TOPENGINEER - COURSE PROGRAMME

Level 3 - Tekla Structures Advanced Training

Two programme parts. Timing and practical work depend on the selected 2-, 5- or 10-day format.

Part 1 - Advanced model and drawing workflows

Workflow review and modelling automation

1.1 Assessing your current knowledge of Tekla Structures

1.2 Reviewing your approach to 3D modelling

1.3 Reviewing your approach to drawing production

1.4 Reviewing the plugins and supporting software you use

1.5 Identifying key areas for improving model and drawing workflows

1.6 Exploring newer modelling tools in Tekla Structures

1.7 Exploring newer drawing creation tools in Tekla Structures

1.8 Using supporting applications to generate drawings

1.9 Exploring additional plugins and software for 3D modelling

1.10 Comparing approaches to modelling bracing connections

1.11 Automating handrail modelling

1.12 Automating fixed steel access ladders with safety cages

1.13 Automating stair modelling

1.14 Automating floor grating and decking

1.15 Automating common connection details

1.16 Automating no-paint areas on structural parts

Project structure and catalogues

1.17 Understanding the structure of Tekla Structures projects

1.18 Understanding the purpose of model files

1.19 Understanding the search order for model, environment and settings files

1.20 Creating parametric profiles in Tekla Structures

1.21 Creating parametric profiles with a cross-section that varies along the part

1.22 Creating and editing rules in the profile catalogue tree

1.23 Creating a custom bolt catalogue

1.24 Creating a custom bolt assembly catalogue

1.25 Creating a material catalogue

1.26 Overview of Template Editor for reports

Numbering, model checks and data exchange

1.27 Using Shift to change how modelling commands operate

1.28 Working with part numbering

1.29 Defining numbering series

1.30 Working with advanced options

1.31 Using Clash Check Manager

1.32 Configuring clash check tolerances

1.33 Understanding model import options and limitations

1.34 Understanding model export options and limitations

Drawing settings, cloning and reference models

1.35 Working with complex components

1.36 Configuring and optimising drawing cloning

1.37 Controlling neighbour parts in drawings

1.38 Understanding drawing, view and object-level settings

1.39 Preparing drawing settings before drawing creation

1.40 Fine-tuning automatic drawing view placement

1.41 Understanding the hierarchy of drawing view settings

1.42 Understanding the hierarchy of mark settings

1.43 Displaying linked 2D and 3D DWG reference models and controlling layer visibility

1.44 Using additional Tekla Structures environments effectively

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Part 2 - Environments, reports and automation

Environments, UDAs and drawing management

2.1 Understanding Tekla Structures environments

2.2 Exploring the files and settings that make up an environment

2.3 Understanding the structure of objects.inp

2.4 Defining additional user-defined attributes in the environment

2.5 Adding user-defined attributes to steel beams

2.6 Adding user-defined attributes to concrete beams

2.7 Adding user-defined attributes to bolt groups

2.8 Customising Document Manager / Drawing List columns

2.9 Using Rebar Shape Manager to define custom reinforcing bar shapes

Reports, formulas and component variables

2.10 Introduction to Template Editor for reports

2.11 Modifying existing report templates

2.12 Creating a simple report template

2.13 Working with string values and variables

2.14 Using mathematical functions

2.15 Using conditional expressions

2.16 Understanding the variable list in the Custom Component Editor

2.17 HTML fundamentals for more complex reports and tables

2.18 Creating HTML reports

2.19 Creating XLS (Excel) reports

2.20 Including custom environment attributes in reports

Layouts, integrations and model-specific resources

2.21 Creating and modifying drawing layouts

2.22 Integrating Tekla Structures with structural analysis software

2.23 Integrating Tekla Structures with cutting and nesting software

2.24 Integrating Tekla Structures with other 3D modelling software

2.25 Designing custom component dialogs

2.26 Storing report and drawing table templates in the model folder

2.27 Storing material catalogue files in the model folder

2.28 Storing bolt and bolt assembly catalogue files in the model folder

2.29 Storing symbol files in the model folder

2.30 Storing custom graphical mark templates from Template Editor in the model folder

2.31 Storing DWG files in the model folder

Collaboration, orientation and AI-assisted workflows

2.32 Working with local multi-user models

2.33 Working with Tekla Model Sharing for cloud-based collaboration

2.34 Planning further workflow automation

2.35 Understanding part orientation

2.36 Understanding component orientation

2.37 Working around known Tekla Structures issues

2.38 Understanding how Tekla Structures applications are developed

2.39 Understanding model locking during saving

2.40 Introduction to AI agents: installation and setup

2.41 Using AI agents for 3D modelling

2.42 Using AI agents to work with drawings

2.43 Developing plugins with AI assistance

2.44 Reviewing progress and planning improvements to your company’s workflows