# LASER-ALIGNMENT-PAPER LDT-LP

## INDUSTRY STANDARD LASER ALIGNMENT THERMAL-SENSITIVE PAPER

/ Simple
/ Quick
/ Affordable laser beam alignment

## LDT-LP DOCUMENTS

/ Beam shape
/ Mode
/ Intensity
/ Divergence
/ Energy distribution

## SPECIFICATIONS

| | |
|---|---|
| Pulse width range | 1 ns to 30 ms |
| Power level range | 5 mJ/cm² to 20 J/cm² |
| Min. beam diameter [mm] | 6.5 |
| Sheets per box | 50 pieces |
| Sheet size [mm] | 127 x 57 |

Caution:
Always wear laser protective eyewear



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## HOW TO HANDLE THE LDT-LP

/ LDT-LP is sensitive over a broad spectrum from ultraviolet to infrared, it is used to align external accessories to the laser beam axis, such as beam expanders, lenses, apertures, attenuators, and power measuring equipment.
/ LDT-LP is simple to use. Hold or fasten it in the beam path at the point where the beam imprint is to be recorded. Pulse the laser and a permanent visual record is produced, corresponding to the energy distribution within the laser beam. If the laser being used in continuous wave (CW), you can create a short pulse by Q-switch, mechanical chopper, or by physically turning the laser on and off rapidly.
/ For laser with a beam diameter of less than 6.5 mm, please use a diverging lens to enlarge the beam diameter and to achieve a better resolution with the LDT-LP.
Position a positive lens in the beam path and take a picture with the LDT-LP at a distance of >2.5 times the focal length of the lens.
/ Please remove fiber optic systems before you take a picture with LDT-LP. In a fiber a mix of modes can occur and you will receive a homogenous image which does not allow conclusions about the irregularities in the beam path.
/ Increase or decrease the power of your laser until details of the laser beam are visible on the LDT-LP. Not all lasers have enough power to leave an image on the paper. As a guide: you will get a good image with a pulsed laser, femto to 50 msec., with at least 10 mJ output. If necessary please fire several pulses on the paper.

## THE IMPRINT ON LDT-LP PAPER PROVIDES INFORMATION ABOUT

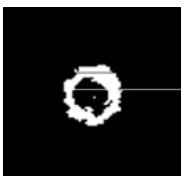
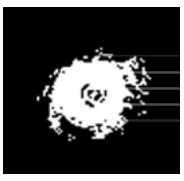
/ Mirror alignment accuracy
/ Energy distribution, mode quality and edge definition
/ Vignetting
/ Secondary emissions due to uncoated or mis-placed optics
/ Divergence
/ Optical damage in the beam path
/ Save LDT-LP burns for historical evaluation and comparison of alignment and beam quality. OEMs and field service personnel commonly use previous burn patterns for quick performance checks.

## SPECIFICATIONS

Misaligned / Aligned

|  |  |
|---|---|
| 3 ms Pulse | 3 ms Pulse |
| 0.1 Joules | 5.0 Joules |

What your laser beam should look like

|  |  |  |  |
|---|---|---|---|
| 7 ns Pulse | 70 ns Pulse | 70 ns Pulse | 10 ms Pulse |
| 3 mJoules | 90 mJoules | 310 mJoules | 20 Joules |

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