tec.nicum academy

More questions than answers?
Become a Machinery CE Expert with TÜV Rheinland® certified qualification!

mce . expert
Machinery CE Expert

Qualification as a "Machinery CE Expert"

Expert for machine safety in only four days

The tec.nicum academy has added a new qualification offer to its programme: In a four-day seminar, participants can qualify as “Machinery CE Expert” (MCEexpert®).

Based on decades of experience, Schmersal has developed this seminar and its contents and had them certified by TÜV Rheinland. The course conveys in a compact form all the knowledge required to implement a CE conformity assessment procedure for machines and plants with all the relevant sub-steps. In this compactness and with this extensive knowledge transfer, the seminar in this form is almost unique on the market.

Upon successful completion, participants can prove their acquired qualification as an expert in machine safety by means of a certificate issued by TÜV Rheinland®.

They are entitled to use the title “Machinery CE Expert with TÜV Rheinland® certified qualification”. This qualification is internationally recognised.

In the online certificate database “Certipedia”, TÜV Rheinland® provides information on all tested product features, services, companies, systems and personnel certifications (www.certipedia.com). The description of the seminar “Machinery CE Expert” as well as the individual identification number of each graduate can be viewed and verified in the “Certipedia”.

Further information and registration:

www.tecnicum.com/en/mce-expert

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Seminar contents and imparted competences of the mce.expert®

Subject area 1

- Introduction to product safety legislation
- Machinery Directive 2006/42/EG and Machinery Regulation (EU) 2023/1230
- General principles and terms
- Requirements for “partly completed machinery”
- Technical documentation, EU declaration of conformity, CE marking
- Outlook and current developments in machine safety
- Conformity of production lines and large plants
- Carrying out the risk assessment in accordance with EN ISO 12100
- Fundamental health and safety requirements
- Definition of the term: “state of the art”

Objectives and competences:
At the end of this module, participants will be able to clearly delineate the scope of the Machinery Directive (MRL) and its associated standards.
They are familiar with the essential terminology and structures of the MRL and the associated standards. Furthermore, they know the basic structure of a risk assessment according to EN ISO 12100.

Subject area 2

- Mechanical hazards
- Hazards due to materials and substances
- Ergonomic requirements
- Fire and explosion protection on machines
- Further hazards
- Danger due to mobility and lifting operations
- Requirements for special machine types
- Requirements for the maintenance of machines
- Information, warnings and markings on machines
- Requirements for the operating or assembly instructions

Objectives and competences:
At the end of this module, participants will be familiar with various hazards of different origins which, according to the Machinery Directive, must be assessed as part of a risk assessment in accordance with EN ISO 12100. In addition, they know basic requirements from the areas of maintenance and servicing as well as from the area of operating and assembly instructions.

Subject area 3

- Pneumatic and hydraulic hazards
- Noise and vibration hazards
- Radiation hazards
- Electrical hazards
- Requirements for the electrical equipment of machines
- Requirements for control devices
- Safety guards against reaching danger points

Objectives and competences:
At the end of this module, participants will be familiar with various hazards of different origins which, according to the Machinery Directive, must be assessed as part of a risk assessment in accordance with EN ISO 12100. In addition, they know the basic requirements for electrical equipment and control devices of machines. They are also introduced to the systematics of fixed and movable safety guards and can distinguish between them.

Subject area 4

- Introduction: “Functional safety of machinery”
- EN ISO 13849-1: Safety-related parts of control systems – “Verification”
- Terms and definitions, general design principles
- Determination of the Performance Level (PL)
- Calculation of safety functions
- EN ISO 13849-2: Safety-related parts of control systems – “Validation”
- Validation process
- Validation through analysis / testing

Objectives and competences:
At the end of this module, the participants are familiar with the essential terminology of functional safety according to 13849-1 and -2. They know the scope of the standard and the structures stored in the standard. Furthermore, they can classify and evaluate the area of functional safety in the overall context of CE marking according to the Machinery Directive.

mce.expert
Machinery CE Expert

tec.nicum:
global service and engineering hubs

tec.nicum – Solutions & Services GmbH is a subsidiary of Schmersal Group. It offers a wide range of services relating to machine and occupational safety.

tec.nicum comprises a global consultancy network of TÜV Rheinland-certified Functional Safety Engineers and Machinery CE Experts. Services can be called upon around the world.

The range of services at tec.nicum is based on six modules: academy in the training and workshop section, consultancy services in the consulting section, engineering in the designing of safety solutions section, integration section in the field of practical implementation, the development of software solutions and new digital technologies in the digitalisation section and the provision of complete solutions in the outsourcing section.

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