

Custom Light Delivery Solutions

Application Overview

OmniCure® UV Lamp and LED curing systems have significantly surpassed their versatility to cover a vast array of applications for both spot and area curing. Occasionally, there are unique applications that present themselves, requiring custom solutions to meet specific requirements. OmniCure offers customized solutions such as our custom light guide, light line, optical cone adapters and other custom light delivery devices, that are designed to address unique applications.



The Challenge

Large area UV curing applications that have unique requirements that are not fully addressed by standard products such as speaker cone bonding, optical film and wood coatings as well as multi-bond points found in LCD & OLED panel manufacturing processes and geometrical UV bond assemblies found in HDD heads, often result in process inefficiencies and high scrap rates.

The Solution

OmniCure offers both standard and customized light delivery solutions that are used in conjunction with our comprehensive product line of curing and spot curing. For applications with unique requirements, OmniCure offers a number of customized light delivery solutions. One option is OmniCure's optical cone adapter, which fits onto our area curing products. These adapters are offered in various sizes: 70mm x 70mm, 100mm x 100mm and up to 150mm x 200mm and provide superior uniformity across the curing area. Also, OmniCure offers multi-legged light guides for use with our OmniCure S2000 UV spot curing system which can have up to 15 legs with each leg having a 3mm active output diameter. Custom light guide adapters can also be fitted to the emitting end of a light guide to reshape the circular optical spot to a beam shape such as a light line. Light line assemblies using hundreds of optical fibers have been designed and constructed to provide light lines of 1mm x 65mm, .32mm x 210mm, four lines of 1mm x 17mm, six lines of .92mm x 15mm and many other configurations. These same design principals can be used to create C-shaped optical cure areas.



Custom Light Delivery Solutions

The Benefit

OmniCure's custom design capabilities provide maximum versatility beyond our standard product offerings to meet the unique needs of our customers. These custom light delivery solutions enable our customers to achieve new levels of process efficiencies and reduce scrap rates for highest productivity.

Optical adaptors are utilized to uniformly illuminate the desired area with two UV light sources.



Features of the Custom Light Delivery Solutions:

Feature	Type
Multi-legged, 3mm, up to 15 legs	Multi-bond point assemblies, even radial cures
Multi-legged, 5mm, up to 5 legs	Multi-bond point assemblies, even radial cures
Multi-legged, 8mm, up to 2 legs	Multi-bond point assemblies, even radial cures
Cure-rings, solid	Catheter assemblies, medium length; syringes
Cure rings, slotted	Catheter assemblies, long; intravenous y-set, v-set
Light line, single-row	LCD edge cure, HDD assembly, potting
Light line, multi-row	HDD multi-head assemblies
Light line, multi-row and multi-column	
C-shaped light line	
Quartz rod attachment for LX500 head	
Cylindrical lens adapter for LLG	
Small diameter light guide (<1.5mm)	
Optical cone adapters for AC cure heads	