

Specifying design preferences in Osdag

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

Anandajith T S

FOSSEE, IIT Bombay

5 September 2023



Learning Objectives

In this tutorial, we will learn to



Learning Objectives

In this tutorial, we will learn to

- ▶ **Design preferences in Osdag**



Learning Objectives

In this tutorial, we will learn to

- ▶ Design preferences in Osdag
- ▶ **Define special preferences**



Learning Objectives

In this tutorial, we will learn to

- ▶ Design preferences in Osdag
- ▶ Define special preferences
- ▶ **Perform design using special preferences**



Learning Objectives

In this tutorial, we will learn to

- ▶ Design preferences in Osdag
- ▶ Define special preferences
- ▶ Perform design using special preferences
- ▶ **Compare the design results**



System Requirements

To record this tutorial, I am using



System Requirements

To record this tutorial, I am using

▶ **Windows 11**



System Requirements

To record this tutorial, I am using

- ▶ Windows 11
- ▶ **Osdag v2021.02.a.a12f**



Pre-requisites

To follow this tutorial you should have



Pre-requisites

To follow this tutorial you should have

- ▶ **Osdag installed on your system**



Pre-requisites

To follow this tutorial you should have

- ▶ Osdag installed on your system
- ▶ **Basic knowledge of structural steel design**



Pre-requisites

To follow this tutorial you should have

- ▶ Osdag installed on your system
- ▶ Basic knowledge of structural steel design

The pre-requisite tutorials are available on <https://spoken-tutorial.org>



Code Files

- ▶ **The files used in this tutorial are available in the Code Files link**



Code Files

- ▶ The files used in this tutorial are available in the Code Files link
- ▶ Please download and extract them



Code Files

- ▶ The files used in this tutorial are available in the Code Files link
- ▶ Please download and extract them
- ▶ **Make a copy and then use them while practising**



Sample Design Example

▶ Connector:



Sample Design Example

- ▶ **Connector:**
 - ▶ **Material: E300 (Fe 440)**



Sample Design Example

- ▶ **Connector:**
 - ▶ **Material: E300 (Fe 440)**
- ▶ **Bolt:**



Sample Design Example

- ▶ **Connector:**
 - ▶ **Material: E300 (Fe 440)**
- ▶ **Bolt:**
 - ▶ **Type: Pre-tensioned**



Sample Design Example

- ▶ **Connector:**
 - ▶ **Material: E300 (Fe 440)**
- ▶ **Bolt:**
 - ▶ **Type: Pre-tensioned**
 - ▶ **Hole Type: Over-sized**



Sample Design Example

- ▶ **Connector:**
 - ▶ Material: E300 (Fe 440)
- ▶ **Bolt:**
 - ▶ Type: Pre-tensioned
 - ▶ Hole Type: Over-sized
 - ▶ Slip factor: 0.48



Sample Design Example

► Detailing:



Sample Design Example

- ▶ **Detailing:**
 - ▶ **Edge Preparation Method:
machine-flame cut**



Sample Design Example

- ▶ **Detailing:**
 - ▶ **Edge Preparation Method:**
machine-flame cut
 - ▶ **Environment: Corrosive**



Sample Design Example

- ▶ **Detailing:**
 - ▶ **Edge Preparation Method:**
machine-flame cut
 - ▶ **Environment:** Corrosive
- ▶ **Design:**



Sample Design Example

- ▶ **Detailing:**
 - ▶ **Edge Preparation Method:**
machine-flame cut
 - ▶ **Environment:** Corrosive
- ▶ **Design:**
 - ▶ **Limit State Design**



Summary

In this tutorial, we have

- ▶ **Learnt design preferences in Osdag**
- ▶ **Defined special preferences**
- ▶ **Performed design using special preferences**
- ▶ **Compared the design results**



Assignment

As an assignment do the following

- ▶ **Go to the Tension Member Design - Welded to End Gusset module**
- ▶ **Use the same input values as this tutorial wherever applicable**



Assignment

- ▶ **Explore and define various design preferences**
- ▶ **Compare the results and make conclusions**



About the Spoken Tutorial Project

- ▶ Watch the video available at https://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to contact@spoken-tutorial.org



Answers for THIS Spoken Tutorial

- ▶ **Questions in THIS Spoken Tutorial?**
- ▶ **Visit <https://forums.spoken-tutorial.org/>**
- ▶ **Choose the minute and second where you have the question**
- ▶ **Explain your question briefly**
- ▶ **The Spoken Tutorial project will ensure an answer**
- ▶ **You will have to register to ask questions**



- ▶ For any general or technical questions on Osdag, visit the FOSSEE forum and post your question <https://forums.fossee.in/>



Sample Design Examples

- ▶ The Osdag team at FOSSEE creates sample design examples for self-learning
- ▶ These examples can be practised using the Osdag software
- ▶ For more details, please visit <https://osdag.fossee.in/resources/sample-design>



Acknowledgements

- ▶ **The Spoken Tutorial project was established by the Ministry of Education, Government of India**



Thank You!

- ▶ **This is Anandajith TS, FOSSEE, IIT Bombay signing off**
- ▶ **Thanks for joining**

