

PEB Steel Detailing & Tekla Structures

A practical, industry-oriented program designed to prepare beginners for careers in Pre-Engineered Buildings (PEB), Sheet Metal Detailing, and Tekla Modeling.

DURATION

12 weeks (3 months)

TRAINING

30% theory, 70% practical

TOOLS & SOFTWARE

AutoCAD, Tekla Structures, MS Excel

LEVEL

Beginner, no prior Tekla experience required

MODE

Classroom

CERTIFICATES

**STEEL Certificate of Industry-Oriented Training;
Tekla (Trimble) Authorised Certificate on
passing the Tekla Certification Exam**

MONTH 1

PEB & Software Fundamentals

Weeks 1-4

WEEK 1

Introduction to PEB

What is Pre-Engineered Building?, PEB vs conventional steel buildings, PEB industry and project workflow, Types of PEB buildings, Primary and secondary structural members, Columns and rafters, Purlins and girts, Bracing, Eave struts, Base plates, Stiffeners, Bolts and welds, PEB terminology, Cladding/Sheeting, Flashing/Trims, Fasteners/Screws.

WEEK 2

Structural Steel & Drawing Reading

Structural steel sections, Built-up sections, Plates and stiffeners, Bolts and welds, Structural drawings, Plan/elevation/section, Grid lines, Levels and dimensions, Connection details, Welding symbols, Revision drawings, Understanding design drawings before modelling.

WEEK 3

AutoCAD

Focus: reading and basic creation of PEB drawings

AutoCAD interface, Layers, Units, Drawing commands, Modify commands, Dimensions, Blocks, Sections, Hatching, Layouts, Printing, Reading PEB GA drawings.

Practical: create a basic PEB plan/elevation/section.

WEEK 4

Tekla Fundamentals

Tekla interface, Project setup, Grid creation, Levels, Profiles, Materials, Views, Selection filters, Work planes, Creating columns, Creating rafters, Plates, Stiffeners, Basic editing.

Practical Project 1: model a basic PEB frame in Tekla.

WEEK 5

Primary Frame Modeling

Columns, Rafters, Built-up members, Hot Rolled Members, Splices, Base plates, Stiffeners, End plates, Frame geometry, Multiple frame modelling.

WEEK 6

Secondary Members

Purlins, Girts, Eave struts, Roof bracing, Wall bracing, Sag rods/Sag Angles, End wall framing, Framed Openings (Bolted Openings, Welded Openings).

WEEK 7

Tekla Connections

Bolted connections, Welded connections, Column-base connections, Rafter connections, Splice connections, Bracing connections, Purlin/girt connections, Stiffener connections, Tekla components, Connection parameters, Connection checking.

WEEK 8

Complete PEB Modeling

Students build a complete multi-bay building. Project includes main frames, secondary framing, bracing, endwalls, connections, openings, canopy (introduction), and building accessories — Man Doors, Over Head Doors (Roll up Doors, Vertical Lift Doors), Hanger Doors — plus model organization.

Practical Project 2: complete a multi-bay PEB model.

WEEK 9

Tekla Numbering & Drawings

Numbering: part numbering, assembly numbering, position numbers, numbering settings, numbering errors.

GA Drawings: plans, elevations, sections, dimensions, grid lines, levels, marks.

Assembly Drawings: views, dimensions, bolts, welds, part marks, notes.

Single-Part Drawings: plates, built-up members, individual components, cutting information.

WEEK 10

BOM & Fabrication

Bill of Materials, material reports, assembly lists, part lists, weight, bolt lists, weld information, NC/DSTV concepts, CNC fabrication workflow, shop drawing requirements, fabrication terminology.

MS Excel: basic engineering calculations, material/BOM data, sorting/filtering, basic formulas.

WEEK 11

QA/QC & Industry Workflow

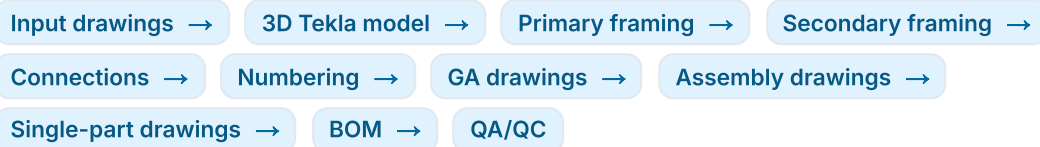
Model Checking: member orientation, correct profiles, materials, connections, bolts, welds, missing members, duplicate members.

Drawing Checking: dimensions, marks, sections, bolts, welds, material information, drawing/model consistency.

WEEK 12

Final Project + Placement

Final Industry Project — each student completes a complete PEB project following the workflow:



The final project becomes part of the student's professional portfolio.