Topic: Types of Lines in Technical Drawing

Introduction

Technical drawing is a **universal language of engineers, architects, and designers.**
It uses **lines, symbols, and notations** to communicate ideas clearly.

Each type of line in technical drawing **has a specific meaning**. Using the wrong line can lead to:

- **Misinterpretation of drawings**
- **Construction errors**
- **Project failure**

That's why it's important to **identify and use the correct lines properly**.

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1. Types of Lines

Different lines are used to **show parts of objects, measurements, and construction guidelines**.

Here's a detailed list:

Line Type	Appearance	Purpose / Use
Continuous Thick Line	Dark, unbroken line	**Visible outlines** of objects or parts that are seen directly
Continuous Thin Line	Light, unbroken line	**Projection lines, dimension lines, leader lines, hatching, construction lines**
Dashed Thin Line	Evenly spaced dashes	**Hidden details** not visible in the current view (e.g., holes inside objects)
Chain Thin Line (Center Line)	Alternating long and short dashes	**Center of circles, cylinders, symmetry axes**
Chain Thin Line with Thick Ends	Alternating long and short dashes with thick ends	**Cutting planes** in sectional views
Continuous Thin Zigzag Line	Thin line with zigzag or wavy pattern	Shows **short breaks** in long objects to fit the drawing on the paper

Line Type	Appearance	Purpose / Use
Wavy Freehand Line (Break Line)	Freehand wavy line	To indicate **imaginary cuts** or remove parts of a long object

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Examples in Practice

Example	Line Used
Drawing the outline of a box	**Continuous thick line**
Showing the center of a circle	**Chain thin line**
Representing a hole not visible from the front	**Dashed thin line**
Drawing guidelines for lettering	**Continuous thin line**
Showing a cut through an object	**Chain thin with thick ends**

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2. How to Draw the Lines

Line Type	How to Draw It
Continuous Thick	Press slightly harder with an **HB pencil**
Continuous Thin	Use a **2H or 3H pencil**, draw softly
Dashed Line	Equal **short dashes**, consistent spacing
Chain Line	**Long dash – short dash – long dash**, equal spacing
Break Line	Use a **freehand wavy pattern**, no instruments needed

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3. Drawing Parallel and Perpendicular Lines

Parallel Lines

Definition:

- **Parallel lines** are two or more lines that **run in the same direction** and are **equally spaced apart** at all points.

- They **never meet**, no matter how long they are extended.

Procedure (Using T-square and Set Square):

1. Place the **T-square** at the bottom of your drawing board.
2. Place a **set square** (e.g., 45° or 60° triangle) against the T-square.
3. Draw the first line using the set square.
4. Slide the set square along the T-square **upward or sideways** without changing the angle.
5. Draw the second line parallel to the first at the required distance.

Examples of Use:

- Sides of rectangles
- Railway tracks
- Walls of a building
- Drawing isometric guides

Perpendicular Lines

Definition:

- **Perpendicular lines** are lines that **intersect or cross each other at exactly 90 degrees** (right angle).

Procedure (Using T-square and Set Square):

1. Draw the first line using the **T-square** (horizontal).
2. Place the **set square** on the T-square at **90° angle**.
3. Draw the second line crossing the first to form a **right angle (L-shape).**

Examples of Use:

- Corners of squares and rectangles
- Building floor plans
- Upright walls meeting floors
- Room layouts

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4. Importance of Using Correct Lines

Using the correct line types ensures that your drawing:

- **Communicates clearly**
- Meets **engineering and architectural standards** (ISO, British Standard, etc.)
- Prevents **misinterpretation** by builders and engineers
- Looks **neat and professional**

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5. Summary of Line Types and Their Uses

Line Type	Use
Continuous Thick	Visible outlines
Continuous Thin	Construction lines, dimensions
Dashed Line	Hidden details
Chain Line	Center of circles or symmetry
Chain Line with Thick Ends	Cutting plane in sectional views
Zigzag Line	Shows breaks in objects
Perpendicular Lines	Intersect at 90°
Parallel Lines	Never meet, equal spacing

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6. Tools Required for Line Drawing

Instrument	Use
T-square	Drawing horizontal and parallel lines
Set square	Drawing vertical lines and 45°/60° angles
Compass	Drawing circles and arcs
Pencil (2H, H, HB)	For various line weights
Eraser	For corrections