology	Constant light intensity independent of charge level	Consistent Performance
Lithium ion battery	No memory effect, No conditioning, Long battery life, Recharge at any time, Recharge without the handpiece	Ease of Use, Increased Efficiency
Heat sink	No fan, No holes in handpiece required	No Noise, No Dirt Traps
Stainless steel handpiece	One-piece smooth surface, No holes / crevices	Less Staining or Discoloration, Easy Cleaning
Pen-shaped handpiece	Small, Multiple ways to hold the handpiece, Balanced weight distribution	Convenient Handling, Ergonomic
8mm tip fiber-glass light guide	Autoclaveable, Magnetic mount, Rotatable 360-degrees (independent of eye shield), Long length, Angled tip	Easy Cleaning and Disinfecting, Posterior Reach, Easy Positioning
Tack cure function	One-second light pulse, Activate with any timer setting	Procedural Flexibility
Timer settings	5 options – 3s, 6s, 9s, 12s, 15s	Facilitate Longer Cure Needs
Miscellaneous	Battery charge indicator, Beep on/off, Small charger, Built-in intensity meter, Removable footed eye shield, Allow use of Ortholux LED eye shield	Added Convenience and Options

## How do we achieve 1600 mW/cm<sup>2</sup> light output?

- Latest High-Power LED Technology
- 3M Nanotechnology Reflector
- Optimized Geometry
- High Transmission Glass Light Guide
- 8 mm-Diameter Light Guide Tip
- Custom Heat Sink



**CAUTION: High intensity light always involves production of heat!**

# Recommended Cure Times

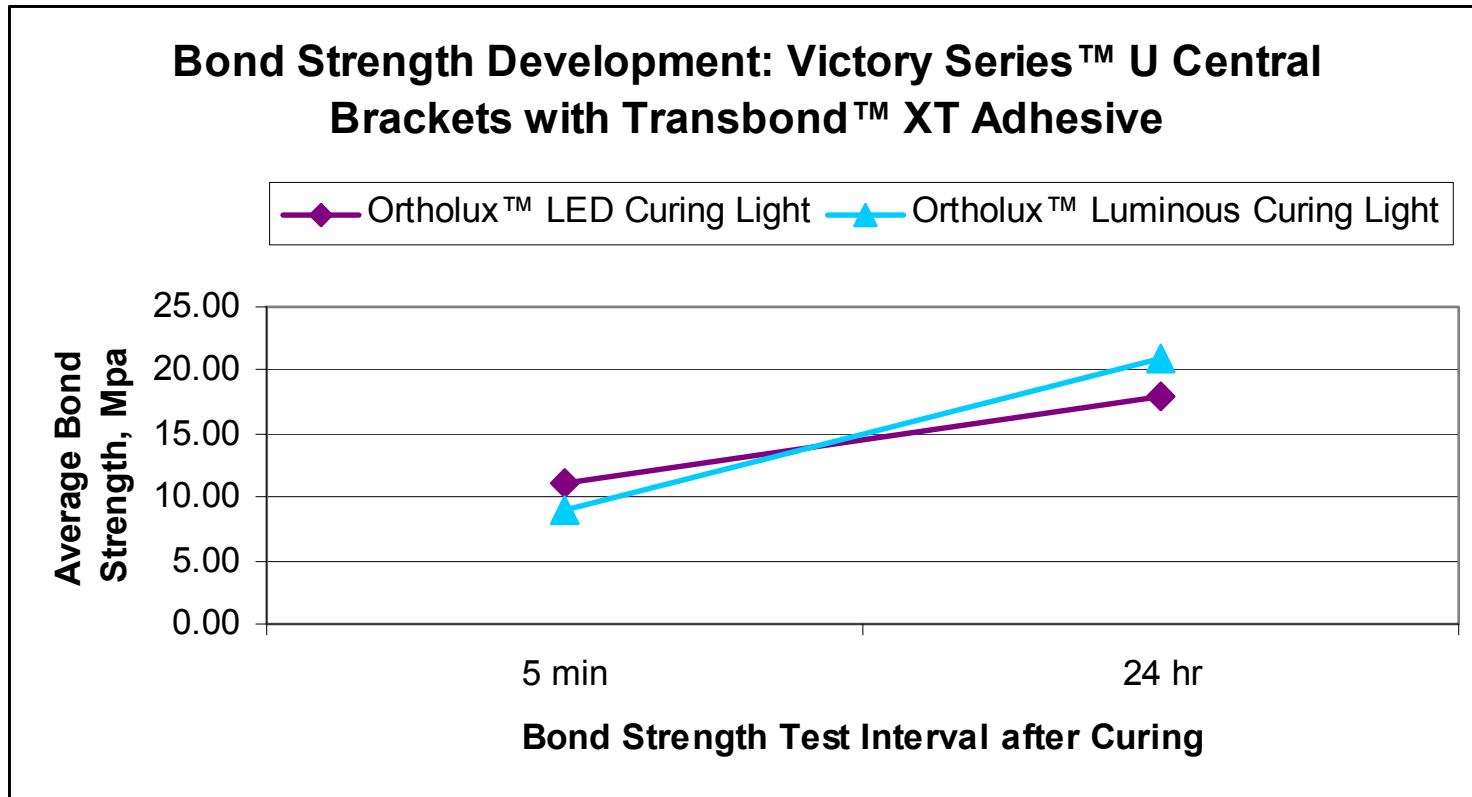
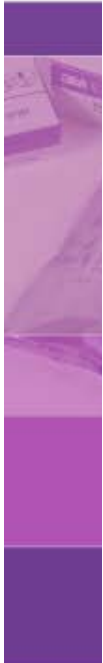
Appliance	Adhesive	Ortholux™ Luminous Curing Light
Metal Brackets	Transbond™ XT Adhesive, Transbond™ PLUS Color Change Adhesive, APC™ II Adhesive Coated Appliances, APC™ PLUS Adhesive Coated Appliances	3 seconds mesial x 3 seconds distal
Ceramic Brackets		3 seconds through the bracket
Buccal Tubes (direct bond)		6 seconds mesial x 6 seconds occlusal
Lingual Retainers	Transbond™ LR Adhesive	3 seconds mesial x 3 seconds distal
Molar Bands	Transbond™ Plus Band Adhesive Unitek™ Multi-Cure Glass Ionomer Band Cement	12 seconds (3 seconds per cusp)
Indirect Trays (Metal Brackets)	Transbond™ Supreme LV Adhesive	6 seconds mesial x 6 seconds distal through the tray
Indirect Trays (Ceramic Brackets)		6 seconds through the bracket and tray

The recommendations assume 100% light output and the light guide tip position of 1 to 2 mm away from the orthodontic appliance. Reminder: Check the light output intensity regularly at the Built-in Intensity Test Area on the Charger Base.



# Bond Strength

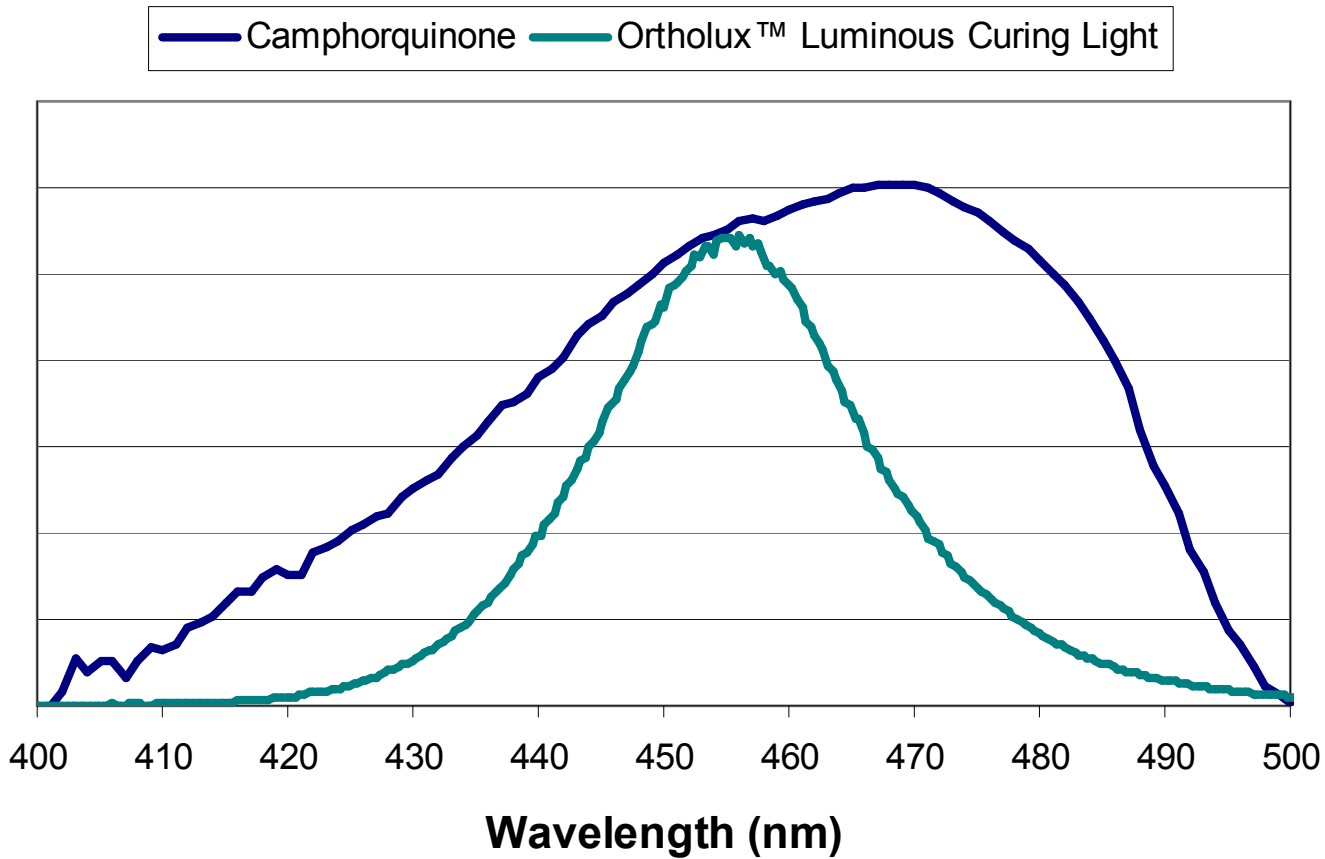
3x3 Sec. Ortholux™ Luminous Curing Light vs. 5x5 Sec. Ortholux™ LED Curing Light





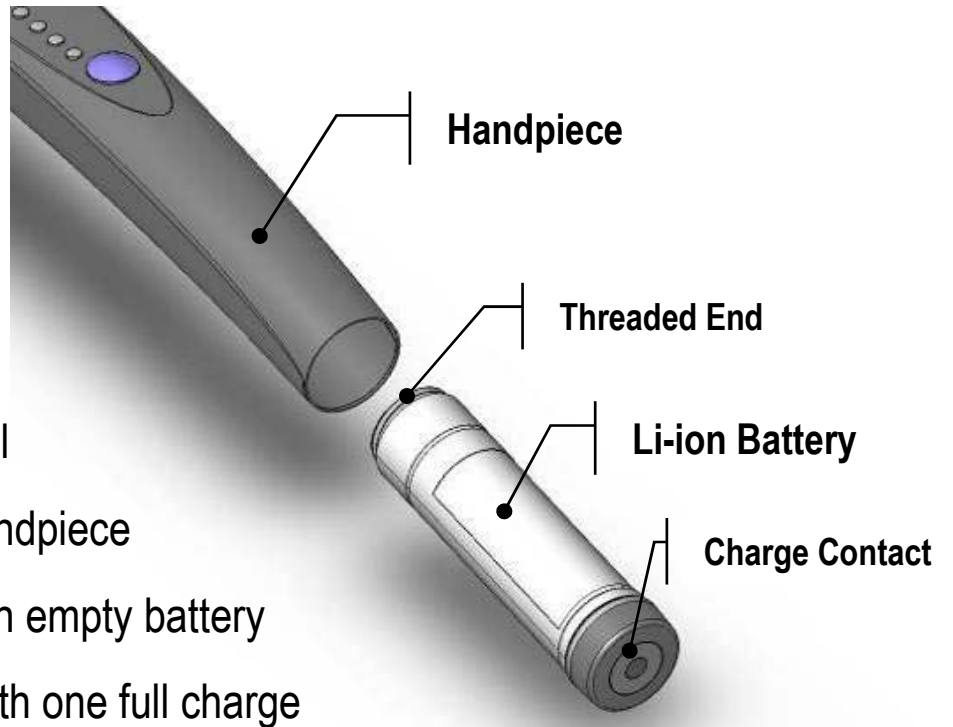
# CPQ Absorbance Spectrum

### Spectrum Overlap



# Li-ion Battery

- New batteries come partially charged
- Screw-in battery installation and removal
- Recharge at any time with or without handpiece
- Approximately 2 hours to fully charge an empty battery
- Typically 60 minutes of light emission with one full charge
- 3.5 to 5-year life span expected under normal use conditions
- Prolong battery life through moderation\*
  - *No memory; No conditioning cycles required*
  - *Avoid complete discharge and storage at extreme temperatures*



Light intensity is independent of battery charge level. Same light output with full, partial, or low battery.

\*Check out [www.batteryuniversity.com](http://www.batteryuniversity.com) for more info.

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## Li-ion Battery

**Q:** How many patients can be bonded with one full battery charge?

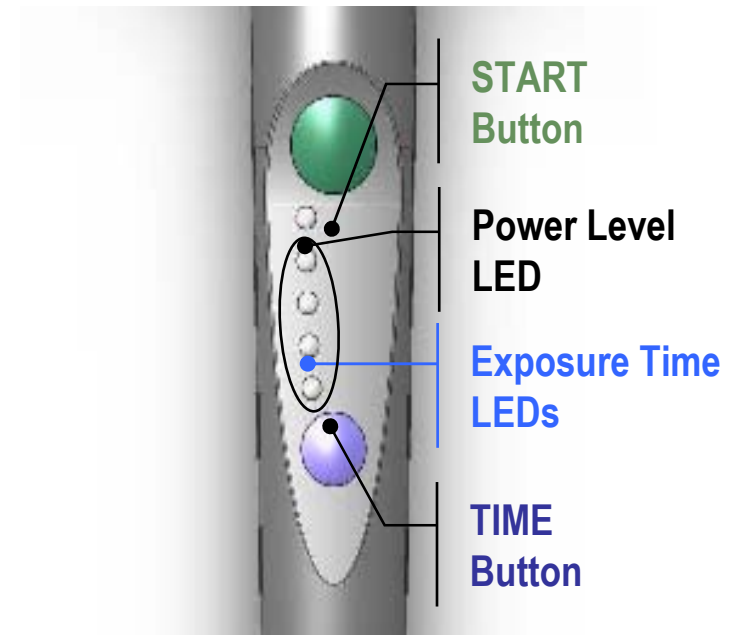
**A:** A new fully charged battery has sufficient power to bond a minimum of 16 patients assuming full 7x7 upper and lower arches banded / bonded with metal appliances.



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# Handpiece

- Automatic Sleep Mode for Power Conservation
  - *Handpiece sleeps after 5 minutes of inactivity or when placed on charger*
  - *Wake up the handpiece by pressing **START Button***
- Five Exposure Timer Settings
  - *3s, 6s, 9s, 12s, and Extended Mode (15s)*
  - ***Exposure Time LEDs** displays selected setting*
  - *Cycle through settings by pressing **TIME Button***
  - *Activate light emission by pressing **START button***
- Tack Cure Function
  - *Press & hold **START Button** to activate*
  - *Works regardless of selected Exposure Timer Setting*
- Automatic Safety Shut Down
  - *Activated if handpiece temperature reaches preset limit for user protection.*



# Handpiece

**Q:** How long can it be used before the Automatic Safety Shutdown?

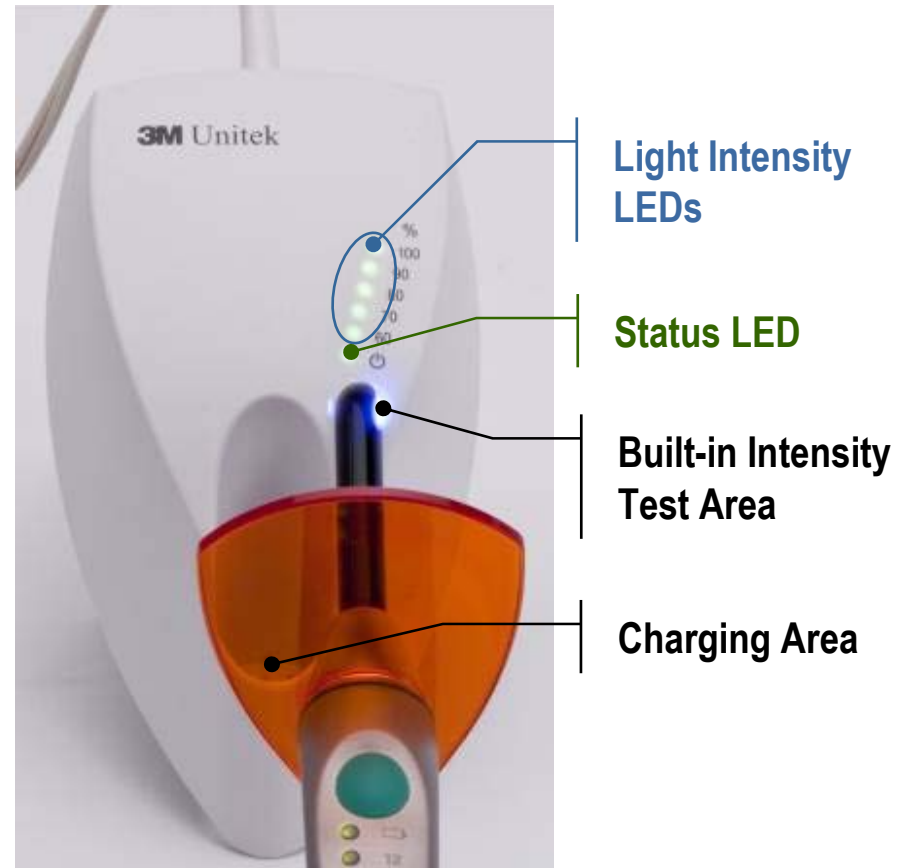
**A:** It is normal for the handpiece to become warm after some use. According to laboratory data, it is expected that the Safety Shutdown would kick in if the unit had been used for bonding of more than 2 patients continuously, assuming full 7x7 upper and lower arches banded / bonded with metal appliances. If the shutdown did occur, letting the unit cool down for 5 minutes should provide about 10 additional 3 second cures.



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# Charger Base

- **Status LED** indicates charging status.
  - *Steady Green, if the charging area is empty*
  - *Flashes Green, when charging*
  - *Steady Green, when charging completed*
- **Use the Built-in Intensity Test Area**
  - *Make sure the test area is clean.*
  - *Place the light guide tip flash inside the circular test area and activate light emission.*
  - *Light Intensity LEDs will light up indicating the effective output in percentage between 60% to 100%.*
  - *This intensity meter is calibrated specifically for Ortholux™ Luminous Curing Light. Measurement of other curing lights using this meter may produce incorrect result.*



# Charger

**Q:** What if the intensity test shows the light output of less than 100%?

**A:** Clean the test area and repeat the measurement a few times. Check the light guide for damage and remove any cured adhesive on the tip. Also remember to clean the other end of the light guide and the glass window of the handpiece. If necessary, replace the light guide.



Remember: Light intensity is independent of battery charge level.

## Radiometers

**Q:** Can I use my radiometer to measure the intensity of the Ortholux™ Luminous Curing Light?

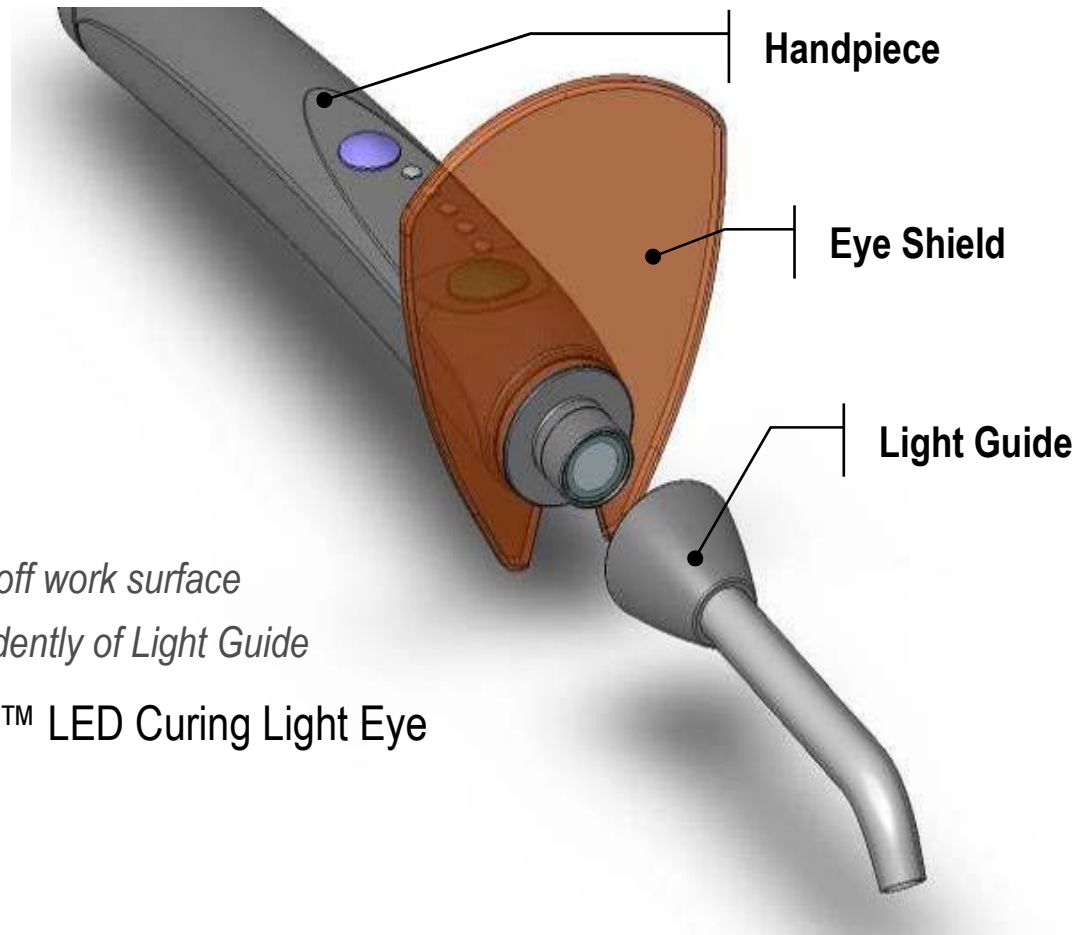
**A:** Please use the Built-in Intensity Test Area on the Charger Base to check intensity of Ortholux™ Luminous Curing Light. Handheld radiometers may show incorrect values.





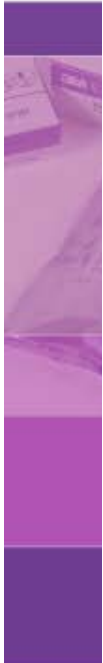
# Light Guide & Eye Shield

- Light Guide
  - 8 mm diameter tip
  - Glass fiber rod with black siding
  - Unique, magnetic mount
  - Rotatable 360 degrees
- Eye Shield
  - Large area of protection
  - Prevents handpiece from rolling off work surface
  - Rotatable 360 degrees, independently of Light Guide
- Light Guide allows use of Ortholux™ LED Curing Light Eye Shield, if desired.



# Cleaning and Disinfection

- Light guide
  - *The light guide can be autoclaved. Do not exceed 134°C (273°F).*
  - *Adhering polymerized material should be removed with alcohol. A plastic spatula may help in removing the material.*
  
- Charger, Handpiece & Eye-Shield
  - *Spray disinfectant on a towel and use it to disinfect the unit*
    - *Wipe dry*
    - *Do not spray the disinfectant directly on the handpiece or the charger*
    - *Make sure the charge contact pins remain dry*
  - *The protective glass of the handpiece can be cleaned with a soft and fluff-free cloth.*



# Safety



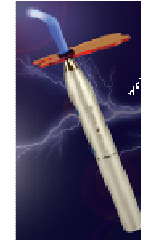
- CAUTION: Ortholux™ Luminous Curing Light generates high intensity light. High intensity light always involves production of heat!
- The light emitted should be aimed directly above the material to be cured - exposure of the soft tissues (gingiva, oral mucosa, and skin) to high-intensity light should be avoided as such exposure may cause damage or irritation. If applicable, cover such areas. If exposure of soft tissues cannot be avoided, adjust the polymerization process to the light level, e.g., by shortening the polymerization times or increasing the distance between the light guide exit and the material to be cured.
- When utilizing the light in Extended Mode (15 seconds), do not keep the light in one position. Longer exposure in the region of the pulp can lead to injury or irritation of the pulp, which is why the specified exposure times must not be exceeded.
- Observe all safety warnings in IFU!

# Ortholux™ Luminous Curing Light vs. Ortholux™ LED Curing Light



Feature	Ortholux™ Luminous	Ortholux™ LED
Charger size	Smaller	Small
Handpiece size	Shorter, thinner	Short, thin
Handpiece weight	Light	Lighter
Handpiece material	Stainless Steel	Polycarbonate
Handpiece heat build-up	slightly warmer	warm
Intensity	1600mW	1000mW
Cure time	3 sec.	5 sec.
Optical Range	430-480nm	430-480nm
Tack cure	Yes	No
Extended cure	Yes	No
Built-in handpiece rest	Yes	No
Battery conditioning	No	Yes
Battery charge time	2 hr.	2 hr.
Battery installation	Easy (screw in)	Latch-type
Battery charge indicator	Yes	No
Battery type	Lithium-ion	Nickel metal hydride
Battery charged independently	Yes	No
Raised, easy-to-locate buttons	Yes	No
Light guide fitting	Magnetic	Friction fit
Light guide	8mm, black-coated	8mm, black-coated
Eye-shield	Luminous/LED	LED only

# The Competition

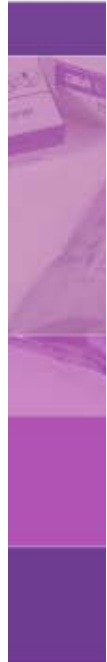


	Ortholux™ Luminous	Ortholux™ LED	CoolBeam™	Blue Ray
Intensity, mW/cm <sup>2</sup>	1600	1000	1500	2180
Timer settings	3,6,9,12 Tack cure (1s) Extended Mode (15s)	5,10,15,20	5,10,20	5,10,100
Fan	No	No	Yes	No
Battery	Li-ion	Ni-hydride	Ni-hydride	Li-ion
# of pts/charge	16	8	?	15
Tip dia., mm	8	8	8	5.5
Manufacturer	3M Unitek	3M Unitek	Ormco	American

CoolBeam is a trademark of Sybron Dental Specialties, Inc. Blue ray is a trademark or registered trademark of American Orthodontics.



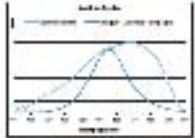
# Support Resources



## Ortholux™ Luminous Curing Light

### Frequently Asked Questions

- What is the warranty of the Ortholux™ Luminous Curing Light?**  
The warranty covers the curing light for a period of 12 months from the date of purchase. The warranty is void if the curing light is used for any other purpose than curing dental restorations.
- What type of light does the Ortholux™ Luminous Curing Light emit?**  
The curing light emits a broad spectrum of light, including visible light and near-infrared light. The light is emitted from a series of light-emitting diodes (LEDs) arranged in a ring around the curing tip.
- How long does the curing light take to cure a restoration?**  
The curing time depends on the type of restoration and the curing tip used. For most restorations, a curing time of 20-30 seconds is recommended.
- How do I use the curing light?**  
The curing light is used by holding the curing tip against the restoration and activating the light. The curing light should be held at a distance of approximately 2-3 mm from the restoration.
- How do I clean the curing light?**  
The curing light should be cleaned with a soft cloth and mild soap. Do not use harsh chemicals or abrasive cleaners.
- How do I store the curing light?**  
The curing light should be stored in its original carrying case to protect it from damage.
- How do I troubleshoot the curing light?**  
If the curing light does not work, check the battery level and the power switch. If the curing light still does not work, contact customer support.



- How do I charge the curing light?**  
The curing light is charged by connecting it to the charging dock. The charging dock is included in the package. The curing light will be fully charged in approximately 2 hours.
- How do I use the curing light with a restoration?**  
The curing light is used by holding the curing tip against the restoration and activating the light. The curing light should be held at a distance of approximately 2-3 mm from the restoration.
- How do I clean the curing light?**  
The curing light should be cleaned with a soft cloth and mild soap. Do not use harsh chemicals or abrasive cleaners.
- How do I store the curing light?**  
The curing light should be stored in its original carrying case to protect it from damage.
- How do I troubleshoot the curing light?**  
If the curing light does not work, check the battery level and the power switch. If the curing light still does not work, contact customer support.



FAQ Sheet – p/n 012-196



## Ortholux™ Luminous Curing Light Technique Guide

### Installation

1. Read instructions.
2. Plug charge dock into wall.
3. Insert the light guide.
4. Insert the curing tip.
5. Remove battery cap and insert battery.
6. Charge till the light is fully charged.

### Operation

1. Hold the curing tip 2-3 mm from the restoration.
2. Charge the curing tip.
3. Press the power button.
4. Hold the curing tip against the restoration.
5. Hold the curing tip against the restoration.
6. Hold the curing tip against the restoration.

### Maintenance

1. Wipe the curing tip with a soft cloth.
2. Clean the curing tip with a soft cloth.
3. Clean the curing tip with a soft cloth.
4. Clean the curing tip with a soft cloth.
5. Wipe the curing tip with a soft cloth.
6. Clean the curing tip with a soft cloth.



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These steps should be followed in the order shown.



Quick Reference Technique Guide – p/n 012-198

