

# TRAINING ON MACHINERY



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# ABOUT US

**Welcome to Pertecnica, where knowledge meets expertise! As a leading employee training institute, we specialize in a diverse range of sectors, providing top-notch induction trainings, refresher courses, and elevating skills through our upgradation programs. We take pride in offering mandatory trainings that ensure compliance and safety trainings across various sectors/industries especially in the dynamic sector of Machinery . At Pertecnica, we are your partners in growth, fostering a culture of continuous learning and development. Join us on a transformative journey.**



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# INDUCTION TRAININGS

## - Machinery

### Machine Operation and Safety Induction:

- **Equipment Familiarization:** Thorough training on the various types of machinery used in the industry, including their components, functions, and capabilities.
- **Safe Operating Procedures:** Comprehensive instruction on the proper and safe operation of machinery, emphasizing adherence to established procedures.
- **Emergency Shutdown Protocols:** Training on quickly and safely shutting down machinery in emergency situations to prevent accidents.

### Machinery Maintenance and Inspection Training:

- **Preventive Maintenance Practices:** Instruction on implementing regular preventive maintenance routines to ensure machinery operates at optimal efficiency.
- **Inspection Techniques:** Training employees in conducting thorough inspections of machinery components to identify and address potential issues.
- **Lubrication and Fluid Management:** Guidance on proper lubrication methods and fluid management to enhance machinery performance and longevity.



### **Health and Safety Induction for Machinery Workers:**

- **Personal Protective Equipment (PPE) Usage:** Training on the selection, proper use, and maintenance of PPE to ensure the safety of employees during machinery operations.
- **Workplace Ergonomics:** Instruction on maintaining proper body mechanics and ergonomic practices to prevent musculoskeletal issues related to machinery work.
- **Chemical Handling Safety:** Awareness and training on the safe handling and storage of chemicals often associated with machinery maintenance.

### **Quality Control and Assurance Training:**

- **Understanding Quality Standards:** Education on industry-specific quality standards and the importance of maintaining high-quality standards in machinery production.
- **Inspection and Testing Protocols:** Training on conducting inspections and tests to ensure machinery products meet specified quality criteria.
- **Non-Conformance Reporting:** Guidance on reporting and addressing any deviations from quality standards in machinery production processes.

### **Automation and Robotics Integration Induction:**

- **Introduction to Automation Technologies:** Comprehensive training on the principles and applications of automation technologies in the machinery industry.
- **Robotic Programming Basics:** Instruction on the fundamentals of programming and operating robotic systems integrated into machinery.
- **Safety Measures in Automated Systems:** Training on safety protocols specific to working with automated machinery and robotics.



### **Environmental Sustainability in Machinery Operations:**

- **Resource Efficiency:** Instruction on adopting sustainable practices to optimize resource utilization in machinery production.
- **Waste Management:** Training on proper waste disposal and recycling methods to minimize the environmental impact of machinery operations.
- **Energy Conservation Practices:** Guidance on implementing energy-efficient measures in machinery processes to reduce overall environmental footprint.

### **Customer Service and Communication Skills Training:**

- **Understanding Customer Requirements:** Training employees to understand customer needs and expectations in the context of machinery products and services.
- **Effective Communication Skills:** Developing effective communication skills to facilitate collaboration within the team and with customers.
- **Resolving Customer Issues:** Instruction on addressing customer concerns and resolving issues related to machinery products or services.

### **Regulatory Compliance and Legal Awareness:**

- **Industry Regulations:** Education on relevant industry regulations and standards governing machinery production and operations.
- **Occupational Health and Safety Compliance:** Training on complying with health and safety regulations to create a secure working environment.
- **Legal Responsibilities:** Understanding legal obligations related to machinery operations, including product safety and liability.



# REFRESHER TRAININGS

## - Machinery

### Advanced Machine Operation:

- **Operational Updates:** Providing updates on the latest features, technologies, and advancements in machinery to enhance operational efficiency.
- **Troubleshooting Techniques:** Refreshing employees on troubleshooting skills to quickly identify and address issues during machine operation.
- **Efficiency Improvement Strategies:** Training on advanced techniques to optimize machine performance and reduce downtime.

### Machinery Safety Review:

- **Safety Protocol Updates:** Reinforcing and updating employees on the latest safety protocols and regulations related to machinery operations.
- **Emergency Response Drills:** Conducting refresher drills on emergency shutdown procedures and evacuation protocols to ensure quick and safe responses.
- **Risk Assessment Skills:** Enhancing employees' ability to assess and mitigate risks associated with machinery operations.



### **Precision Maintenance Practices:**

- **Advanced Maintenance Techniques:** Updating employees on the latest maintenance practices and technologies to maximize machinery reliability.
- **Condition Monitoring:** Refreshing skills in condition monitoring techniques to identify potential issues before they escalate.
- **Predictive Maintenance Tools:** Training on using predictive maintenance tools to schedule maintenance activities more efficiently.

### **Quality Assurance and Inspection Review:**

- **Latest Quality Standards:** Providing updates on any changes to industry quality standards and ensuring employees understand and comply with them.
- **Advanced Inspection Methods:** Refreshing skills in advanced inspection techniques to maintain and improve product quality.
- **Root Cause Analysis:** Training on conducting thorough root cause analysis for any quality-related issues.

### **Digitalization and Industry 4.0:**

- **Smart Manufacturing Technologies:** Updating employees on the latest digitalization trends, including IoT, data analytics, and connectivity in the machinery industry.
- **Cybersecurity Awareness:** Refreshing knowledge on cybersecurity measures to protect machinery systems from potential threats.
- **Integration of Smart Technologies:** Training on integrating and utilizing smart technologies to enhance machinery performance and monitoring.



## **Environmental Sustainability in Machinery Operations**

### **Review:**

- **Green Practices Update:** Providing updates on environmentally friendly practices and technologies applicable to machinery operations.
- **Waste Reduction Strategies:** Refreshing skills in waste reduction techniques and promoting sustainability in day-to-day operations.
- **Energy Conservation:** Training on advanced methods to conserve energy and reduce the environmental impact of machinery processes.

### **Advanced Automation and Robotics:**

- **Updates on Automation Trends:** Keeping employees informed about the latest advancements and trends in automation and robotics.
- **Programming Enhancements:** Refreshing programming skills for automated systems, including updates on programming languages and tools.
- **Safety in Automated Environments:** Reinforcing safety measures specific to working with advanced automation and robotic systems.

### **Customer Service Excellence:**

- **Customer Relationship Building:** Refreshing skills in building and maintaining strong customer relationships within the machinery industry.
- **Effective Communication:** Enhancing communication skills for addressing customer queries and concerns promptly and professionally.
- **Problem-Solving and Conflict Resolution:** Training on effective problem-solving and conflict resolution techniques to enhance customer satisfaction.





# SKILL UPGRADATION PROGRAMME - Machinery

## Advanced Machinery Operation Skills Program:

- **Sophisticated Equipment Handling: Providing advanced training on handling complex machinery and equipment to enhance operational skills.**
- **Automation Integration: Offering instruction on integrating and operating automated systems, improving efficiency and reducing manual intervention.**
- **Real-time Monitoring Techniques: Training on utilizing advanced monitoring tools for real-time analysis of machinery performance.**

## Precision Maintenance and Troubleshooting Masterclass:

- **Advanced Maintenance Strategies: Offering in-depth training on advanced maintenance techniques to prolong machinery lifespan and reduce downtime.**
- **Root Cause Analysis Skills: Focusing on enhancing employees' ability to identify and address the root causes of machinery issues.**
- **Predictive Maintenance Implementation: Training on implementing predictive maintenance practices using advanced technologies.**



### **Digitalization and Industry 4.0 Certification:**

- **IoT and Connectivity Training:** Providing knowledge on Internet of Things (IoT) and connectivity applications in the machinery industry.
- **Data Analytics Proficiency:** Developing skills in data analytics for extracting valuable insights from machinery performance data.
- **Smart Manufacturing Practices:** Training on adopting Industry 4.0 principles, including smart manufacturing and digital transformation.

### **Advanced Quality Assurance and Inspection Techniques:**

- **Statistical Process Control (SPC):** Offering training on utilizing SPC tools for continuous quality monitoring and improvement.
- **Non-Destructive Testing (NDT):** Developing expertise in advanced NDT methods to ensure thorough inspection without damaging components.
- **Advanced Quality Metrics Analysis:** Focusing on analyzing complex quality metrics and implementing strategies for improvement.

### **Robotics and Automation Skills Enhancement:**

- **Advanced Robotic Programming:** Providing hands-on training for employees to master advanced robotic programming languages.
- **Collaborative Robotics (Cobots):** Training on integrating and working collaboratively with robotic systems to enhance efficiency.
- **Human-Robot Interaction Training:** Focusing on skills required for effective communication and collaboration between humans and robots.



## Environmental Sustainability in Machinery Operations

### Program:

- **Green Manufacturing Practices:** Providing insights into environmentally friendly manufacturing practices to reduce the industry's ecological footprint.
- **Energy-efficient Operation:** Training on optimizing machinery operations for energy conservation and sustainability.
- **Waste Reduction Techniques:** Focusing on techniques to minimize waste generation and improve overall environmental impact.

## Advanced Automation and Control System Training:

- **PLC Programming Mastery:** Offering advanced training on Programmable Logic Controller (PLC) programming for precise control.
- **SCADA System Integration:** Training on integrating and utilizing Supervisory Control and Data Acquisition (SCADA) systems for process control.
- **Machine Vision System Expertise:** Developing skills in implementing machine vision systems for quality control and automation.

## Customer-Centric Machinery Solutions Certification:

- **Customer Needs Analysis:** Training on advanced techniques for understanding and analyzing customer requirements.
- **Tailored Machinery Solutions:** Focusing on customizing machinery solutions to meet specific customer demands and industry trends.
- **Effective Client Communication:** Enhancing communication skills to build strong customer relationships and provide excellent service.



# MANDATORY TRAINING

## - Machinery

### Safety Compliance Certification:

- **OSHA Standards and Regulations:** Ensuring employees are well-versed in Occupational Safety and Health Administration (OSHA) standards relevant to machinery operations.
- **Emergency Response Protocols:** Training on proper response procedures during emergencies, including shutdown protocols and evacuation strategies.
- **Personal Protective Equipment (PPE) Usage:** Ensuring understanding and correct usage of required PPE to mitigate workplace hazards.

### ISO 9001 Quality Management System Training:

- **Quality Standards Awareness:** Providing comprehensive training on ISO 9001 standards for quality management in the machinery industry.
- **Documented Procedure Compliance:** Ensuring employees understand and adhere to documented procedures for quality assurance.
- **Continuous Improvement Practices:** Focusing on methodologies for continuous improvement to enhance overall product quality.



### **Machinery Operation and Maintenance Basics:**

- **Fundamental Machinery Handling:** Training on basic machinery operation, including startup, shutdown, and routine handling procedures.
- **Preventive Maintenance Protocols:** Instilling the importance of regular maintenance checks to prevent machinery breakdowns and ensure longevity.
- **Safety Checks and Inspections:** Teaching employees to conduct pre-operation safety checks and routine inspections.

### **Regulatory Compliance Workshop:**

- **Environmental Regulations:** Ensuring adherence to environmental regulations governing machinery operations.
- **Health and Safety Compliance:** Covering regulatory requirements related to workplace health and safety.
- **Legal and Ethical Standards:** Training on legal and ethical considerations in the machinery industry, emphasizing compliance.

### **Ethical Conduct and Professionalism Training:**

- **Code of Conduct Awareness:** Familiarizing employees with the company's code of conduct and ethical guidelines.
- **Professional Communication Skills:** Enhancing interpersonal and communication skills to maintain professionalism in workplace interactions.
- **Conflict Resolution Techniques:** Training on effective conflict resolution methods to address workplace issues.



### **Machinery Calibration and Measurement Standards:**

- **Calibration Procedures:** Providing detailed instruction on machinery calibration processes to ensure precision in measurements.
- **Metrology Standards:** Training on adherence to metrology standards for accurate measurement in machinery operations.
- **Instrumentation Handling:** Ensuring employees are proficient in using and maintaining measuring instruments accurately.

### **Legal Compliance in Machinery Operations:**

- **Intellectual Property Awareness:** Training on recognizing and respecting intellectual property rights related to machinery designs and innovations.
- **Contractual Obligations:** Understanding and adhering to contractual obligations in machinery manufacturing and sales.
- **Data Protection and Privacy:** Covering legal aspects related to data protection and privacy in the machinery industry.

### **Effective Communication and Team Collaboration Workshop:**

- **Interdepartmental Collaboration:** Promoting effective communication and collaboration among different departments involved in machinery processes.
- **Team Building Techniques:** Enhancing teamwork skills to foster a collaborative work environment.
- **Communication with Stakeholders:** Training on clear and concise communication with internal and external stakeholders.



# SAFETY TRAINING

## - Machinery

### Machine Guarding and Safety Certification:

- **Understanding Machine Hazards:** Comprehensive training on recognizing and understanding various hazards associated with machinery operation.
- **Machine Guarding Protocols:** Ensuring employees are well-versed in the proper use and maintenance of machine guards for enhanced workplace safety.
- **Emergency Shutdown Procedures:** Training on rapid and effective emergency shutdown procedures to minimize risks during hazardous situations.

### Lockout-Tagout (LOTO) Procedures Workshop:

- **LOTO Principles and Regulations:** In-depth training on the principles and regulatory requirements of Lockout-Tagout procedures.
- **Equipment Isolation Techniques:** Teaching employees how to effectively isolate machinery from energy sources during maintenance to prevent unexpected startup.
- **Verification and Testing:** Training on proper verification and testing steps to ensure machinery is safely de-energized.



### **Risk Assessment and Job Safety Analysis (JSA):**

- **Identifying Workplace Risks: Providing skills to identify potential risks and hazards associated with specific machinery and tasks.**
- **JSA Documentation: Training on creating and utilizing Job Safety Analysis documentation for each machinery-related task.**
- **Implementing Risk Mitigation Measures: Focusing on proactive measures to mitigate identified risks and enhance overall workplace safety.**

### **Electrical Safety Certification:**

- **Safe Electrical Practices: Comprehensive training on safe electrical practices when working with machinery and related components.**
- **Understanding Electrical Systems: Ensuring employees understand the basics of electrical systems relevant to machinery operation.**
- **Personal Protective Equipment (PPE) for Electrical Work: Emphasizing the correct usage of PPE for protection against electrical hazards.**

### **Fall Protection and Elevated Work Safety:**

- **Fall Hazard Recognition: Training on identifying potential fall hazards associated with elevated work areas in machinery facilities.**
- **Proper Use of Fall Protection Equipment: Ensuring proficiency in the correct use and maintenance of fall protection devices.**
- **Emergency Rescue Procedures: Focusing on emergency response procedures in case of a fall incident during elevated work.**





### **Hazardous Materials Handling and Chemical Safety:**

- **Chemical Hazard Awareness:** Comprehensive training on recognizing and handling hazardous materials commonly used in machinery operations.
- **Personal Protective Equipment for Chemical Handling:** Ensuring employees are equipped with the right PPE when working with or near hazardous substances.
- **Spill Response Protocols:** Training on immediate response measures in case of chemical spills to minimize environmental impact and health risks.

### **Fire Safety and Emergency Evacuation Training:**

- **Fire Prevention Practices:** Comprehensive instruction on fire prevention measures within machinery facilities.
- **Proper Usage of Fire Extinguishers:** Training on the correct selection and usage of fire extinguishers for different types of fires.
- **Emergency Evacuation Procedures:** Ensuring employees understand and practice efficient evacuation protocols during fire or other emergencies.

### **Noise and Vibration Hazard Management:**

- **Noise Exposure Awareness:** Training on recognizing and managing the risks associated with prolonged exposure to high levels of noise.
- **Vibration Hazard Recognition:** Teaching employees to identify and address risks related to machinery-induced vibrations.
- **Personal Protective Measures:** Emphasizing the importance of wearing appropriate PPE, such as hearing protection, in noisy environments.

