1 *Connections* Tutorial 1 – Bolt Connection for Diagonal Brace (US)

1.1 Software Version and Standard

This tutorial was completed using WoodWorks® US 2019, and NDS 2018.

1.2 Introduction

Click here to download the Connections file (.con) created from going through this tutorial.

1.3 Connection Type

1. Click the ***New*** button on the toolbar.
2. Select the connection type ***Lapped Shear, Wood-to-wood*** with a ***Skew, two side members*** configuration.
3. Click on ***OK***.

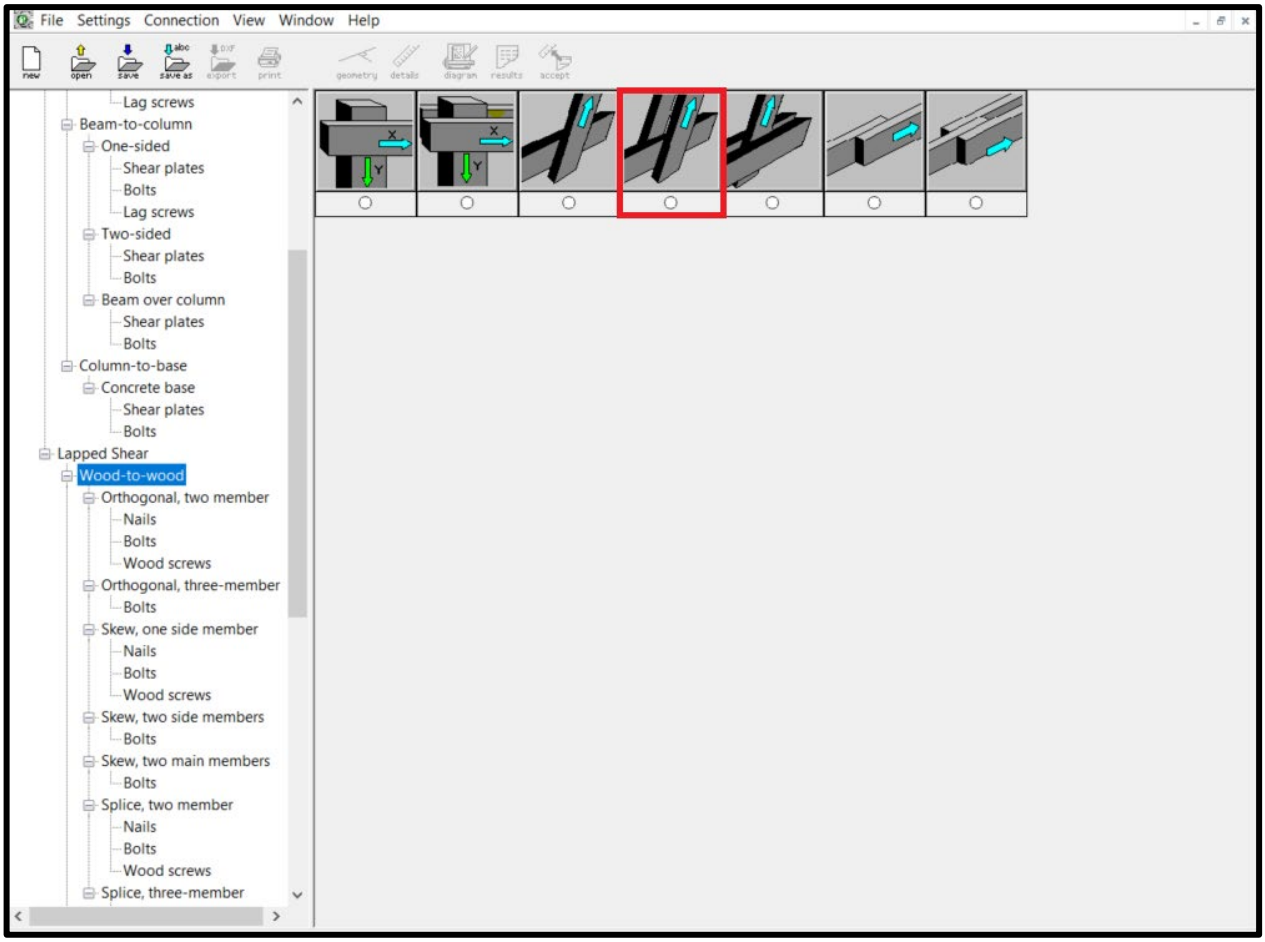

Figure 1: *Connections Tutorial 1 – Selecting Connection Type*

1.4 Connection Details

1.4.1 Main Member

1. Specify ***Material*** to ***Glulam-Unbalanced***.
2. Specify ***Species*** as ***West Species.***
3. Specify ***Grade*** as ***24F-V4 DF***.
4. Specify ***Thickness*** as ***3-1/8 (in.)***.
5. Specify ***Width*** as ***9 (in.)***.
6. Specify the ***End Type*** as ***Extended***.

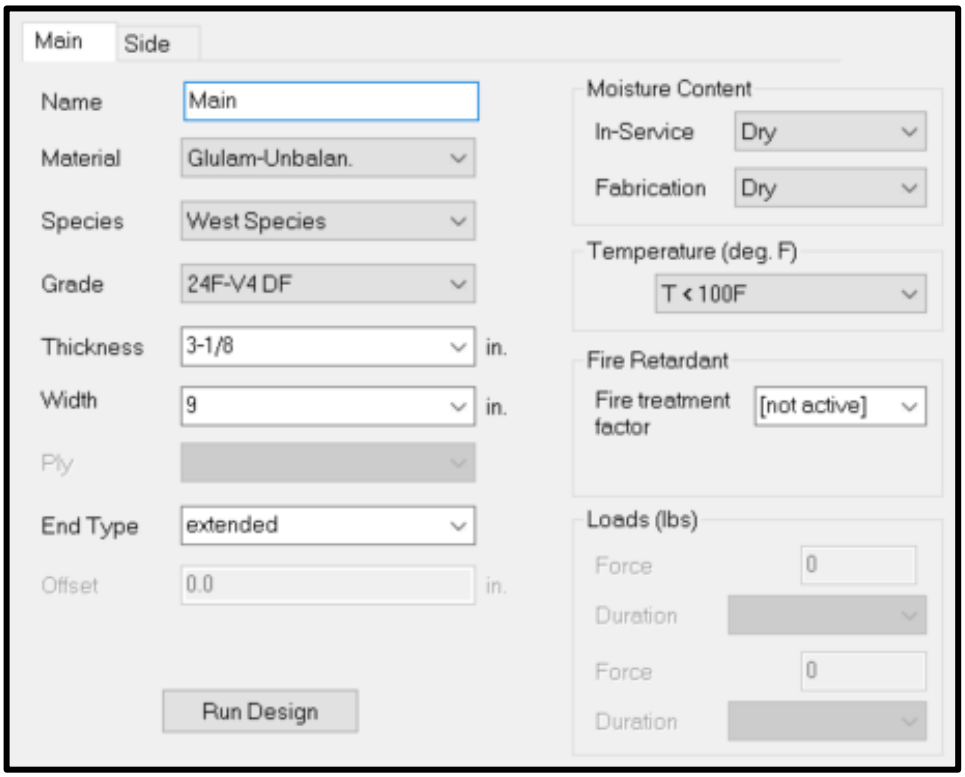

Figure 2: *Connections Tutorial 1 – Main Member Details*

1.4.2 Side Members

1. Specify ***Material*** to ***Lumber-soft***.
2. Specify ***Species*** as ***Hem-fir***.
3. Specify ***Grade*** as ***No.1***.
4. Specify ***Thickness*** as ***2 (in.)***.
5. Specify ***Width*** as ***6 (in.)***.
6. Specify ***Offset*** as ***0.0 (in.)***.
7. Specify a ***Slope*** of ***45*** degrees.
8. Input a ***Force*** of ***1355 (lbs)***.
9. Specify a Load ***Duration*** of ***Permanent***.

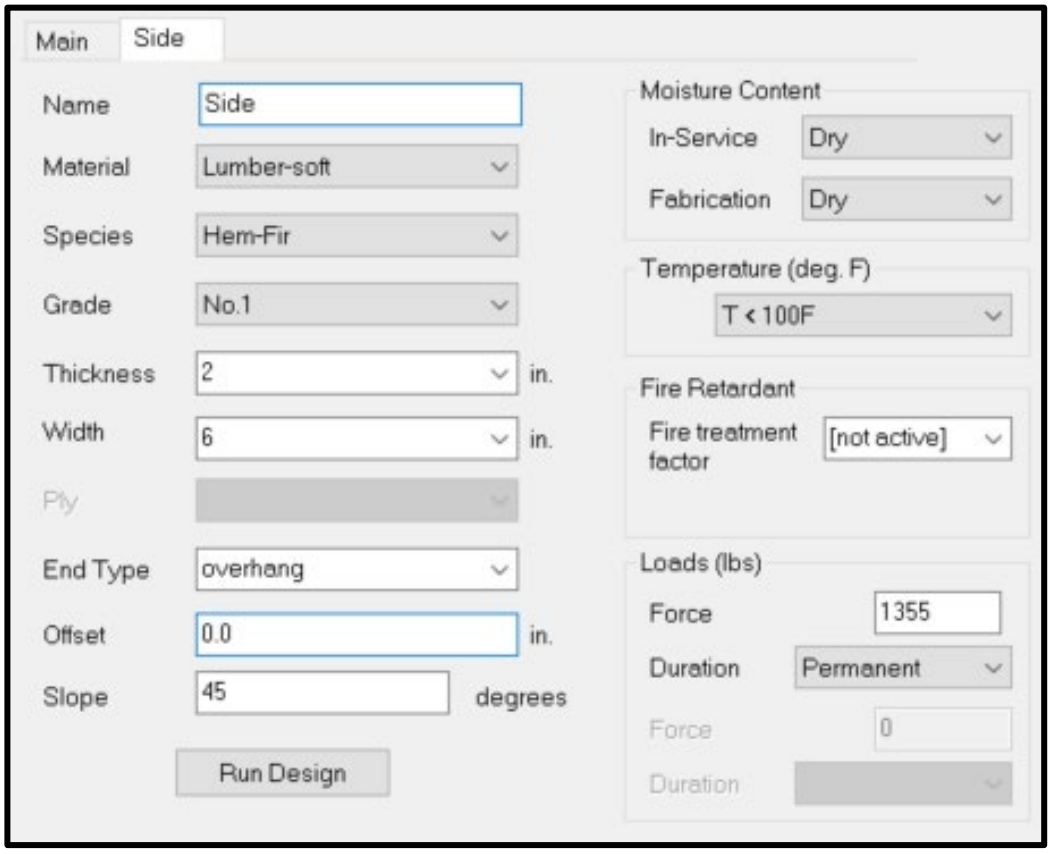

Figure 3: *Connections Tutorial 1 – Side Member Details*

1.5 Review and Accept Design Results

Once a load has been input, *Connections* will automatically complete the design, and a drawing of the connection will automatically generate on the ***Details*** screen. At this point, it is possible to review the ***Diagram***, ***Results*** and ***Accept*** the design. For this example, one 3/4-inch bolt was found to be adequate in resisting the specified load. Both the ***Diagram*** and ***Results*** can quickly be printed using the ***Print*** icon.

Click here to download a PDF of the design results.

Click here to download a PDF of the diagram.

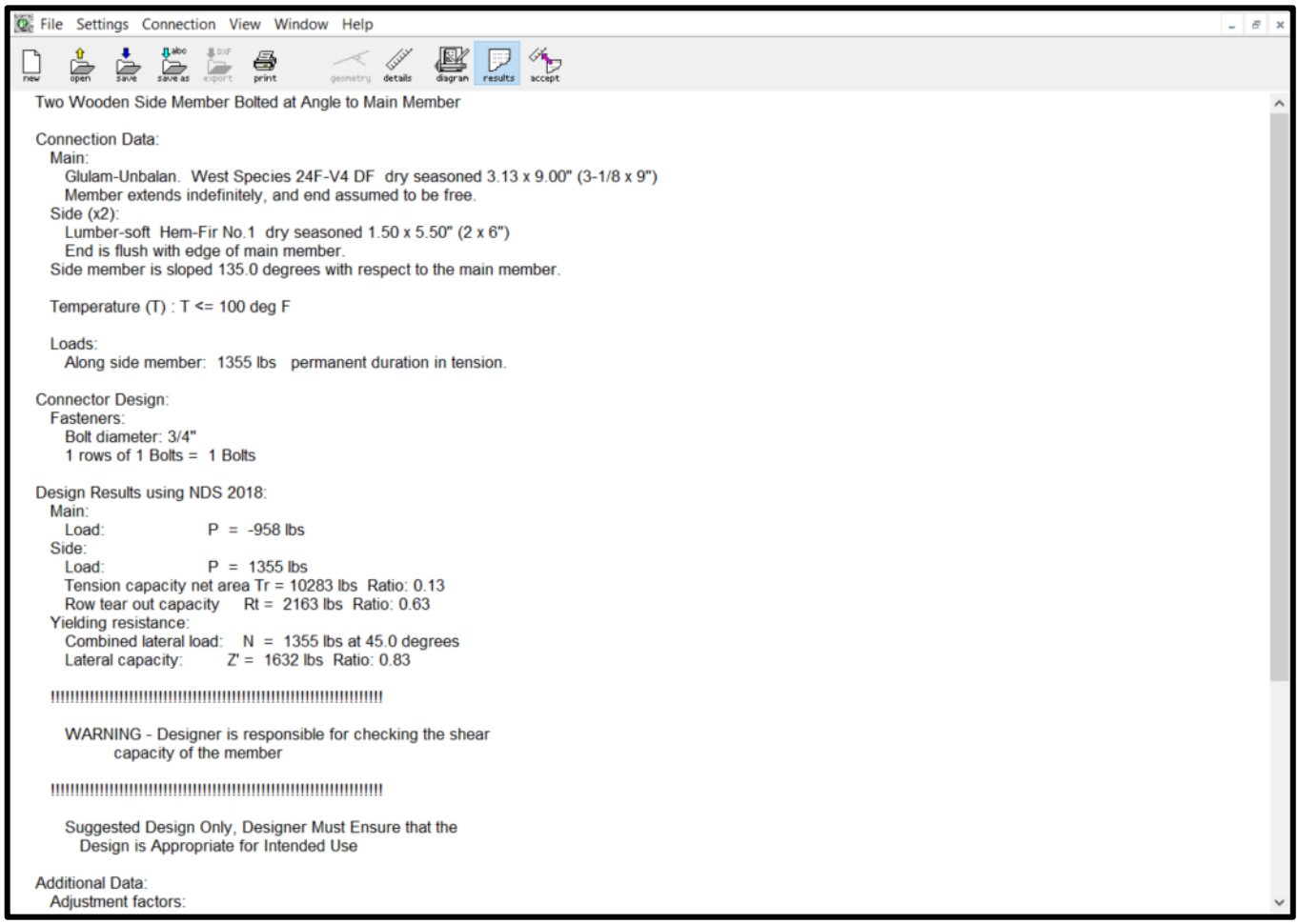

Figure 4: *Connections Tutorial 1 – Review Results*