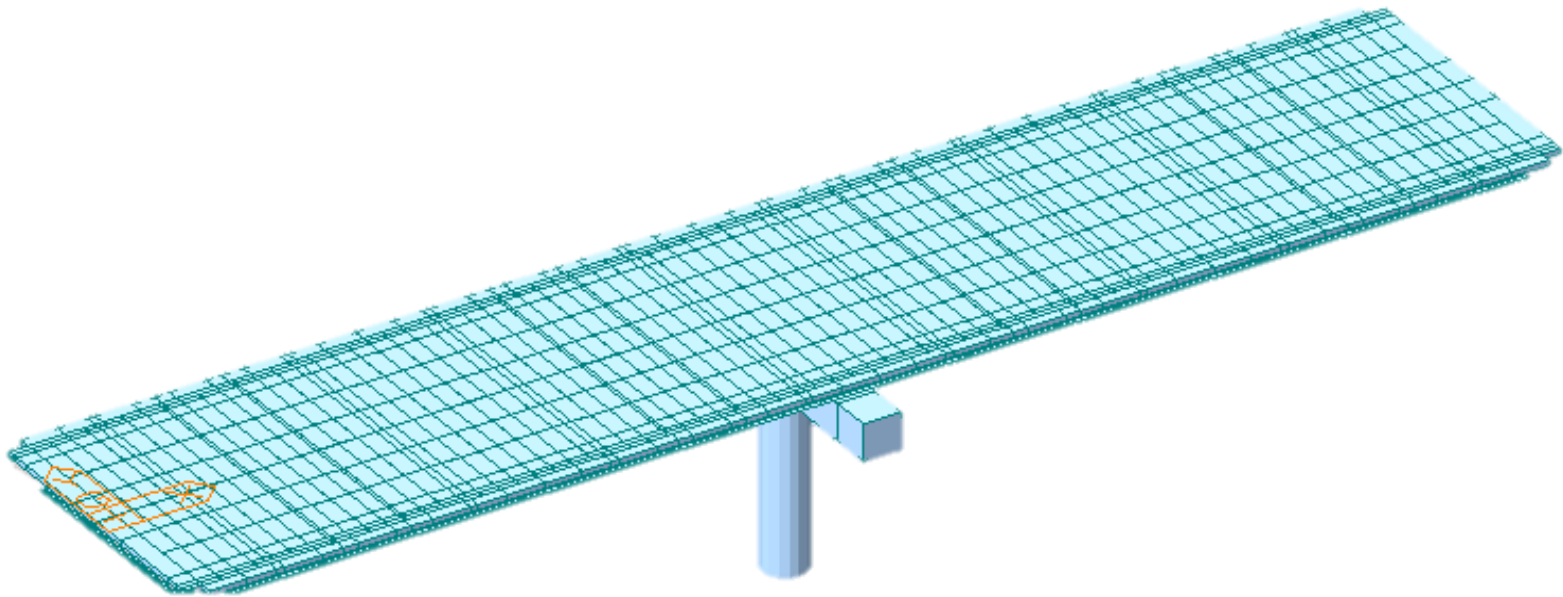


# midas Civil Learning

## Season 1

### Episode 9

Why Model Twice?



midas **Civil**

# midas Civil Learning Season 1 Episode 9

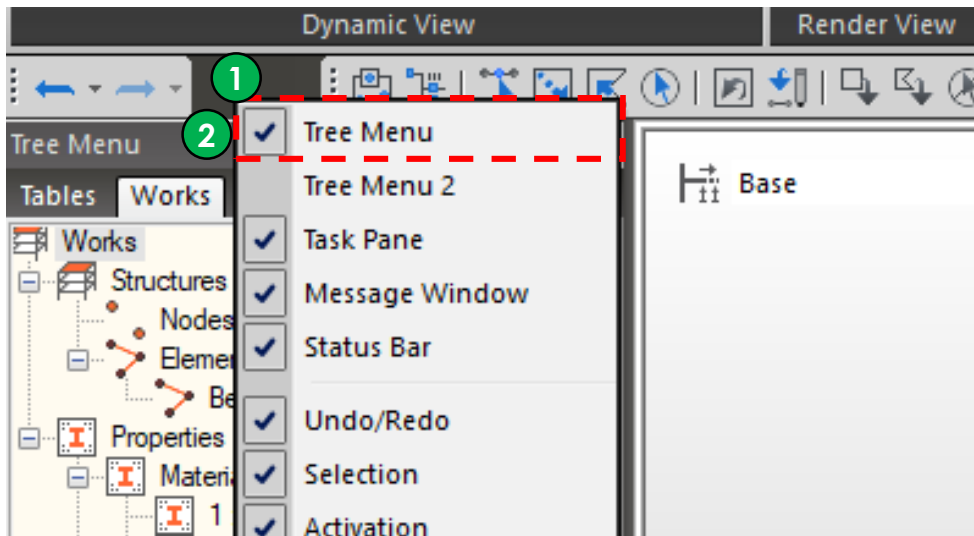


## Why is it important to know the manual way to create a bridge when various wizards are available?

Various wizards will give you quick, easy, and simple guides/templates to model bridges. However, not every bridge fits into the wizards' template. In that case, you need to use other available options that midas Civil provides:

1. Graphic Interface (creating nodes & elements)
2. Importing CAD Files (dxf files)
3. Table Format
4. Text Format

Of course, you can combine multiple different ways to build a model, like using a wizard and graphic interface together. You can create a model that looks similar to the bridge using wizards, and then you can modify nodes/elements for minor differences. Today, we will practice creating bridge model using CAD file (dxf file). With CAD file, which is an everyday tool, engineers will be able to generate the model from the Centerline saving time in the modeling process.



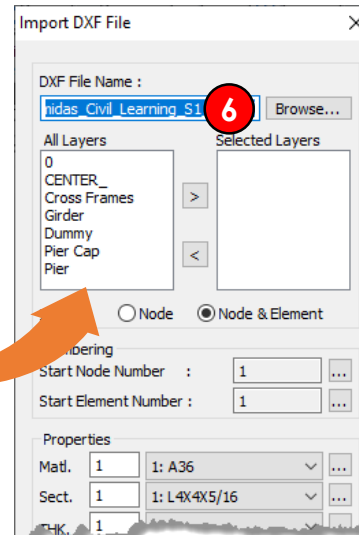
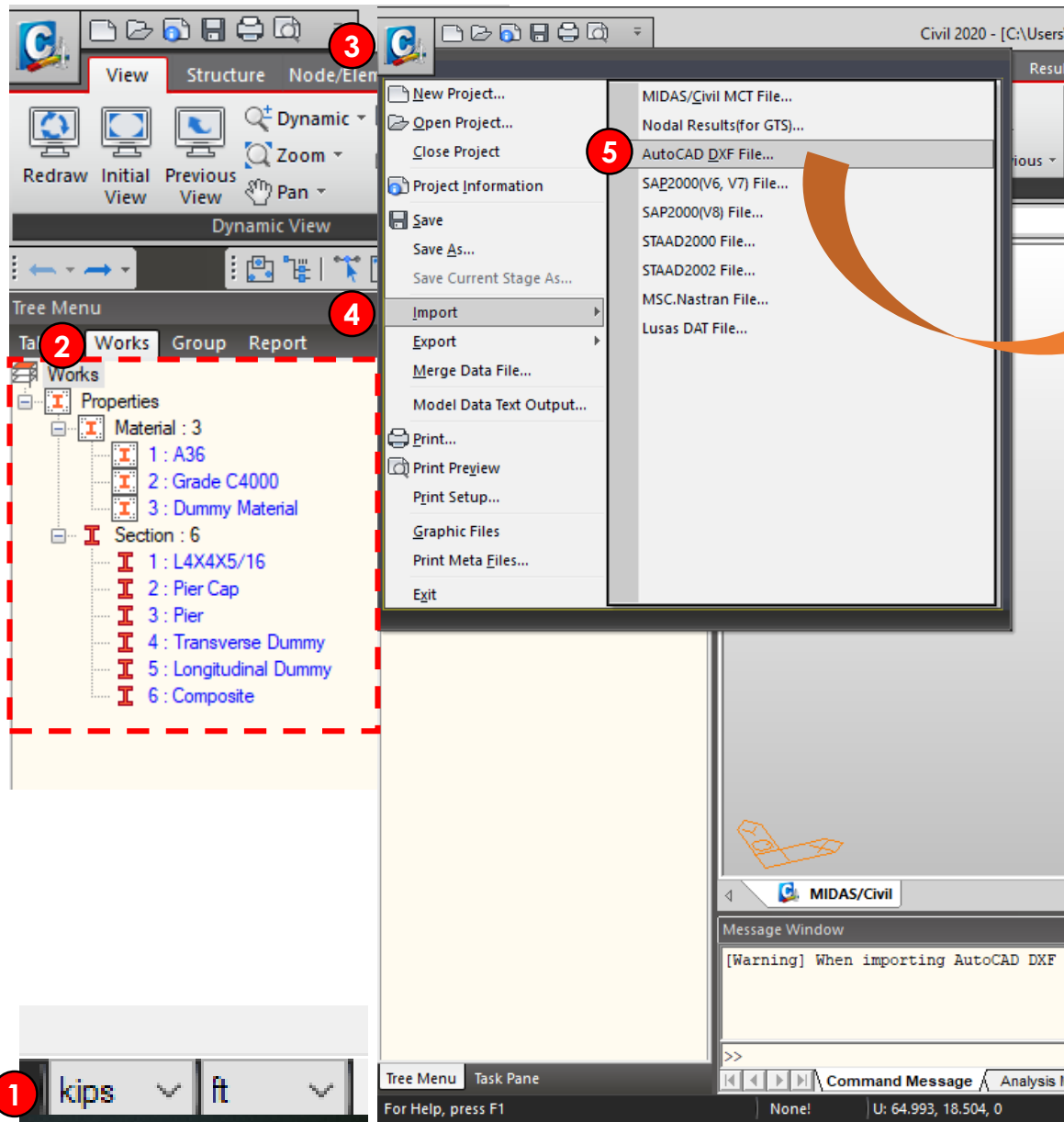
## Did you know?

In case if you accidentally closed Tree Menu, you can follow these steps to bring it back:

1. Right-click on the blank (black) area on the quick tool bar
2. Click Tree Menu

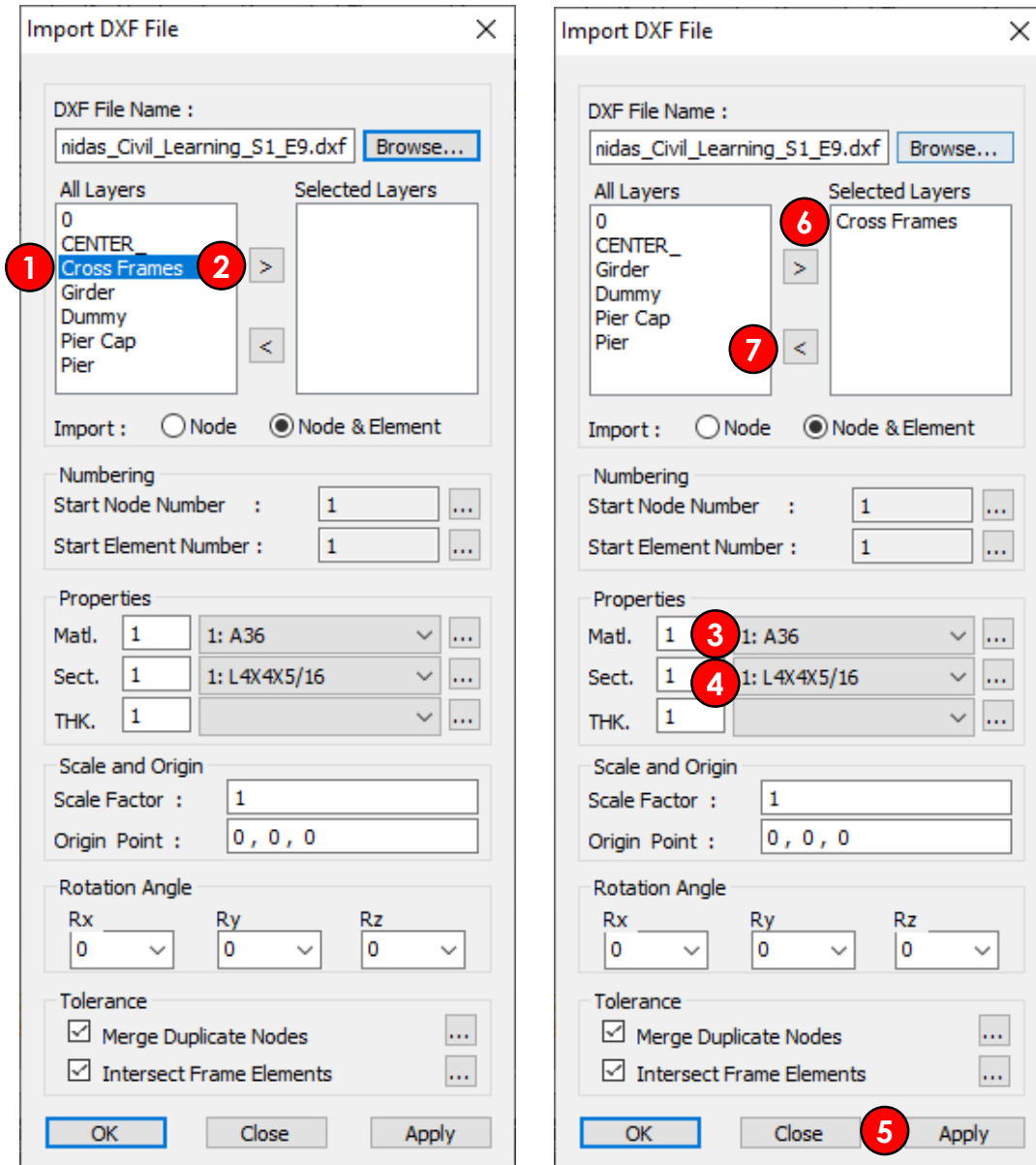
Isn't this easy? You can even have brought out another Tree Menu if you click Tree Menu 2!

# midas Civil Learning Season 1 Episode 9



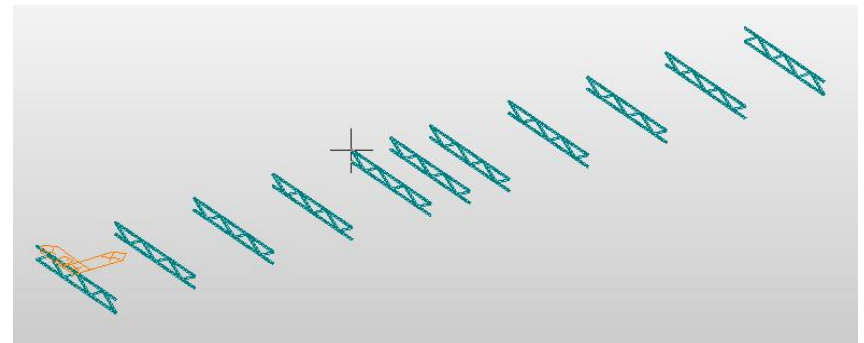
1. Open midas Civil file named **midas\_Civil\_Learning\_S1\_E9** file and change unit to kips and ft system
2. Check **Tree Menu** to make sure you have 3 material properties and 6 material properties
3. Click **midas Civil icon**
4. Click **Import**
5. Click **Auto CAD DXF File...**
6. From the pop-up window, click **Browse...**
7. Select CAD file named **midas\_Civil\_Learning\_S1\_E9**

# midas Civil Learning Season 1 Episode 9



1. Click **Cross Frames**
2. Click the arrow button >
3. Select **A 36** for material property
4. Select **L4X4X5/16** for section property
5. Click **Apply**
6. Click **Cross Frames**
7. Click the arrow button <

If you glance over the model window, your model should look like the picture shown below.



# midas Civil Learning Season 1 Episode 9

Import DXF File

DXF File Name :  
nidas\_Civil\_Learning\_S1\_E9.dxf Browse...

All Layers  
0  
**CENTER\_**  
Cross Frames  
Girder  
Dummy  
Pier Cap  
Pier

Selected Layers

Import : ☐ Node ☒ Node & Element

Numbering  
Start Node Number : 122  
Start Element Number : 166

Properties  
Matl. 3 3: Dummy Material  
Sect. 4 4: Transverse Dummy  
THK. 1

Scale and Origin  
Scale Factor : 1  
Origin Point : 0, 0, 0

Rotation Angle  
Rx 0 Ry 0 Rz 0

Tolerance  
☒ Merge Duplicate Nodes  
☒ Intersect Frame Elements

OK Close Apply

Import DXF File

DXF File Name :  
nidas\_Civil\_Learning\_S1\_E9.dxf Browse...

All Layers  
0  
Cross Frames  
Girder  
Dummy  
Pier Cap  
Pier

Selected Layers  
**CENTER\_**

Import : ☐ Node ☒ Node & Element

Numbering  
Start Node Number : 529  
Start Element Number : 536

Properties  
Matl. 3 3: Dummy Material  
Sect. 4 4: Transverse Dummy  
THK. 1

Scale and Origin  
Scale Factor : 1  
Origin Point : 0, 0, 0

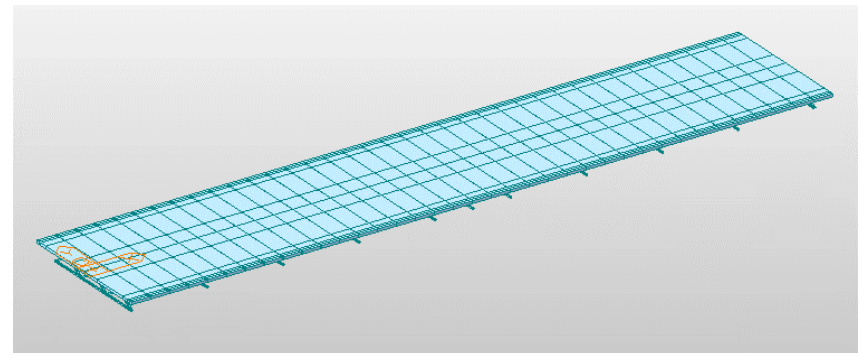
Rotation Angle  
Rx 0 Ry 0 Rz 0

Tolerance  
☒ Merge Duplicate Nodes  
☒ Intersect Frame Elements

OK Close Apply

1. Click **CENTER\_**
2. Click the arrow button >
3. Select **Dummy Material** for material property
4. Select **Transverse Dummy** for section property
5. Click **Apply**
6. Click **CENTER\_**
7. Click the arrow button <

If you glance over the model window, your model should look like the picture shown below.





# midas Civil Learning Season 1 Episode 9

Import DXF File

DXF File Name :  
nidas\_Civil\_Learning\_S1\_E9.dxf Browse...

All Layers  
0  
CENTER\_  
Cross Frames  
Girder  
**Dummy**  
Pier Cap  
Pier

Selected Layers

Import : ☐ Node ☒ Node & Element

Numbering  
Start Node Number : 529  
Start Element Number : 536

Properties  
Matl. 3 3: Dummy Material  
Sect. 5 5: Longitudinal Dummy  
THK. 1

Scale and Origin  
Scale Factor : 1  
Origin Point : 0, 0, 0

Rotation Angle  
Rx 0 Ry 0 Rz 0

Tolerance  
☒ Merge Duplicate Nodes  
☒ Intersect Frame Elements

OK Close Apply

Import DXF File

DXF File Name :  
nidas\_Civil\_Learning\_S1\_E9.dxf Browse...

All Layers  
0  
CENTER\_  
Cross Frames  
Girder  
Pier Cap  
Pier

Selected Layers  
**Dummy**

Import : ☐ Node ☒ Node & Element

Numbering  
Start Node Number : 529  
Start Element Number : 536

Properties  
Matl. 3 3: Dummy Material  
Sect. 5 5: Longitudinal Dummy  
THK. 1

Scale and Origin  
Scale Factor : 1  
Origin Point : 0, 0, 0

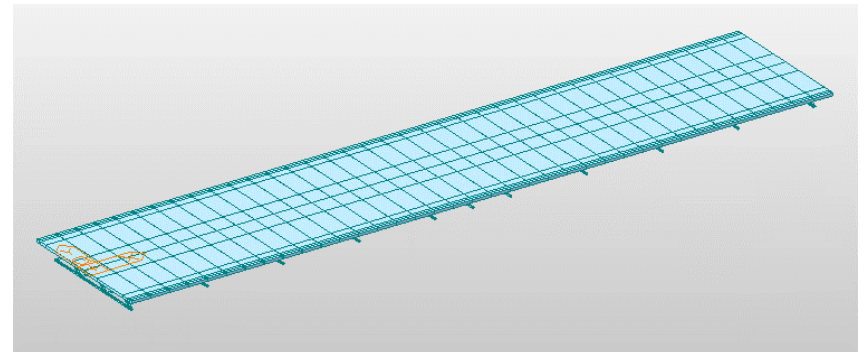
Rotation Angle  
Rx 0 Ry 0 Rz 0

Tolerance  
☒ Merge Duplicate Nodes  
☒ Intersect Frame Elements

OK Close Apply

1. Click **Dummy**
2. Click the arrow button >
3. Select **Dummy Material** for material property
4. Select **Longitudinal Dummy** for section property
5. Click **Apply**
6. Click **Dummy**
7. Click the arrow button <

If you glance over the model window, your model should look like the picture shown below.



# midas Civil Learning Season 1 Episode 9

Import DXF File

DXF File Name :  
midas\_Civil\_Learning\_S1\_E9.dxf Browse...

All Layers  
0  
CENTER\_  
Cross Frames  
Girder  
Dummy  
Pier Cap  
Pier

Selected Layers

Import : ☐ Node ☒ Node & Element

Numbering  
Start Node Number : 561  
Start Element Number : 640

Properties  
Matl. 1 1: A36  
Sect. 6 6: Composite  
THK. 1

Scale and Origin  
Scale Factor : 1  
Origin Point : 0, 0, 0

Rotation Angle  
Rx 0 Ry 0 Rz 0

Tolerance  
☒ Merge Duplicate Nodes  
☒ Intersect Frame Elements

OK Close Apply

Import DXF File

DXF File Name :  
midas\_Civil\_Learning\_S1\_E9.dxf Browse...

All Layers  
0  
CENTER\_  
Cross Frames  
Dummy  
Pier Cap  
Pier

Selected Layers  
Girder

Import : ☐ Node ☒ Node & Element

Numbering  
Start Node Number : 561  
Start Element Number : 640

Properties  
Matl. 1 1: A36  
Sect. 6 6: Composite  
THK. 1

Scale and Origin  
Scale Factor : 1  
Origin Point : 0, 0, 0

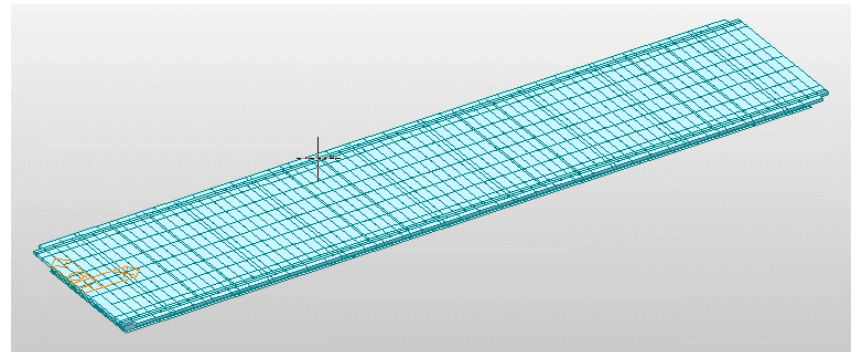
Rotation Angle  
Rx 0 Ry 0 Rz 0

Tolerance  
☒ Merge Duplicate Nodes  
☒ Intersect Frame Elements

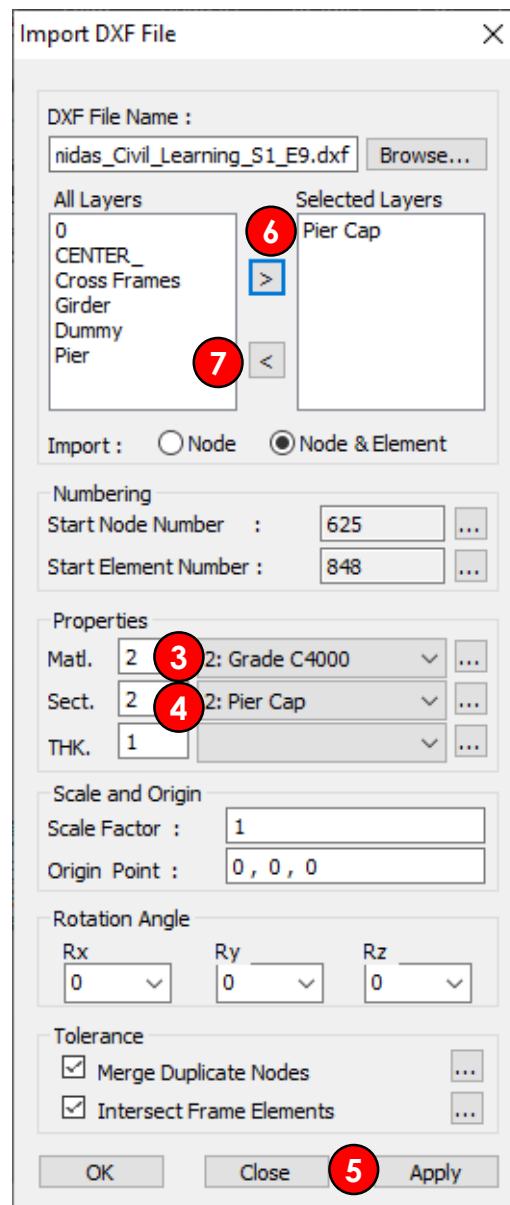
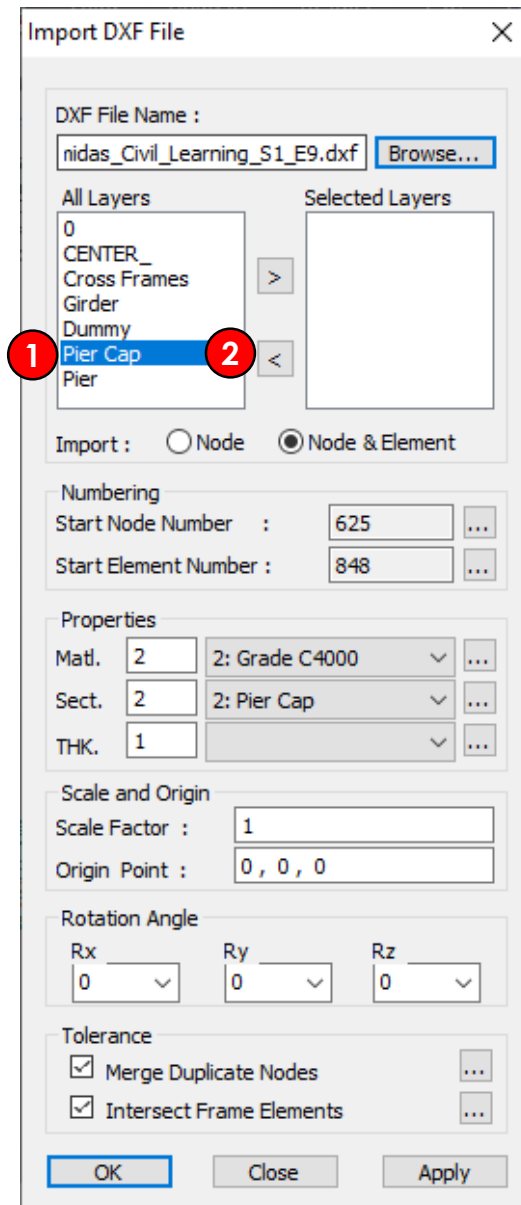
OK Close Apply

1. Click **Girder**
2. Click the arrow button >
3. Select **A 36** for material property
4. Select **Composite** for section property
5. Click **Apply**
6. Click **Girder**
7. Click the arrow button <

If you glance over the model window, your model should look like the picture shown below.

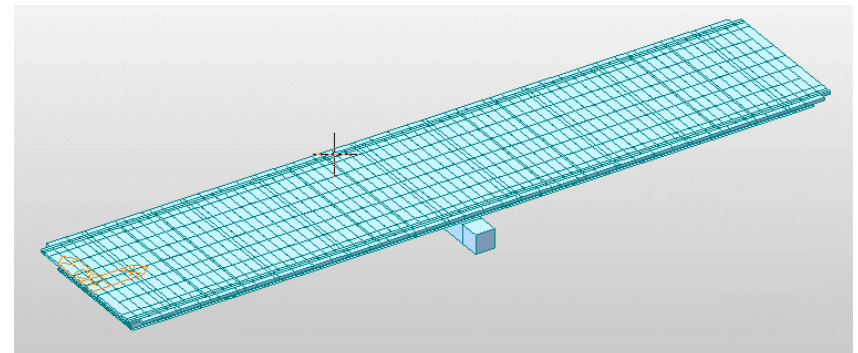


# midas Civil Learning Season 1 Episode 9



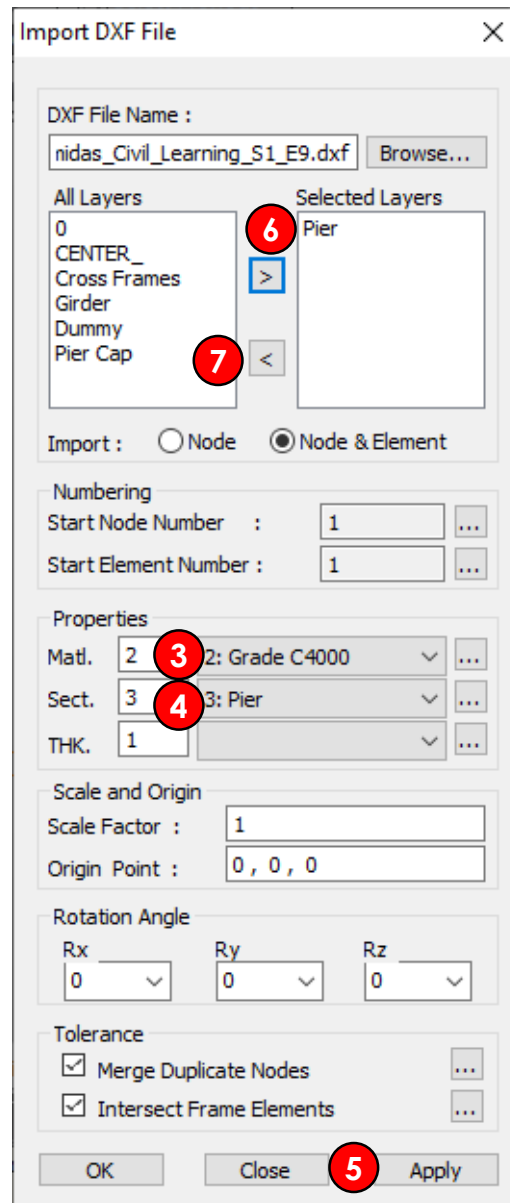
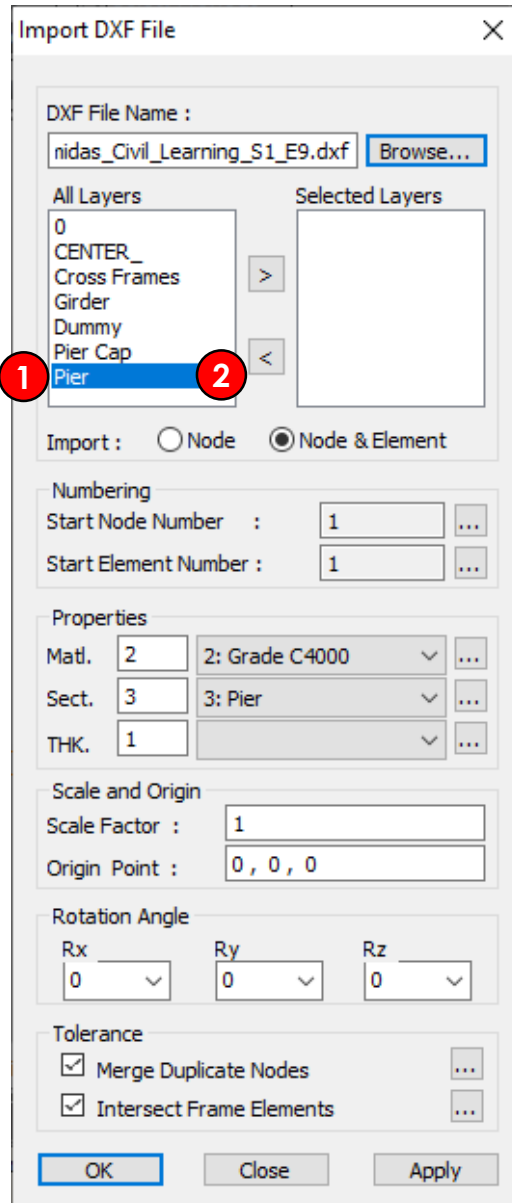
1. Click **Pier Cap**
2. Click the arrow button >
3. Select **Grade C4000** for material property
4. Select **Pier Cap** for section property
5. Click **Apply**
6. Click **Pier Cap**
7. Click the arrow button <

If you glance over the model window, your model should look like the picture shown below.



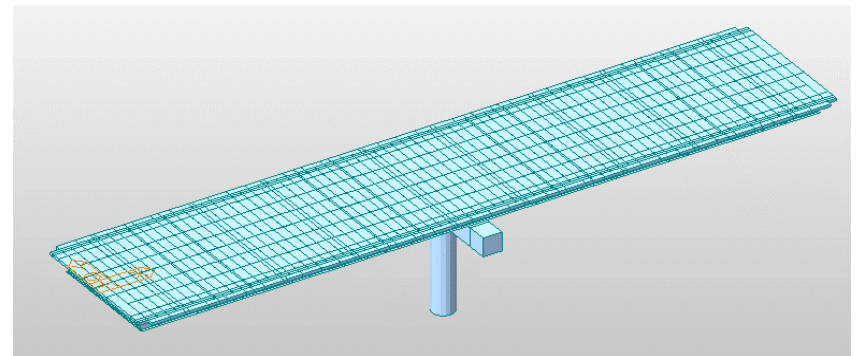


# midas Civil Learning Season 1 Episode 9



1. Click **Pier**
2. Click the arrow button >
3. Select **Grade C4000** for material property
4. Select **Pier** for section property
5. Click **Apply**
6. Click **Pier**
7. Click the arrow button <

If you glance over the model window, your model should look like the picture shown below.



# midas Civil Learning Season 1 Episode 9



## Do I must create section/material properties before importing CAD files?

No! You do not need to create section/material properties before importing CAD files. If you do not register the properties beforehand, you will get nodes and elements with unregistered properties. But you can add properties and assign them to specific nodes and elements.



## Did you know?

After creating a model using CAD files, structure groups will be created and defined based on each layers in the CAD files.

