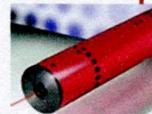


Violet laser diode
 Wavelength: 405 nm
 Power: 0,12 W
 Durability: ~10 000 h



CTP exposing characteristics



Infrared laser diode
 Wavelength: 830 nm
 Power: 60 W
 Durability: ~3 000 h

The violet laser diode is used on account of her durability and characteristics in the DVD technology. That's the reason why they are enormously inexpensive. Since 2000 it also be used in CTP systems. From the low power output of 120 mW (enough for exposing violet plates) of the violet laser diode there results a long operation period of approximately 5,000 to 10,000 working hours. An exchange of the laser diode costs about 5,000 to 10,000 EUR. The laser diode in most systems working longer than the whole operation time. All systems work with a single laser diode.

chemistry Systems with chemistry proc. in processor unit
chem free Systems with cleaning in cleanout-units

Applications

The infrared laser diode is used for over ten years in CTP thermal systems. It was already at that time a very inexpensive alternative to other laser diodes, solid state- and gas lasers. It has on account of its high power output a relatively short-lived operation period with approximately 3,000 working hours. An exchange of an infrared laser diode costs about 20,000 to 35,000 EUR. According to plate output an exchange of the laser diode is necessary after two to four years. It's more complicated if the CTP system is working with many (for example 16) laser diode units.

chemistry Systems with chemistry proc. in processor unit
chem free Systems with cleaning in cleanout-units
chem free Systems with cleaning in printing press
process free Ablation systems (cleaning with air or water)

CTP working principle

Investment costs (according to format size, automation and software applicatons of CTP system):

40,000 to 110,000 EUR

Accord. to system, construction and type, **low to moderate**

7 to 12 EUR/m², free choice of printing plate and supplier about **15 to 60 Cents/plate** (incl. waste disposal)

Costs

Investment costs

Investment costs (according to format size, automation and software applicatons of CTP system):

65,000 to 150,000 EUR

Maintenance/service

According to system, construction and type, **moderate to high**

Metal printing plates Chemistry/Cleaner

10 to 16 EUR/m², partly dependent on one plate/supplier about **0 to 60 Cents/plate** (incl. waste disposal) or **none**

under yellow safe-light (plates are light sensitive)

The violet printing plates are advancements of the conventional types of printing plates. The processing and tone values are stable und reproduceable if all parametres are in tolerances.

Very good printing characteristics in the printing machine like conventional plates, chemistry-resistant, abrasion-resistant, suitable for UV inks.

Fine screening possible (according to plate and system)

1 to 99 % at 80 lines/cm, until 100 l/cm

FM screening of about 20 μm

chemistry Systems about **250,000** (1,000,000 baked)

chem free Systems about **100,000**

Handling

in day-light (plates are not light sensitive)

Processing stability

Thermal plates, processing in a processor unit, are based on »digital« copy layers. That allows very stable tone values and processing. However, in chem free techn., especially by washing out in printing press, it could lead to fluctuating results. Sensitive plate over layer, partly other printing chemicals are necessary, partly suitable for UV inks (only chemistry plates)

Characteristics in printing

Printing quality

Very fine screening possible (according to plate and system)

1 to 99 % at 80 lines/cm, until 160 l/cm

FM screening of about 10 μm

chemistry Systems about **200,000** (1,000,000 baked)

chem free Systems about **100,000**

process free Ablation systems about **20,000 to 50,000**

Running lenght

Used developing chemicals are decontaminated, clean out solutions are also decontaminated partly. The chemistry of the outdated silver technology is extremely environment-unfriendly and, hence, is not offered any more.

Ecological aspects

Used developing chemicals are decontaminated, clean out solutions are also decontaminated partly. Process free Ablation systems are very ecologically friendly, nevertheless, they also can be very unhealthy.