Laser Durability Certification • Laser Damage Threshold • Optical Density • Transmission vs. Fluence • Specialty Testing

Laser Damage Testing

TESTING AT THE SPEED OF LIGHT!™

INDEPENDENT • REPEATALE • RELIABLE • OVERNIGHT

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Quantel is the original independent laser damage test lab. Since 1985, Quantel has been providing manufactures and optical users worldwide with industry leading laser damage testing. Laser Damage Testing Services are ideal for providing repeatable results you can believe in for your real-world applications.

Quantel provides a full range of NIST traceable laser exposure test services with wavelengths from UV to Far-IR. Our independent laser damage test labs are designed and well equipped to meet international ISO standards. When you need to know ASAP, we understand and offer a 24 hour turnaround service for standard tests. We are committed to quality and have been ISO compliant since 1997.

Laser Damage Threshold:
“Damage” is usually defined as any permanent laser-induced change which is observable at high magnification with Nomarski or dark field measurement. Quantel provides destructive testing in compliance with ISO 11254 specifications at a variety of wavelength and pulse widths from ns to CW.

Laser Durability Certification:
This test is used to verify optic durability to a requested specification. Several test sites (usually chosen on a uniform grid and sampling a representative surface area) are exposed to laser radiation at a specified fluence, repetition rate, pulse duration, spot size and minimum number of pulses per site. Damage at any site constitutes “failure” in this test.

Optical Density:
This test measures the ratio of incident to transmitted fluence (or irradiance) under customer specified exposure conditions. Quantel has facilities to perform such testing under realistic temperature and humidity conditions.

Transmission vs. Fluence:
Some optics, such as optical power limiters, have a nonlinear transmission response with exposed fluence level. This test generates the plot describing this optic characteristic. Such specialized exposure tests are performed to customer requirements.

Specialty Testing:
Let us put our decades of experience to work for you by providing custom testing to suit your unique requirements. As an example, a lifetime test is an extended version of the certification test when durability must be demonstrated over a prolonged operating period.