

# Light Cure Wand Systems




Loctite® brand light cure wand systems are used for the continuous or batch processing of assemblies that require curing in small areas. These cost effective systems provide a variety of curing attributes. Selection of a Loctite® brand wand system is based on the required lamp intensity, and the number and length of the light guides needed.

See page 87-88 for Loctite® brand UV Light Meters to measure spectral output.

**Loctite®  
ZETA® 7735  
UV Wand System**

**Loctite®  
ZETA® 7740  
UV Wand System**

**Loctite® ZETA® 7750  
Programmable  
UV Wand System**

|   |   |  |   |
|---|---|--|---|
|   |  |  |  |
| <b>Item #</b>                           | 98317   | 98157  | 98046   |
| <b>Useful Curing Diameter</b>           | ¼" to 1"  | ¼" to 1"   | ¼" to 1"  |
| <b>Number of Light Guides Supplied</b>  | None*   | None*  | None*   |
| <b>Lamp Type</b>                        | 50 Watt High Pressure Mercury Arc   | 100 Watt High Pressure Mercury Arc   | 100 Watt High Pressure Mercury Arc  |
| <b>Output Intensity</b>                 | High  | High   | High  |
| <b>Maximum Light Power</b>              | 5-7 W/cm <sup>2</sup>   | 9-11 W/cm <sup>2</sup>   | 9-11 W/cm <sup>2</sup>  |
| <b>Intensity Programming</b>            | No  | No   | Yes**   |
| <b>Optimized Spectral Output Range</b>  | UVA, B, C   | UVA, B, C  | UVA, B, C   |
| <b>Spectral Wavelength</b>              | 250-410 nm  | 250-410 nm   | 250-410 nm  |
| <b>Replacement Bulb (Item # - Type)</b> | 98339 - Lamp/Reflector Module, 50 W (HPMA)  | 984818 - Lamp/Reflector Module, 100 W (HPMA)   | 984818 - Lamp/Reflector Module, 100 W (HPMA)  |

\*Light guides sold separately.

# Loctite® ZETA® 7735 UV Wand System, Item 98317

The Loctite® ZETA® 7735 UV Wand System utilizes a 50 watt metal-halide arc lamp with a universal power supply and a liquid filled light wand. Its state-of-the-art lamp with an elliptical reflector and custom coating delivers unequaled spectral and optical performance in the 50 watt category. This wand system bridges the gap between low intensity and high intensity spot curing products. The time required to complete the curing process depends primarily on the offset distance from the end of the wand to the surface of the adhesive and the type of adhesive being used. It is ideally suited for the medium to low intensity requirements of the photo-optics and audiology industries. Other common uses are fillet curing, wire tacking, and shallow potting. The system can be operated manually or in the timed mode and is capable of interfacing with a PLC controlled circuit. The light guides are sold separately from the base unit for selection based on individual requirements.

## Features

- 5-7 W/cm<sup>2</sup> UV output
- 50 Watt metal-halide arc lamp
- 2,000 hours of expected UV lamp life with proper handling and maintenance
- Manual or timed shutter light exposure, 0 to 99.9 sec
- Hour meter for monitoring accumulated lamp life
- Selector switch for either 110 or 230 VAC

## Theory of Operation

When the unit is switched on, the proper electrical power is immediately supplied to the lamp. It will take approximately five minutes for the lamp to reach full power. Once the lamp has reached full power, the unit is ready to cure adhesive. The operator will present the part under the end of the UV light guide. Curing will take place when the UV light is directed at the liquid adhesive. Engaging the foot switch opens the shutter and UV energy produced by the lamp is immediately transmitted through the flexible light guide. The end of the wand can be manually operated or mounted in a fixed position.

## Technical Specifications

Power Supply: 100-240 VAC, 50/60 Hz input  
 Power Protection: 5 A / 250 V fuse  
 Auxiliary Control Voltage: 24 VDC  
 Entry fuse: 3 A, 250 V  
 Size: 7.6" H x 11.0" W x 12.5" D  
 Weight: 19.5 lbs.

## UV Output Characteristics

Initial output: 6-7 W/cm<sup>2</sup> (using 5 mm x 1000 mm light guide)\*  
 UV Spectral Range: 250-410 nm  
 Primary Peak: 365 nm

\* Exact output measurement is dependent on the brand and calibration method of the UV meter used.

## Light Guides (sold separately)

### Descriptions

- 983677: Single end 5 mm dia. x 1,000 mm long Light Guide
- 983684: Dual end 3 mm dia. x 1,000 mm long Light Guide (initial purchase requires Balancing Adapter 985045)
- 983800: Single end 5 mm dia. x 1,500 mm long Light Guide

### Typical Light Guide Cure Areas

- 983677: ¼" to ½" diameter
- 983684: ⅛" to ¼" diameter each
- 983800: ¼" to ½" diameter



## List of Loctite® Brand Parts Supplied

- (1) ZETA® 7735 UV Wand System
- (1) UV Lamp
- (1) Foot Pedal
- (1) Line Cord
- (1) Ultraviolet Protection Glasses
- (1) Manual

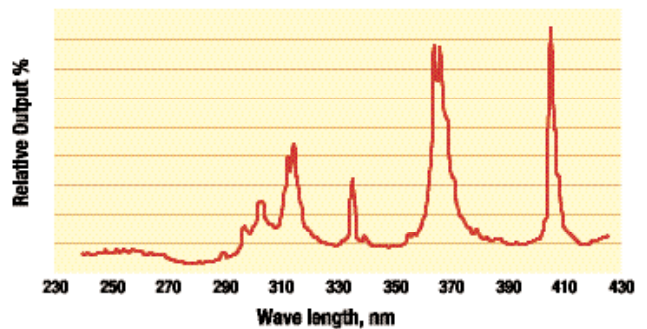
## Options

98048 Loctite® ZETA® 7021 Spot Radiometer

## Replacement Parts

98339 50 Watt HPMA Bulb

Spectral Output of Loctite® ZETA® 7735 with Metal Halide Bulb



# Loctite® ZETA® 7740 UV Wand System, Item 98157

The Loctite® ZETA® 7740 UV Wand System utilizes a 100 Watt high-pressure mercury arc lamp with a universal power supply and a liquid filled light wand. This system has the highest intensity output for a Loctite® brand wand system. The time required to complete the curing process depends primarily on the offset distance from the end of the wand to the surface of the adhesive and the type of adhesive being used. The Loctite® ZETA® 7740 Light Cure UV Wand System can be operated manually or in the timed mode and is capable of interfacing with a PLC controlled circuit. The light guides are sold separately from the base unit for selection based on individual requirements.

## Features

- Highest output light intensity; 9-11 W/cm<sup>2</sup>
- Contains a high-pressure mercury arc lamp
- 2,000 hours of expected UV lamp life with proper handling and maintenance
- Manual or timed shutter light exposure, 0 to 99.9 sec
- Hour meter for monitoring accumulated lamp life
- Self test diagnostics displays message when a problem exists

## Theory of Operation

When the unit is switched on, the proper electrical power is immediately supplied to the lamp. It will take a few minutes for the lamp to reach full power. The operator will manually or automatically place the part under the end of the UV wand. Curing will take place when the UV light is directed at the liquid adhesive. Engaging the foot switch opens the shutter and UV energy produced by the lamp is immediately transmitted through the flexible light guide. The end of the wand can be manually operated or mounted in a fixed position.

## Technical Specifications

|                            |                              |
|----------------------------|------------------------------|
| Power Supply:              | 120-240 VAC / 50-60 Hz input |
| Power Protection:          | 4 A / 250 V fuse             |
| Lamp Life:                 | Approximately 2,000 hours    |
| Warm-Up Time:              | 5 Minutes                    |
| Auxiliary Control Voltage: | 24 VDC                       |
| Main Fuse:                 | 5 A, 250 V                   |
| Size:                      | 7.6" H x 11.0" W x 12.5" D   |
| Weight:                    | 19.5 lbs.                    |

## UV Output Characteristics

|                    |   |
|--------------------|---|
| Initial output:    | 9-11 W/cm <sup>2</sup> (using 5 mm x 1,000 mm light guide)* |
| UV Spectral Range: | 250-410 nm  |
| Primary Peak:      | 365 nm  |

\* Exact output measurement is dependent on the brand and calibration method of the UV meter used.

## Replacement Parts

|        |                       |
|--------|-----------------------|
| 984818 | 100 Watt HPMA UV Bulb |
|--------|-----------------------|



## Loctite® Brand Light Guides (sold separately)

### Descriptions

- 983677: Single end 5 mm dia. x 1,000 mm long Light Guide
- 983684: Dual end 3 mm dia. x 1,000 mm long Light Guide  
(Initial purchase requires Balancing Adapter 985045)
- 983800: Single end 5 mm dia. x 1,500 mm long Light Guide

### Light Guide Cure Area

- 983677: ¼" to ½" diameter
- 983684: ⅛" to ¼" diameter
- 983800: ¼" to ½" diameter

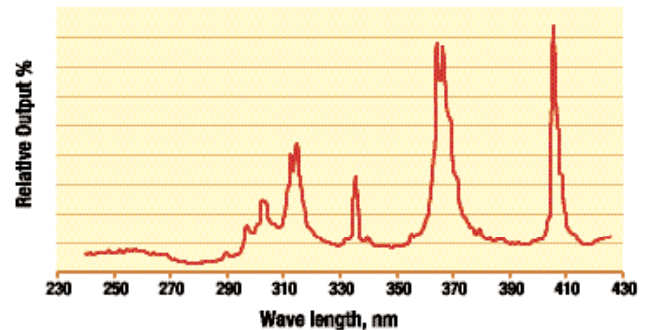
## List of Parts Loctite® Brand Supplied

|                                       |                |
|---------------------------------------|----------------|
| (1) ZETA® 7740 Light Cure Wand System | (1) UV Lamp    |
| (1) Ultraviolet Protection Glasses    | (1) Foot Pedal |
| (1) Line Cord                         | (1) Manual     |

## Options

|       |                                     |
|-------|-------------------------------------|
| 98048 | Loctite® ZETA® 7021 Spot Radiometer |
|-------|-------------------------------------|

**Spectral Output of Loctite® ZETA® 7740 with Mercury Arc Bulb**



# Loctite® ZETA® 7750 Programmable UV Wand System, Item 98046

The Loctite® ZETA® 7750 Programmable UV Wand System is a high intensity (10 W/cm<sup>2</sup>), programmable wand unit. Both the UV light intensity and the exposure time can be programmed to set the proper cure cycle. The cure cycle is selected by using the programming disc and a PC or laptop computer. The unit can store up to three separate programs. The UV output power can be varied in steps in a ramping mode or run at a continuous intensity. The exposure cycle is started by pressing either the foot switch or the "start cycle" button, located on the front panel. For automated assembly process, the wand system can be integrated with an external device such as a PLC. The liquid-filled light guides are sold separately from the base unit for selection based on individual requirements.

## Features

- UV range of adjustment: 2 to 10 W/cm<sup>2</sup>
- Stores up to three separate cure sequences
- Cure sequence is easily programmed via a customer supplied PC or laptop computer
- Equipped with a "lamp check" switch, allowing for quick, easy and repeatable means to measure UV output
- Allows three options for UV output modes:
  - Constant UV output - no change, just input the exposure time
  - Step sequence - UV exposure stops momentarily between changes in the UV output
  - Ramp sequence - UV exposure continues as the UV output changes

## Theory of Operation

When the unit is switched on, the proper electrical power is immediately supplied to the lamp. It will take a few minutes for the lamp to reach full power. The position of the program selector switch located on the front panel determines which cure sequence will be run. The operator will manually or automatically place the part under the end of the UV wand. The exposure cycle starts by momentarily pressing either the foot switch or the "start cycle" button located on the front panel. Curing takes place when the UV light is directed from the end of the liquid filled light guide to the adhesive. The time to complete the curing process depends primarily on the UV output power setting, the offset distance from the end of the wand to the surface of the adhesive, and the chemical nature of product being used.

## Technical Specifications

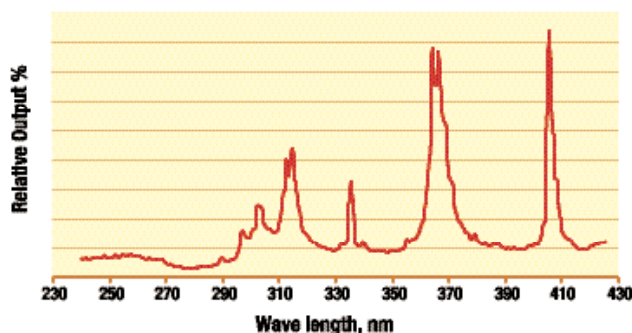
Power Supply: 120 VAC/60 Hz input  
 Power Protection: 4 A/250 V fuse  
 Auxiliary Control Voltage: 24 VDC  
 Main Fuse: 5 A, 250V  
 Weight: 18 lbs.  
 Size: 11.0" W x 12.5" D x 7.6" H

## UV Output Characteristics

Light Source: High-pressure 100 Watt mercury arc  
 Lamp Life: Approximately 2,000 hours  
 Initial Output: Selectable, approximately 2 to 10 W/cm<sup>2</sup> (1000 mm long x 5 mm diameter light guide)\*  
 UV Spectral Range (250-400 nm):  
 UVA (320 to 400 nm) 62%  
 UVB (280 to 320 nm) 27%  
 UV C (<280 nm) 11%  
 Primary Peak: 365 nm  
 Secondary Peaks: 315, 335 nm

\*Exact output measurement is dependent on the brand and calibration method of the UV meter used.

Spectral Output of Loctite® ZETA® 7750 with Mercury Arc Bulb



## Loctite® Brand Light Guides (sold separately)

### Descriptions

|        |  |
|--------|--|
| 983677 | 1000 mm long x 5 mm diameter Light Guide   |
| 983800 | 1500 mm long x 5 mm diameter Light Guide   |
| 983684 | Dual 1000 mm long x 3 mm diameter Light Guide (balancing adapter needed for initial set-up, Item # 985045) |

### Light Guide Cure Area

|        |                   |
|--------|-------------------|
| 983677 | ¼" to ½" diameter |
| 983800 | ¼" to ½" diameter |
| 983684 | ⅛" to ¼" diameter |

## List of Loctite® Brand Parts Supplied

- (1) ZETA® 7750 Programmable UV Wand System
- (1) UV Bulb (984818)
- (1) Communication Cord
- (1) UV Safety Glasses (97210)
- (1) Power Cord
- (1) Programming CD
- (1) Foot Switch Assembly (97201)
- (1) Manual

## Options

98048 Loctite® ZETA® 7021 Spot Radiometer

## Replacement Parts

984818 100 Watt HPMA UV Bulb

\*\*Cure Profile Examples for Loctite® ZETA® 7750 Programmable UV Wand System - 98046

