

INTERPRETING ENGINEERING DRAWINGS

MCE065

COURSE DESCRIPTION

Correctly interpreting engineering drawings has a direct impact on the final product. This course explains how to correctly interpret drawings. It Highlights working with engineering drawings involves analyzing, making decisions, and processing data. It is based on practical applications of print interpretation. It will give participants a better understanding of the view representation, dimensions, tolerances, and symbols used on prints. This hands-on is based on practical applications of drawing interpretation.

COURSE GOAL

To enhance the participants' knowledge, skills and abilities necessary to understand drawings and effective communication on the job.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Understand the purpose of engineering drawings.
- Determine the importance of engineering drawings.
- Be familiar with standards used on engineering drawings.
- Determine types of engineering drawings.
- Understand layout drawings.
- Understand drawing formats.
- Understand line conventions and lettering.
- Understand drawing views.
- Determine drawing sections.
- Practice dimensioning and tolerancing.
- Define surface texture.
- Surface texture standards.
- Determine weld specifications.

WHO SHOULD ATTEND

Anyone who interprets engineering drawings:

- Product engineers.
- Manufacturing engineers.

- Quality engineers.
- Inspectors.
- Machinists.
- Production personnel.
- Purchasing agents; etc.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Engineering Drawings

- Engineering drawings.
- CAD.
- Purpose of engineering drawings.
- Importance of engineering drawings.
- Standards used on engineering drawings.
- Types of engineering drawings.
- Layout drawings .
- Assembly drawings and inseparable assembly drawings.
- Detail assembly drawings.
- Detail, mono-detail and multi-detail drawings.

2. Drawing Formats

- Drawing sheet sizes.
- Drawing zones.
- Title blocks.
- Revisions blocks.
- Angle of projection.
- Engineering drawing units.
- Parts lists.
- General, local, and flag notes.
- Drawing scale.
- Multi-sheet drawings.

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3. Line Conventions and Lettering

- Line types on drawings
- Functions represented by line type
- Hierarchy of line types
- Lettering

4. Drawing Views

- Orthographic projection.
- Projection systems.
- Single view and Multi-view drawings.
- Detail, auxiliary, and assembly views.

5. Drawing Sections

- Eight types of section views.
- Conventional vs. true geometry.
- Revolution of features.
- Sectioning of assemblies.

6. Dimensioning and Tolerancing

- Practices for metric and English unit dimensions.
- Expressing tolerance.
- General tolerances.
- Definitions.
- Implied and coaxial relationships.
- General symbols and abbreviations.
- Thread, gear, and spline representation and specifications.
- GD&T standards and symbols.
- Uses of GD&T.

7. Surface Texture

- Surface texture standards.
- Definition of surface texture ASME.
- Surface texture symbols.

8. Weld Symbols

- Weld specifications.
- Common weld types and joints.

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