

Fast and Accurate Laser Safety Calculations with LaserSafe PC

The screenshot displays the LaserSafe PC Professional software interface (Version 4.10). The main window shows input parameters for a laser source and the resulting safety calculations. A prominent red banner at the bottom of the main window reads: "Accessible Emission = 55.3 x MPE. These conditions are above 5 x MPE!".

Small (Point) Source - Repetitively Pulsed

Laser Beam Wavelength	1.06 μm
Exposure to Beam Time Frame	1 s
Laser Output Peak Power	3 kW
Axis 1 Laser Beam Diameter	2 mm
Axis 2 Laser Beam Diameter	2 mm
Axis 1 Beam Divergence	3 mr
Axis 2 Beam Divergence	3 mr
Laser to Target Distance	5 m
Pulse Repetition Frequency	12 kHz
Pulse Width	20 ns

Small (Point) Source Detailed Information Window

Correction Factors: C_1 to C_7 (values: 1, 1, 5, 0.0955, 1, 1)

Pulse Train Calculation Values: Pulse Summing not Employed, Pulse Train Duration 1 s, Effective Pulse Train 12 k

Time Breakpoints: T_1 to T_2 (values: 10 s)

Small (Point) Source Details Window

Single Pulse MPE	50 mJ/m^2	Accessible Emission	264 mJ/m^2
Pulse Train MPE	4.78 mJ/m^2	MPE Limit Aperture	7 mm
Average MPE	7.5 mJ/m^2	ExNOHD Aperture	50 mm
MPE Excess	55.3	Skin AE	264 mJ/m^2
Class 1 AEL Excess	558	Skin MPE Excess	.0577
Test Class	4	N.O.H.D.	41.5 m
Class Time Base	100 s	Extended NOHD	301 m
Av. Beam Irradiance	3.17 kW/m^2	Spot Major Axis	17 mm
Pk. Beam Irradiance	13.2 MW/m^2	Spot Minor Axis	17 mm
Pk. Energy Output	60 μJ	Exposure Train	12000 Pulses

Safety Eyewear and Filters

Nominal O.D.	1.7	2
L Number	DL3	RL3
LB Number for Glass	DLB4	RLB5
LB Number for Plastic	DLB5	RLB5
EN208 RB Number	N/A	
Av. Actual Irradiance	3.17 kW/m^2	
Peak Actual Irradiance	13.2 MW/m^2	
Actual Radiant Exposure	264 mJ/m^2	

Result Details Window

This window displays the details of the results generated by the calculation. Included are: MPE results, classification, safety spectacle information, hazard distances and other physical results. The outer surround of this window is the same colour as the background of the Brief Results Panel - this is to serve as a reminder of the potential hazard.

Version 4.10

New Windows® software updated to latest standards IEC/EN 60825-1:2007 New safety spectacle specifications

[Download](#) free AEL / MPE calculation demo software.

Follow the link from <http://www.lasermet.com/laser-safety-software.php>

Produced by GL Services in association with Lasermet Ltd, this is an ideal package for Laser Safety Officers or anyone else who regularly performs risk assessments on lasers. According with all the relevant standards, (see below), it will save you hours of work and give consistent and correct answers to your calculations of MPEs, AELs, accessible emission, optical density requirements, classification etc. Because it performs in seconds, calculations which used to take hours, you can easily explore the safety of different scenarios for your laser or laser system. LaserSafe PC is by far the most comprehensive and widely used laser safety software available, with extensive use by major companies, government institutions and Universities.

Accords with:

- IEC / EN 60825-1
- IEC / EN 60825-2
- EN 207
- EN 208

- **Calculates in Seconds**
- Accessible Emission (AE)
- MPEs
- AELs
- NOHD
- ENOHD
- MPE Excess (AE to MPE ratio) for eye and skin.
- Classification or Hazard Levels
- Eye, skin & classification apertures
- EN 207 L numbers, LB numbers
- EN 208 RB numbers
- Optical density requirements for filters
- Irradiance and Radiant Exposures
- T1, T2, CI - C7 values
- ...and much more.

Risk Assessment

Safety Training

Quick Calculation

LaserSafe PC is a comprehensive and versatile programme which covers all of the following laser situations including LED evaluation.

Covers:

- All wavelengths
180 nm - 1 mm
- All times from
1 fs to 30000 s
- CW emission
- Single pulse
- Repetitive pulsing
- Point Sources
- Extended Sources
- Fibre optics
- Diffuse reflection
- LEDs
- Scanning lasers
- MPE and AEL tables

Minimum System Requirements

- Windows 95 / 98 / Me / NT / 2000 / XP / Vista / Windows7
- 9 MB Hard disk space
- VGA or SVGA monitor



Substantial discounts are available for multiple copies (ie 3 off or 5 off). Also a site licence is available, allowing unlimited copies to be used on one company site. The programme is being continually improved and expanded as well as revised in accordance with any standards revisions. Users receive free updates for the first twelve months - thereafter updates are available at 55% of the full purchase price - enabling you to keep abreast of any changes.