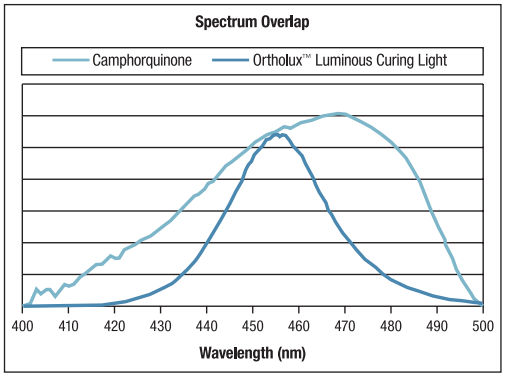
Ortholux™ Luminous Curing Light

Frequently Asked Questions

1. **What is the intensity of the Ortholux™ Luminous Curing Light?**
   The Ortholux™ Luminous curing light has an intensity of 1600 mw/cm² as measured by accepted laboratory techniques.

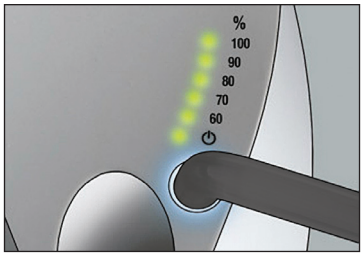
2. **What type of light does the Ortholux Luminous curing light emit?**
   The Ortholux Luminous curing light emits high intensity blue light from a light emitting diode (LED) source. The emitted blue light spectrum peaks at 455 nm (+/-10 nm) and overlaps within the absorption spectrum of Camphorquinone (CPQ), the photo-initiator in all 3M light-curable orthodontic materials.



3. **Is the Ortholux Luminous curing light a laser?**
   No, it is a high intensity light emitting diode (LED). The LED produces blue light in the 430-480 nm wavelength range.

4. **How is the Ortholux Luminous curing light able to achieve acceptable bond strength in as little as 3 seconds?**
   The combination of the high intensity LED lamp and the 8 mm light guide optimized for orthodontic use allows for an efficient curing time. Reference the recommended table of curing times in Question 20.

5. **How do I verify the light intensity?**
   The Ortholux Luminous curing light charging base has an integrated light intensity meter. Place the light guide tip on the circular testing area below the percent scale on the charger base and press the START button. Please refer to the Instructions for Use (REF 011-635) for complete details.



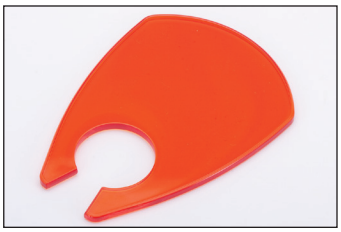
6. **Does the Ortholux Luminous curing light have a fan? How does it stay cool?**
   The Ortholux Luminous curing light does not have a fan. This feature contributes to the silent operation (excluding the audible beeps). The Ortholux Luminous curing light handpiece includes a heat sink device that dissipates the heat created by the LED.

7. **Is it normal for the handpiece to feel warm to the touch during the bond procedure?**
   During normal use in orthodontic bonding, with frequent on and off cycles, the handpiece may begin to feel warm as the heat sink dissipates the heat from the LED. To protect the user from high temperatures, the unit will shut down automatically if the overheat protection mechanism is triggered (after approximately 7 minutes of **continuous** use). After a 5 minute cooling period the light can be used again.

8. **Does the light intensity depend on the battery charge level?**
   No, the electronics are programmed so that a constant level of power is supplied to the LED chip every time the START button is pressed regardless of the battery charge level.

9. **Can the audible beeps be turned off?**
   Yes, please refer to the Instructions for Use (REF 011-635) in the section – Acoustical Signals – Handpiece.

10. **The eye shield looks different, why?**
    Compared to the eye shields of previous curing lights, the Ortholux Luminous curing light eye shield design provides a larger protection area with added functionality as a table stand. More importantly, it is designed for mounting on the handpiece, not on the light guide, therefore positioning of the light guide during use doesn't interfere with the eye shield position.



11. **Are there any additional precautions necessary to protect the patient or staff from the high intensity light produced by the Ortholux Luminous curing light?**
    The START button should not be pressed until the light guide is within the oral cavity. As additional protection from the high intensity light, orange safety glasses are available for both the patient and staff. Curing Light Eyewear is available from 3M, REF 704-154 or S0360X.

12. **What type of battery does the Ortholux Luminous curing light use?**
    The Ortholux Luminous curing light uses Lithium ion batteries. Lithium ion batteries have higher charge voltage and no memory effect.

13. **How do I insert the battery into the handpiece?**
    The battery utilizes a screw-in mechanism that permits easy insertion and removal.

14. **When should the Ortholux Luminous curing light battery be recharged?**
    Because Lithium ion batteries are not subject to a memory effect, the batteries can be recharged at any time. The battery can be charged while in the handpiece or separately, as desired.

15. **How many patients can be bonded with one full battery charge?**
    A fully charged battery has sufficient power to bond a minimum of 16 patients assuming fully banded/bonded upper and lower arches from 2nd molar to 2nd molar with metal brackets.

16. **What is the lifetime of the battery?**
    The actual lifetime of the Lithium ion battery varies depending on the charge/recharge cycles it experiences throughout its useful life. While it is difficult to predict, the battery lifetime is estimated at 3.5 to 5 years under normal operating conditions. Replacement batteries are available in the 3M Orthodontic Product Catalog, REF 704-455.

17. **What does the Power Level LED indicate?**
    The Power Level LED, identified by the battery icon, is an indication of the charge level of the unit. A steady green light means the battery is charged and ready for operation. A steady red light indicates low battery charge, while a flashing red light indicates the battery is fully discharged.

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18. What is Sleep Mode? How can I reactivate the light?
The Ortholux™ Luminous Curing Light goes into Sleep Mode to preserve battery charge when the handpiece has not been used for approximately 5 minutes or when the handpiece is placed into the charger base. The handpiece can be reactivated by pressing the START button when the light is not in the charger base.

19. What is the difference between the Ortholux™ Luminous curing light and the Elipar™ S10 Curing Light from 3M?
The Ortholux Luminous curing light is optimized for orthodontic bonding. The light intensity is greater. The 8 mm fiber optic light guide is optimized for curing orthodontic brackets rather than dental restorations. The time settings have also been optimized to settings appropriate for orthodontic curing.

20. What are the recommended curing times for 3M Orthodontic Adhesives?
Refer to the following table for the recommended curing times.

Appliance	Adhesive	Ortholux™ Luminous Curing Light
Metal Brackets	APC™ Flash-Free Adhesive Coated Brackets	6 seconds mesial x 6 seconds distal
Ceramic Brackets		3 seconds mesial x 3 seconds distal
Buccal Tubes (direct bond)		6 seconds mesial x 6 seconds occlusal
Metal Brackets	Transbond™ XT Adhesive, Transbond™ PLUS Color Change Adhesive, APC™ II Adhesive Coated Brackets, APC™ PLUS Adhesive Coated Brackets	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	12 seconds (3 seconds per cusp)
	Unitek™ Multi-Cure Glass Ionomer Band Cement	
Indirect Trays (Metal Brackets)	Transbond™ Supreme LV Low Viscosity Light Cure Adhesive	6 seconds mesial x 6 seconds distal through the trays
Indirect Trays (Ceramic Brackets)		6 seconds through the bracket and trays

21. How is Extended Mode (15s) of the Ortholux Luminous curing light activated?
Please refer to the Instructions for Use (REF 011-635) for instructions on setting the light to Extended Mode. **CAUTION! High intensity light always involves the production of heat. When utilizing the light in Extended Mode (15s), do not keep the light in one position.**

22. When would I use the 15 second Extended Mode?
The extended mode can be used in situations when extra curing time is warranted, e.g., indirect bonding. Keep in mind the possibility of heat production as described in the answer above. Do not hold the light guide over **one** spot for more than 6 seconds. This could lead to undesirable heat generation.

23. Some patients are sensitive to heat from the curing light. What can be done to make their experience more pleasant?
Because orthodontic patients are not anesthetized, they are more likely to feel the heat of the curing light. One technique to minimize heat may be to blow air from an air syringe on the tooth during the curing process. According to research, the air cools the tooth and helps minimize the heat from the high intensity light.*

24. How is the Tack Cure (1s) function of the Ortholux Luminous curing light activated?
Hold down the START button to activate the Tack Cure function regardless of the set Exposure Time. The unit emits a single one-second light pulse which allows for a short exposure to tack cure brackets. The light will return to standard operation when the START button is no longer depressed.

25. When would the Tack Cure function be useful?
The Tack Cure function can be used whenever an initial cure is warranted, as in sealing the gingival seam to help eliminate the seepage of gingival fluid into the uncured adhesive.

26. Can I cure other adhesives and cements with the Ortholux Luminous curing light?
Any orthodontic adhesive or cement containing Camphorquinone (CPQ) as the photoinitiator that is activated by light in the 430-480 nm range can be cured with the Ortholux Luminous curing light.

27. What are the curing times for other light cure adhesives and cements?
Consult the manufacturer's recommendations for curing times using high intensity LED curing lights.

28. What is the handpiece of the Ortholux Luminous curing light made from?
The handle is a single piece of hydroformed stainless steel.

29. How can the Ortholux Luminous curing light be cleaned?
Clean the charger, the handpiece and the eye shield with a soft cloth and, if required, a mild cleaning agent.

30. How should the fiber optic glass light guide be disinfected?
The light guide can be autoclaved following the autoclave manufacturer's recommended instructions.

31. How does the light guide mount onto the handpiece?
The light guide has a magnetic holder. Remove from the handpiece by pulling it out and reinsert by aligning the magnetic part onto the handpiece and pushing it until the light guide is magnetically seated.

32. Are there any special care techniques for the magnetized light guide?
It is recommended to remove the light guide on a weekly basis and clean both ends of the light guide with a soft cloth. Ensure that the magnetic end is free of dust and particulate matter.

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