SCATTERGOOD & JOHNSON LTD
ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS
Est.1899

PILZ
THE SPIRIT OF SAFETY

CMSE® - Certified Machinery Safety Expert Course

Overview

This training course is delivered by Pilz in collaboration with TÜV NORD. It provides a comprehensive, 360° overview of the machinery safety lifecycle.

This four-day course is structured into five globally standardised CMSE modules, ensuring a consistent international level of learning. On successful completion, delegates are awarded the internationally recognised TÜV NORD CMSE - Certified Machinery Safety Expert certificate.

Accreditations

Approved by the following certification bodies:

- TUV Nord – Internationally Recognised Certification Body
- Continuous Personal Development (CPD) – Equivalent to 27 Hours of CPD

The CPD Standards Office
CPD PROVIDER: 21955
2025-2027
www.cpdstandards.com

Accredited cpd Course

Who Is This Course For?

- Machine Manufacturers, Installers, Operators
- Engineering Managers
- Design Engineers
- Safety & Compliance Officers

TÜV NORD

Get certified in only 4 Days!

Learning Outcomes

By completing this course delegates will be able to:

- Understand the complete machinery safety lifecycle, from concept and design through to operation, modification, and decommissioning.
- Apply international machinery safety standards and legal requirements with confidence.
- Conduct and evaluate risk assessments and determine appropriate risk reduction measures.
- Design and implement effective machinery safety concepts and protective measures.
- Integrate functional safety principles into machinery and control systems.

Key Benefits

- Gain a comprehensive insight into managing machinery safety across its entire lifespan.
- Strengthen capability in applying global safety legislation and standards in practice.
- Acquire hands-on skills to identify hazards and reduce operational risk.
- Take assured, well-supported safety decisions in demanding environments.
- Secure the internationally recognised TÜV NORD CMSE qualification to enhance professional standing and career progression.

Requirements

This course requires a background in engineering, technology, or machinery maintenance, typically supported by a minimum of two years' relevant professional experience. A degree is preferred; however, substantial practical experience in machinery safety may be accepted as an alternative.

Dates: Contact us or scan the QR code for our latest dates | **Duration:** 4 days, 09:00 - 17:00
Fee: £ 1,950* + VAT, per person | **Location:** Scattergood & Johnson Ltd, Leeds, LS12 6ET
Course code: 1T000047

* INCLUDES THE TRAINING MATERIAL AND THE ISSUING OF THE CERTIFICATE

To book or for more details contact us at: **training@scatts.co.uk** or **+44 113 243 0203**

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Course Contents
(Delivered over 4 days):

Module 1: Introduction to safety
- Introduction to the relevant safety regulations
- Competence and responsibilities
- Introduction to safety management systems

Module 2: Machinery safety
- Legislation relating to the design, manufacture and maintenance of machinery and work equipment
- Conformity requirements and procedures for placing machinery on the market
- Work equipment and workplace regulations
- Taking safety at work into consideration in terms of machines, including ergonomics, noise, vibration and chemical substances

Module 3: Risk assessment
- Risk assessment according to EN ISO 12100 and its application
- Methods for risk assessment using specific examples
- Performing the risk assessment step by step
- Application and usage of further relevant machinery standards within the risk assessment process
- Brief overview of risk reduction after completion of the risk assessment

Module 4: Mechanical safeguards
- International requirements of standards in terms of mechanical safeguards
- Safeguards: Definition, types and examples of applications
- Calculation of safety distances in compliance with EN ISO 13857

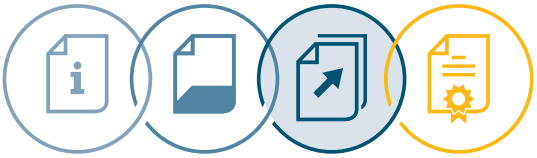
Safety components and technologies
- Overview of safety components, requirements and applications
- Specification and use, advantages and disadvantages (e.g. Interlocking devices, light curtains, two-hand control devices)
- Technical and supplementary protective measures (e.g. safety fences, light beam devices, emergency stop command devices)
- Safety relevant applications of control systems

Electrical safety requirements
- A detailed look at EN 60204-1: electrical equipment of plants and machinery
- Considerations of the electrical design, from the infeed up to the proper verification
- Safe operation and maintenance of electrically driven machinery

Module 5: Functional safety of control systems
- Detailed consideration of the requirements of EN ISO 13849
- Specification, draft and validation of functional safety control systems
- Determination of Performance Level (PL) and Safety Integrity Level (SIL) with reference to safety functions
- Choice of architecture using practical examples of implementing categories
- Software lifecycle: requirements and application
- Verification and validation methods
- Introduction to EN IEC 62061
- Practical exercises in PL and SIL validations

Functional safety of fluid engineering
- Requirements of EN ISO 4413 (hydraulic systems) and ISO 4414 (pneumatic systems)
- Required measures for the safe application of hydraulic and pneumatic systems
- Special features of hydraulic and pneumatic components
- Design of safety-relevant parts in fluid engineering according to DIN EN ISO 13849-1

Your optimum qualification path:



Introduction: Introduction to Machinery Safety
Fundamental: Fundamentals of Machinery Safety
Advanced: City & Guilds Assured 4 Day Machinery Safety Course
Expert: CMSE – Certified Machinery Safety Expert

Notes
The course includes a multiple-choice test. If the test is passed, the participants receive the internationally acknowledged TÜV NORD certificate of CMSE - Certified Machinery Safety Expert, which is valid for 4 years. The one-day recertification extends the validity for another four years.

Scan the QR code for a copy of the Pilz Safety Compendium - a free technical guide & reference manual.

Strongly recommended to gain maximum benefit from the course.

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