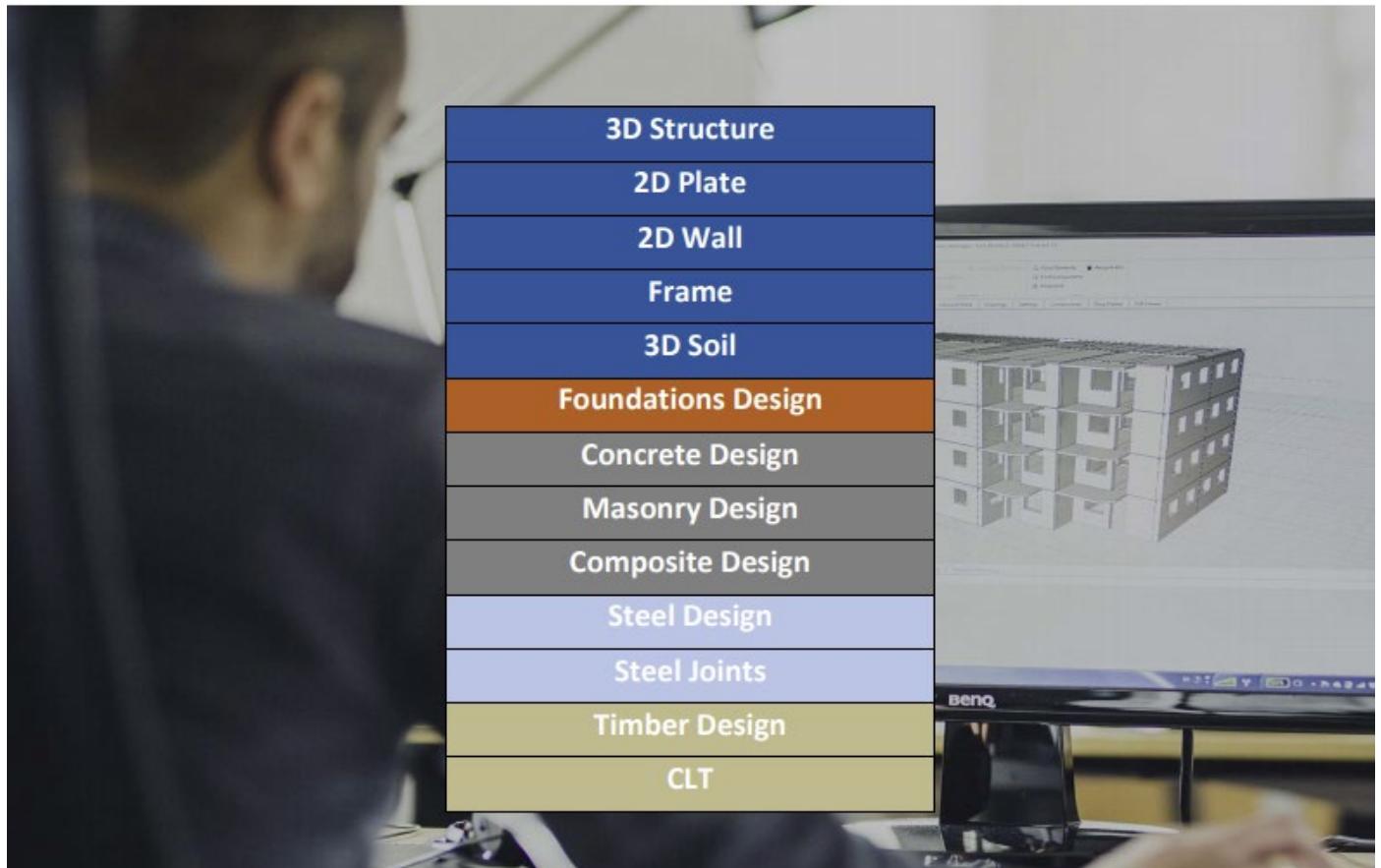




# FEM-Design



## FEM-DESIGN USER MANUAL

This manual is part of a series of videos found on YouTube. For new user it is a good idea to view the videos in the order shown in this manual. Please do not hesitate to contact us when in trouble. StruSoft support will be happy to help you.

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## 1 USER MANUAL

### 1.1 Introduction

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## 2 PROGRAM INSTALLATION

### 2.1 How to get FEM Design



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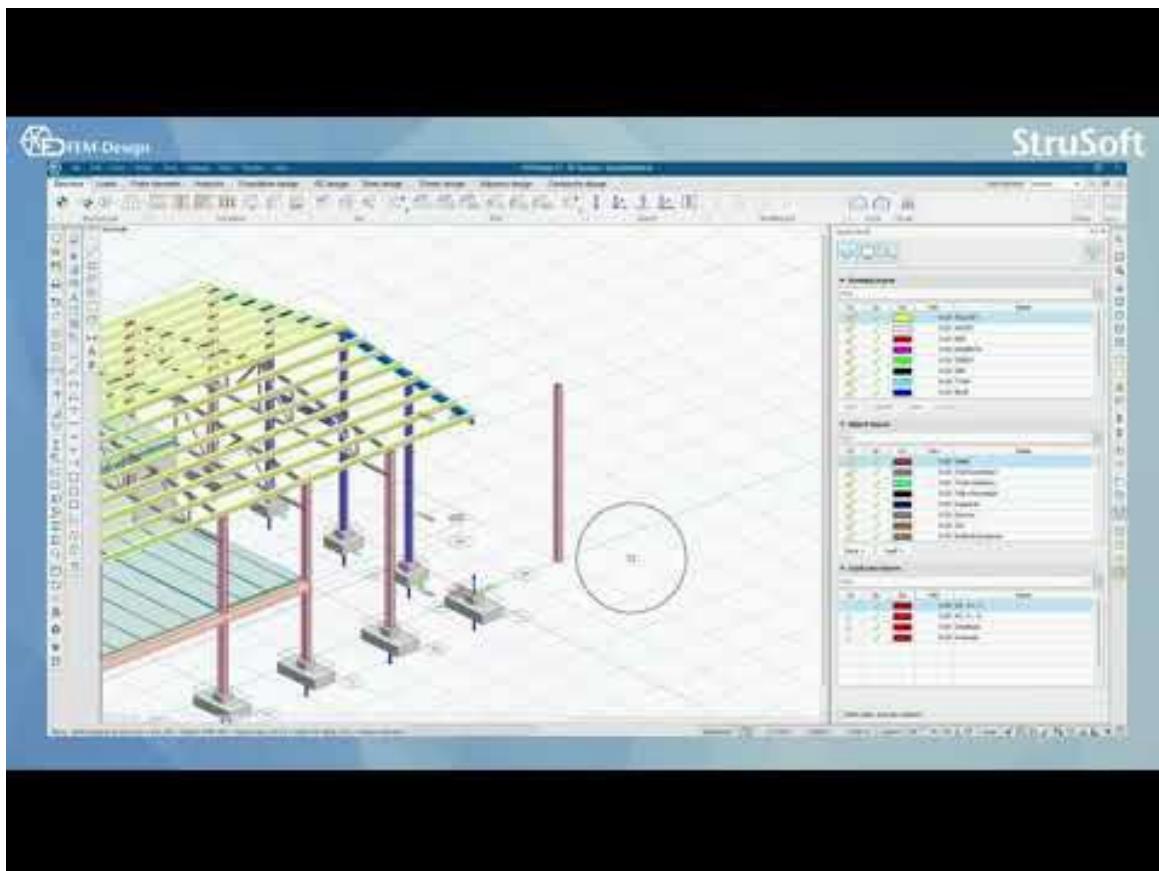
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### 3 BASICS OF FEM-DESIGN

#### 3.1 Modify in FEM-Design



Notes:

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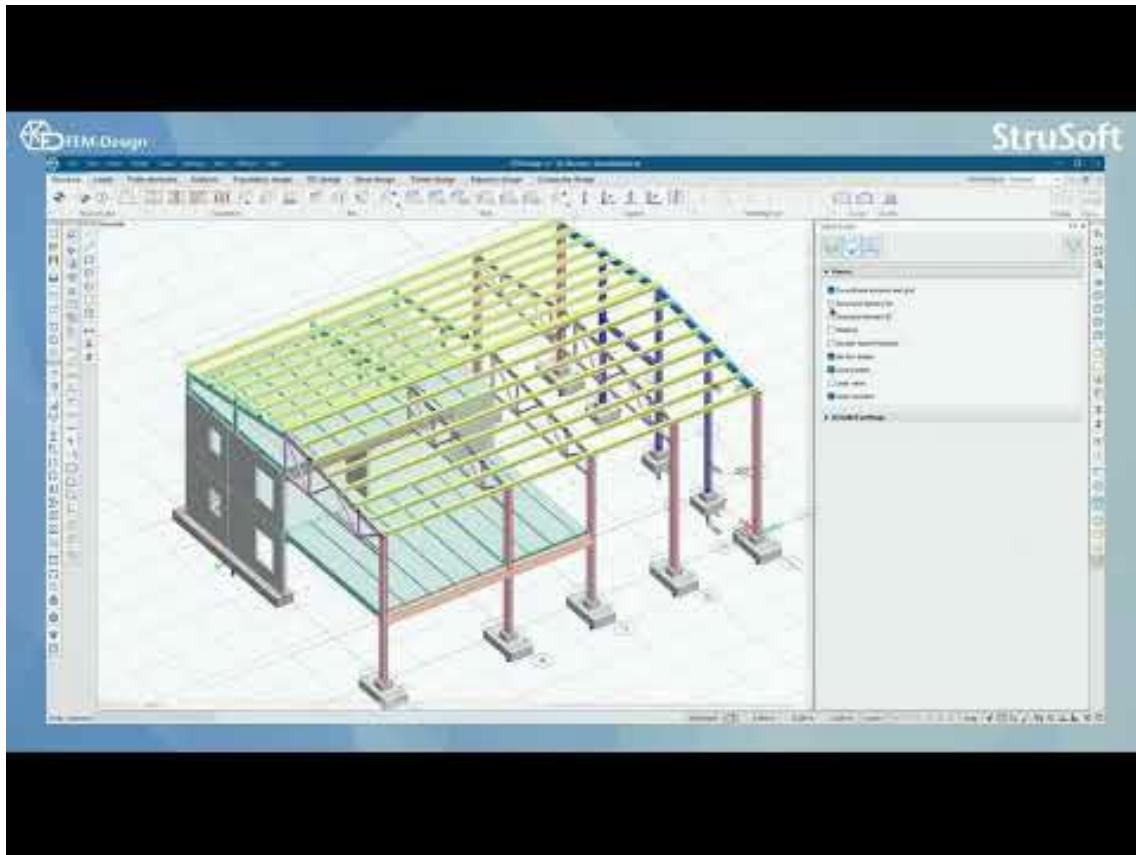
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### 3.2 Quick Tools in FEM-Design



Notes:

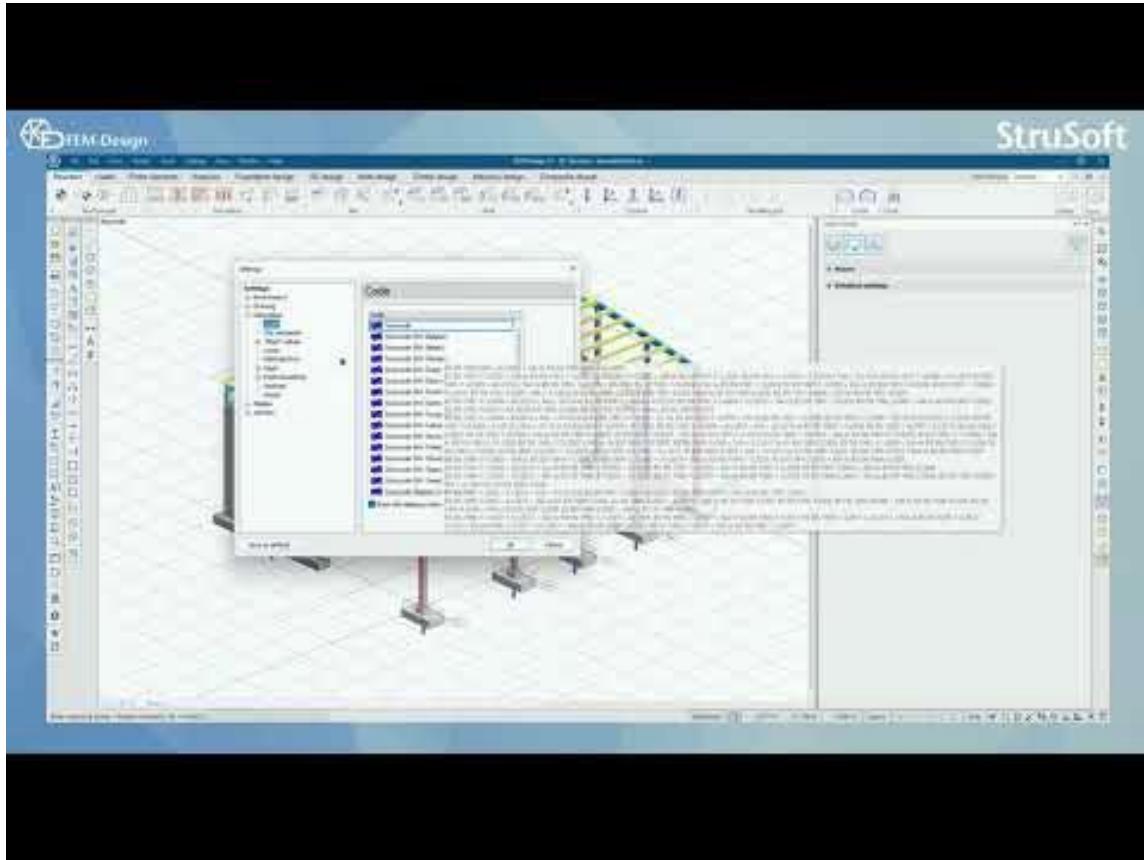
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### 3.3 Settings in FEM-Design



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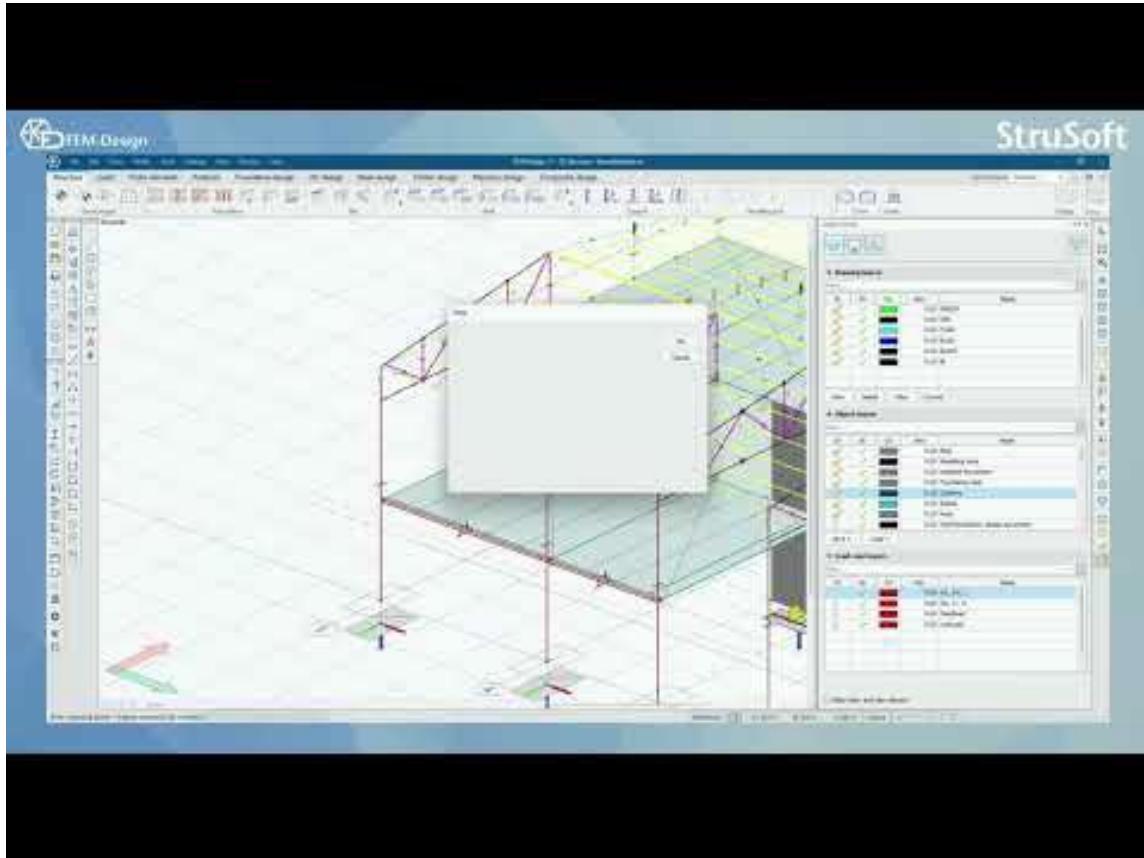
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### 3.4 Snap in FEM-Design



Notes:

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### 3.5 View in FEM-Design



Notes:

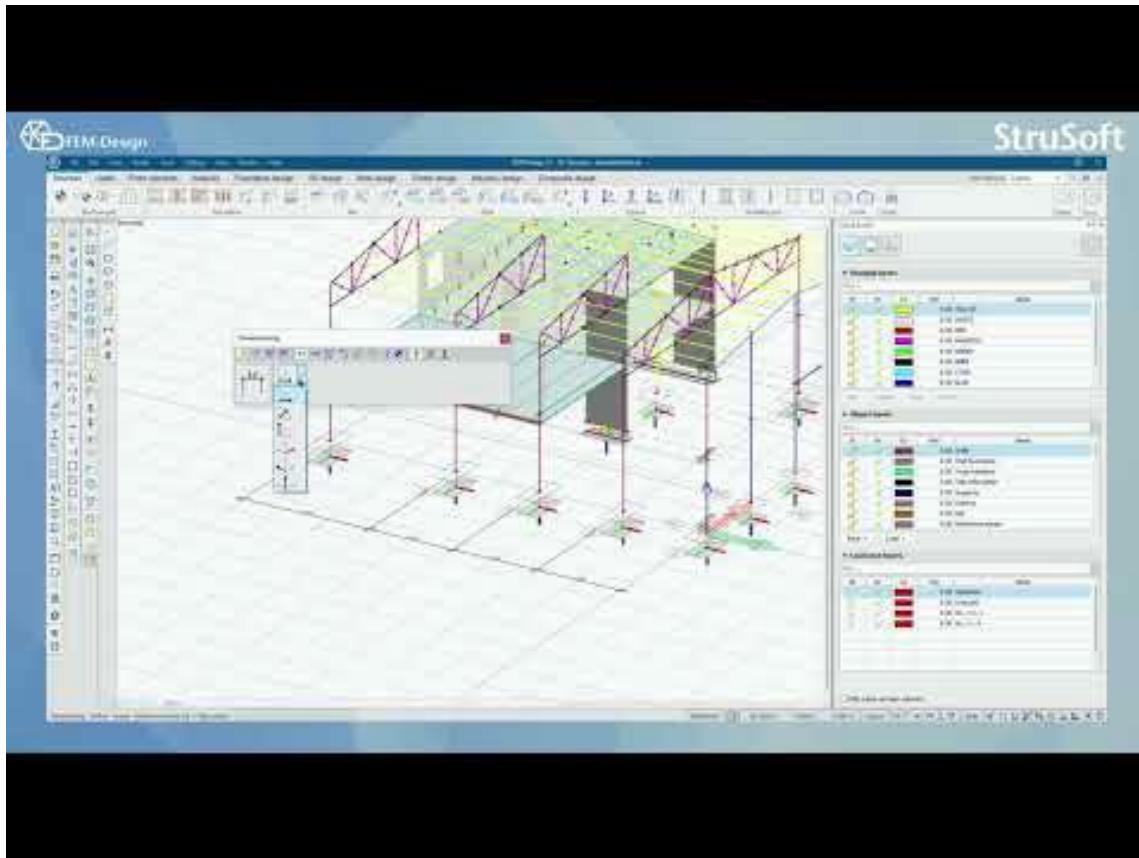
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### 3.6 Draw in FEM-Design



Notes:

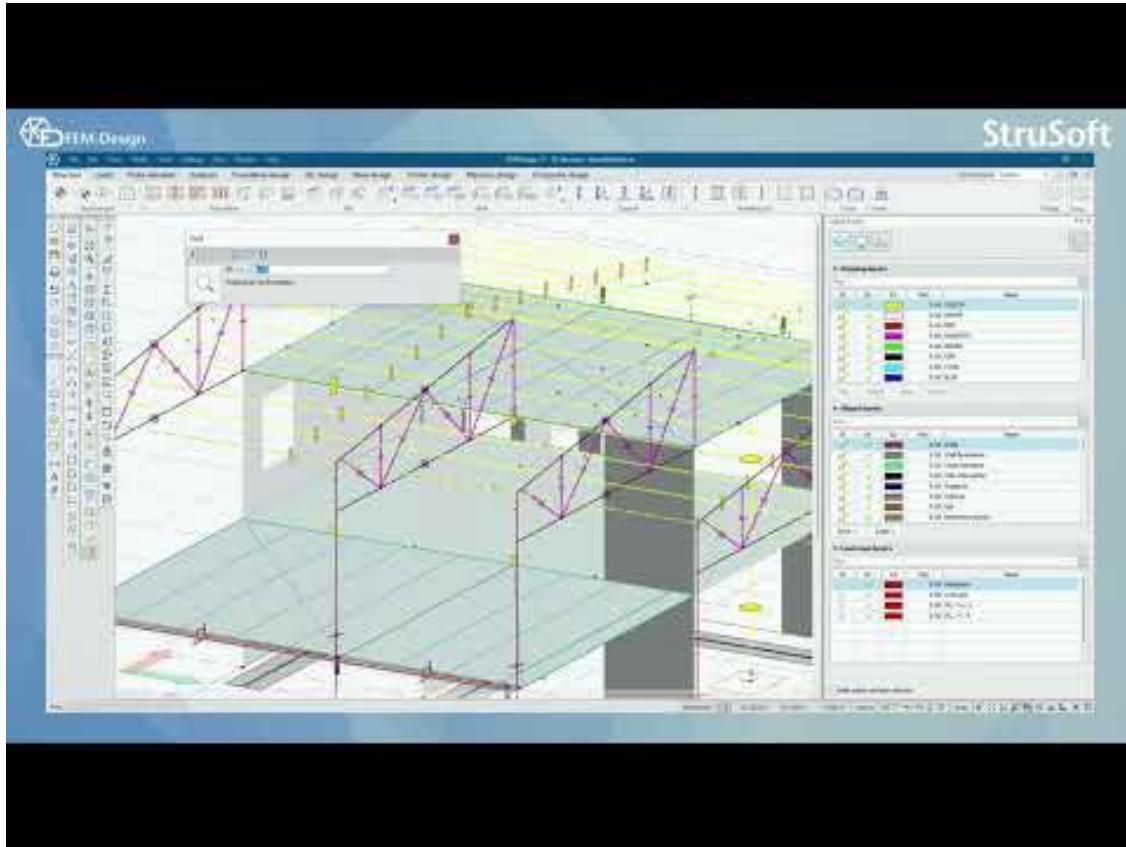
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### 3.7 Tools in FEM-Design



Notes:

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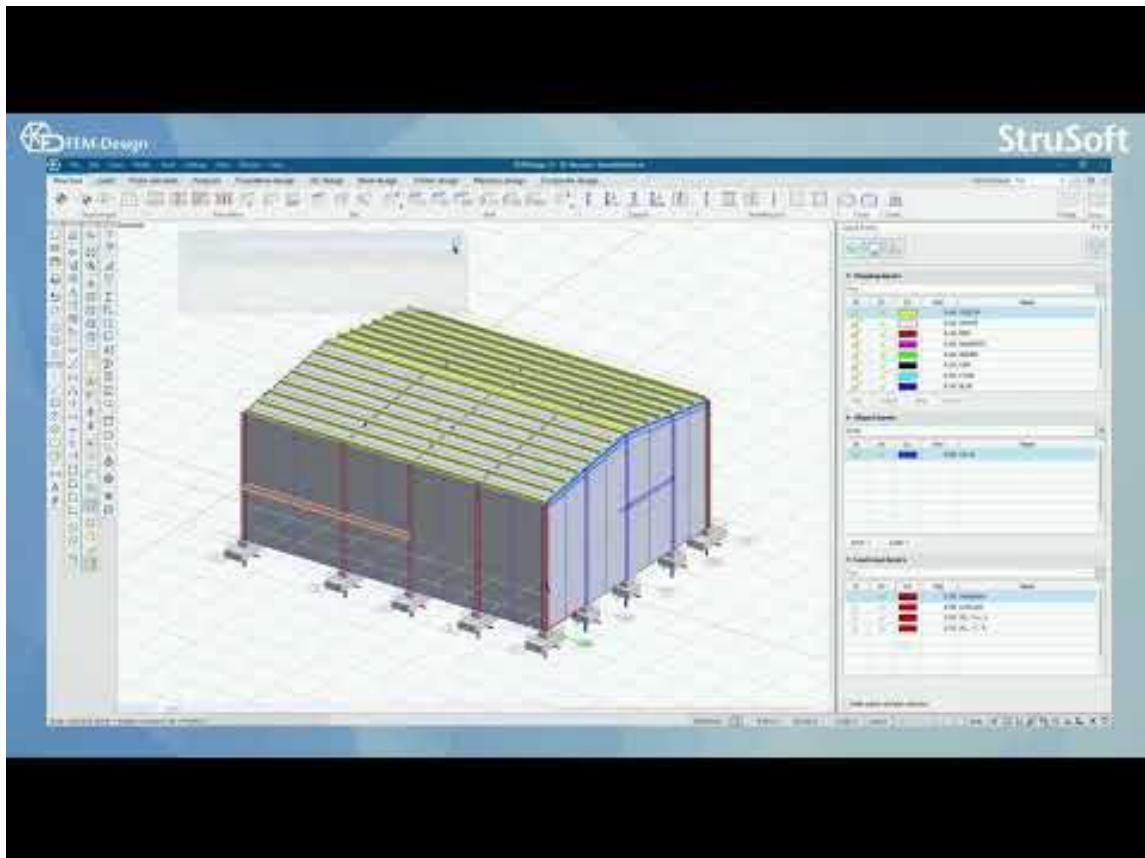
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## 4 ANALYTICAL PART OF FEM-DESIGN

### 4.1 Structure in FEM-Design



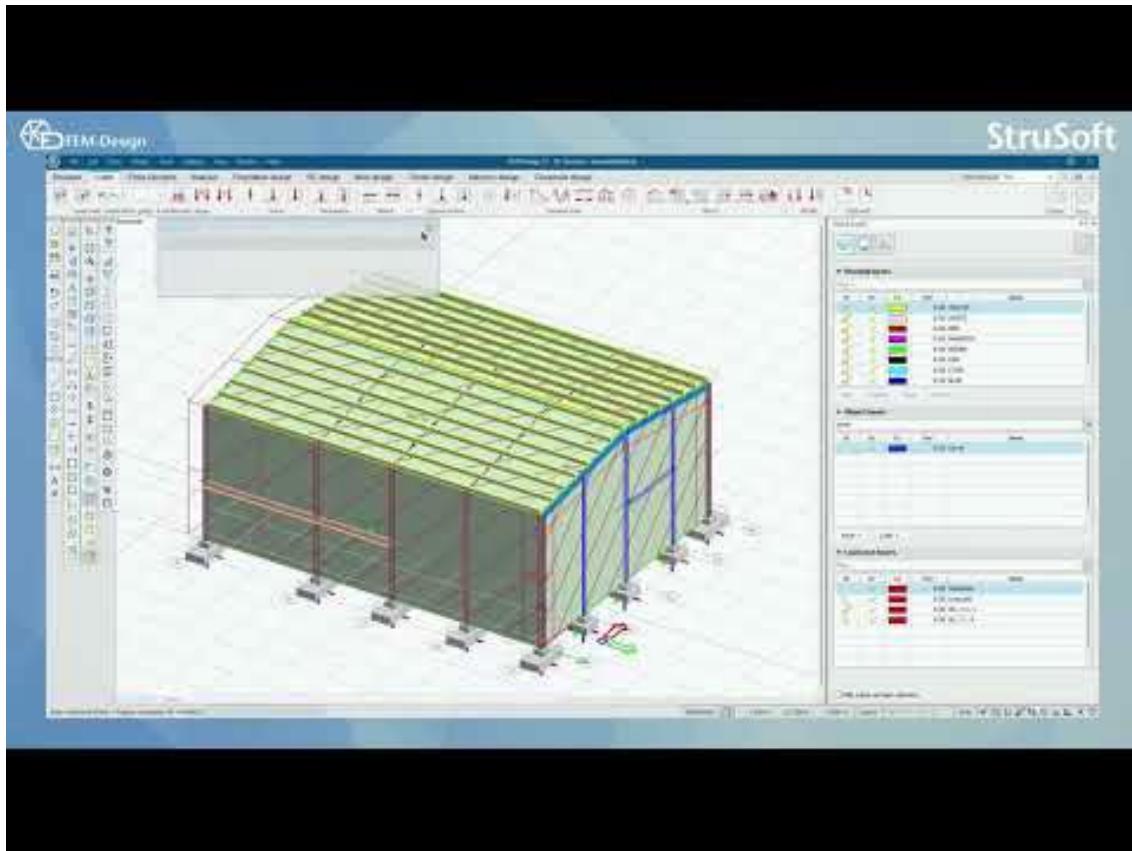
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#### 4.2 Loads in FEM-Design



Notes:

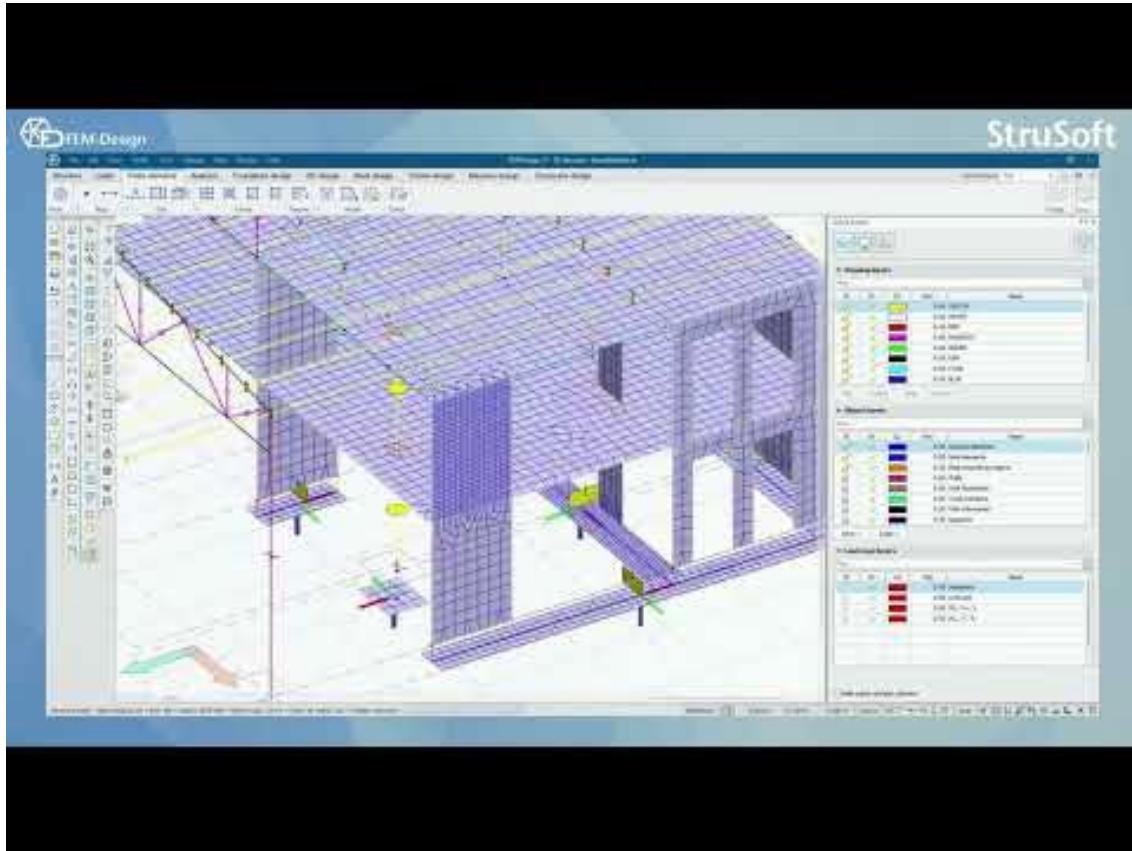
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#### 4.3 Finite elements in FEM Design



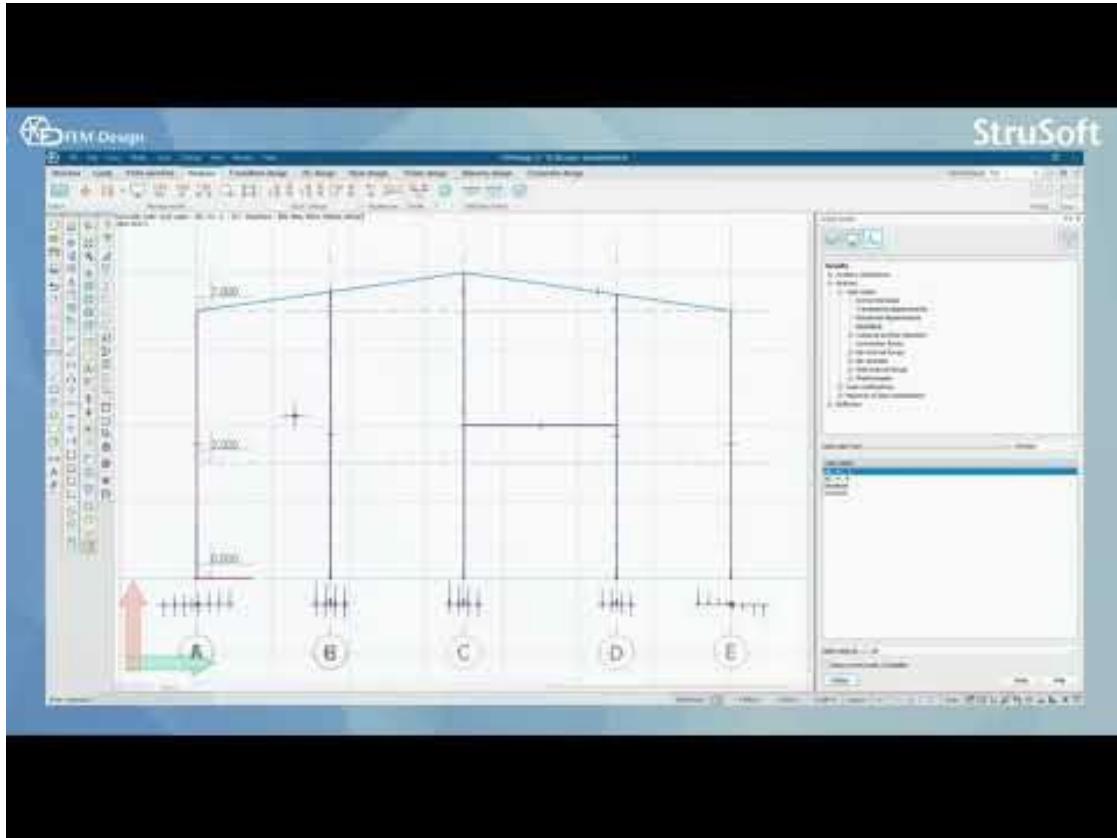
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#### 4.4 Analysis in FEM-Design



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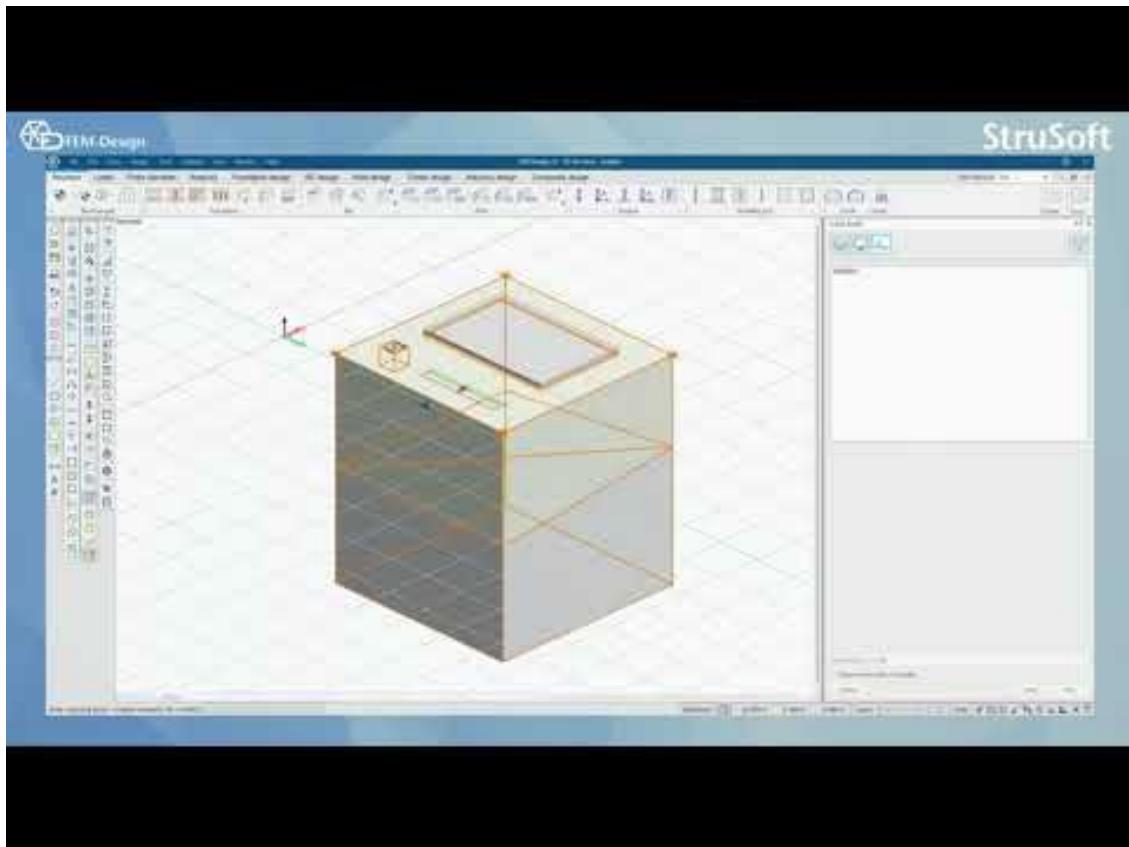
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## 5 DESIGN MODULES IN FEM-DESIGN

### 5.1 Foundation design in FEM-Design



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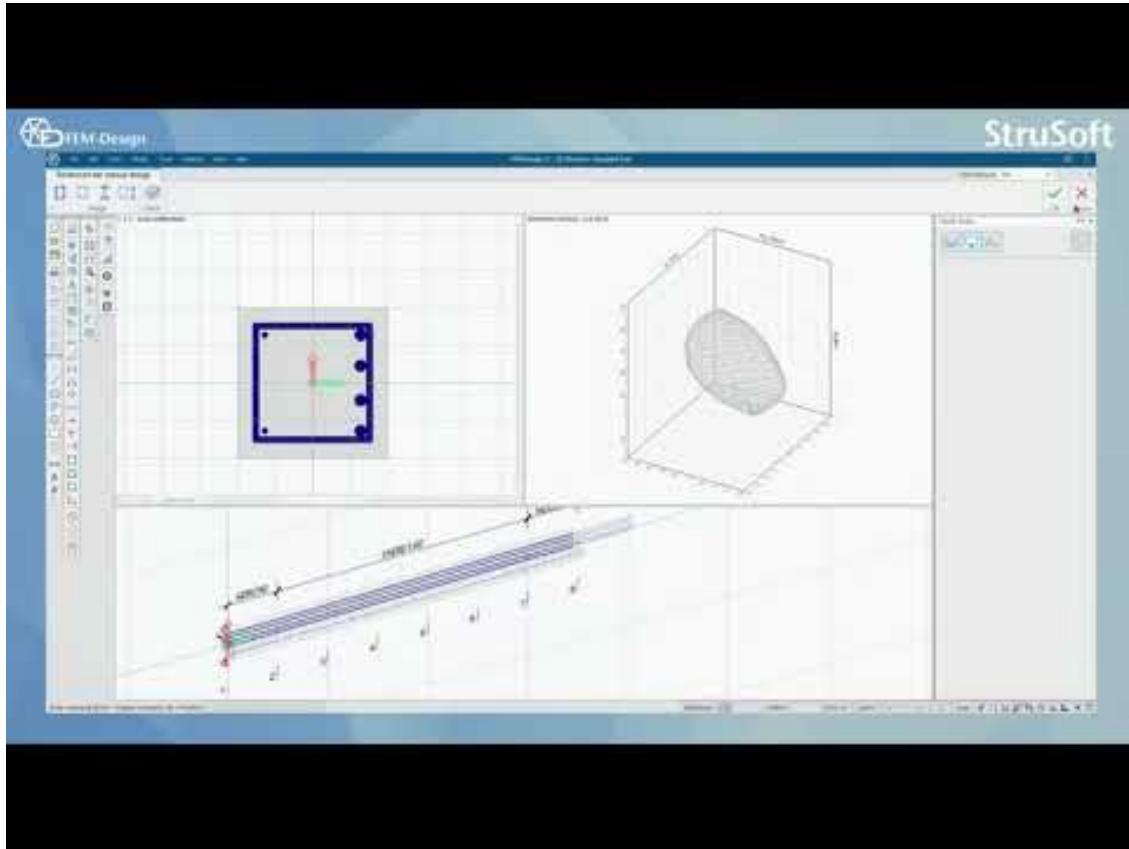
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## 5.2 Concrete design in FEM-Design



Notes:

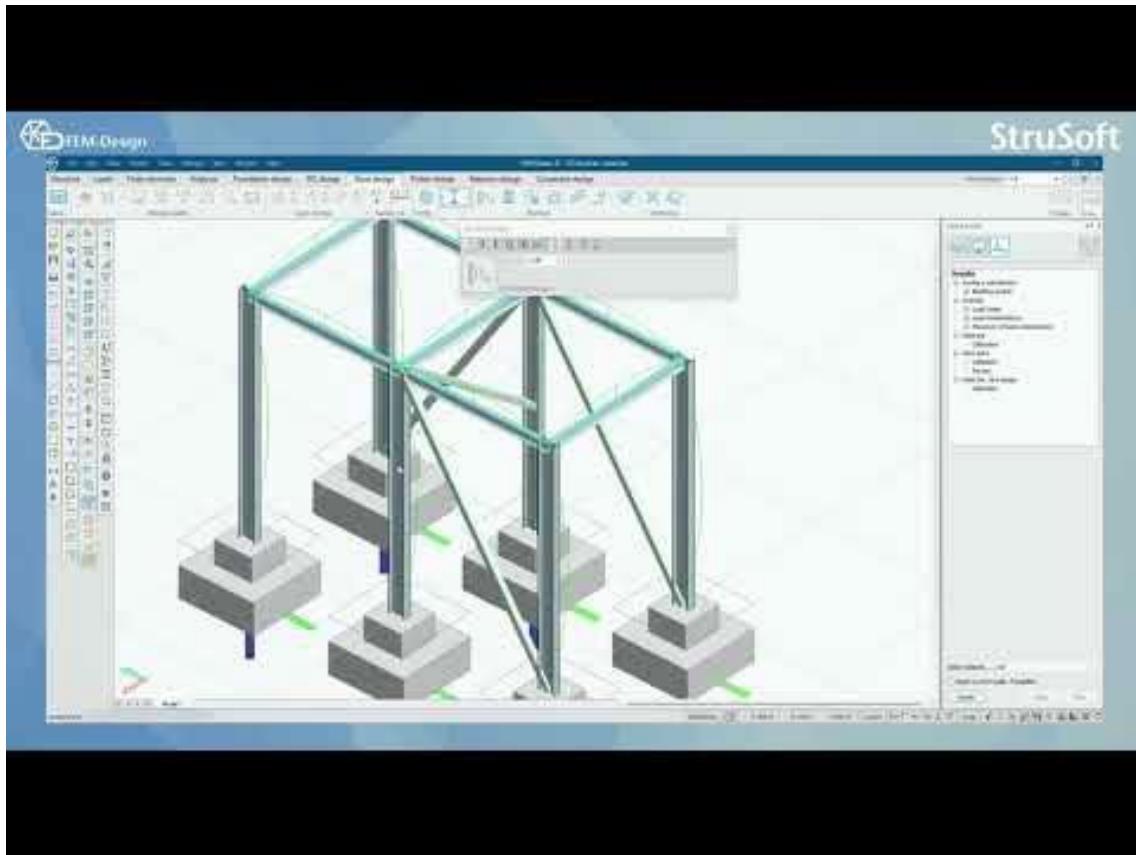
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## 5.3 Steel design in FEM-Design



Notes:

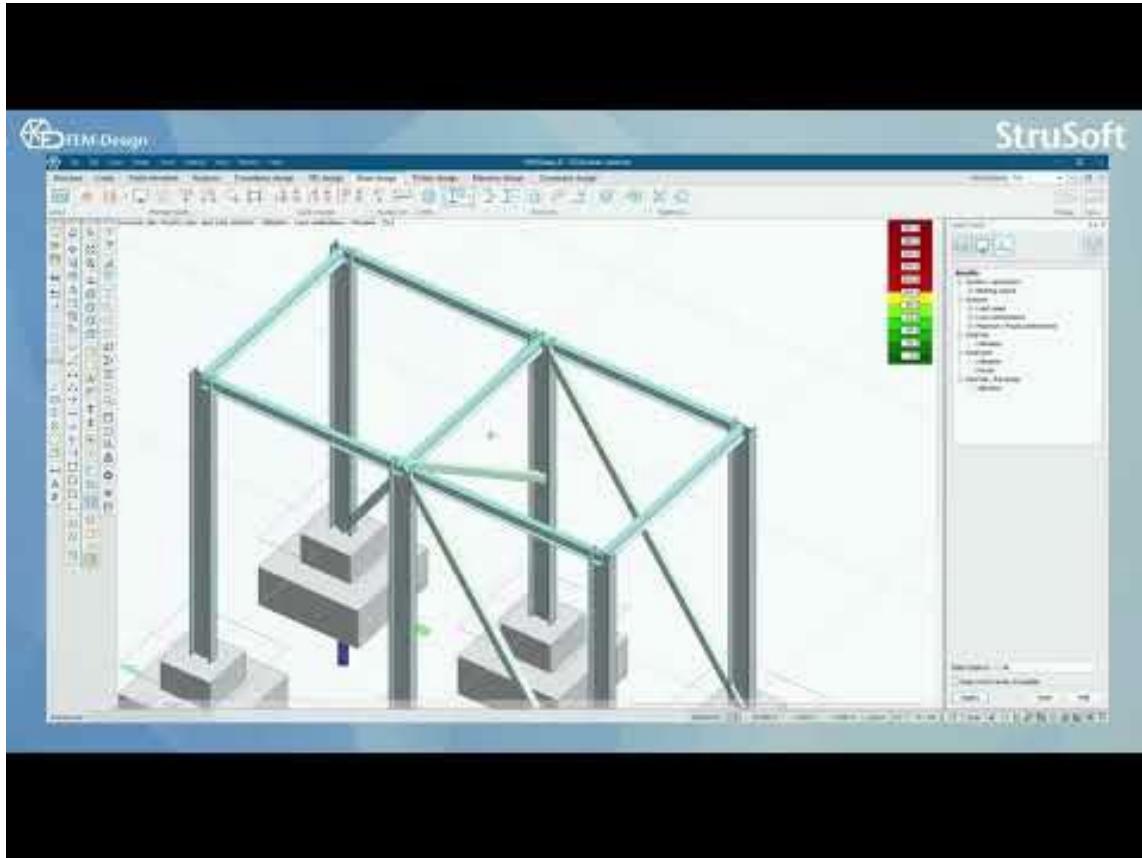
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## 5.4 Steel connection design in FEM-Design



Notes:

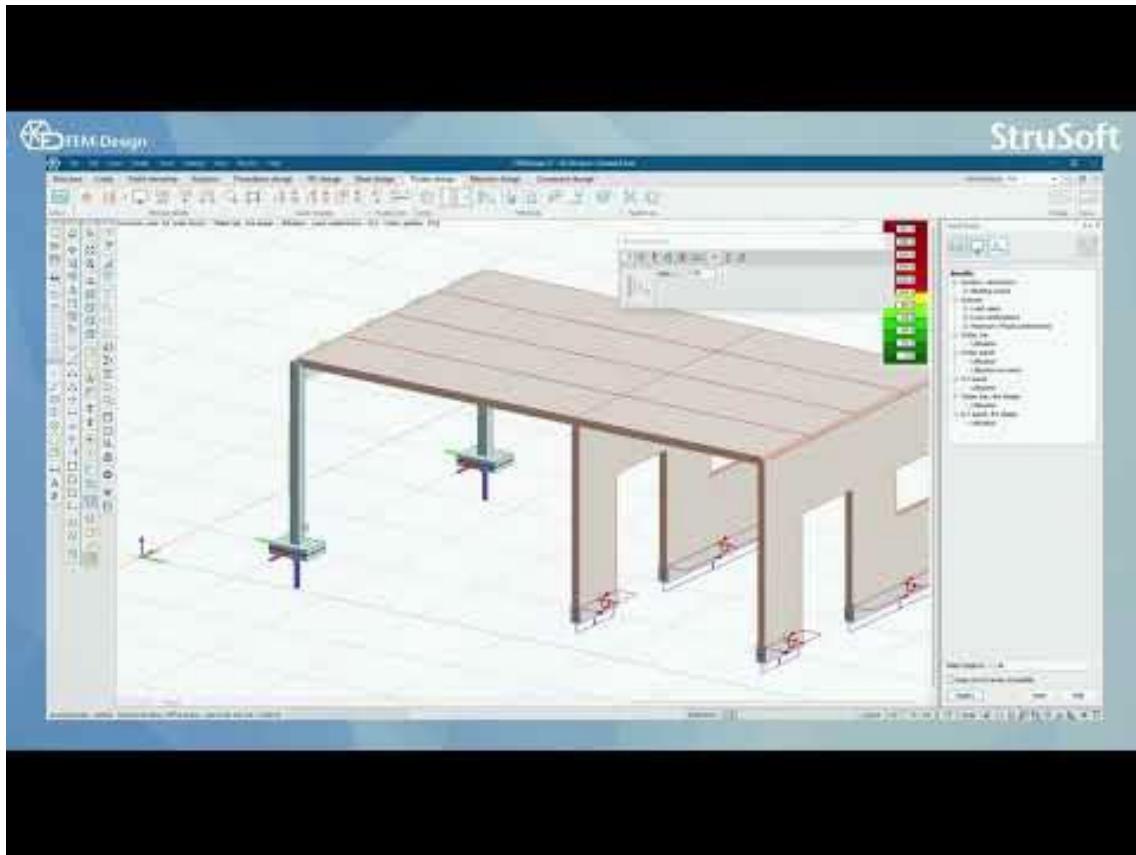
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## 5.5 Timber design in FEM-Design



Notes:

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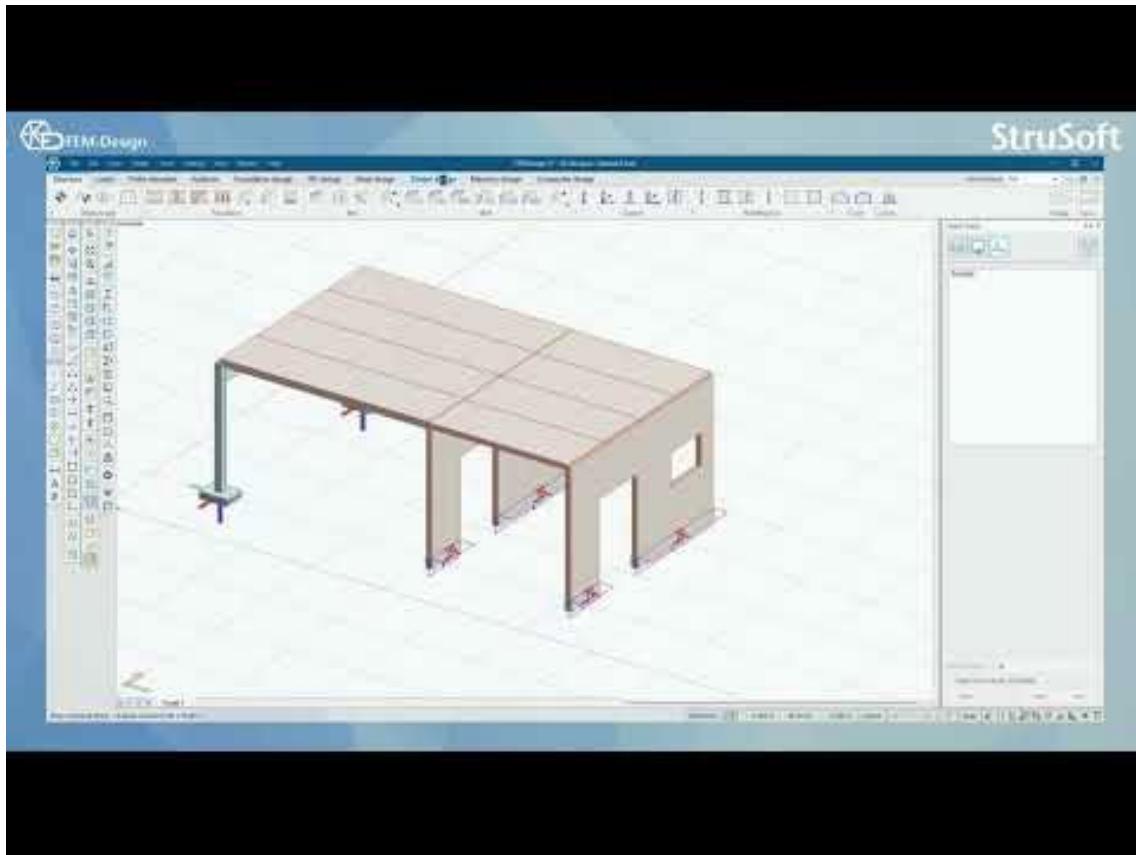
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## 5.6 CLT design in FEM-Design



Notes:

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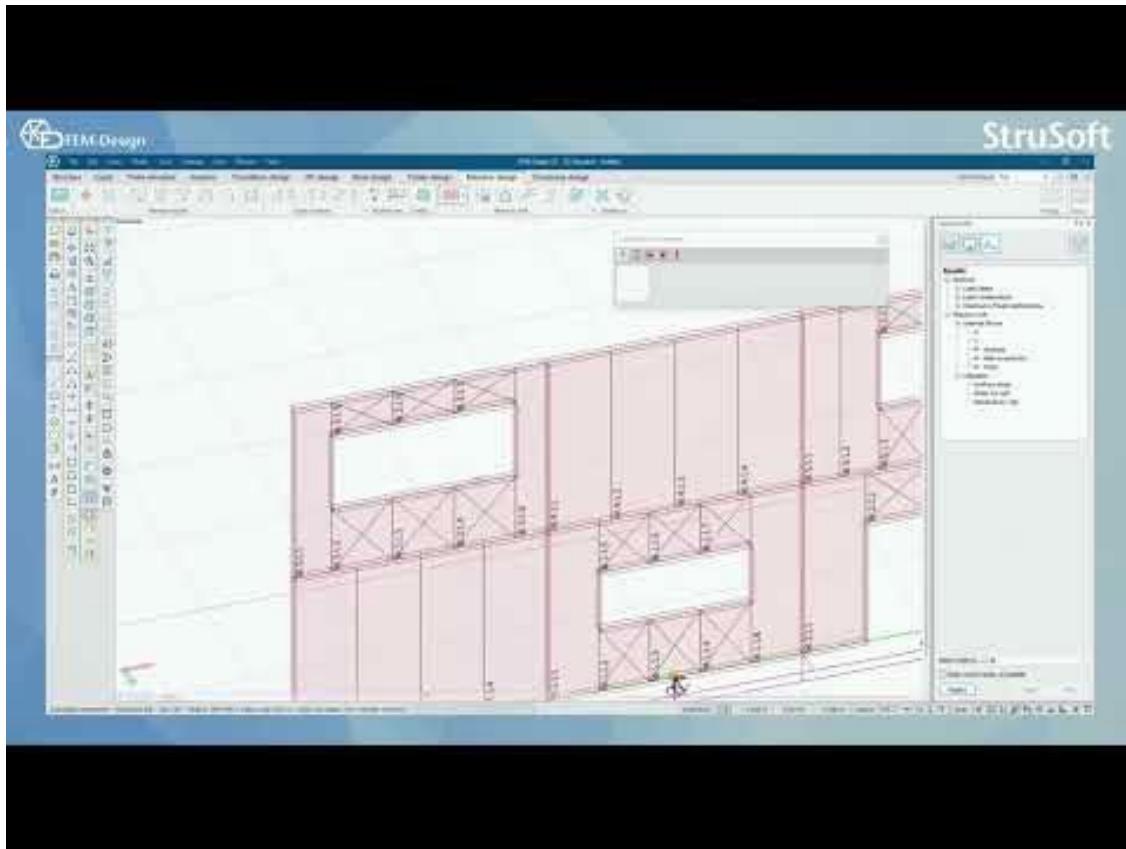
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## 5.7 Masonry design in FEM-Design



Notes:

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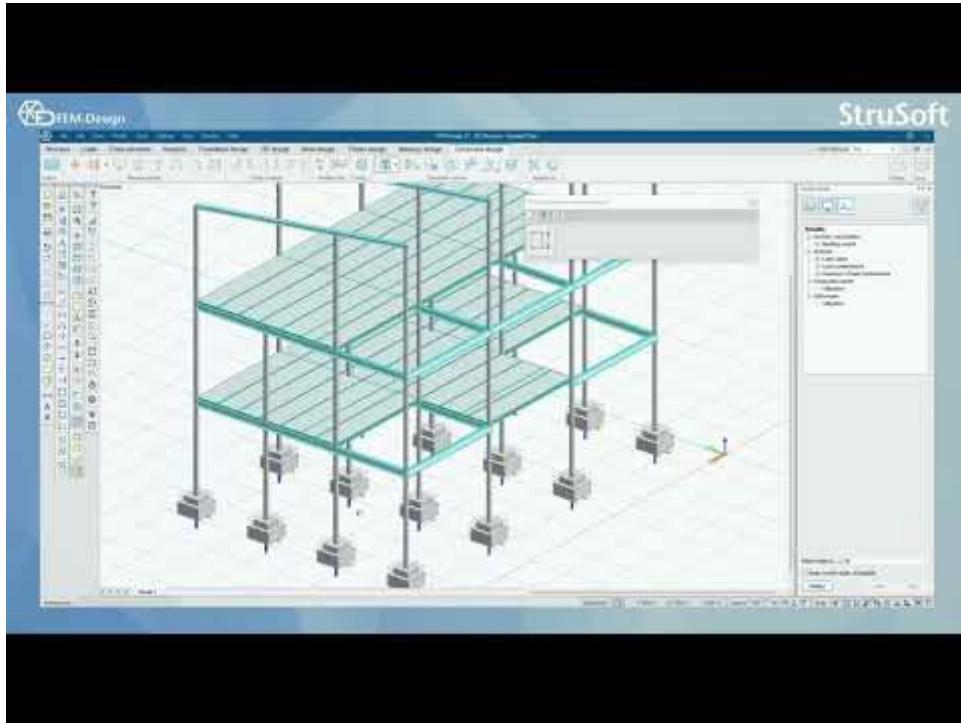
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## 5.8 Composite design in FEM-Design



Notes:

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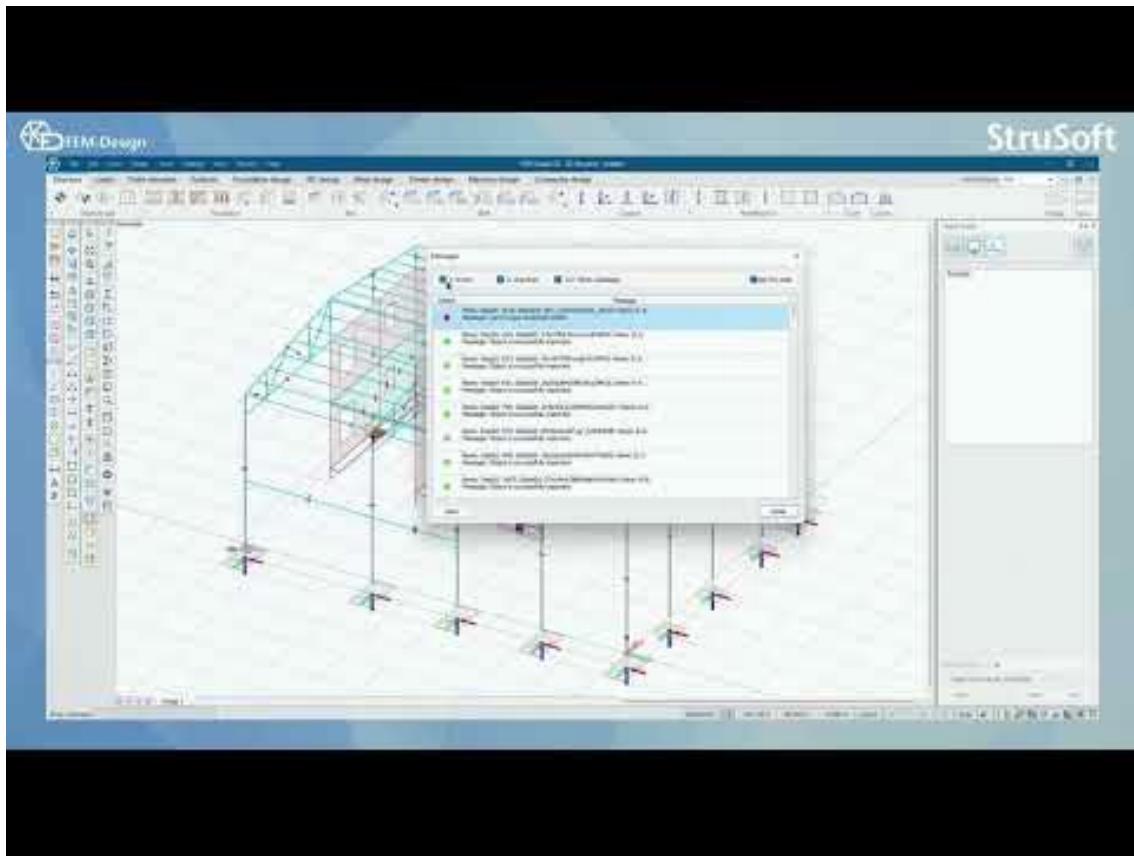
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## 6 REFERENCES IN FEM-DESIGN

### 6.1 IFC in FEM-Design



Notes:

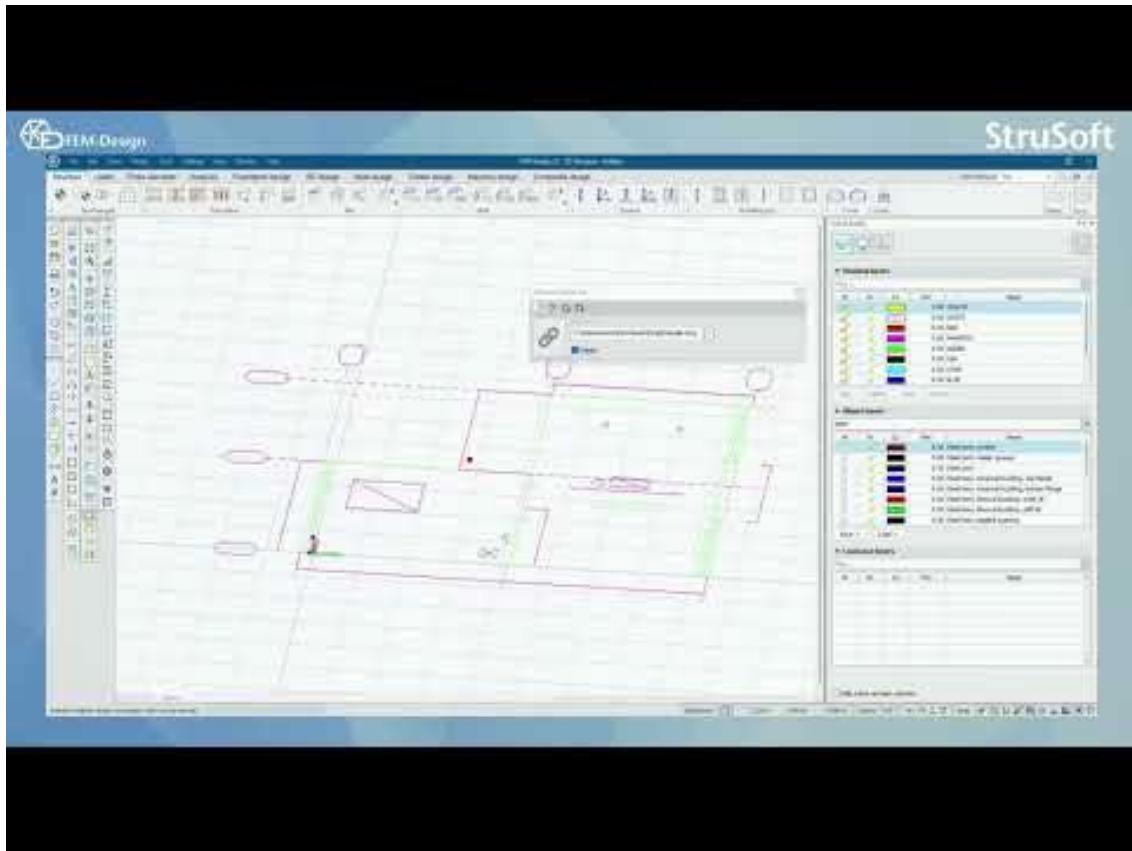
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## 6.2 DWG in FEM-Design



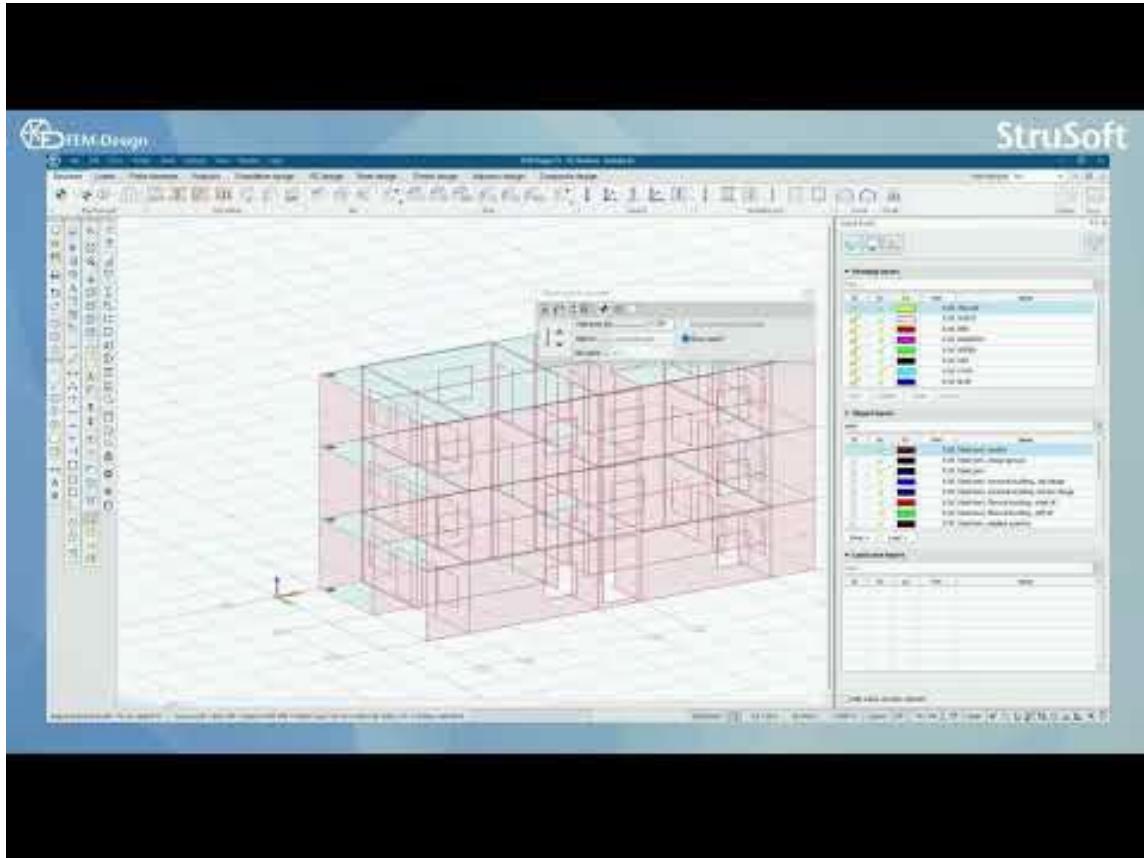
Notes:

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### 6.3 Correct model tools in FEM-Design



Notes:

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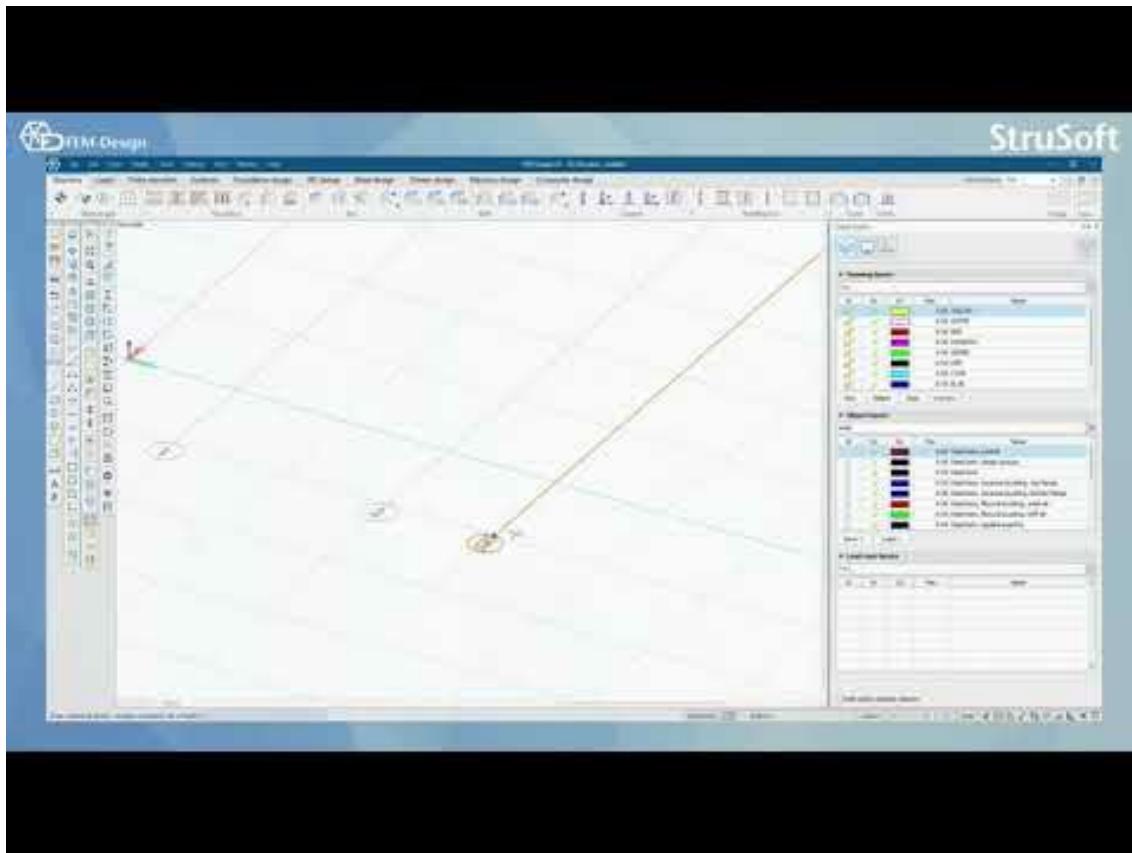
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## 7 BASIC FUNCTIONS TO HELP MODELLING IN FEM-DESIGN

### 7.1 Grid and axes in FEM-Design



Notes:

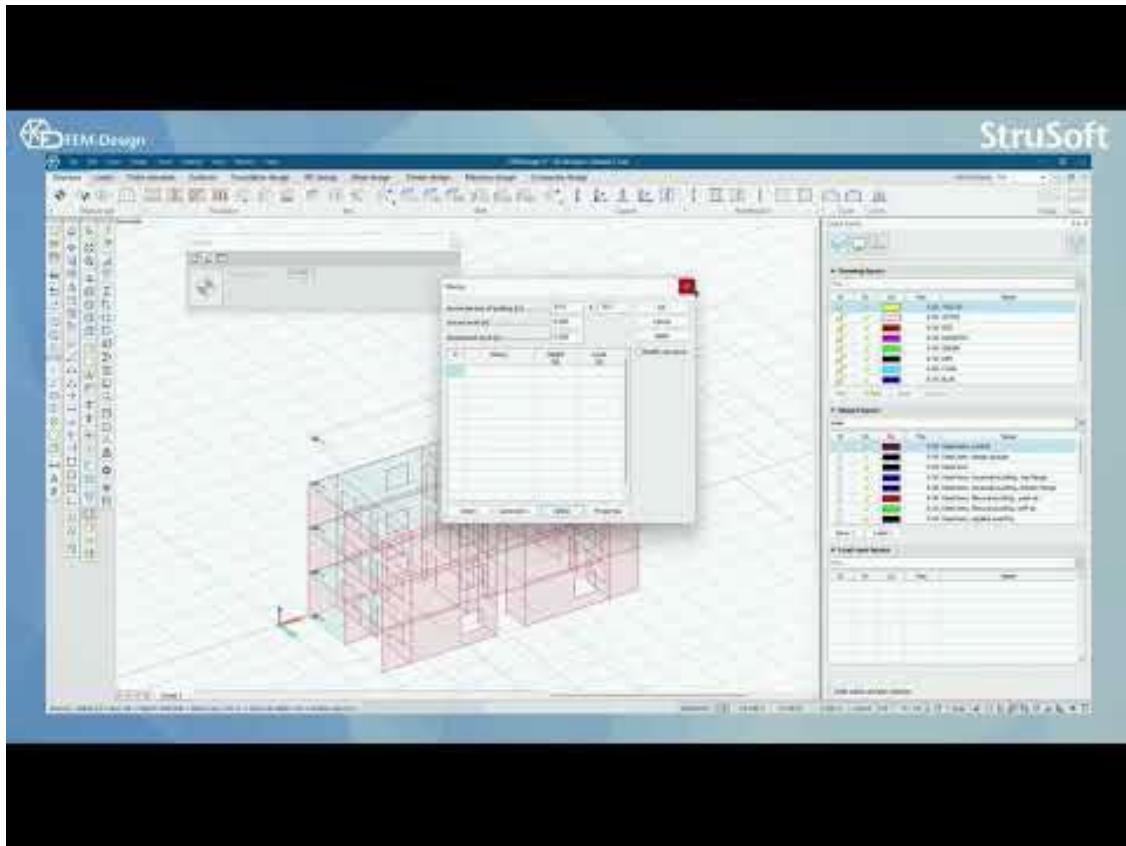
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## 7.2 Storeys in FEM-Design



Notes:

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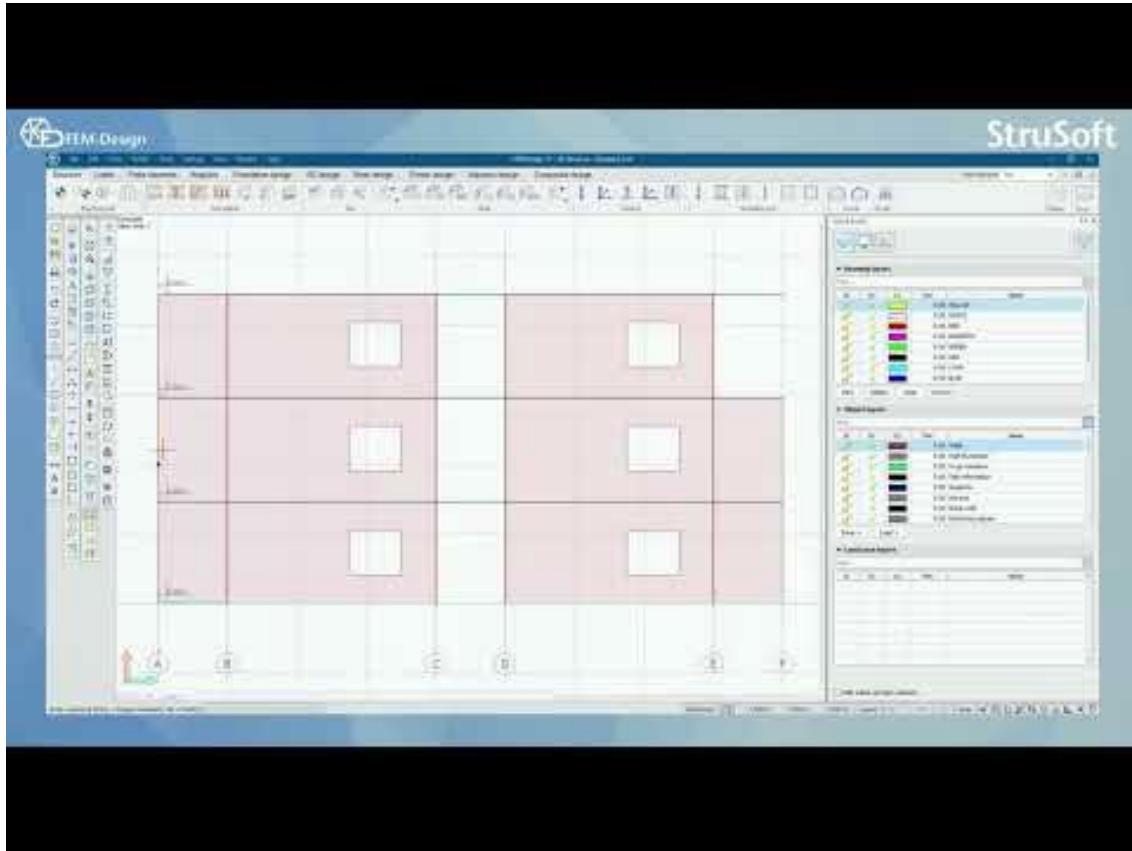
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## 7.3 2D views in FEM-Design



Notes:

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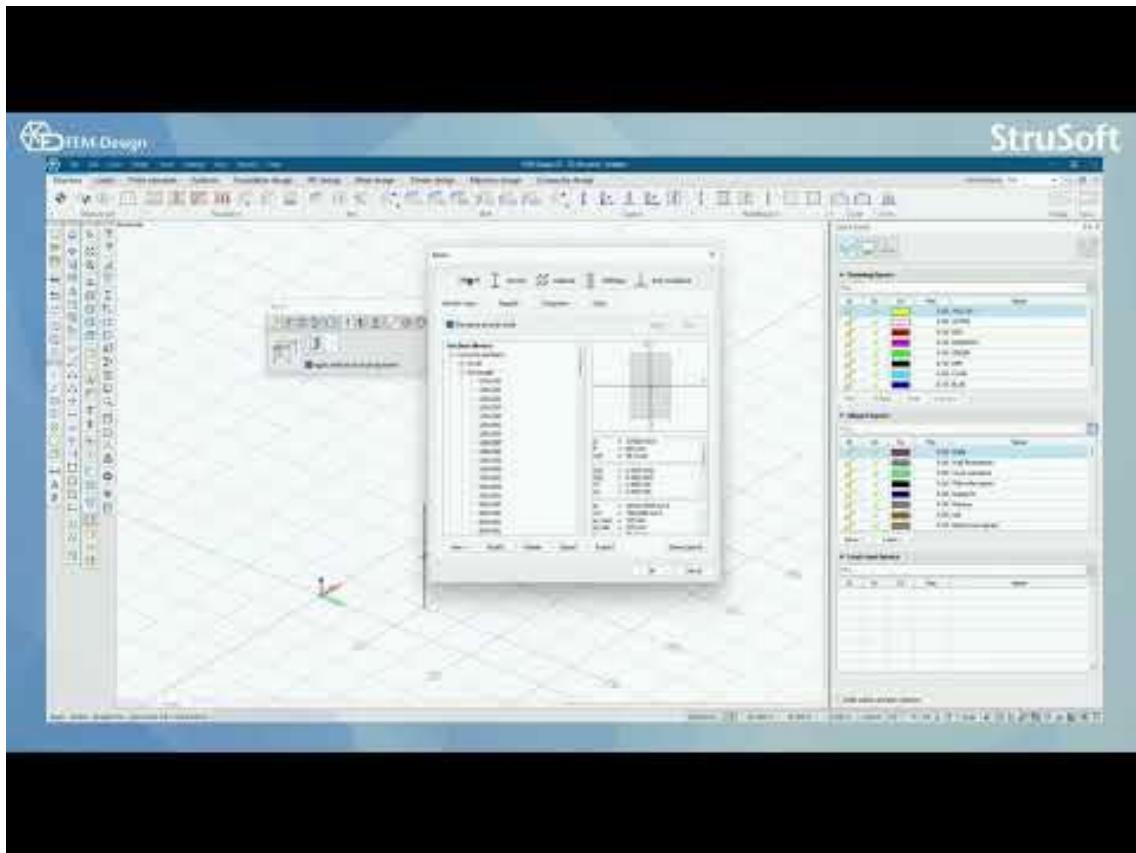
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## 8 DIFFERENT STRUCTURES IN FEM-DESIGN

### 8.1 Bars in FEM-Design



Notes:

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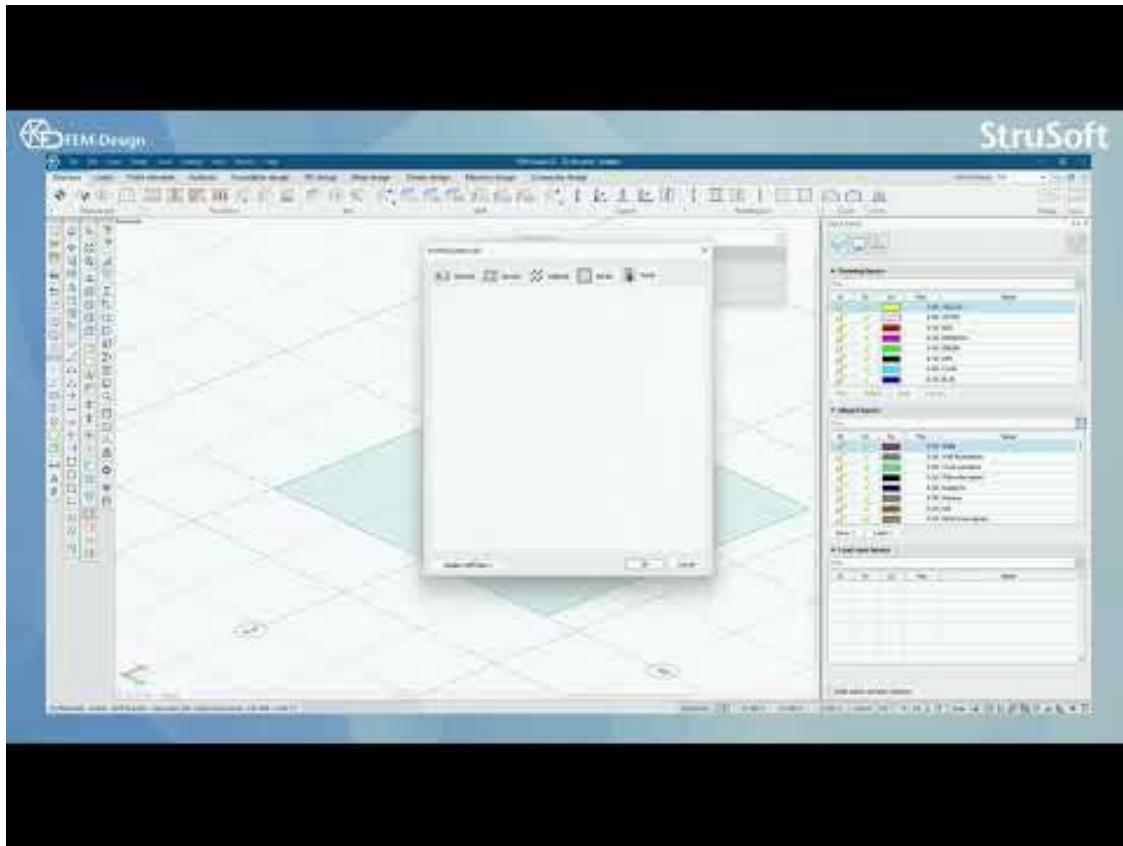
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## 8.2 Shells in FEM-Design



Notes:

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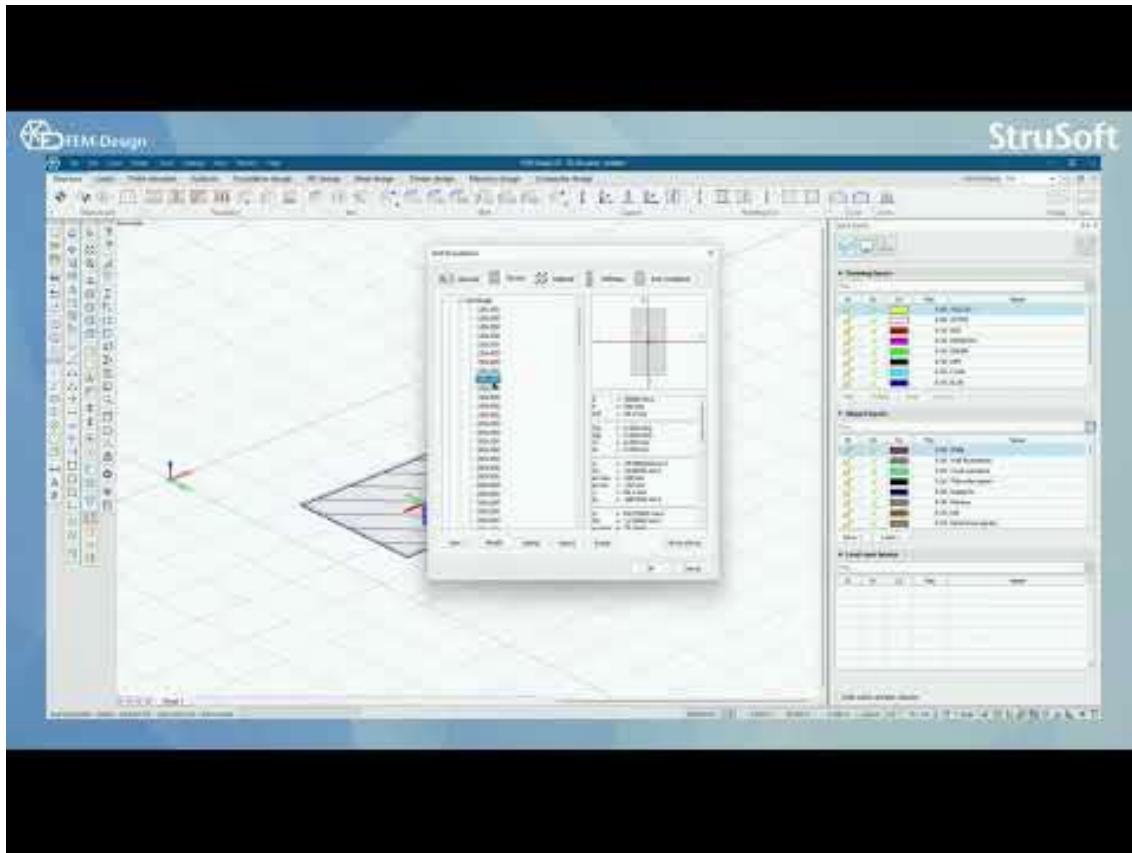
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## 8.3 Foundations in FEM-Design



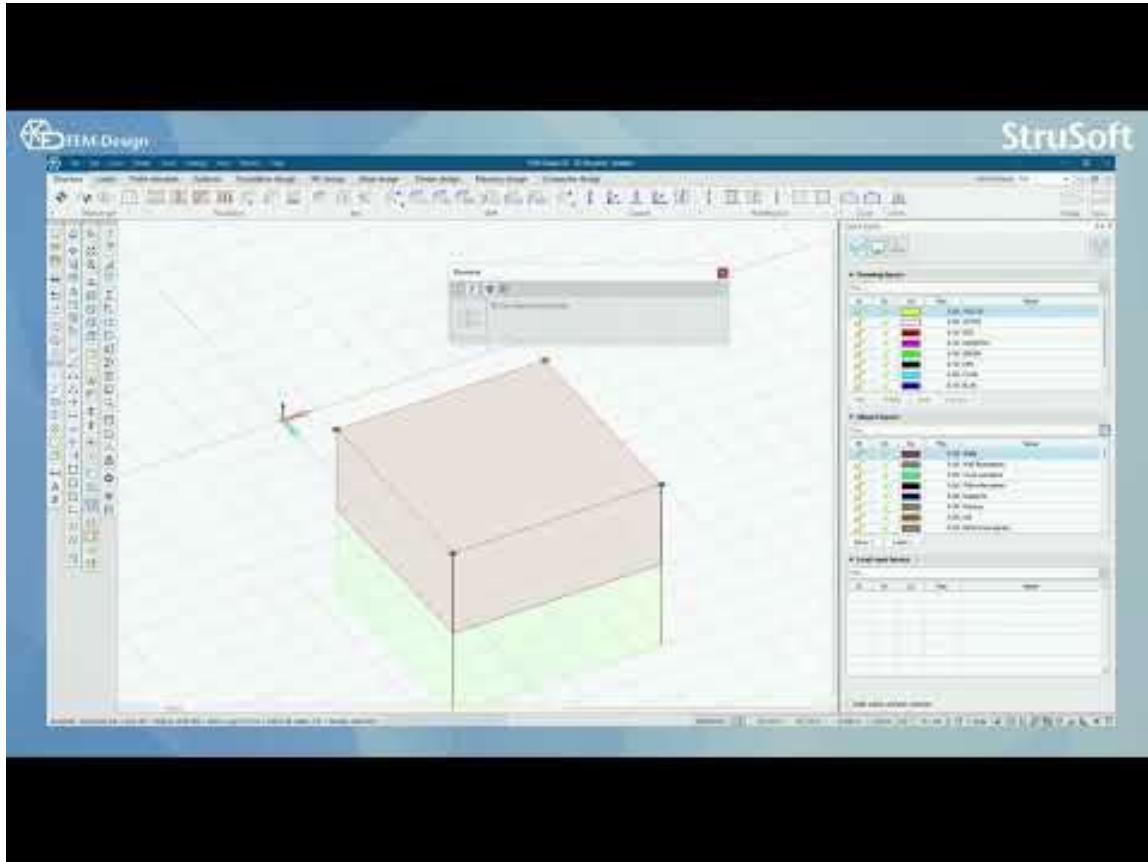
Notes:

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## 8.4 Soil in FEM-Design



Notes:

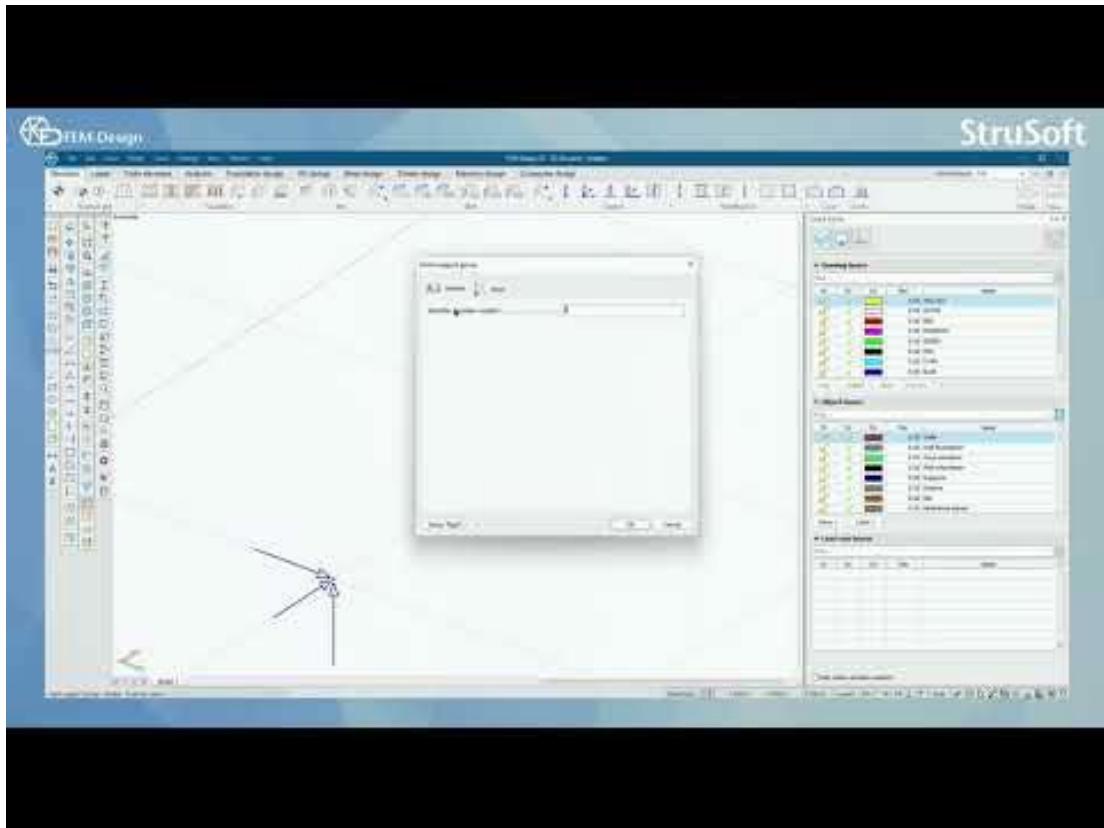
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## 8.5 Supports in FEM-Design



Notes:

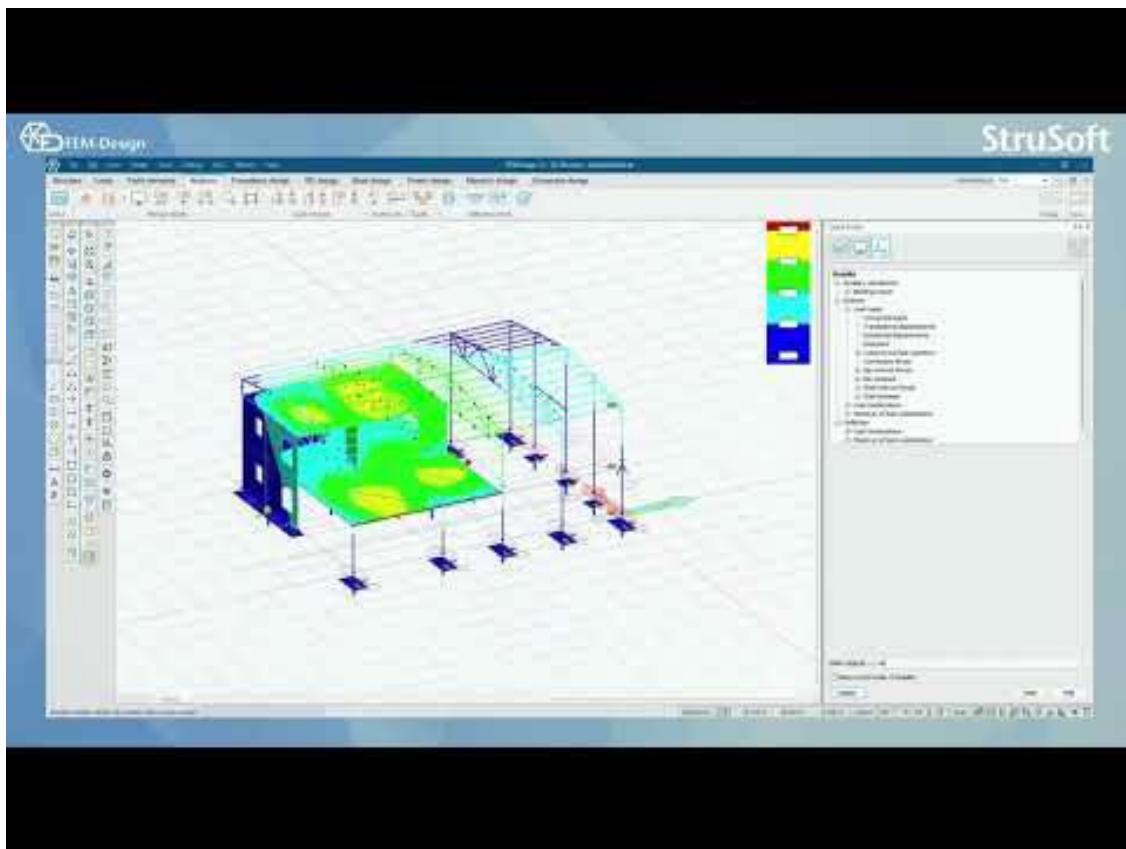
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## 9 LOADS IN FEM-DESIGN

### 9.1 Dead load in FEM-Design



Notes:

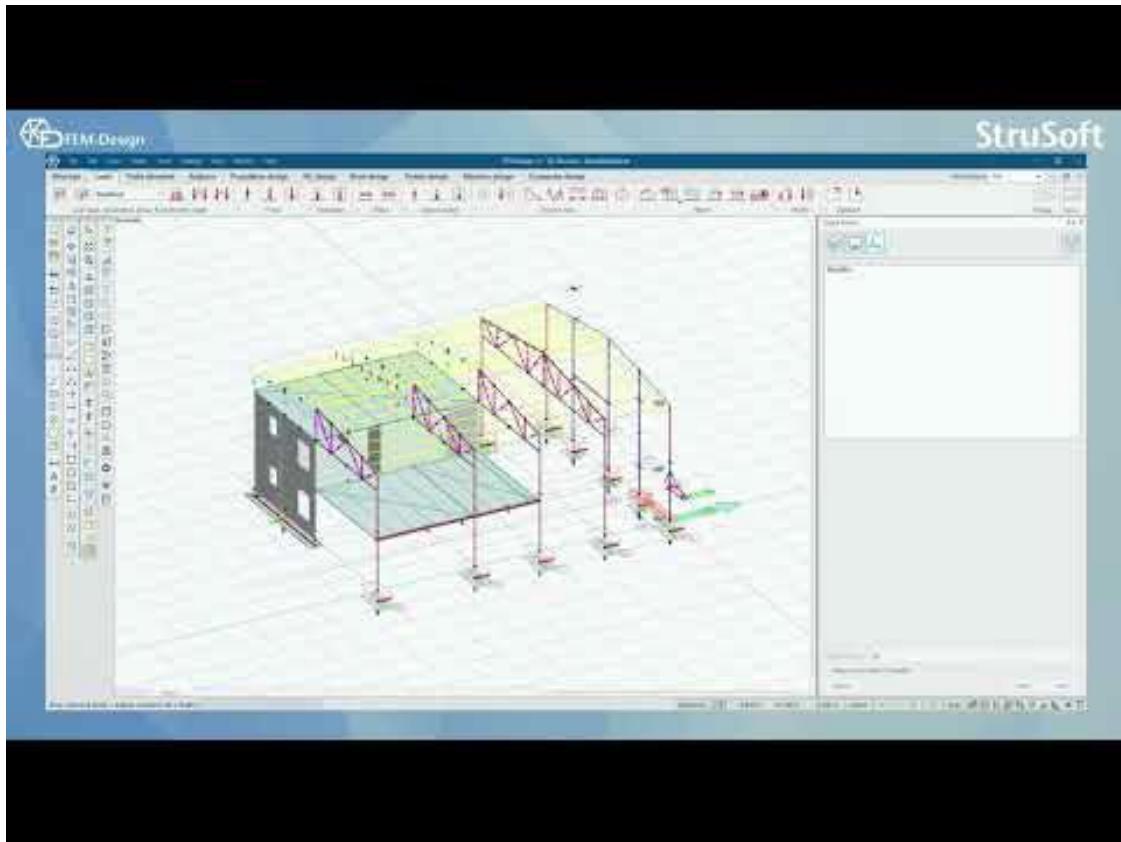
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## 9.2 Load cases and groups in FEM-Design



Notes:

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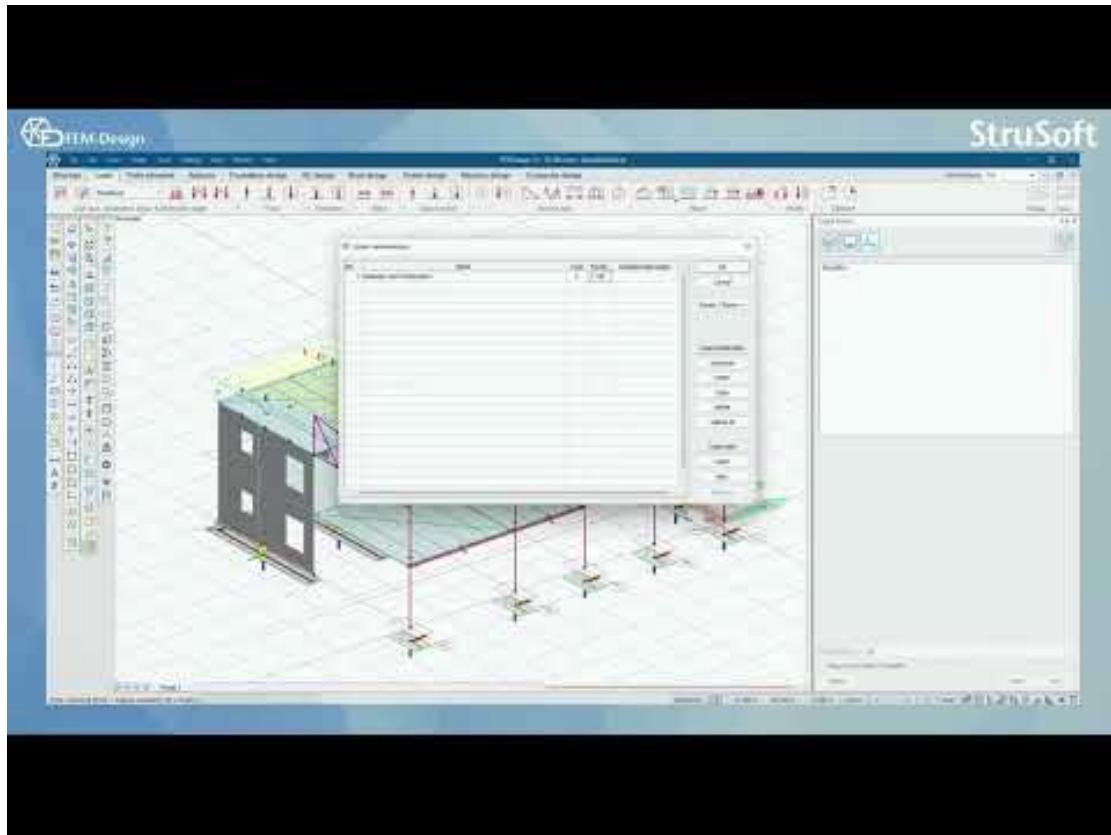
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### 9.3 Load combinations in FEM-Design



Notes:

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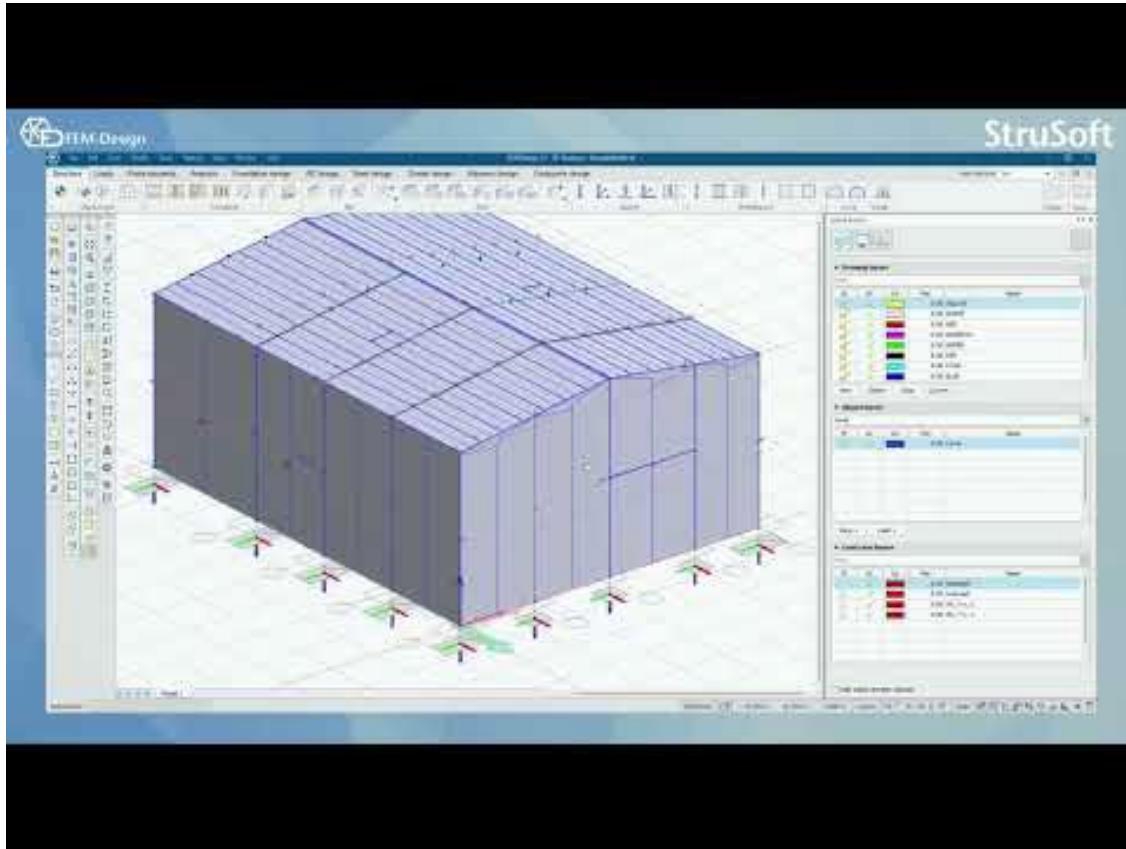
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#### 9.4 Covers and wind loads in FEM-Design



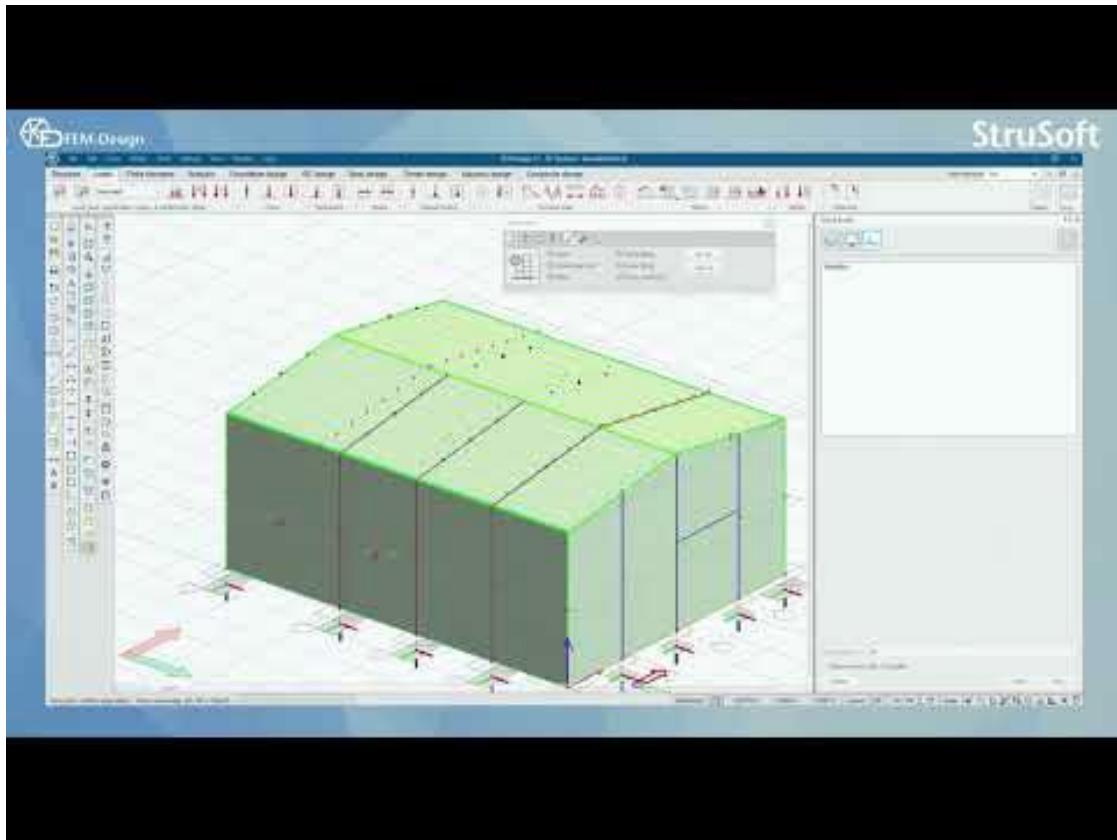
Notes:

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## 9.5 Snow loads in FEM-Design



Notes:

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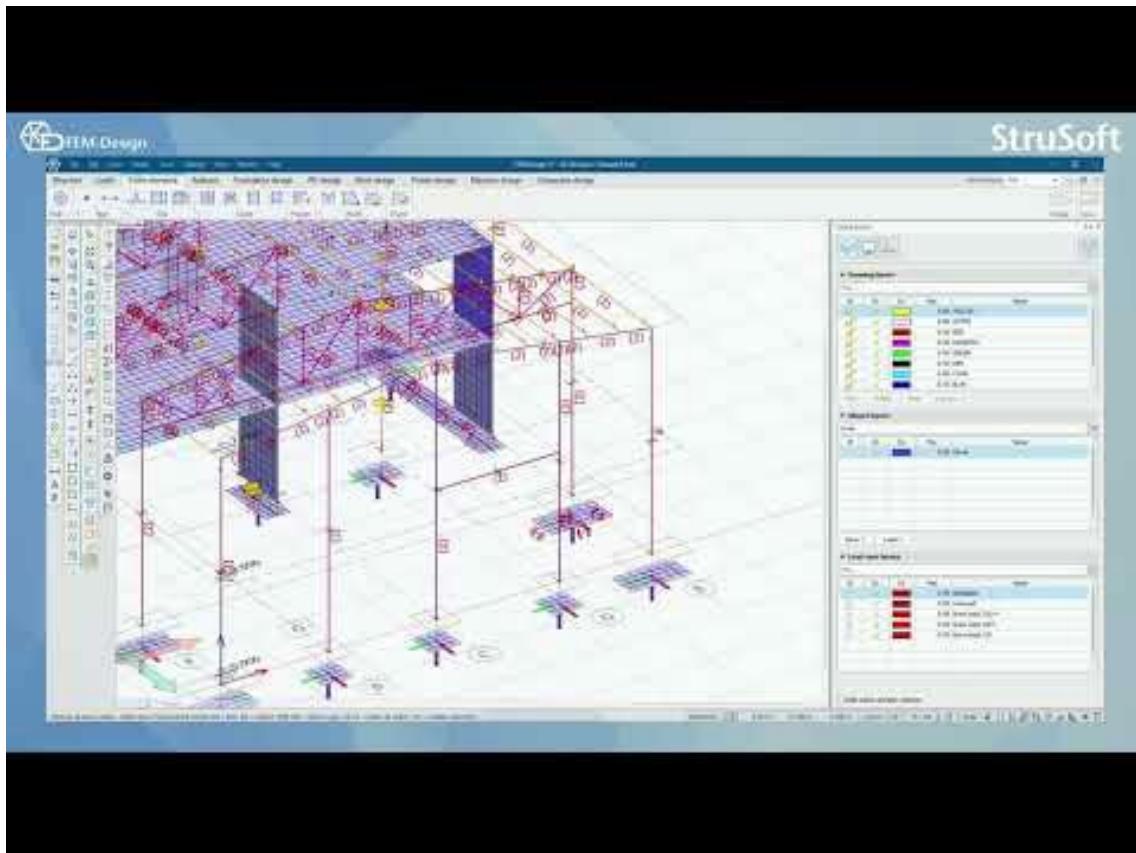
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## 10 FINITE ELEMENTS IN FEM-DESIGN

### 10.1 Finite elements for bars in FEM-Design



Notes:

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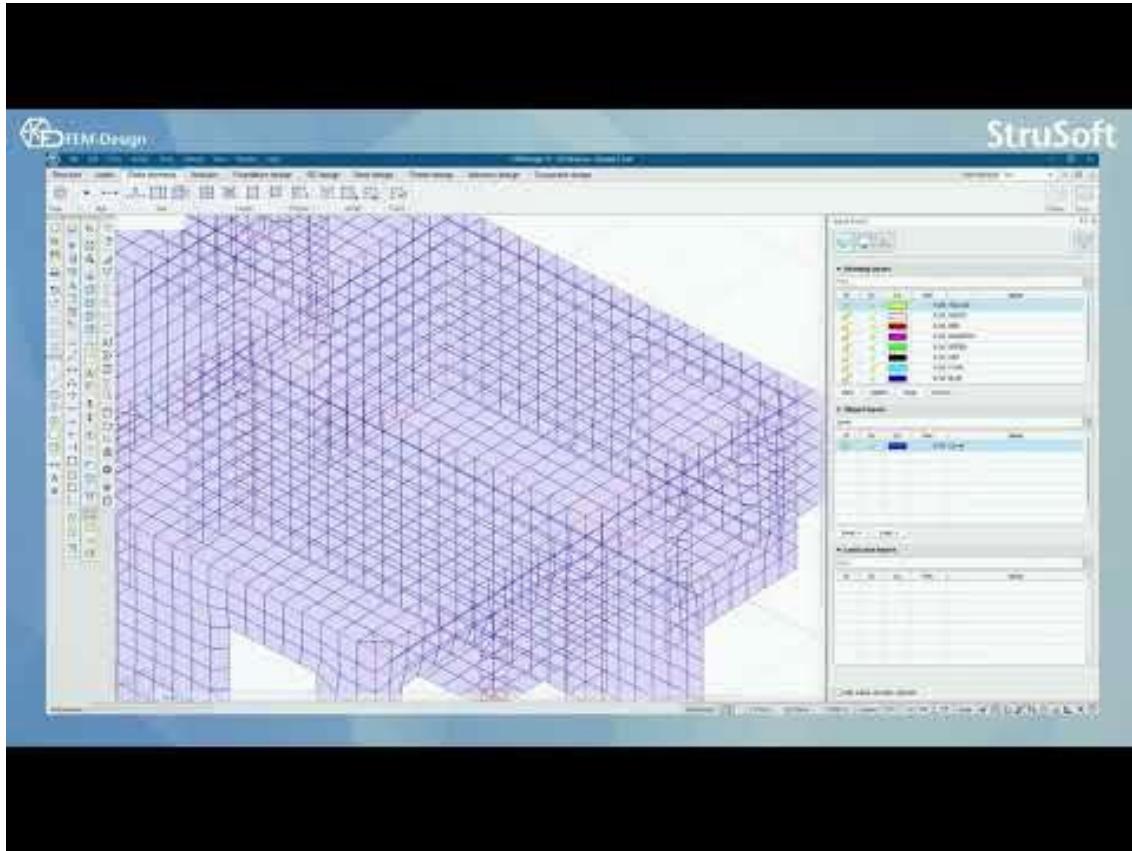
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## 10.2 Finite elements for shells in FEM-Design



Notes:

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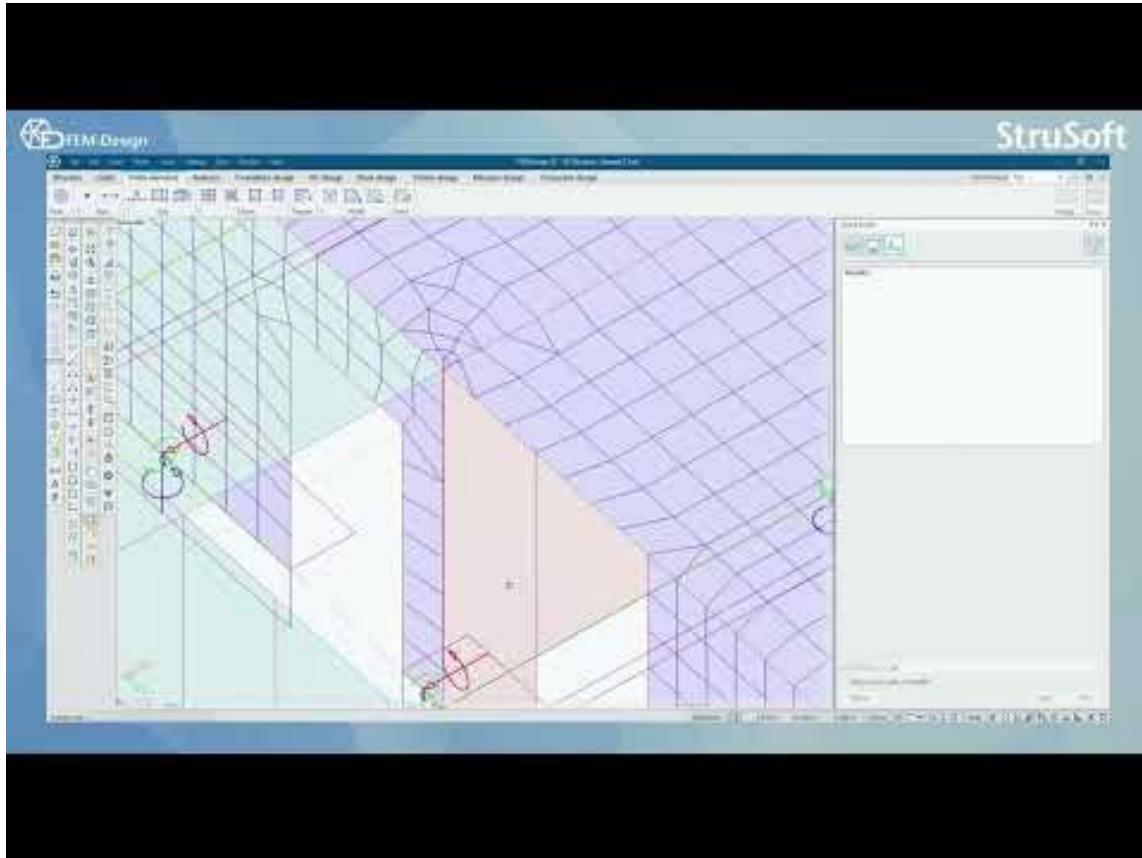
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### 10.3 Common errors in finite elements in FEM-Design



Notes:

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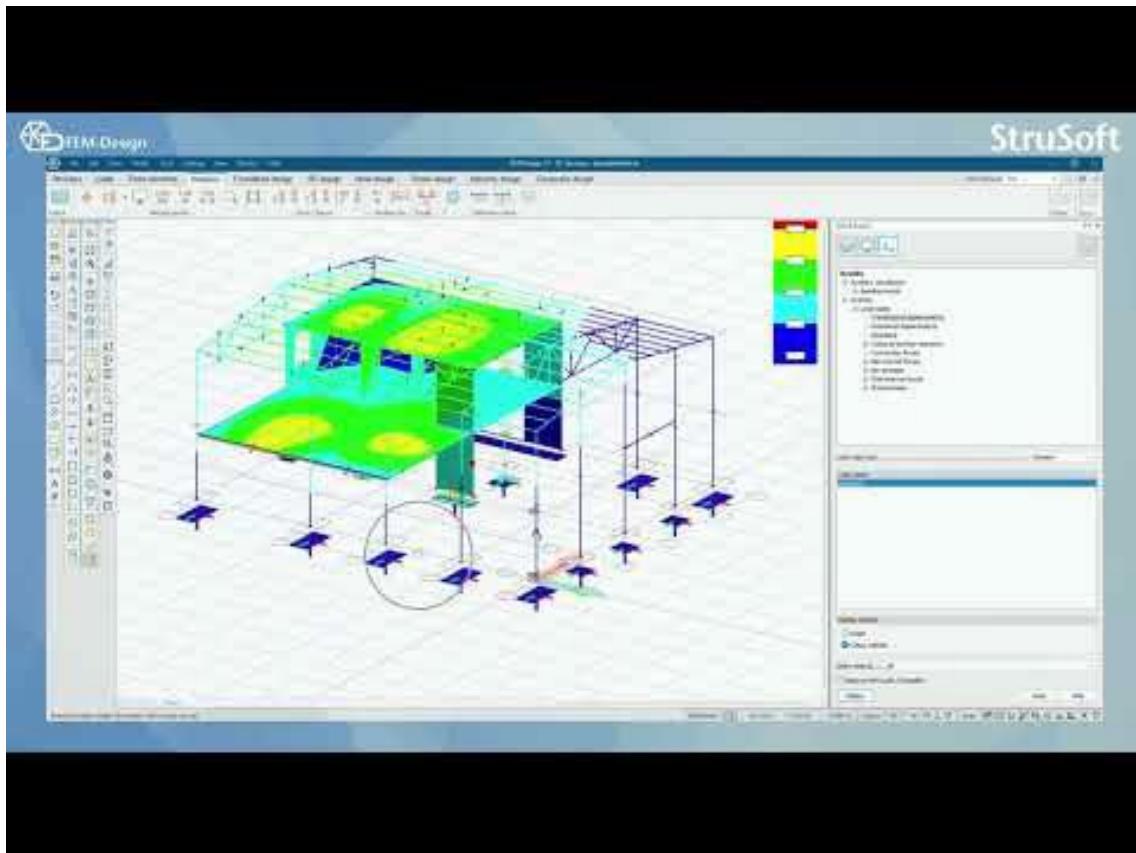
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## 11 CALCULATION TYPES IN FEM-DESIGN

### 11.1 Basic checks after calculation of the model in FEM-Design



Notes:

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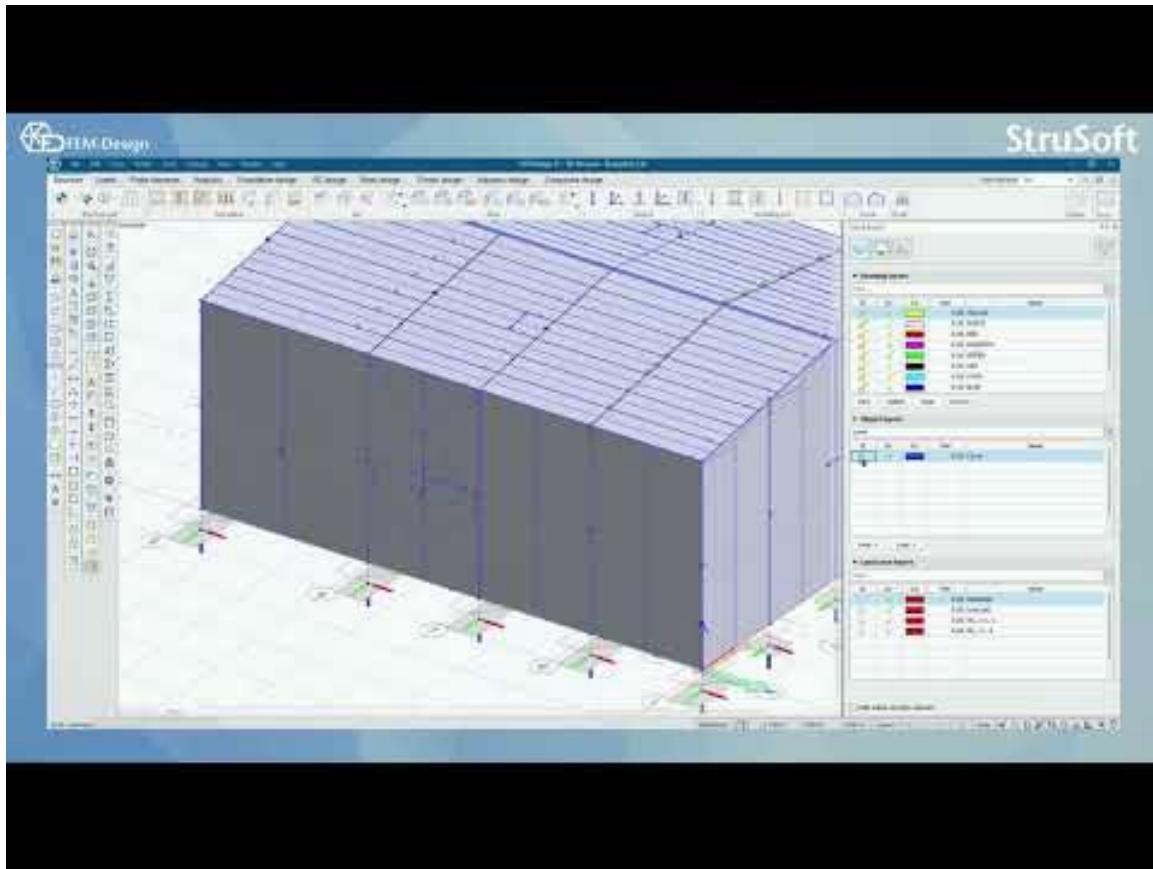
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## 11.2 Errors and warnings in the calculation process in FEM Design



Notes:

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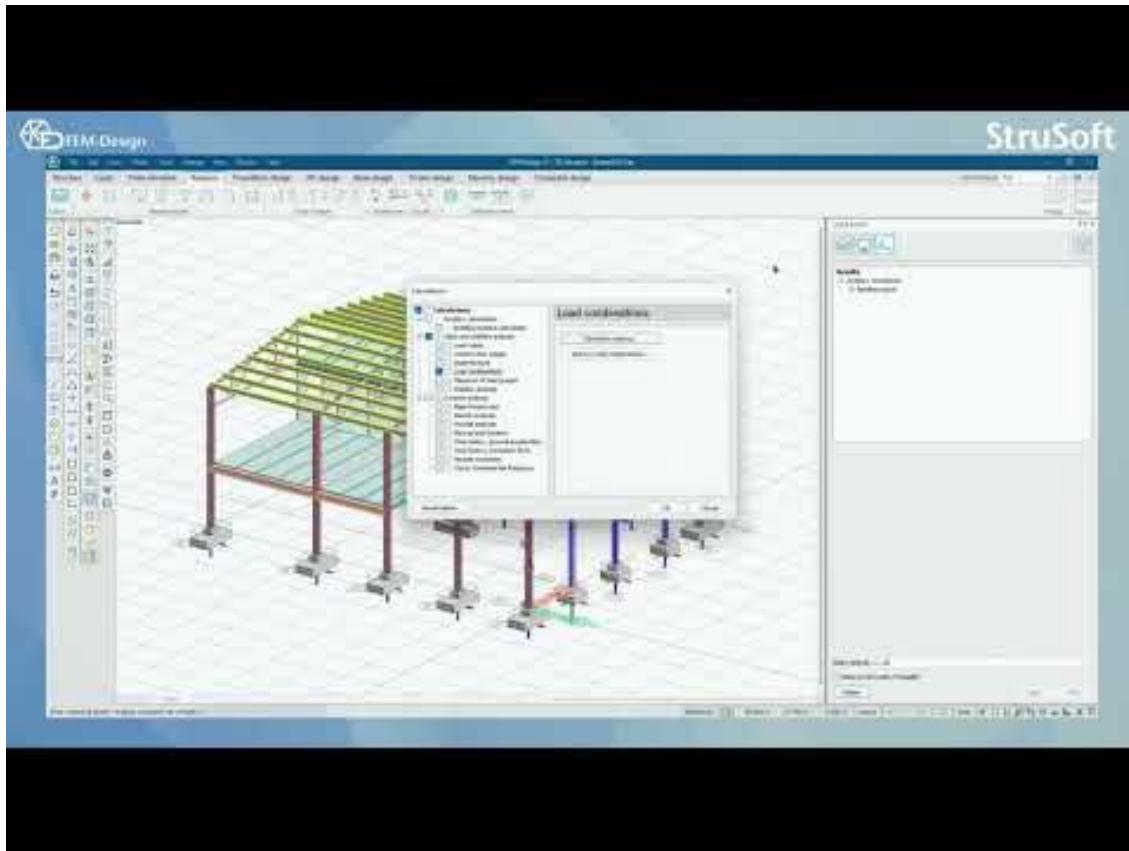
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### 11.3 Load combination calculation in FEM-Design



Notes:

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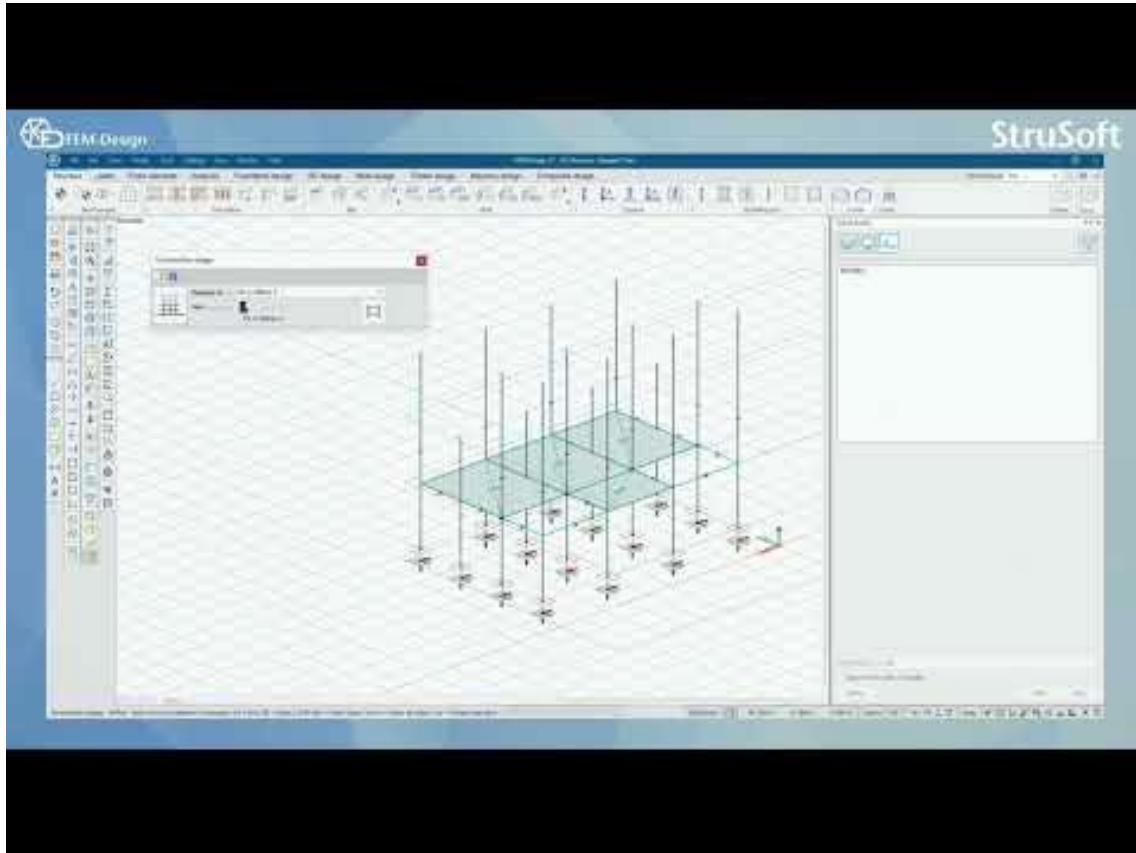
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## 11.4 Construction stages calculation in FEM-Design



Notes:

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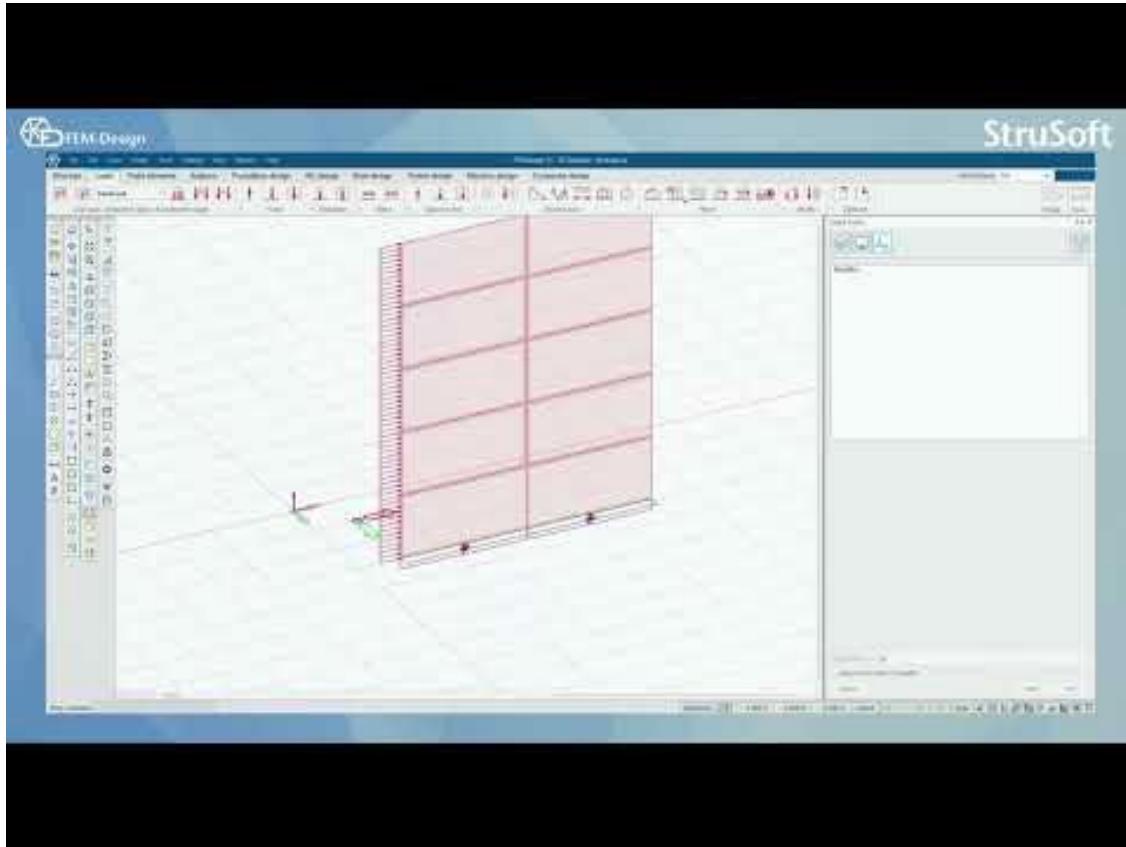
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## 11.5 Nonlinear calculation in FEM-Design



Notes:

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## 11.6 Imperfection and second order analysis in FEM-Design



Notes:

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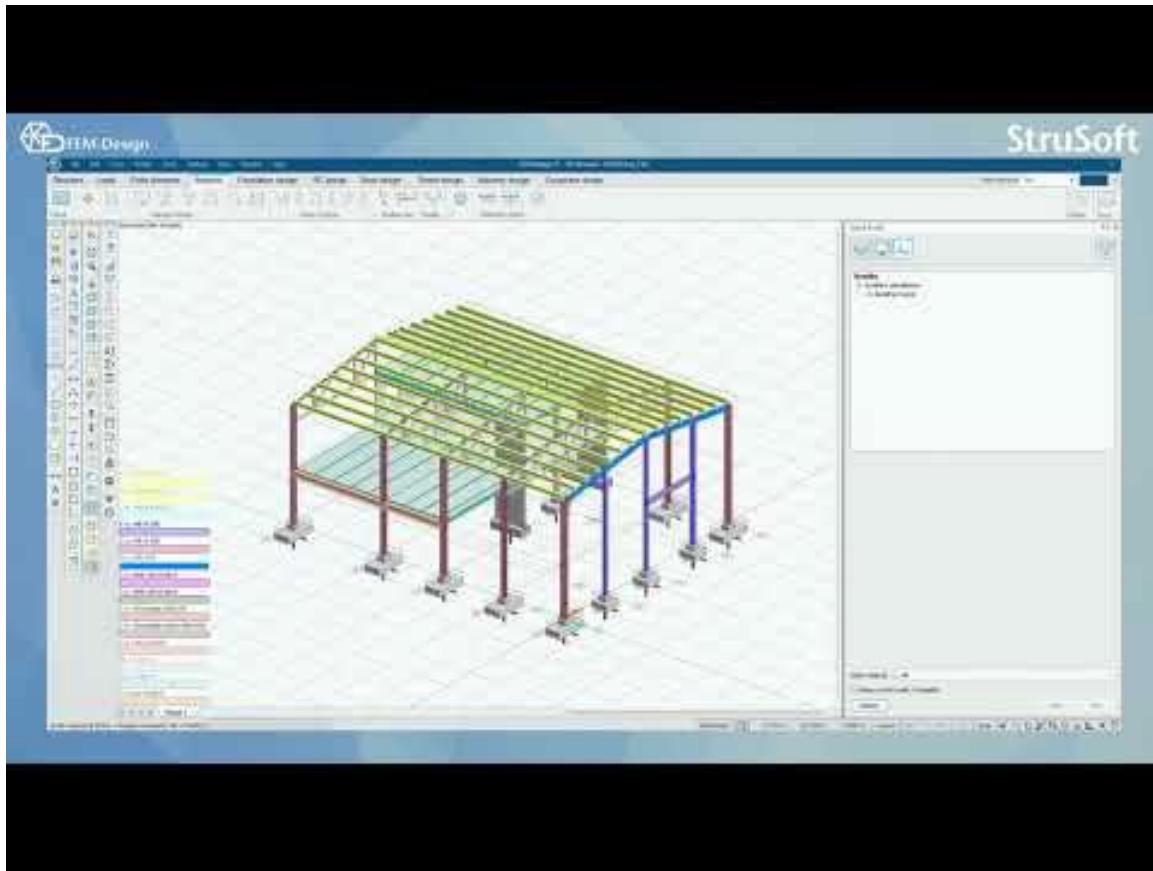
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## 11.7 Stability analysis in FEM-Design



Notes:

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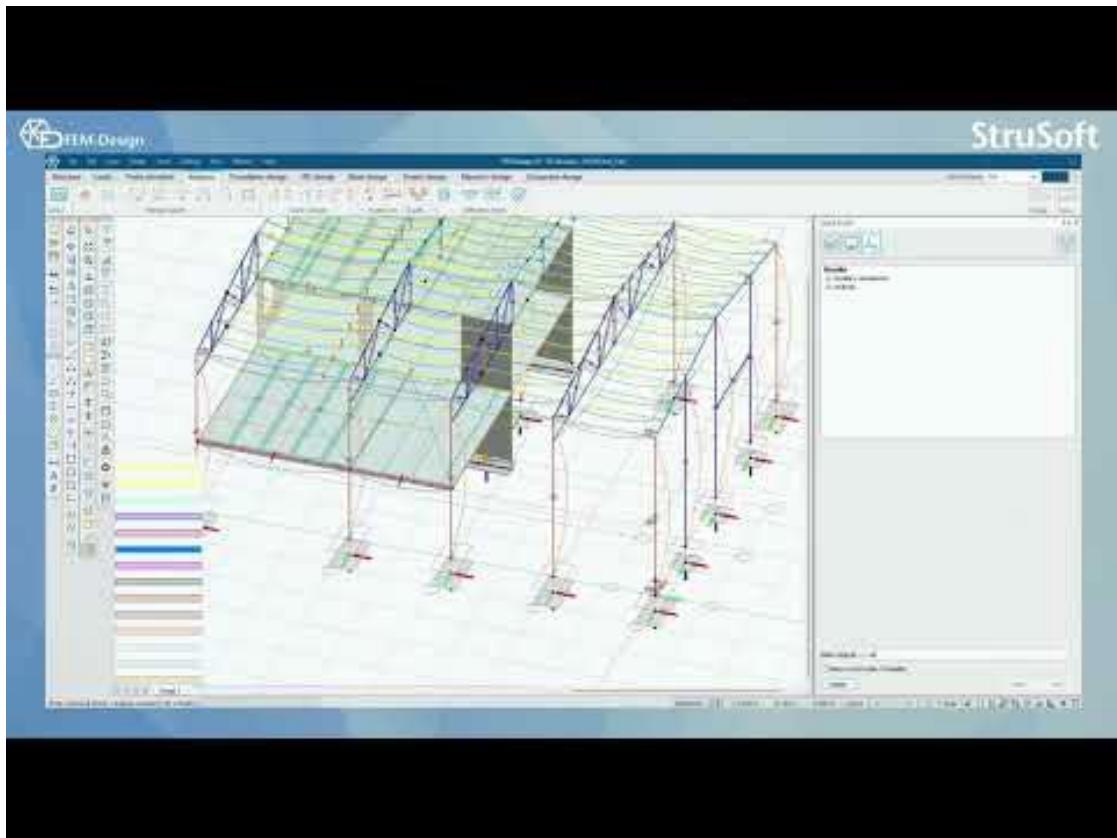
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## 12 RESULTS IN FEM-DESIGN

### 12.1 Deflection check in FEM-Design



Notes:

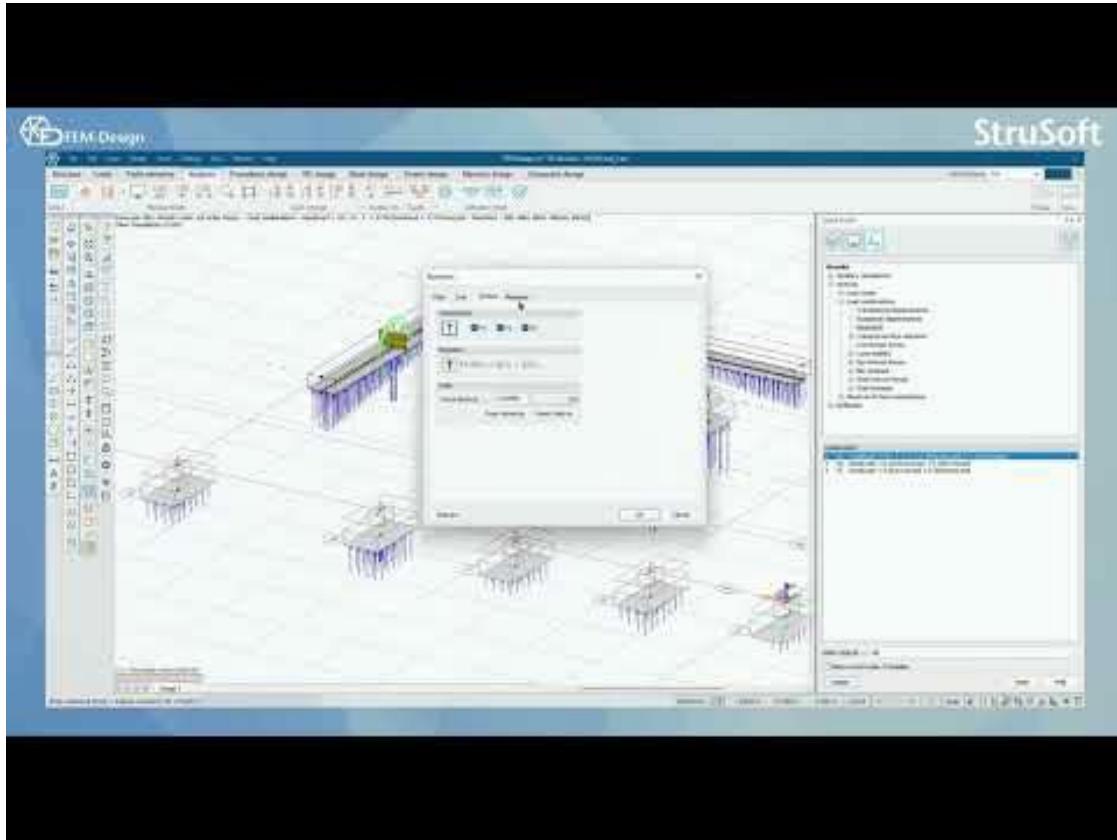
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## 12.2 Reactions in FEM-Design



Notes:

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### 12.3 Shell internal forces and stresses in FEM-Design



Notes:

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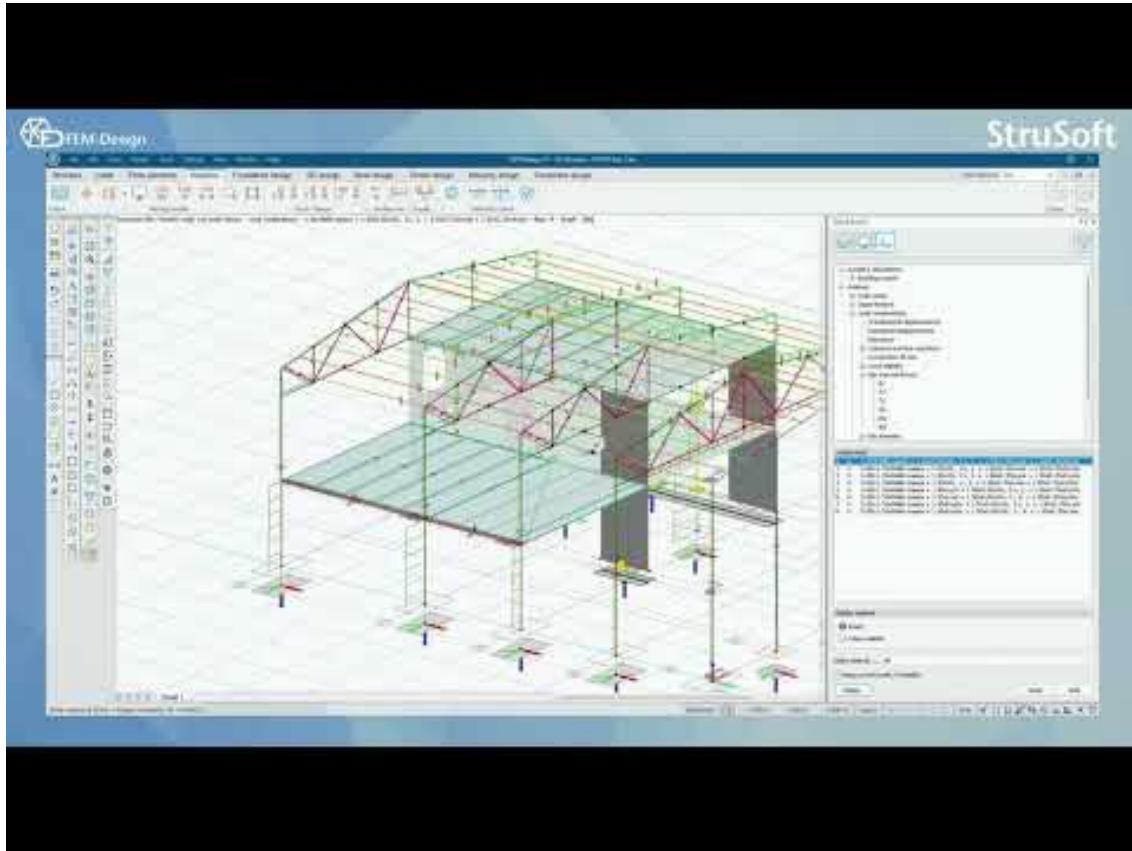
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## 12.4 Bar internal forces and stresses in FEM-Design



Notes:

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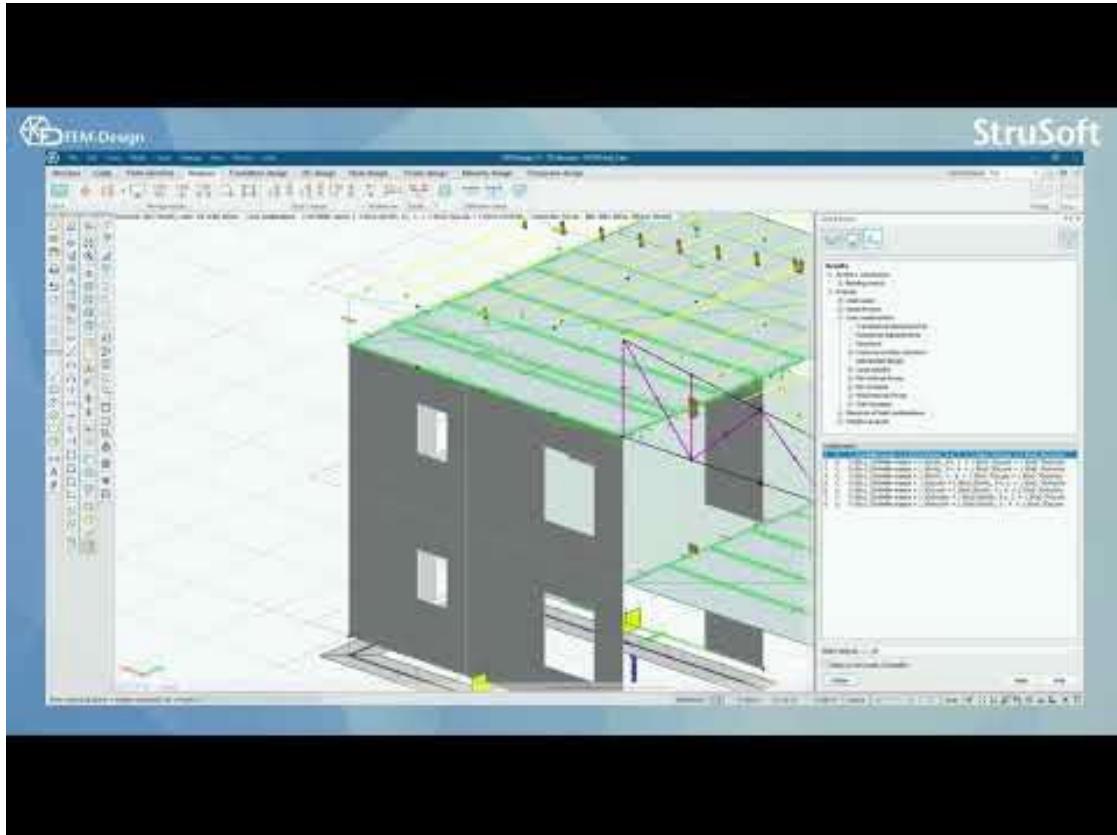
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## 12.5 Connections forces in FEM-Design



Notes:

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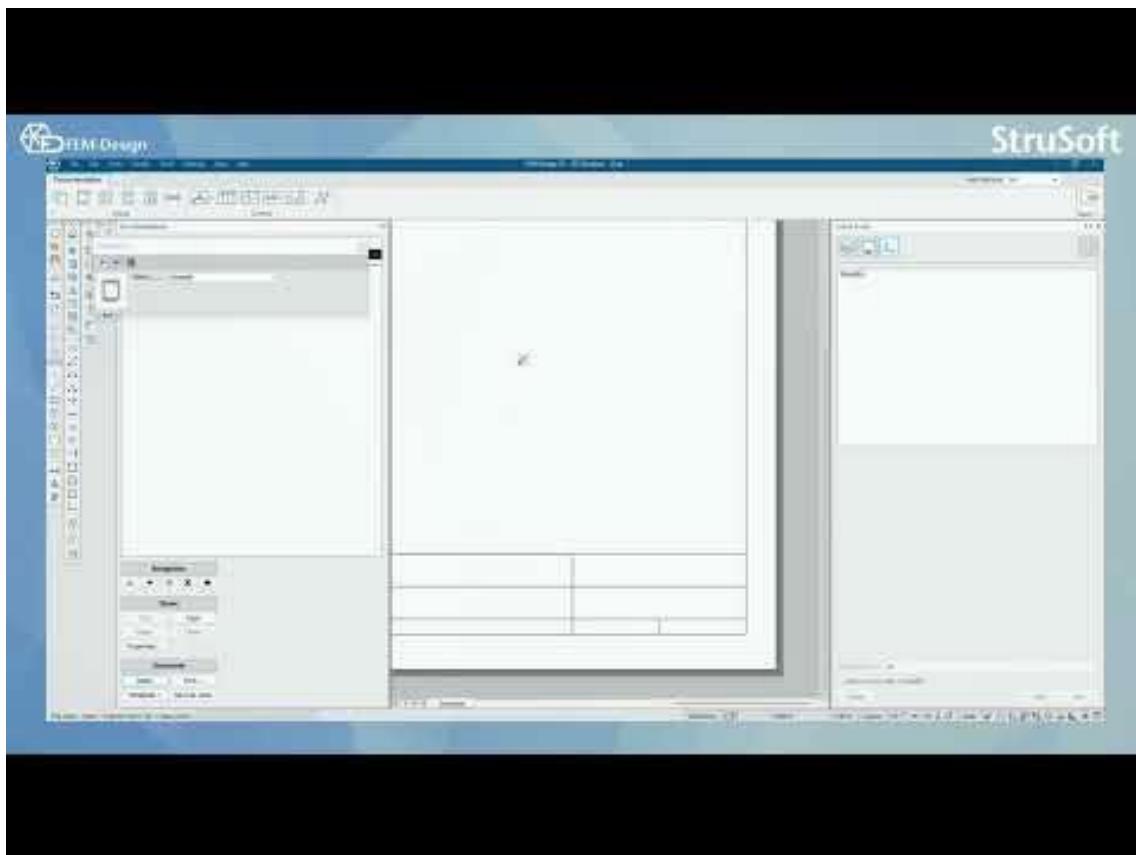
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## 13 DOCUMENTATION

### 13.1 Documentation in FEM-Design



Notes:

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