40 years of expertise in laser safety and laser technologies, serving your most critical challenges.

Design and Manufacture of a Laser Machine in Compliance with the Machinery Directive

Ref: SE.4

French law sets out a general safety obligation, prohibiting the placing on the market of non-compliant work equipment and protective equipment. Laser machines are also covered by these regulations but are additionally subject to specific standards and regulations. This training course is aimed at machine designers, manufacturers and users who need to ensure that their equipment is compliant.

Practical information

DATES (REMOTE)
• 21–22 October 2026

ORGANISATION
IREPA LASER - Strasbourg / Illkirch

DURATION
2 days (14 hours)

PRICES
€1,600 excl. VAT

TECHNICAL/TEACHING LEAD:
Franck RIGOLET

DO YOU HAVE A DISABILITY?
Contact our disability officer at referent.handicap@irepa-laser.com

Key information

PREREQUISITES
None

ACCESSIBLE LASER CLASSES
/

CERTIFICATION
Certificate of completion issued.

TECHNICAL/TEACHING LEAD:
Franck RIGOLET

Training objectives

- Understand the regulatory context, the standards framework and the certification elements.
- Assess and formalise safety functions with regard to the specific risks associated with the design and use of a laser machine.
- Define functional safety measures (risk analysis) from the design phase onwards.
- Define, calculate and validate safety-related control circuits in accordance with EN ISO 13849.

Target audience

Engineers and technicians from design offices, methods departments and safety departments.

Programme

Over 2 days

Regulations

• Interplay between European and French regulations
• Details of Directives 2006/42/EC and 2009/104/EC (manufacturer/user)
• Obligation of result = compliance with the essential health and safety requirements (EESS)
• Classification of lasers and laser machines (IEC 60825-1 standard)
• Details of Directive 2006/25/EC and Decree 2010-750 (Labour Code)
• Explanation of the risk analysis procedure under Directive 2006/42/EC

Standards and design

• Harmonised standards
• Technical design rules

Design of control circuits and safety functions

• Electrotechnical design rules (IEC 60204-1 standard)
• Design of a control circuit and its link with safety functions (NF EN ISO 13849-1 and -2 and EN 62061 standards)
• Justification of a safety function by calculation (emergency stop/movable guard, light curtain, two-hand control, etc.)
• Study of reliability and the main failures to be taken into account
• Requirements for protective panels for laser machines
• The “laser” risk analysis