

DELO



Adhesive curing with the DELOLUX 80 LED lamp

Stay cool

**DELOLUX 80 curing lamp with
ultramodern LED technology**

High-intensity LED light source

LED lamps are today's leading technology for adhesives curing, and offer major advantages over the discharge lamps used previously. High-intensity LED light sources are more economical, in terms of both power consumption and service life, and their light intensity is precisely controllable. They develop full intensity very quickly, making them ideal for short cycle times and fast, reliable series production.

DELO has adapted LED technology to the specific requirements of adhesive bonding, to develop a lamp system that gives fast curing of visible light and UV-

curing adhesives, with outstanding process reliability:

DELOLUX 80 with Coldguide cooling system.

Following on the success of its DELOLUX 80 / 400 and DELOLUX 80 / 460 LED lamps, DELO now introduces another high-performance variant of this lamp series, the **DELOLUX 80/365**. Its Coldguide cooling system keeps the workpiece from heating, for even more reliability and simplified processing.

With this new system, DELO has a complete lamp series for all photoinitiated-curing adhesives, with spectra optimized for the different adhesive types.

High-intensity DELOLUX 80 LED light source and DELO-UNIPRO control unit



DELOLUX 80 with Coldguide

Technical properties	Your benefit
LED technology instead of conventional discharge lamps	<ul style="list-style-type: none"> → Lower operating costs (lower power consumption, lower costs for maintenance and spares) → At least 20x longer service life in typical use → 10x higher output; full light power after just approx. 0.1 s, no mechanical shutter necessary → Light generation directly at the bonding area → Full light power at a consistently high level → Continuously controllable intensity via applied current
Radiation exit area 16.9 mm dia. Type 400 and 460 23.0 mm dia. Type 365 Total light output > 2 W Type 400 and 460 > 3 W Type 365	<ul style="list-style-type: none"> → Fast adhesive curing → Short cycle times → Fast, reliable serial processes
New generation of LED light sources: Liquid-cooled LEDs with Coldguide closed cooling circuit	<ul style="list-style-type: none"> → Typical LED service life > 20,000 h; lighting time = service life → Constant light intensity over the service life → Extremely high process reliability → Permanent irradiation is possible
Emission spectrum optimized for the adhesive (Types 365, 400, 460)	<ul style="list-style-type: none"> → Optimal curing of photoinitiated-curing adhesives DELO-PHOTOBOND, DELO-KATIOBOND and DELO-DUALBOND → No heat development at the workpiece (cold light source) → No hazardous radiation in the UVB and UVC ranges; high occupational safety
Easy-to-install lamp head with flexible, robust conduit	<ul style="list-style-type: none"> → Lamp head can be installed in any position relative to the workpiece → Tight packing of several lamp heads is possible → Easy to integrate into production lines due to compact design

Beat the heat with liquid cooling

Unique: LED modules with Coldguide

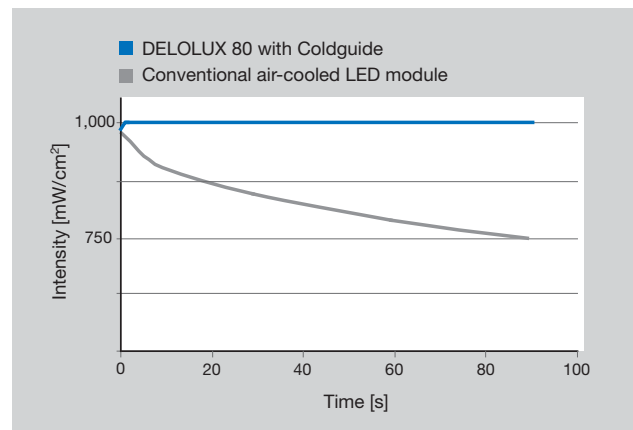
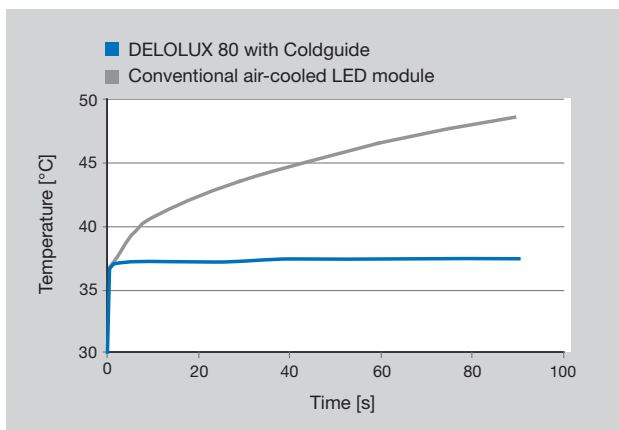
For assured constant light intensity and long service life, LED modules require permanent temperature monitoring. The diodes of the DELOLUX 80 are cooled by a specially developed liquid cooling system called Coldguide. The system is closed and continuously monitored. This new technology gives substantially longer service life and much higher light intensity than it is possible with conventional air-cooled LED modules.

Air-cooled LEDs also have a distinctly longer start-up time when switched on. They reach a constant temperature and therefore constant intensity only after a delay of several minutes. The LEDs of the DELOLUX 80 reach a constant light intensity after just 0.1 s thanks to Coldguide, as shown on the graphs below.

Air-cooled LEDs dissipate heat directly at the lamp head. The LEDs are contaminated and the bonding area is affected by the cooling air.

The Coldguide cooling circuit of the DELOLUX 80 is a hermetically sealed system. No other system can work at the same consistently high level of cleanliness.

Another advantage of this unique liquid cooling is that the lamp head is extremely compact, only slightly larger than the lighting area itself. This lets the DELOLUX 80 fit into production lines where installation spaces is extremely limited.



Conventional air-cooled LED module:

A constant temperature and, therefore, a constant intensity is reached only after several minutes.

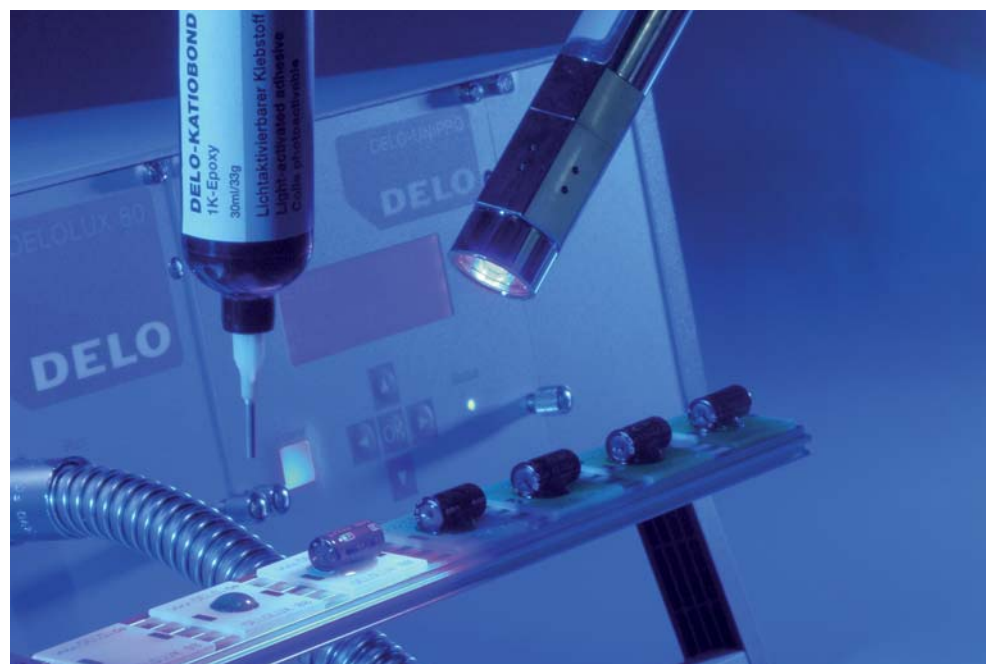
DELOLUX 80, with integrated cooling circuit Coldguide:

Due to the novel liquid cooling, the temperature and intensity progressions reach a stable level already after 0.1 s.

Optimized emission spectrum

The DELOLUX 80 features an emission spectrum designed specifically for photoinitiated-curing adhesives:

DELOLUX 80	Typical application areas
DELOLUX 80/365 <ul style="list-style-type: none">Extremely fast curing of UV-curing adhesives DELO-PHOTOBOND (43xx, PB3xx) and DELO-KATIOBOND (46xx, KB6xx)Multi-purpose	Short cycle times, high throughput <ul style="list-style-type: none">→ Bonding of mini-loudspeaker membranes→ Fast fixing of adjusted components
DELOLUX 80/400 <ul style="list-style-type: none">Fast curing of UV- and light-curing adhesives DELO-PHOTOBOND (44xx, PB4xx) and DELO-KATIOBOND (45xx, KB5xx)Good transmission of adhesives and plasticsVery good deep curing	Large adhesive layer thicknesses <ul style="list-style-type: none">→ Casting of pins→ Sealing of housings
DELOLUX 80/460 <ul style="list-style-type: none">Fast curing of light-activated adhesives DELO-KATIOBOND (45xx, KB5xx)Even preactivation over the entire layer thickness	Fast bonding of opaque components <ul style="list-style-type: none">→ Bonding of printed circuit boards into housings



Fast and reliable curing of photoinitiated-curing adhesives DELO-PHOTOBOND and DELO-KATIOBOND by means of DELOLUX 80

Light intensity distribution

The graphics show the intensity distribution of DELOLUX 80/365 (illustration 1) and DELOLUX 80/400 and 460 (il-

lustration 2), allowing for the distance of the lamp head to the bonding area.

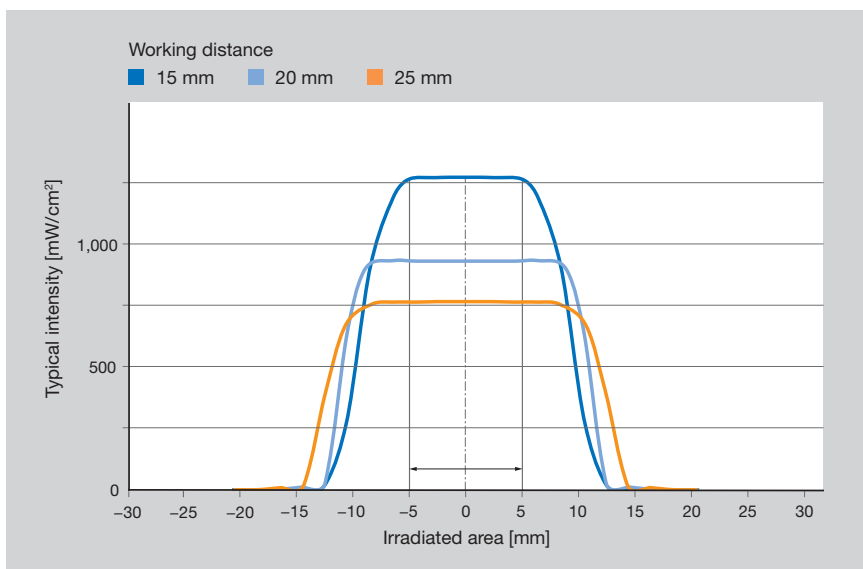


Illustration 1: Light intensity distribution of the DELOLUX 80/365

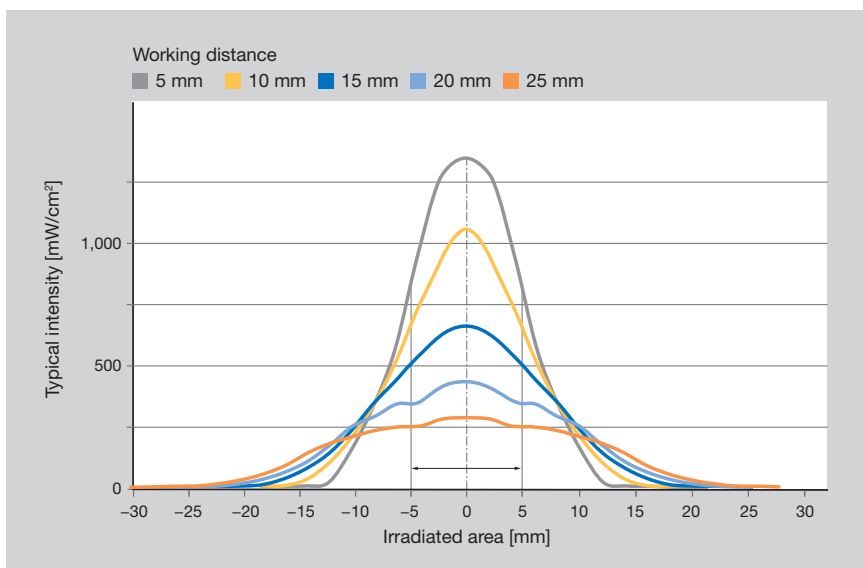


Illustration 2: Light intensity distribution of the DELOLUX 80/400 and 460

Complete control

A completely new concept was developed for controlling the DELOLUX 80:

Unlike with conventional curing lamps, up to four separate DELOLUX 80 lamps can be independently controlled by means of the DELO-UNIPRO external control module. Parameters such as irradiation start and intensity can be set independently.

The status of all monitored lamp functions is displayed at the DELO-UNIPRO control module or by a PLC.

DELOLUX 80 light intensity can be checked with the DELOLUXcontrol measuring device, using a special measuring head for LED lamps.

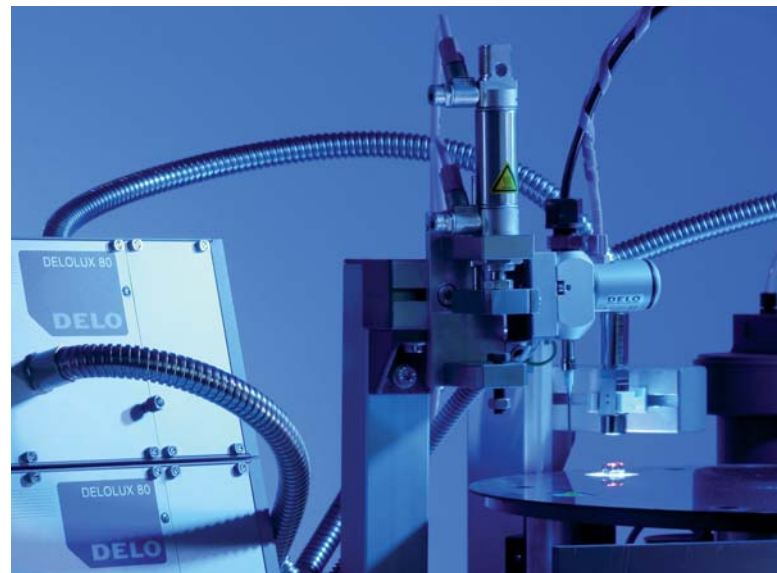


*DELOLUXcontrol
intensity measuring device*

Key technical data

- Radiation exit area:
16.9 mm dia. (DELOLUX 80/400 and 460),
23.0 mm dia. (DELOLUX 80/365)
- Power consumption: max. 200 W
- Length of Coldguide flexible tube: 1.5 m (further lengths of up to 3 m are available on request)
- Dimensions of the DELOLUX 80:
W 213 x H 128 x D 350 mm
- Dimensions of the DELO-UNIPRO:
W 142 x H 128 x D 273 mm
- PLC-compatibility

*Fast and reliable
preactivation and curing
of DELO-KATIOBOND by
means of DELOLUX 80*



DELOLUX 80 curing lamps and accessories

LED lamps	Dimensions of Coldguide	Order number
DELOLUX 80 / 365		95 200 14
DELOLUX 80 / 400		95 200 00
DELOLUX 80 / 460		95 200 02

Accessories	Order number
DELOLUXcontrol measuring device without measuring head; for area lamps and light guide lamps with intensities of up to 99,999 mW/cm ²	95 201 00
DELOLUXcontrol measuring head LED	95 201 01
DELO-RACK, housing for DELOLUX 80 and DELO-UNIPRO	95 200 13
DELO-UNIPRO, control unit for DELOLUX 80	95 200 01
UV protective glasses	95 200 43

CE

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