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SAFETY

B11 Licensed Machinery Safety Specialist Qualification

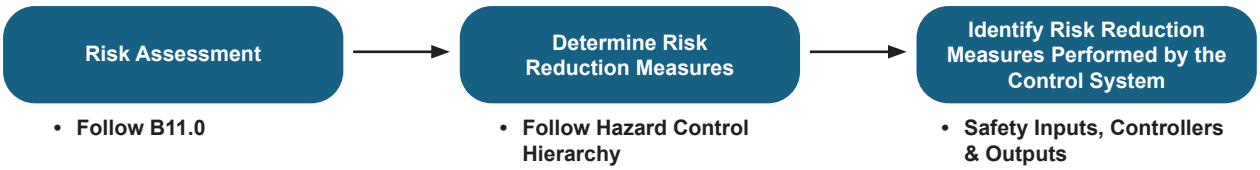
B11 LMSS™

B11 Licensed Machinery Safety Specialist

B11 LMSS™, Licensed Machinery Safety Specialist Online Training Course

B11 Standards, Inc., the organization that administers the B11 machinery safety series of American National Standards, has joined forces with Fortress to provide a machinery safety qualification for the United States of America. Fortress has a team of experts committed to improving safety in North America and will run this B11 licensed course.

The **B11 LMSS™, Licensed Machinery Safety Specialist**, qualification is a five-module online training course setting out the key aspects of designing and implementing machinery safety solutions that comply with the B11 Machinery Safety Standards and Technical Reports. We will also cover when and where Lock Out, Tag Out and Alternative Methods should be applied.

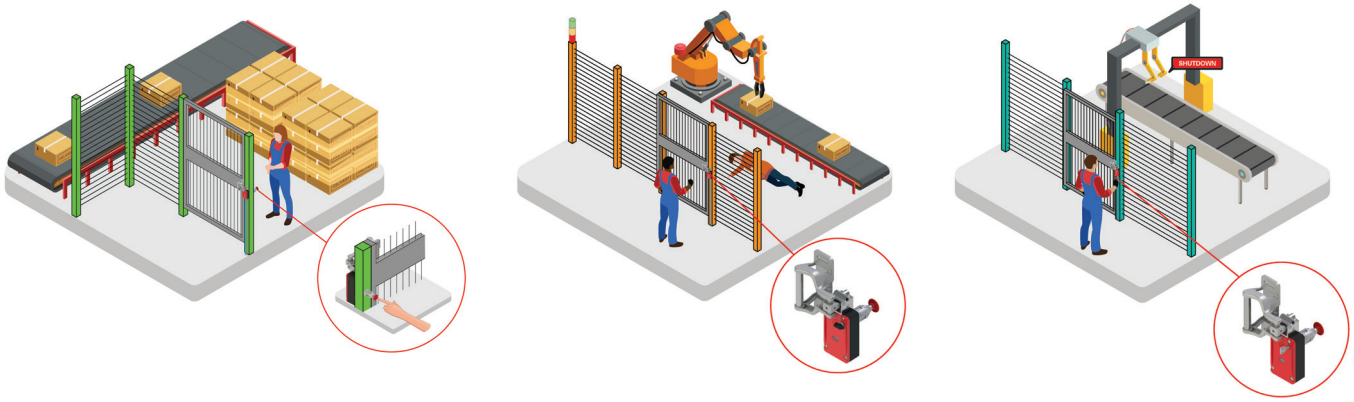


B11 Standards Inc was founded in 2010 and the Standards Development Committee is comprised of over 30 organizations representing different stakeholder groups. It is recognized by ANSI as the body that evaluates and votes on final draft standards (or technical reports) developed by B11 writing subcommittees for approval as American National Standards and ANSI Technical Reports.

Other machinery safety courses focus on ISO Machinery Safety Standards, but the B11 Licensed Machinery Safety Specialist course is focused on US B11 and ANSI Standards only.

The course material will be provided in electronic format, printed material is available on request, and presented via online meetings. Attendees are encouraged to interact with each other as well as the trainer. The course is designed to be as interactive and practical as possible.

The **B11 LMSS™** course consists of 5 individual modules, of 5 hours each, and an online examination. The modules can be studied in order or taken out of sequence. All modules and the examination must be taken to gain the **B11 LMSS™** qualification.



Upon completion of all five modules and successfully passing the online examination the **B11 LMSS™** Certificate will be issued by B11 Standards Inc. A **B11 LMSS™** will be able to:

- Demonstrate understanding of the relevant legislation and regulations
- Understand the relevant machinery safety standards
- Manage and carry out machinery risk assessments
- Select risk reduction measures
- Design a safe control system
- Validate risk reduction measures

The **B11 LMSS™** course requires a basic level of technical competence in order to attend. It is recommended, although not essential, that attendees have either two years' experience in the field of controls engineering, machinery safety, or a formal technical qualification.

Course Modules Outlined

Module 1 - Risk Assessment

Introduction to Standards and Regulations

- What is Safety?
- OSHA Regulations
- Lock Out Tag Out
- B11 Machinery Safety Standards
- Other Machinery Safety Standards

B11.0 Safety of Machinery

- Overview
- Responsibilities
- Life cycle Requirements
- The Risk Assessment Process
  - Identify Tasks & Hazards
  - Assess Risk
  - Reduce Risk
  - Assess Residual Risk
  - Achieve Acceptable Risk
  - Validate & Verify
  - Document the Process
- General Requirements
- Electrical & Electromagnetic Compatibility
- Emergency Stop
- Control of Hazardous Energy
- Hydraulic and Pneumatic Systems

Module 2 - Risk Reduction

B11.19 Performance requirements for risk reduction measures: safeguarding and other means of reducing risk

- Overview
- Responsibilities
- Risk Reduction Measures
- Inherently Safe by Design
- Engineering Controls
  - Guards
  - Control Functions
  - Control Reliability
  - Devices
- Administrative Controls

Module 3 - Functional Safety

B11.26 Functional Safety for Equipment (Electrical / Fluid Power Control Systems) - Application of ISO 13849 - General Principles for Design

- Overview
- Identify Risk Reduction Measures that involve the SRP/CS
- Define the Safety Function
- Performance Level Methodology
- Category Methodology
- Control Reliability Methodology
- General Design Requirements
  - Integration of SRP/CS into the Machine Controls
  - Pneumatics & Hydraulics
- Fault Consideration
- Diagnostic Coverage
- Design Requirements
  - Input Devices
  - Logic Devices
  - Output Devices
- Validation

Module 4 - Integrating Machines & Robotics

B11.20 Safety Requirements for the Integration of Machinery into a System

- Overview
- Responsibilities
- Risk Assessment Process
- Design, Construction, Re-Construction & Modification
- Risk Reduction Measures
- Set-up, Operation & Maintenance
- Decommissioning Process

ANSI / RIA R15.06.2012 Industrial Robots and Robot Systems - Safety Requirements

- Overview
- Safety Requirements & Protective Measures
- Limiting Robot Motion
- Operational Mode Application
- Pendants
- Safeguarding
- Verification & Validation of Protective Equipment

Module 5 - LOTO & Electrical Safety

ANSI / ASSP Z244.1.2016 The Control of Hazardous Energy Lockout, Tagout and Alternative Methods

- Overview
- Responsibilities
- Risk Assessment Process
- Design of Machinery for the Control of Hazardous Energy
- Hazardous Energy Control Program
- Control of Hazardous Energy
- Alternative Methods of Hazardous Energy Control

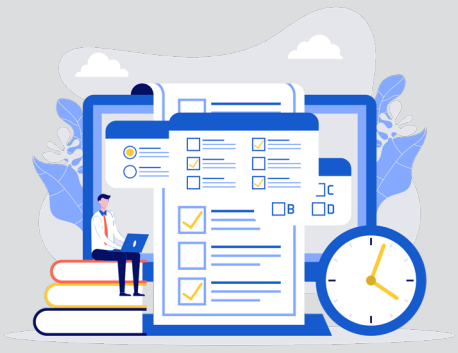
NFPA 79: Electrical Standard for Industrial Machinery

- Overview
- General Requirements
- Disconnecting Means
- Protection from Electrical Hazard
- Control Circuits
- Control Equipment
- Electrical Motors
- Testing & Verification

Examination

90 Minute Online Open Book Test

- 50 Multiple Choice Questions
- 10 Questions per Module
- Pass Mark: 80%



***All modules are 5 hour sessions.**

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> FORTRESS
> "Excellent session with a systematic way of explanation."

> FORTRESS
> "Great initiative and appreciate your approach."

> FORTRESS
> "It was a very informative training session and was really pitched at the right level."

> FORTRESS
> "We value partners that can help navigate the standards and provide guidance that is directly linked to our applications."

Fortress Contact Details

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B11 LMSS™

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