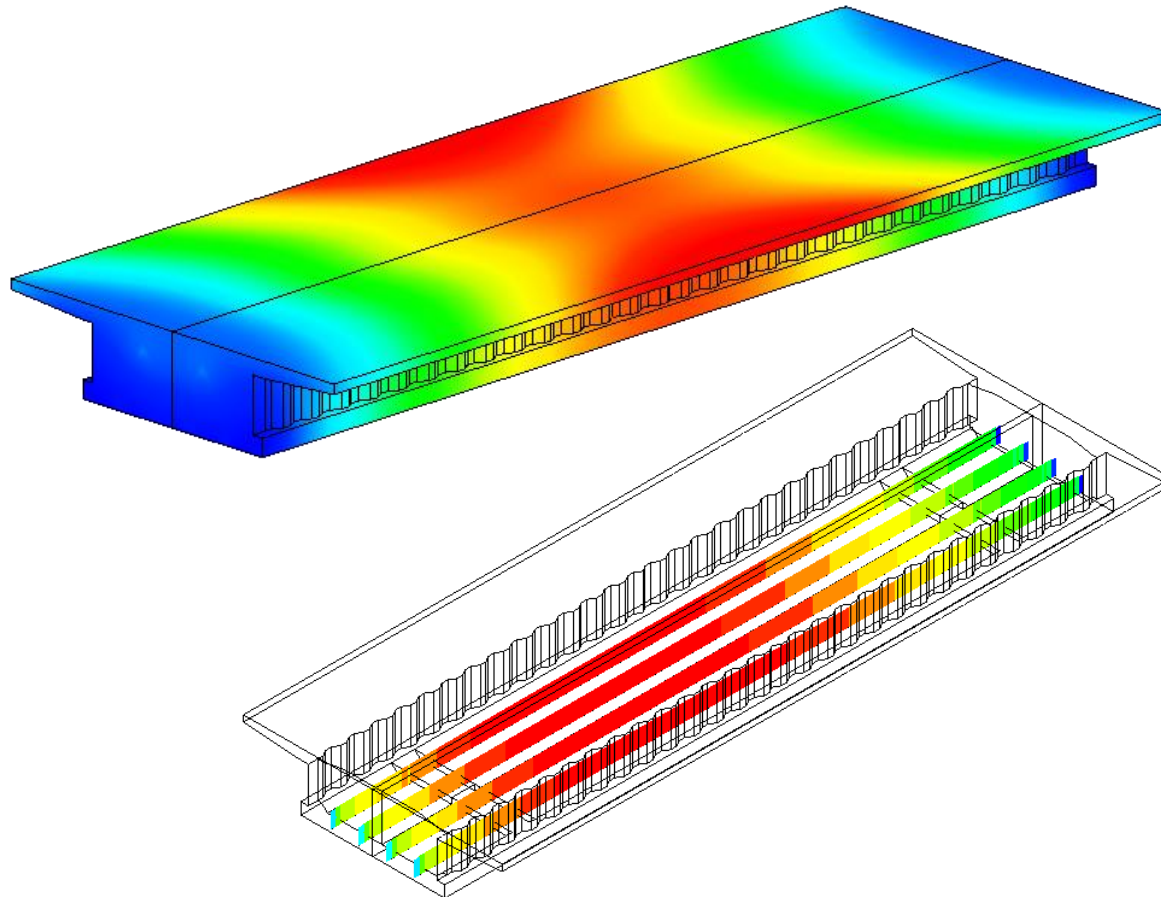


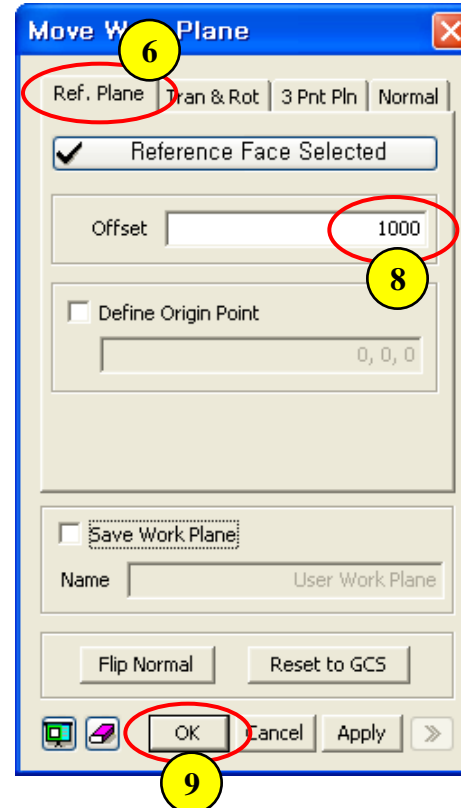
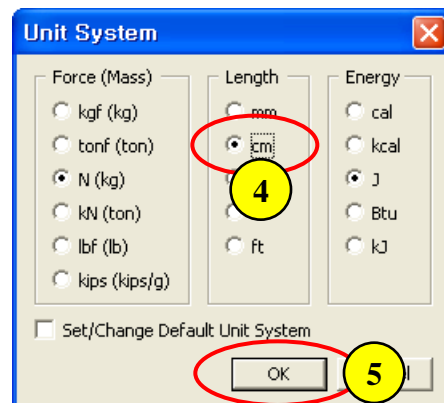
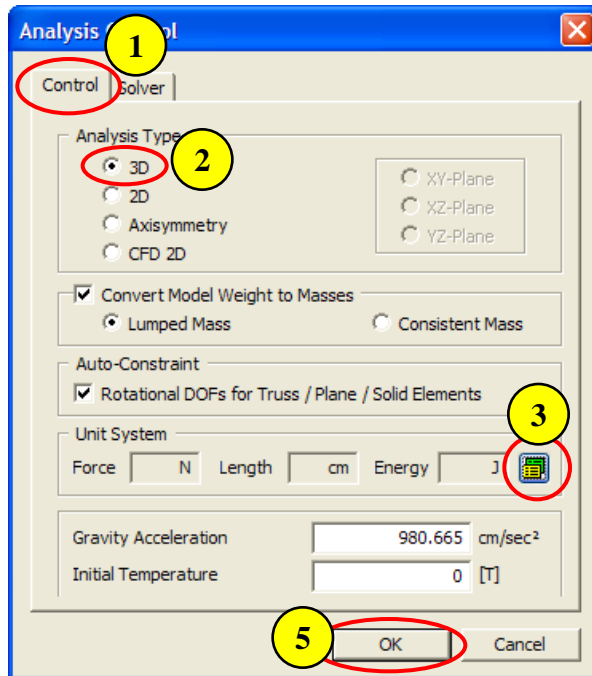
LS-15. Corrugated Steel-Web Bridge




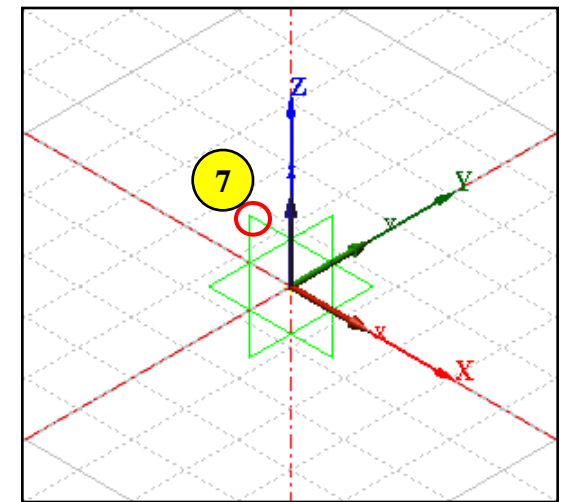
Overview

- 3-D Linear Static Analysis
- Model
 - Unit : N, cm
 - Isotropic Elastic Material
 - Beam Element
 - Reinforcement Element
 - Plate Element
 - Solid Element
- Load & Boundary Condition
 - Body Force
 - Pressure
 - Prestress
 - Prestress for Reinforcement
 - Constraint
 - Symmetric Condition
- Result Evaluation
 - Deformation
 - Mirror Mode
 - Reinforcement Stresses

Step 1.

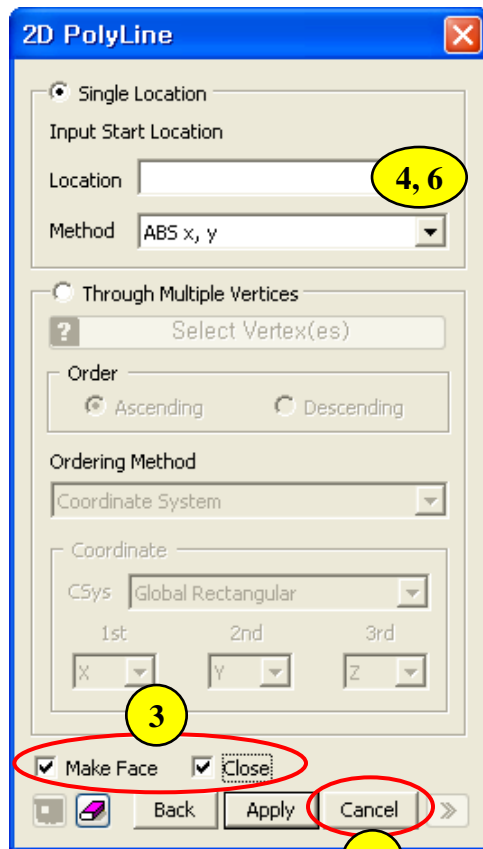


1. Analysis > Analysis Control – “Control” tab
2. Analysis Type : 3D
3. Click  Button
4. Unit : N , cm , J
5. Click [OK] Button
6. Geometry > Work Plane > Move – “Ref. Plane” tab
7. Select “XZ Plane”
8. Offset : 1000
9. Click [OK] Button

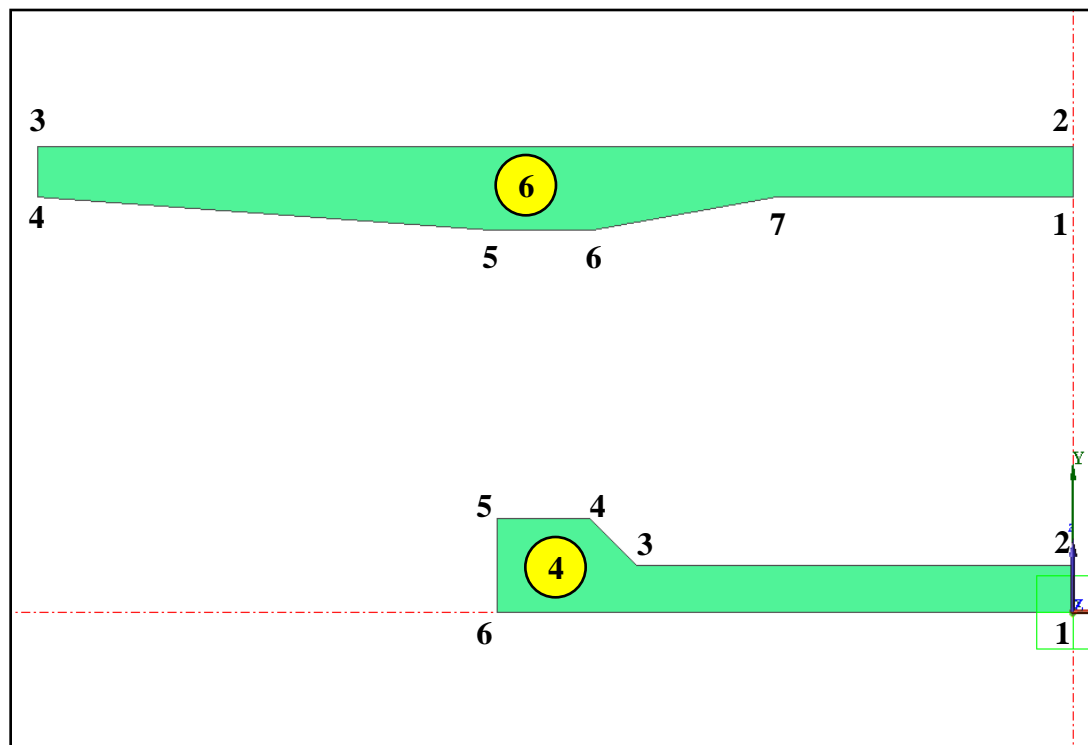


 Analysis Control Dialog is automatically activated at startup.

Step 2.



1. Click "Normal View"
2. Geometry > Curve > Create on WP > Polyline (Wire)...
3. Check on "Make Face" & "Close"
4. Location : (0) , <0, 25> , <-235> , <-25, 25> , <-50> , <0, -50> Ⓜ
5. Click Right Mouse Button on Work Window
6. Location : (0, 223) , <0, 27> , <-557> , <0, -27> , <247, -18> , <50> , <100, 18>
7. Click Right Mouse Button on Work Window
8. Click [Cancel] Button Ⓜ



Ⓜ () : "ABS x, y", <> : "REL dx, dy"
(0) same as (0, 0)

Ⓜ [Esc] as shortcut for [Cancel].

Step 3.

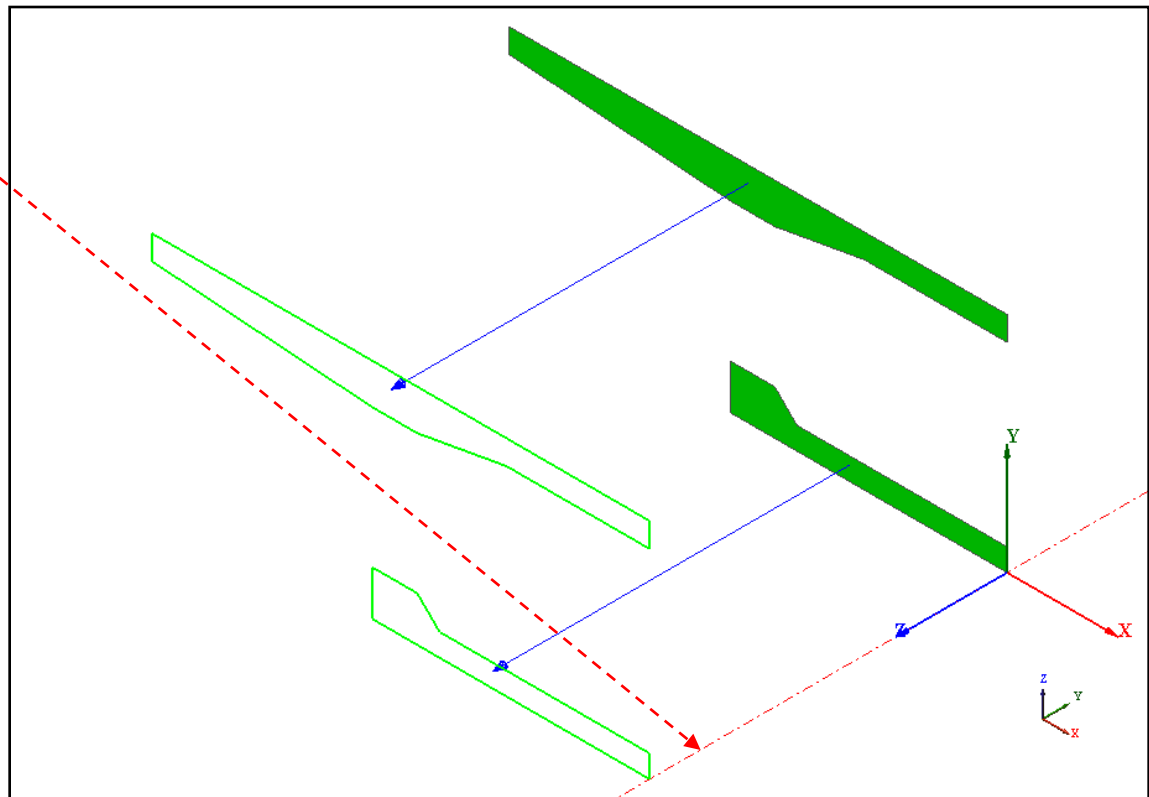
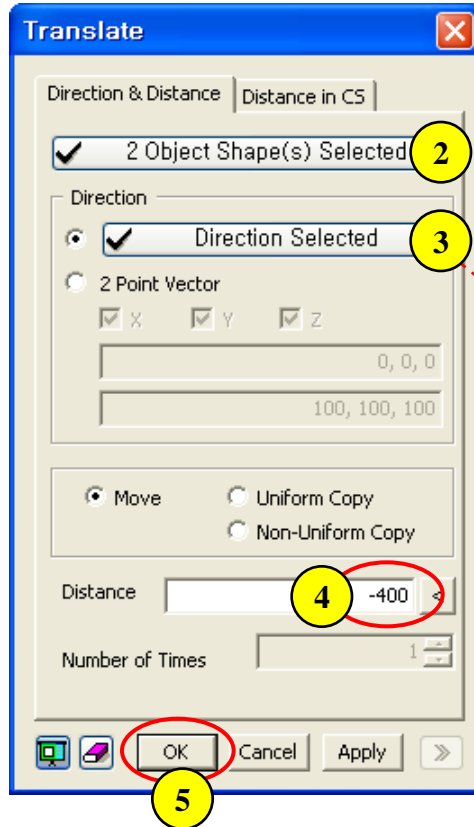
1. Geometry > Transform > Translate ...


2. Select  "Displayed All" 

3. Select "Y-Axis" for Direction

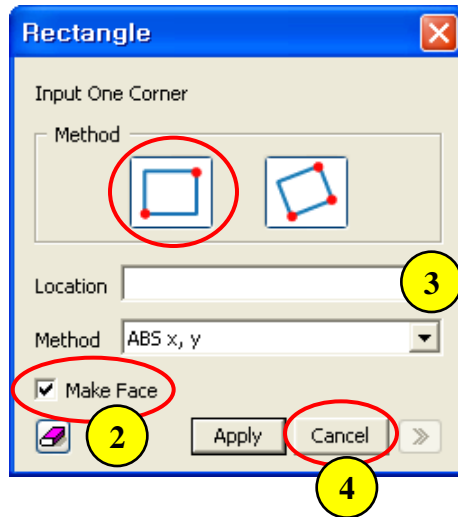
4. Distance : -400

5. Click [OK] Button

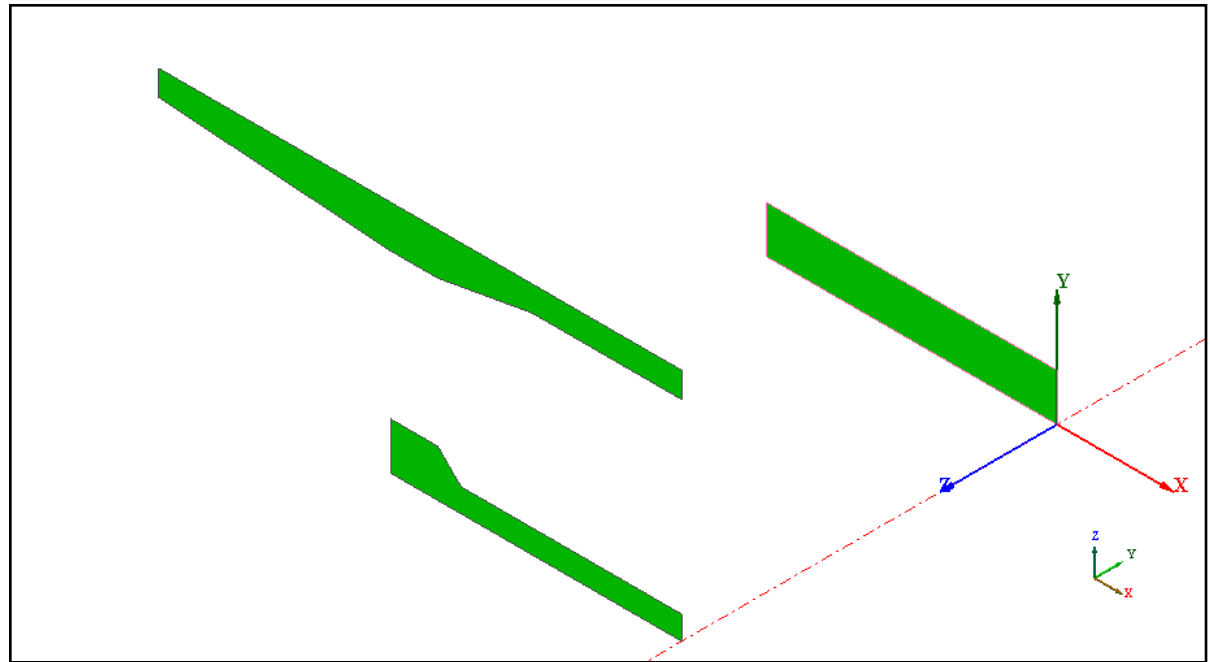


 "Ctrl+A" as shortcut for "Select Displayed All".

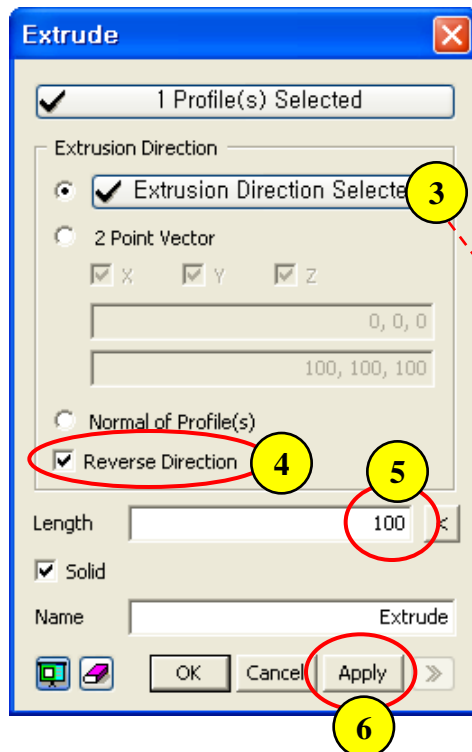
Step 4.



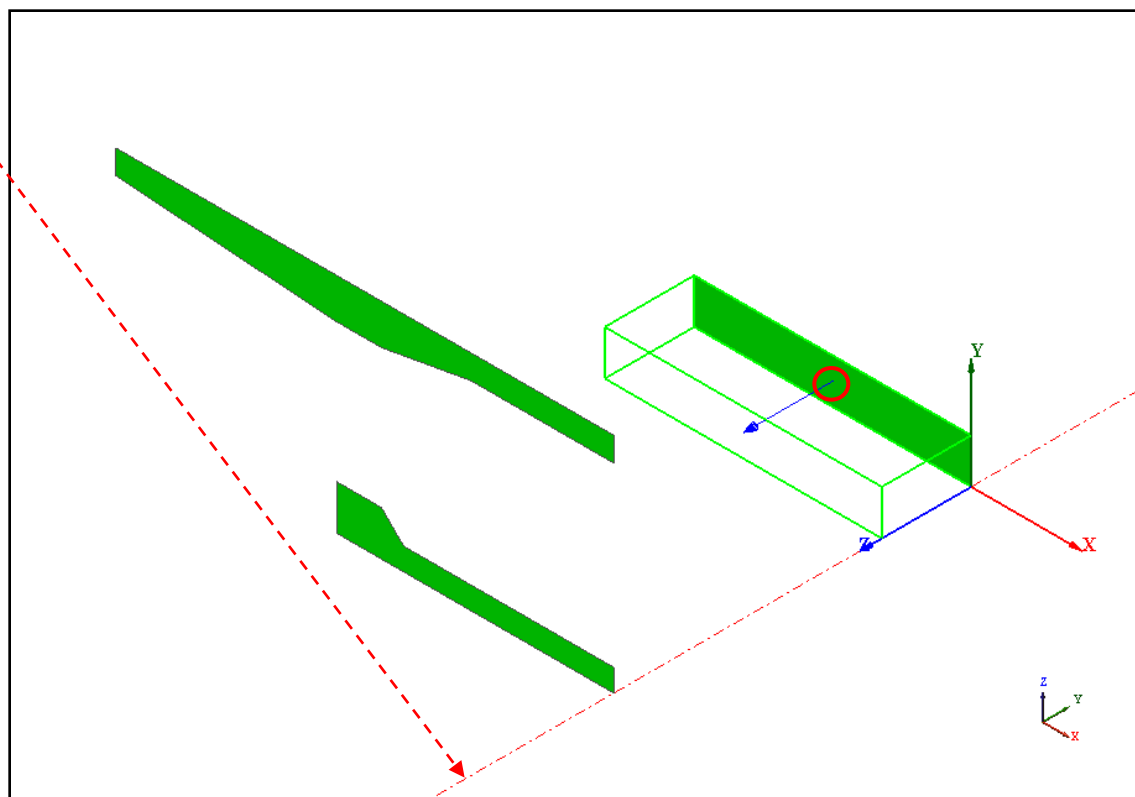
1. Geometry > Curve > Create on WP > Rectangle (Wire)...
2. Check on "Make Face"
3. Location : (0) , <-310, 50>
4. Click [Cancel] Button



Step 5.



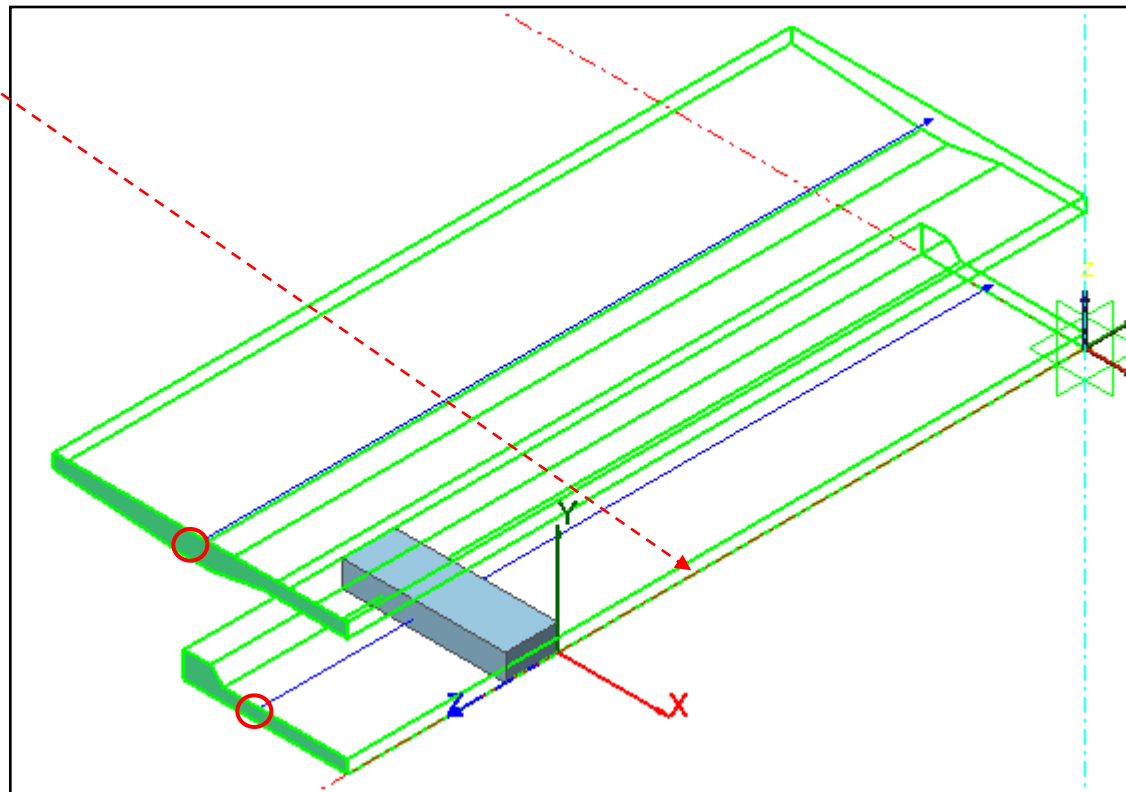
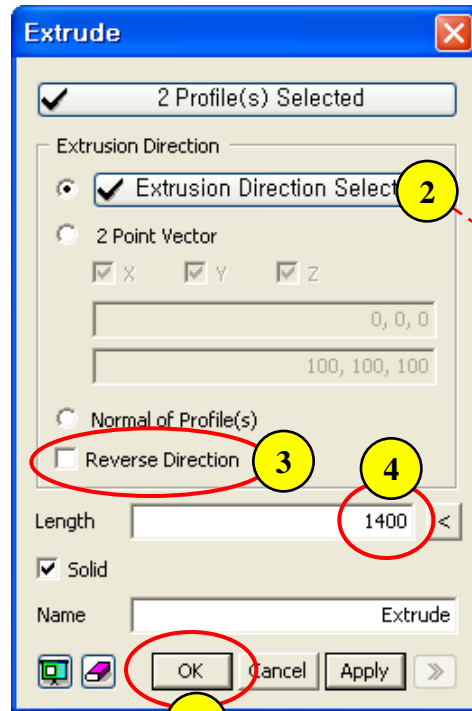
1. Geometry > Generator Feature > Extrude ...
2. Select Face marked by "O" (See Figure)
3. Select "Y-Axis" for Extrusion Direction
4. Check on "Reverse Direction"
5. Length : 100
6. Click [Apply] Button



[Enter] as shortcut for [Apply] .

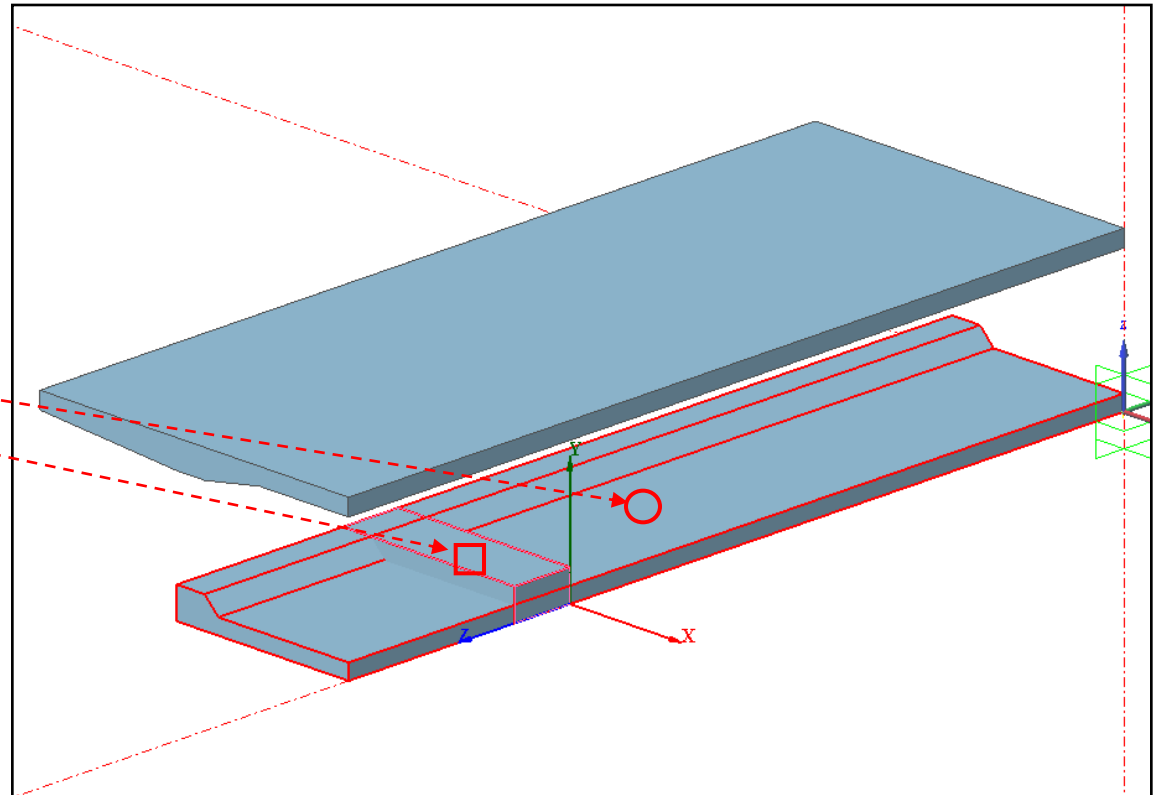
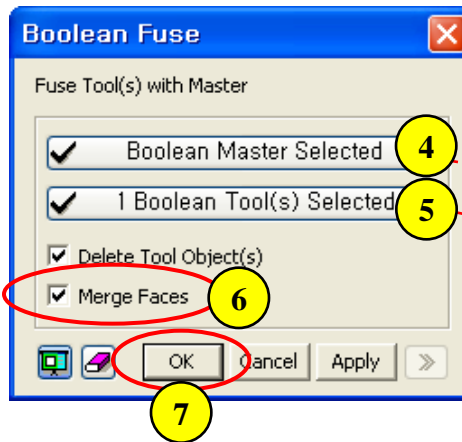
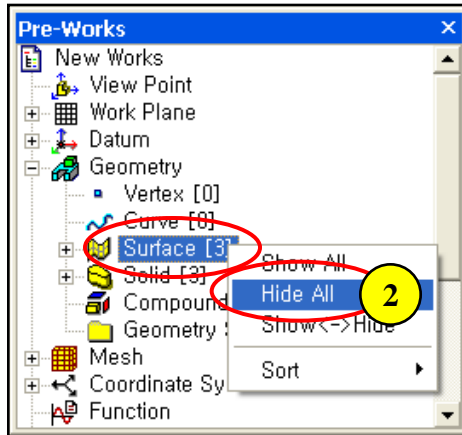
Step 6.

1. Select 2 Faces marked by "O" (See Figure)
2. Select "Y-Axis" for Extrusion Direction
3. Check off "Reverse Direction"
4. Length : 1400
5. Click [OK] Button



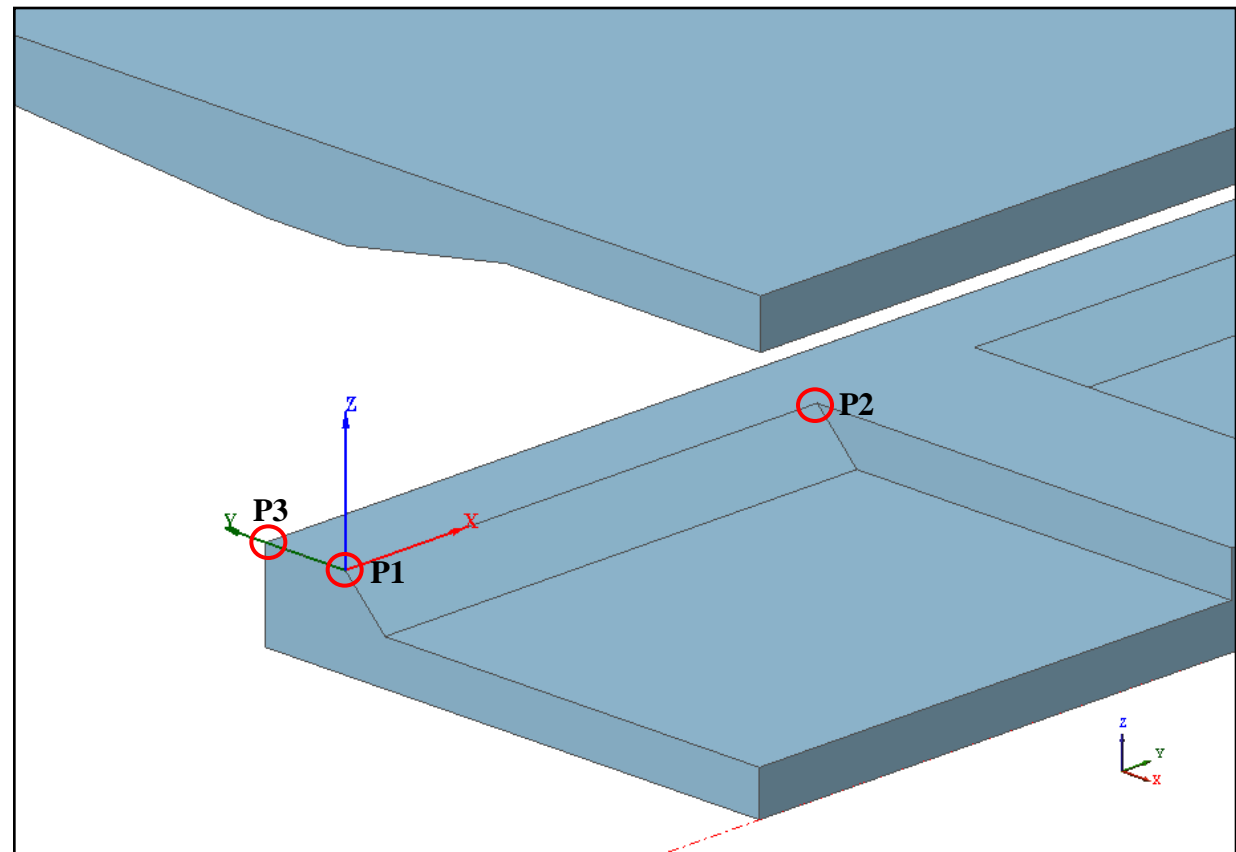
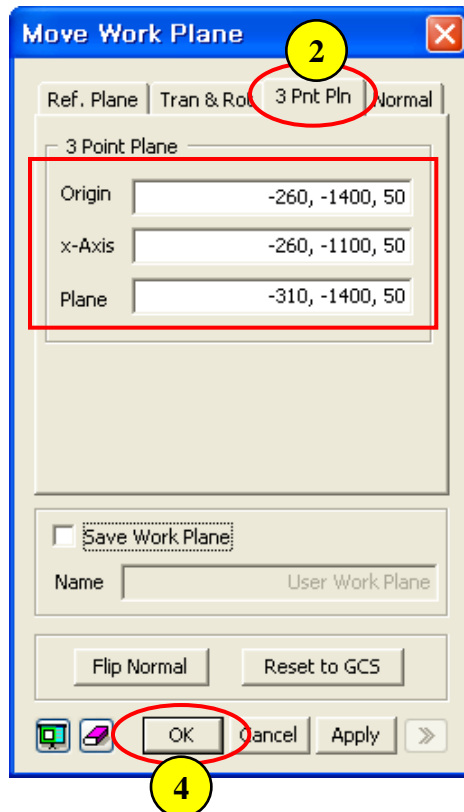
Step 7.

1. Pre-Works Tree : Geometry > Surface...
2. Click Right Mouse Button and Select "Hide All"
3. Geometry > Boolean Operation > Fuse ...
4. Select Master Shape marked by "○" (See Figure)
5. Select Tool Shape marked by "□" (See Figure)
6. Check on "Merge Faces"
7. Click [OK] Button

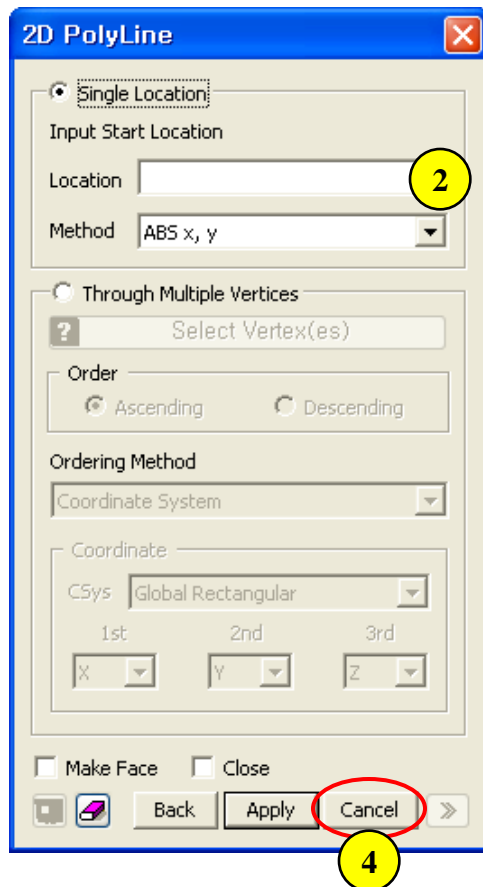


Step 8.

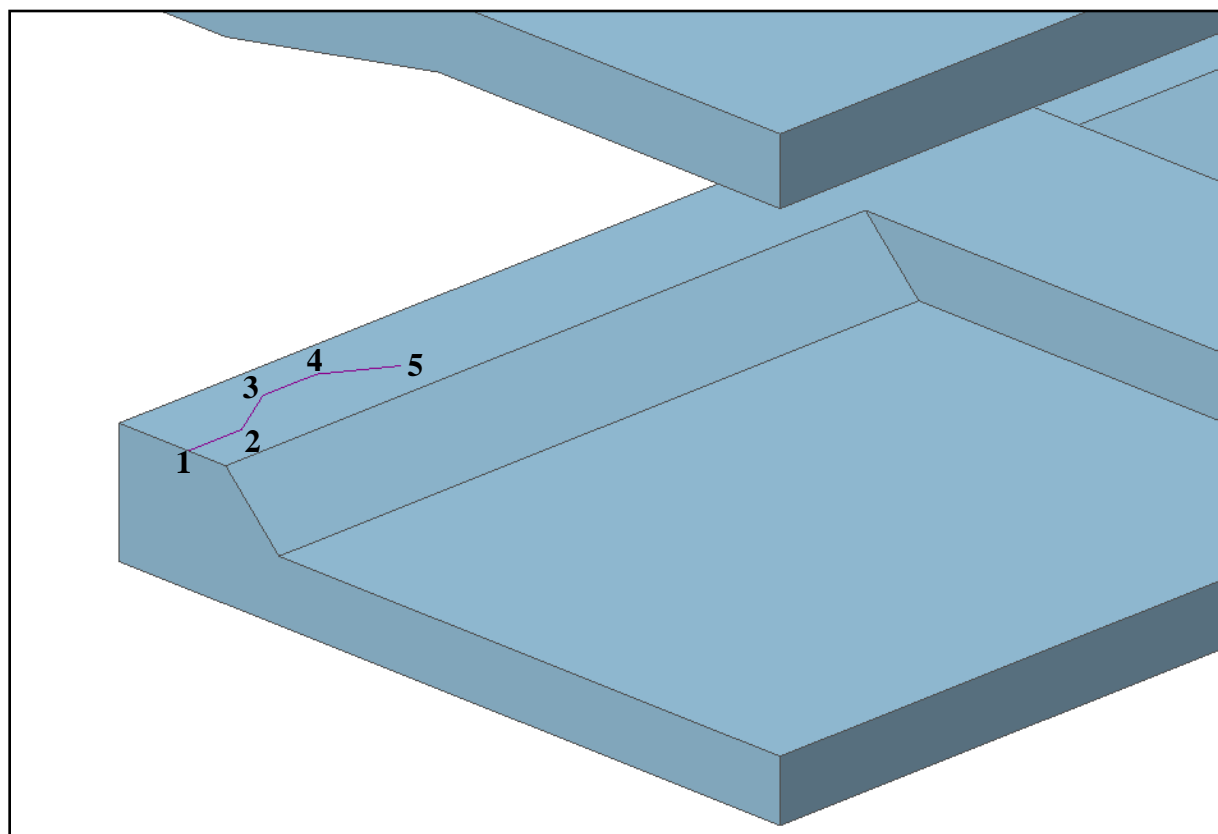
1. Geometry > Work Plane > Move ...
2. Select "3 Pnt Pln" tab
3. Select P1 , P2 , P3 in sequential order (See Figure)
4. Click [OK] Button



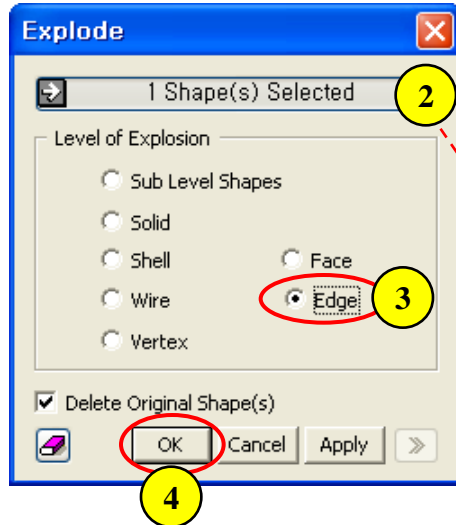
Step 9.



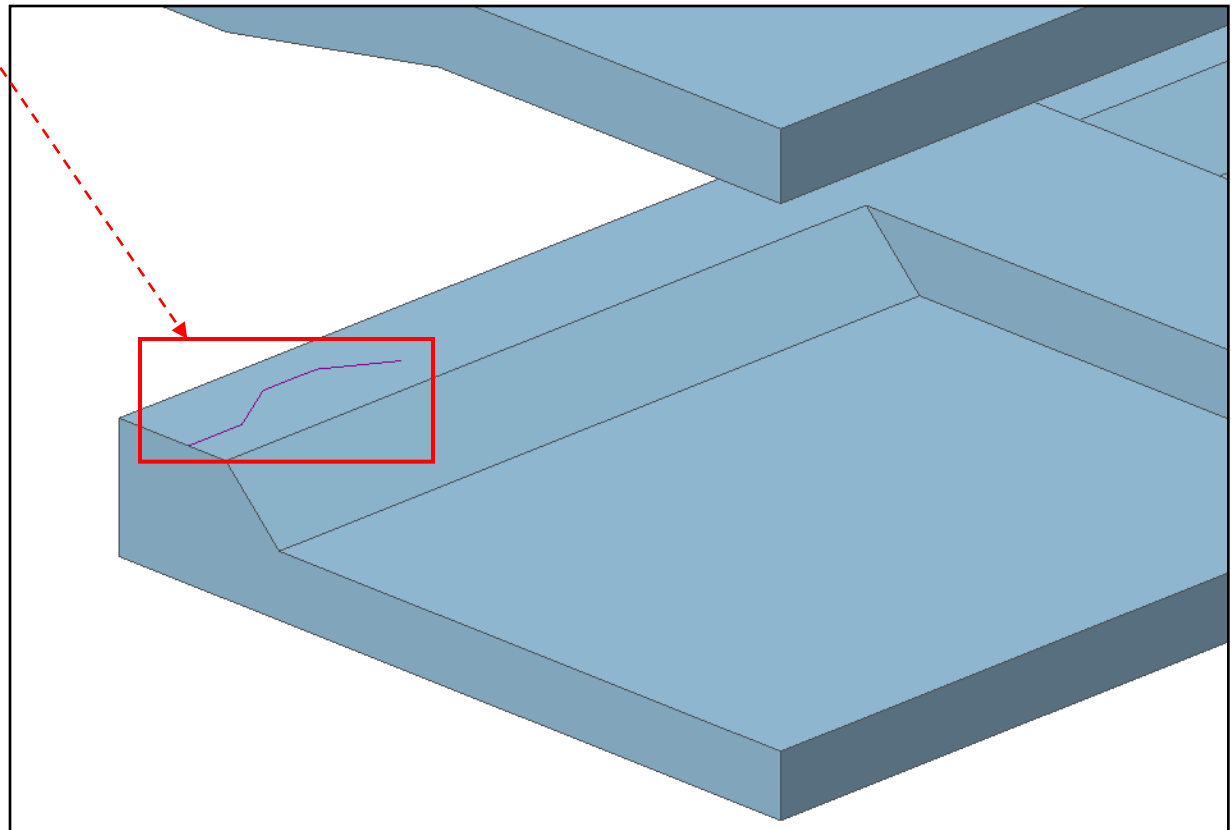
1. Geometry > Curve > Create on WP > Polyline (Wire)...
2. Location : (0, 17.5) , <25> , <25, 15> , <25> , <25, -15>
3. Click Right Mouse Button on Work Window
4. Click [Cancel] Button



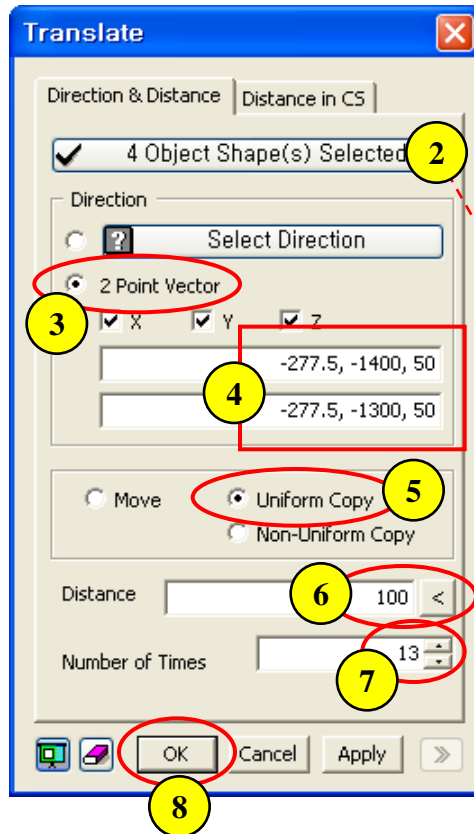
Step 10.



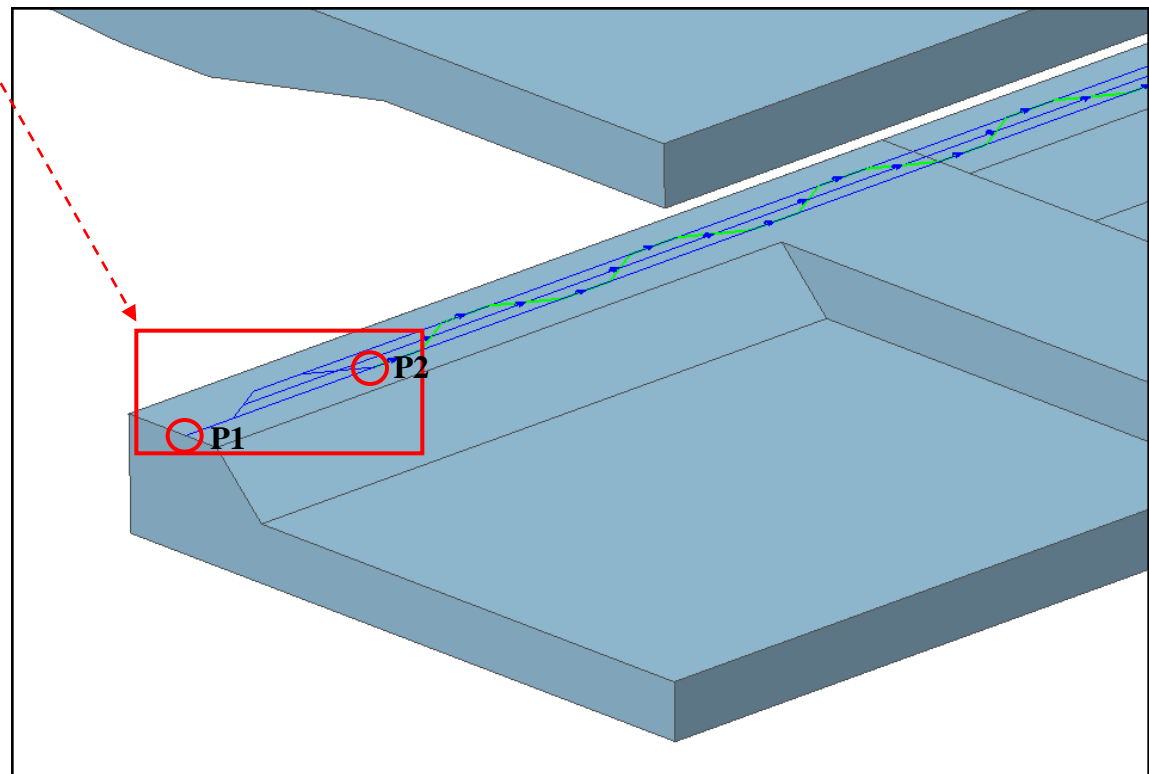
1. *Geometry > Explode ...*
2. *Select Polyline*
3. *Select "Edge" for Level of Explosion*
4. *Click [OK] Button*



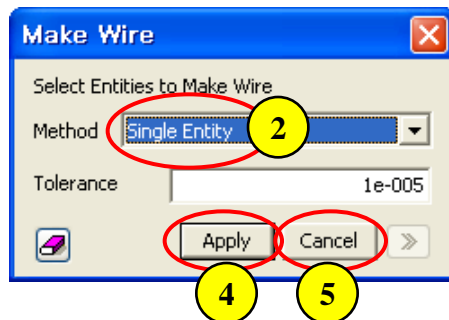
Step 11.



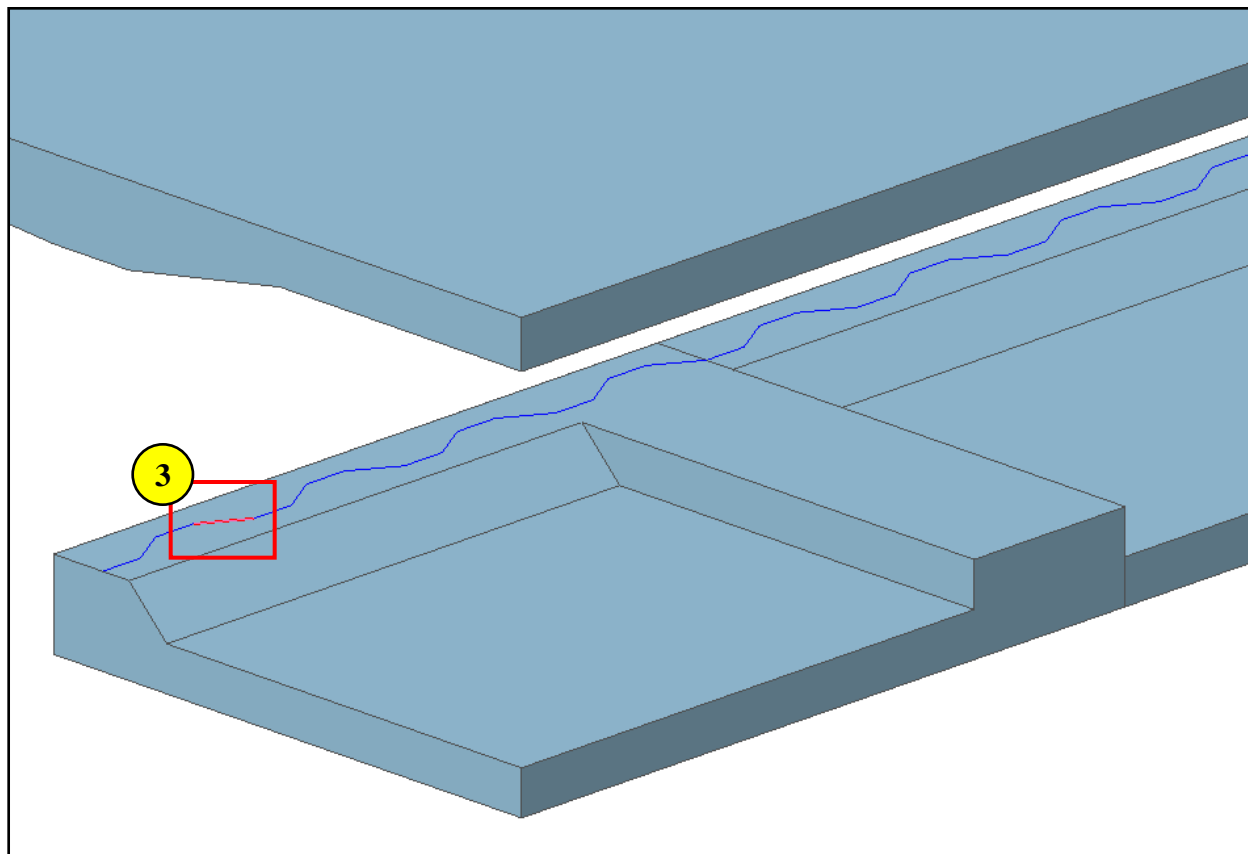
1. Geometry > Transform > Translate ...
2. Select 4 Edges (See Figure)
3. Select "2 Point Vector" for Direction
4. Select P1 and P2 in sequential order (See Figure)
5. Select "Uniform Copy"
6. Click [<] Button
7. Number of Times : 13
8. Click [OK] Button



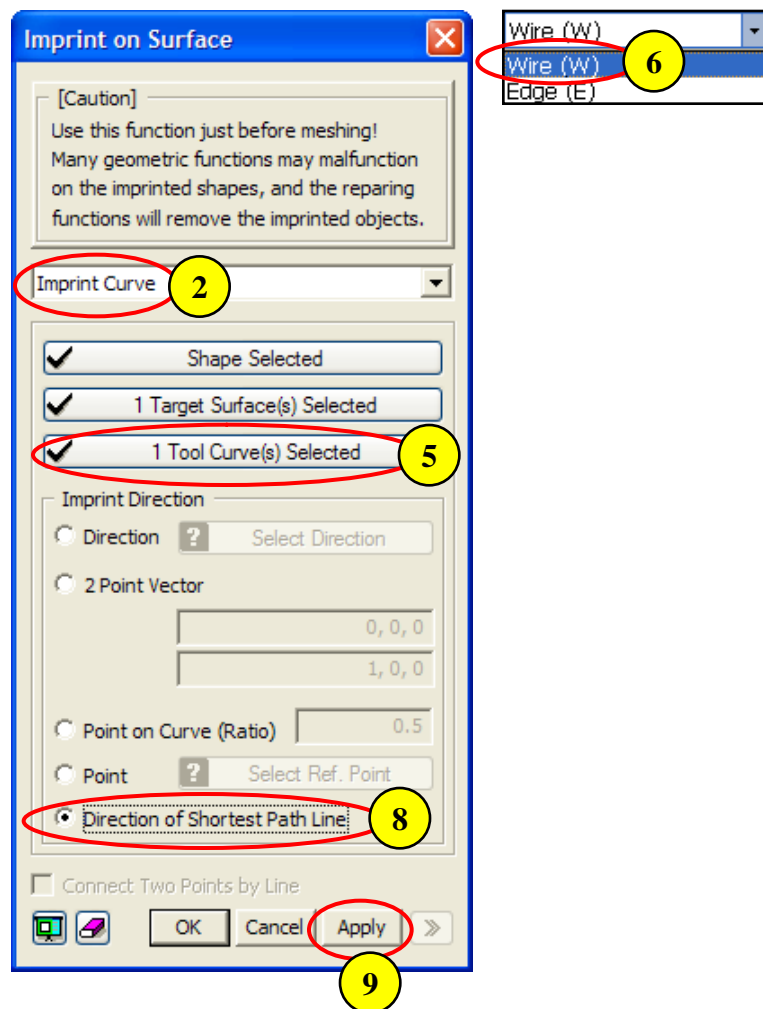
Step 12.



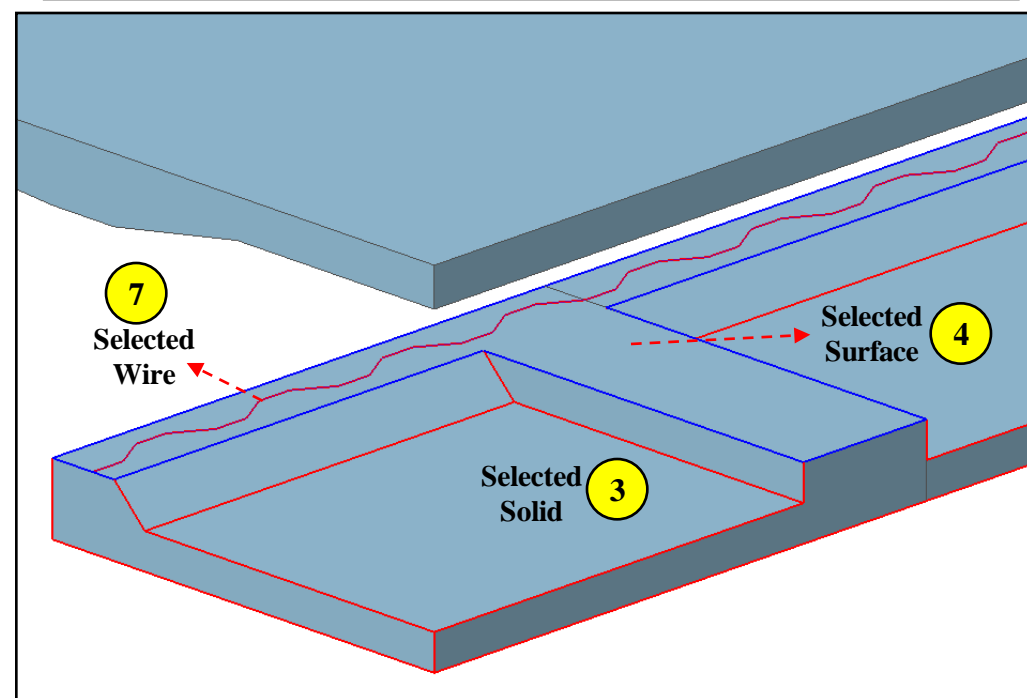
1. Geometry > Curve > Make Wire ...
2. Select "Single Entity" for Method
3. Select any Edge
4. Click [Apply] Button
5. Click [Cancel] Button



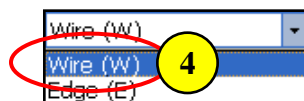
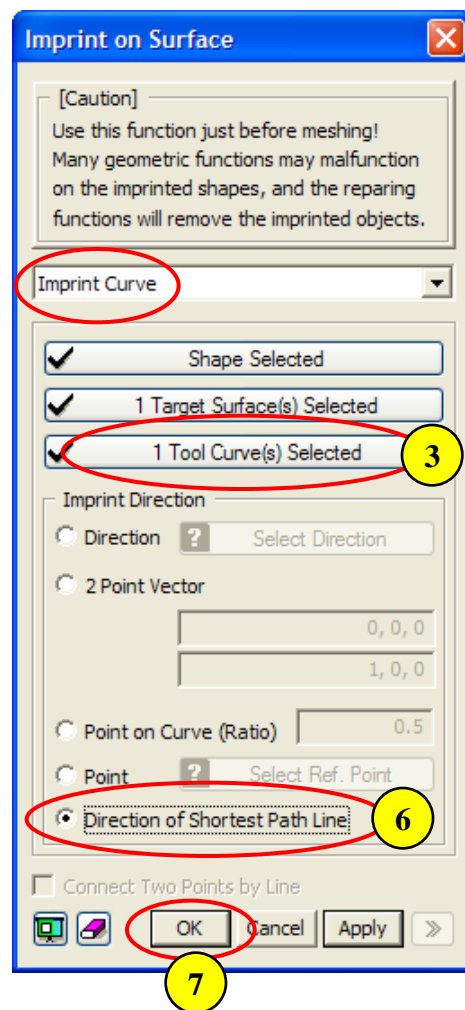
Step 13.



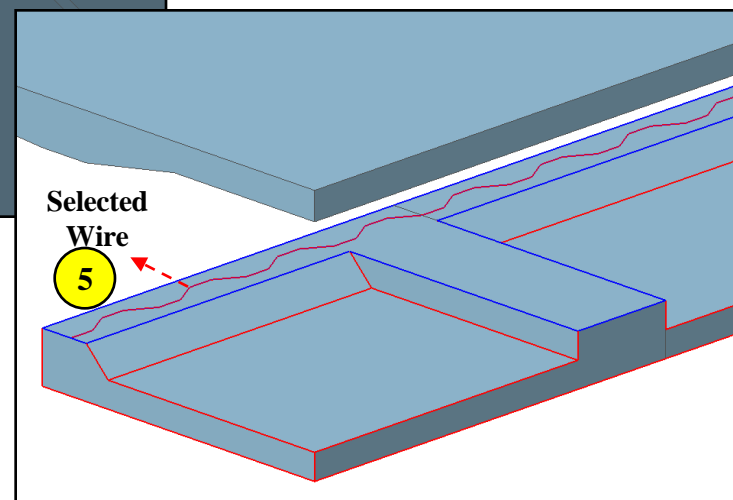
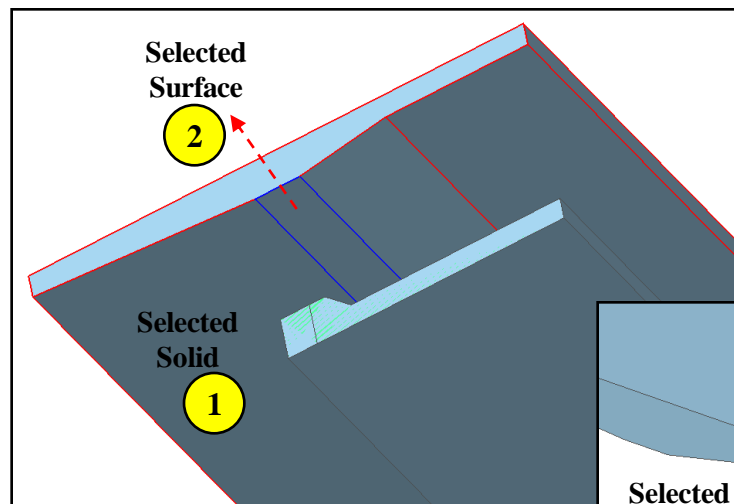
1. *Geometry > Surface > Imprint ...*
2. *Select “Imprint Curve”*
3. *Select Bottom Solid (See Figure)*
4. *Select Target Surface (See Figure)*
5. *Click “Select Tool Curve(s)” Button*
6. *Change Selection Filter to “Wire(W)”*
7. *Select Wire (See Figure)*
8. *Select “Direction of Shortest Path Line” for Imprint Direction*
9. *Click [Apply] Button*



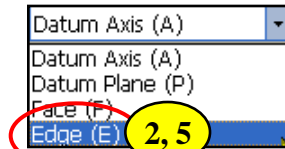
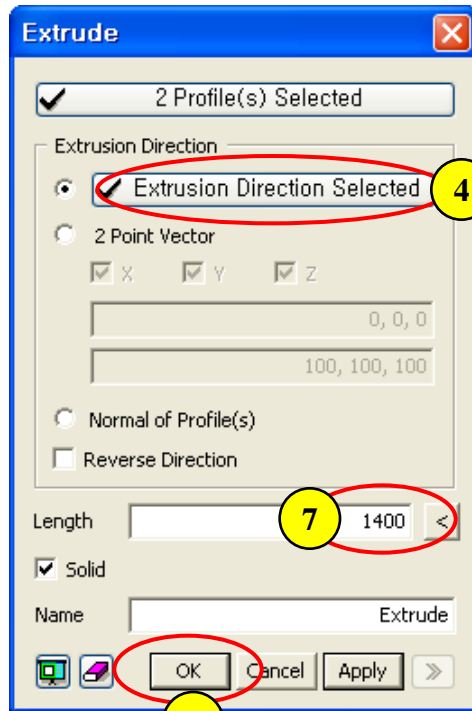
Step 14.



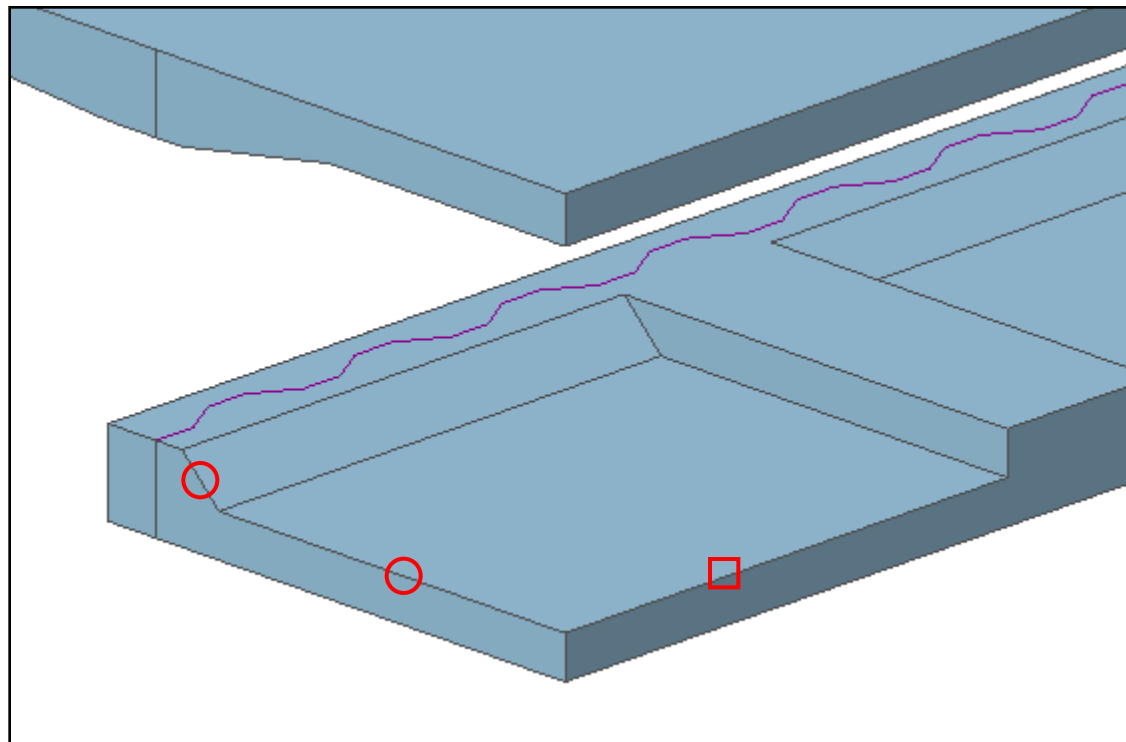
1. Select Top Solid (See Figure)
2. Select Target Surface (See Figure)
3. Click "Select Tool Curve(s)" Button
4. Change Selection Filter to "Wire(W)"
5. Select Wire (See Figure)
6. Select "Direction of Shortest Path Line" for Imprint Direction
7. Click [OK] Button



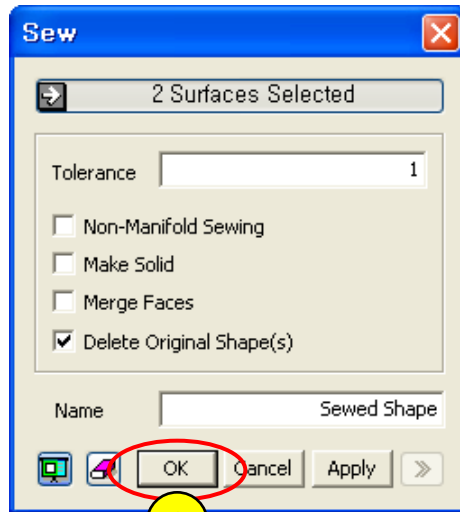
Step 15.



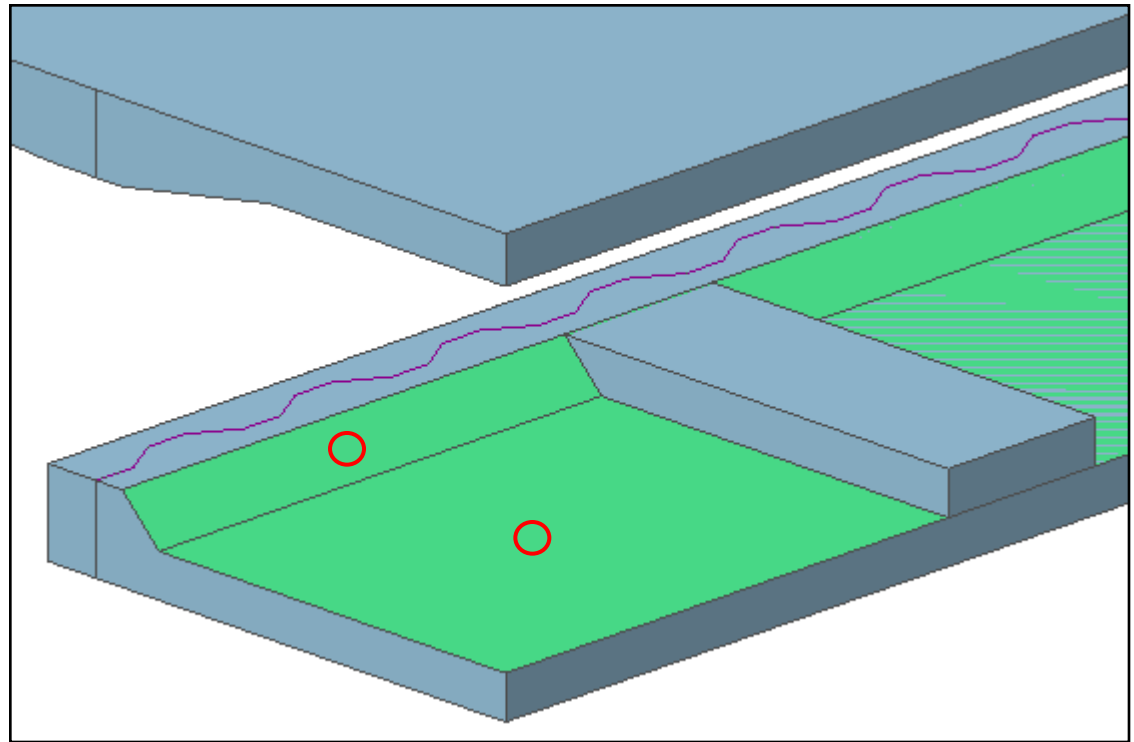
1. Geometry > Generator Feature > Extrude ...
2. Change Selection Filter to “Edge (E)”
3. Select 2 Edges marked by “○” (See Figure)
4. Click “Select Extrusion Direction” Button
5. Change Selection Filter to “Edge(E)”
6. Select Edge marked by “□”(See Figure)
7. Length : 1400
8. Click [OK] Button



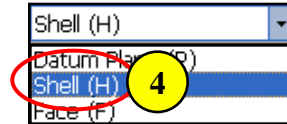
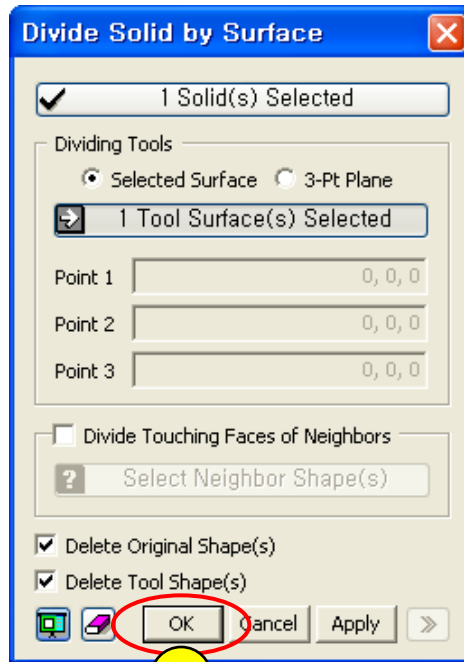
Step 16.



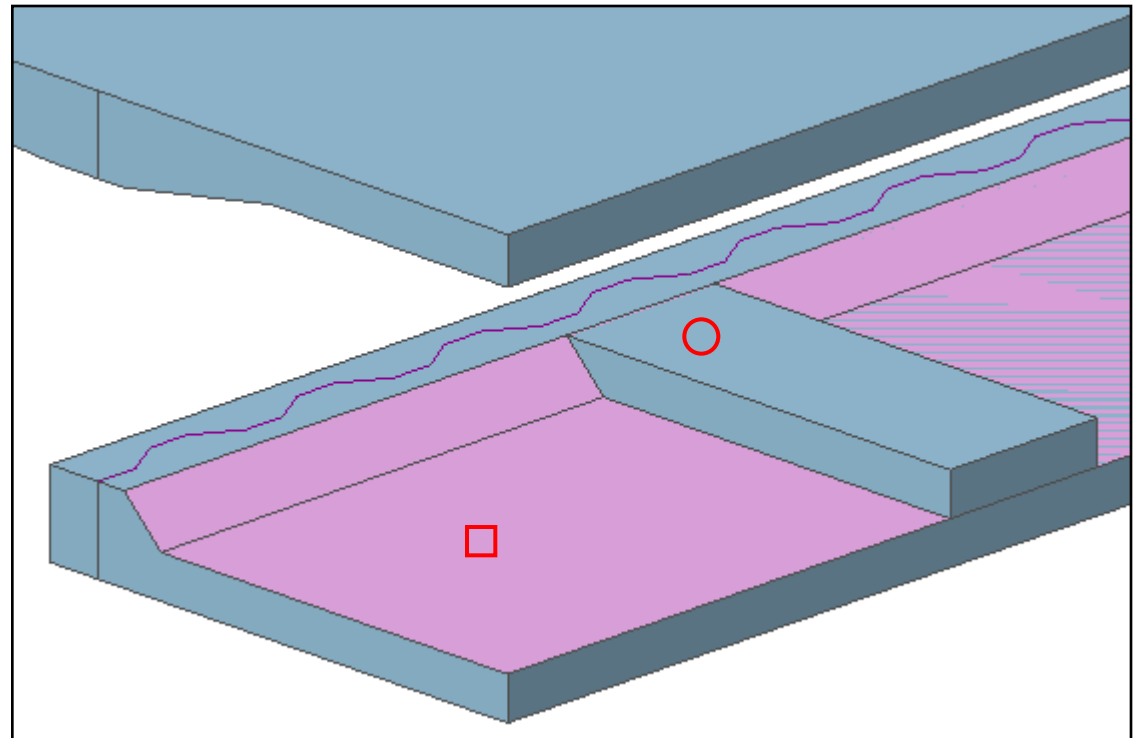
1. Geometry > Surface > Sew ...
2. Select 2 Surfaces marked by "O" (See Figure)
3. Click [OK] Button



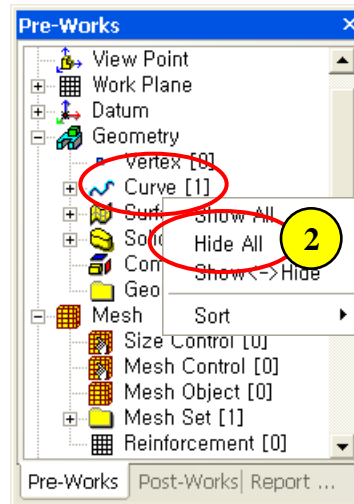
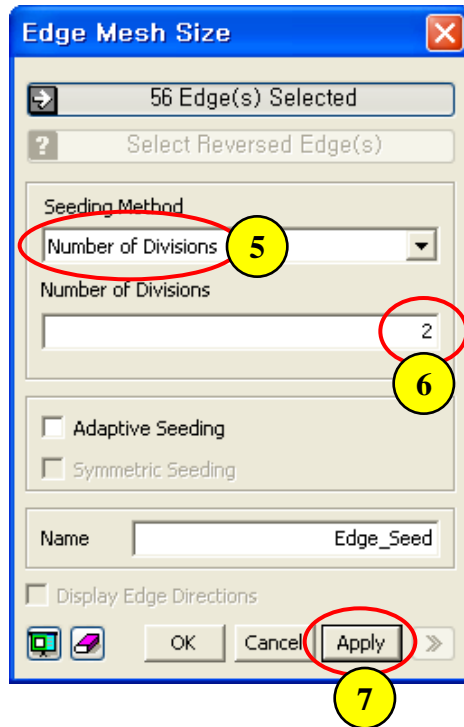
Step 17.



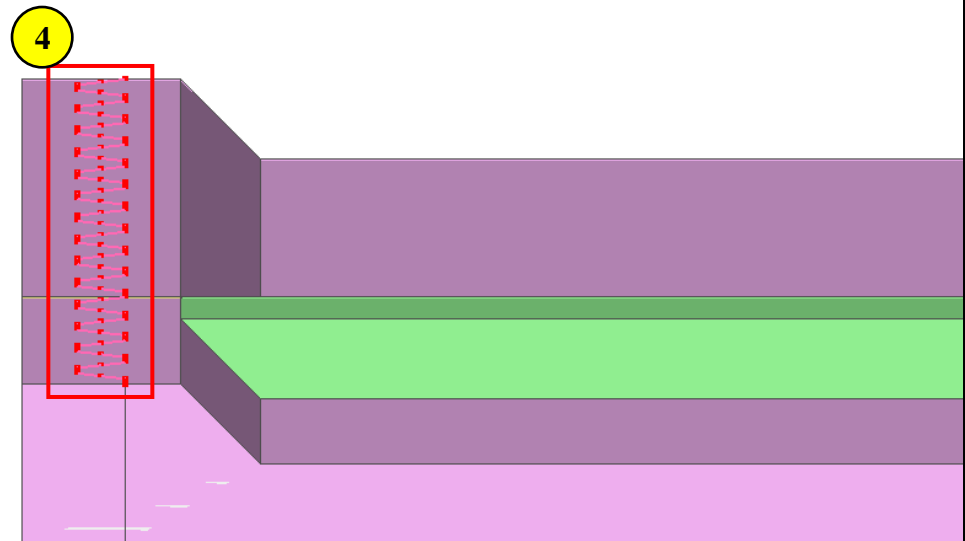
1. Geometry > Solid > Divide ...
2. Select Bottom Solid marked by “○” (See Figure)
3. Click “Select Tool Surface(s)” Button
4. Change Selection Filter to “Shell (H)”
5. Select Shell marked by “□” (See Figure)
6. Click [OK] Button



Step 18.

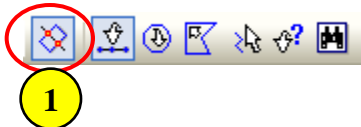
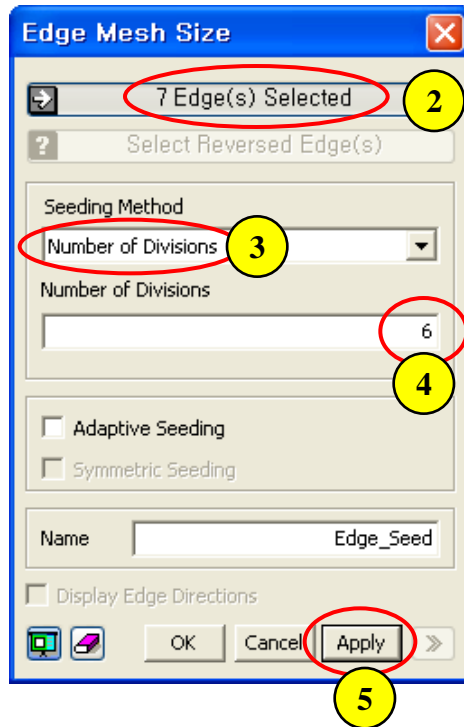


1. Pre-Works Tree : Geometry > Curve...
2. Click Right Mouse Button and Select "Hide All"
3. Mesh > Size Control > Along Edge ...
4. Select 56 Edges (See Figure)
5. Select "Number of Divisions" for Seeding Method
6. Number of Divisions : 2
7. Click [Apply] Button

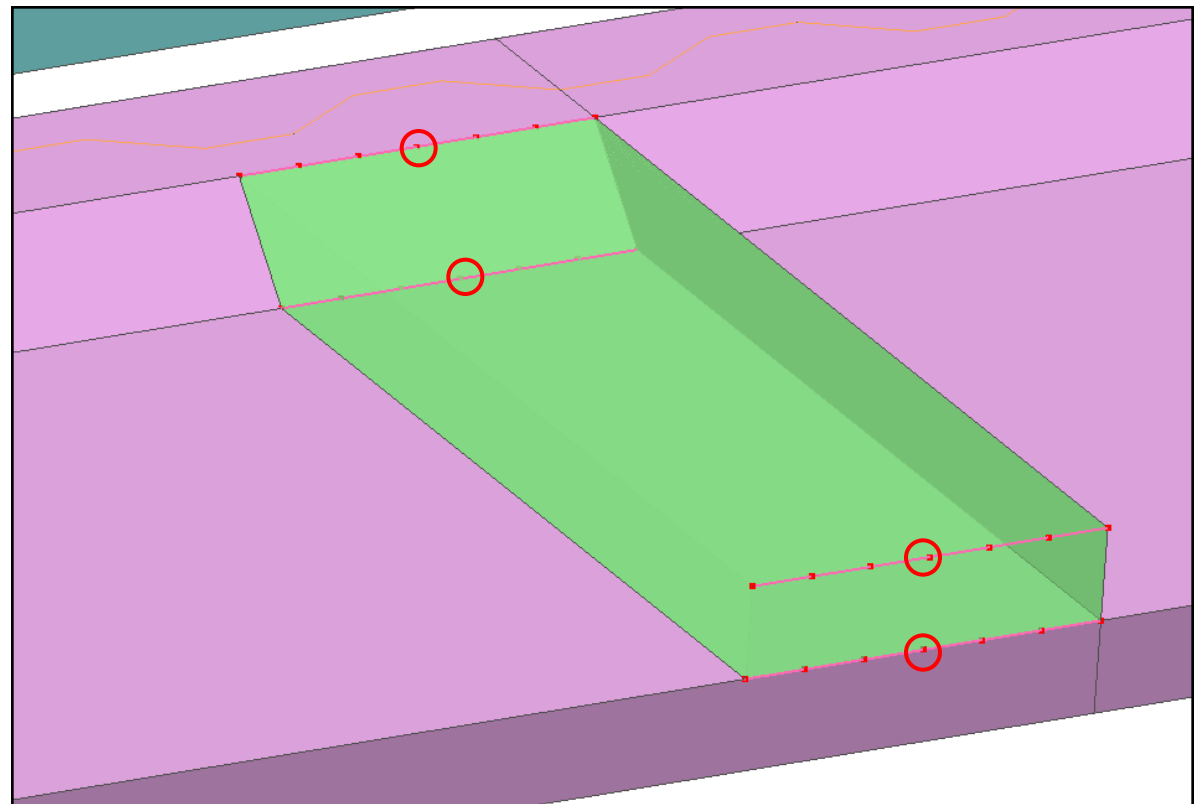


Step 19.

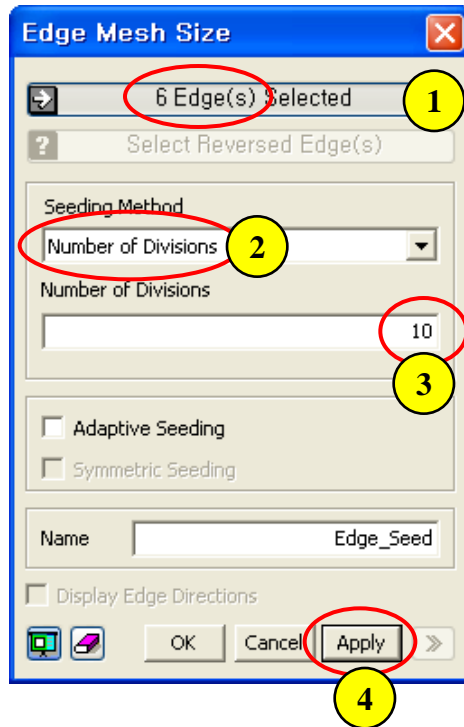
1. Toggle on “Include Intersected” Selection
2. Select 7 Edges marked by “O” (See Figure) *
3. Select “Number of Divisions” for Seeding Method
4. Number of Divisions : 6
5. Click [Apply] Button



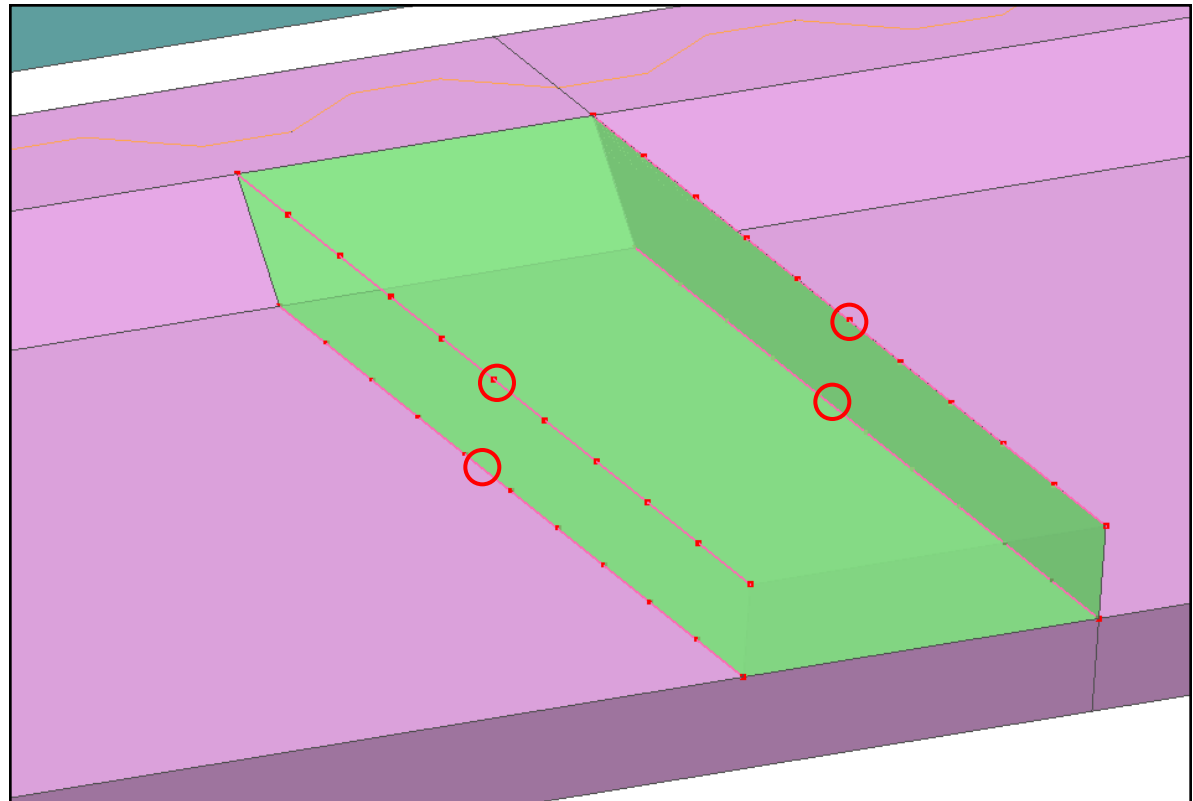
- * Drag Mouse to Select Edges .
- * There are duplicated edges in the same location .



Step 20.



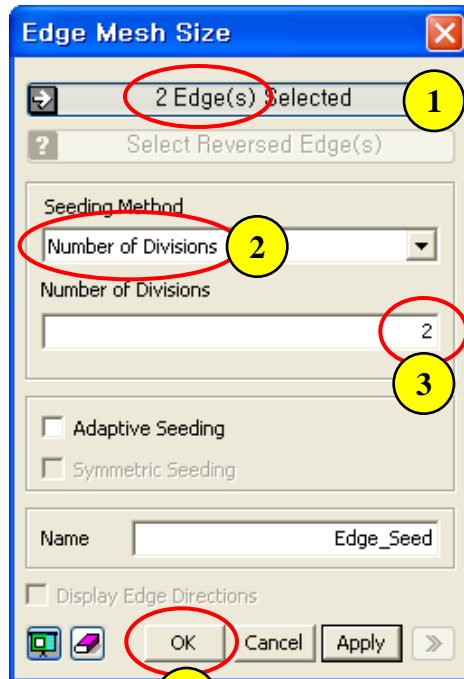
1. Select 6 Edges marked by “○” (See Figure) [Ⓢ]
2. Select “Number of Divisions” for Seeding Method
3. Number of Divisions : 10
4. Click [Apply] Button




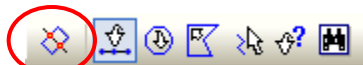
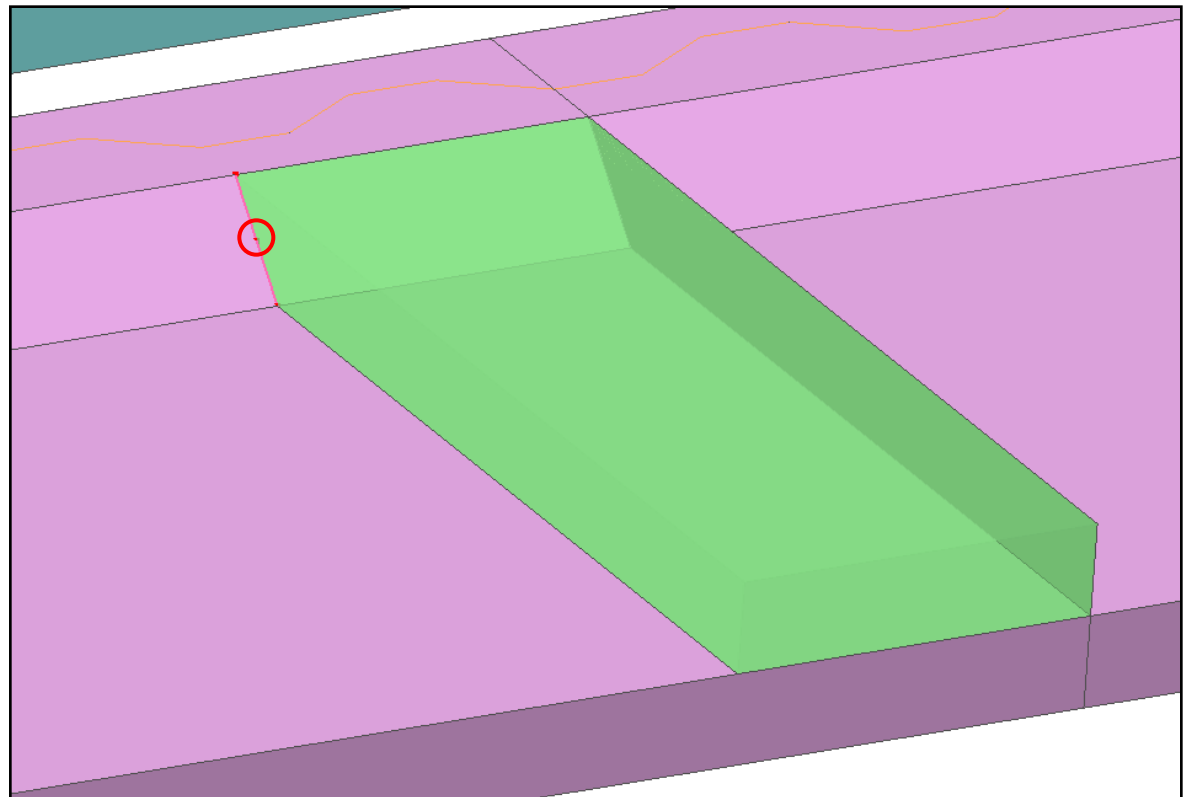
[Ⓢ] Drag Mouse to Select Edges .


[Ⓢ] There are duplicated edges
in the same location .

Step 21.



1. Select 2 Edges (See Figure) 
2. Select "Number of Divisions" for Seeding Method
3. Number of Divisions : 2
4. Click "OK" Button
5. Toggle off "Include Intersected" Selection

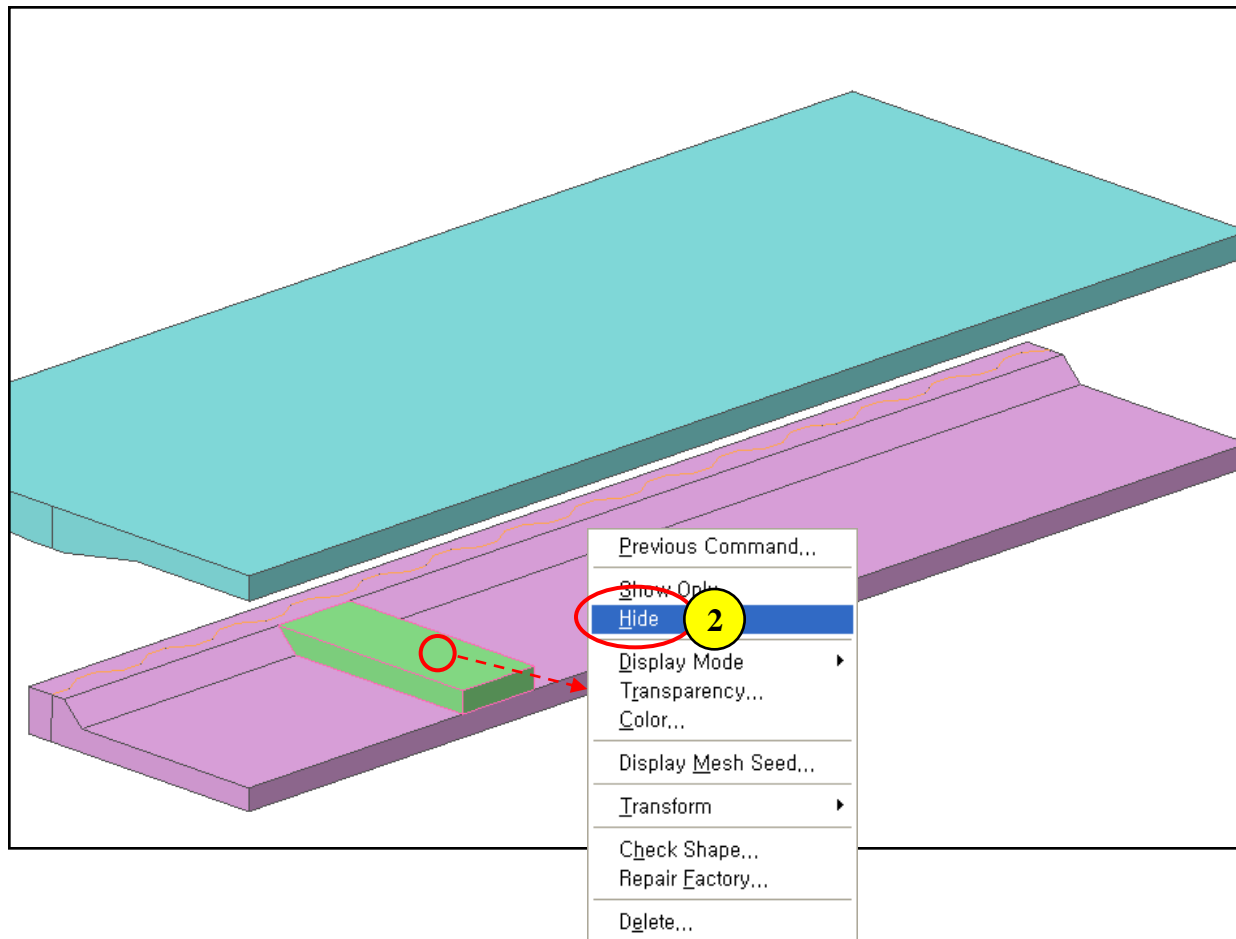


 Drag Mouse to Select Edges .

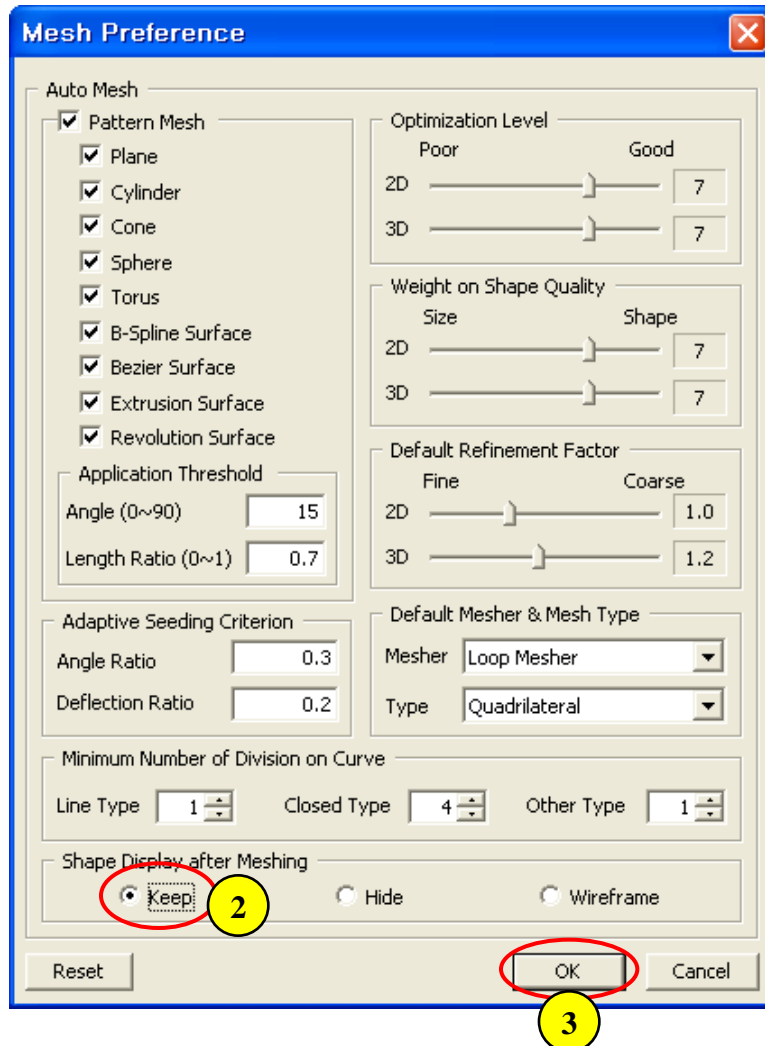
 There are duplicated edges
in the same location .

Step 22.

1. Select Solid marked by “O” (See Figure)
2. Click Right Mouse Button and Select “Hide”



Step 23.

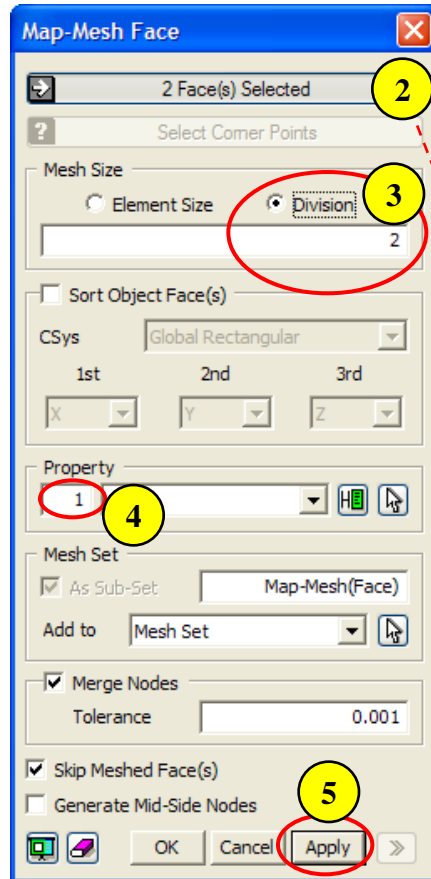


1. Mesh > Mesh Preference ...

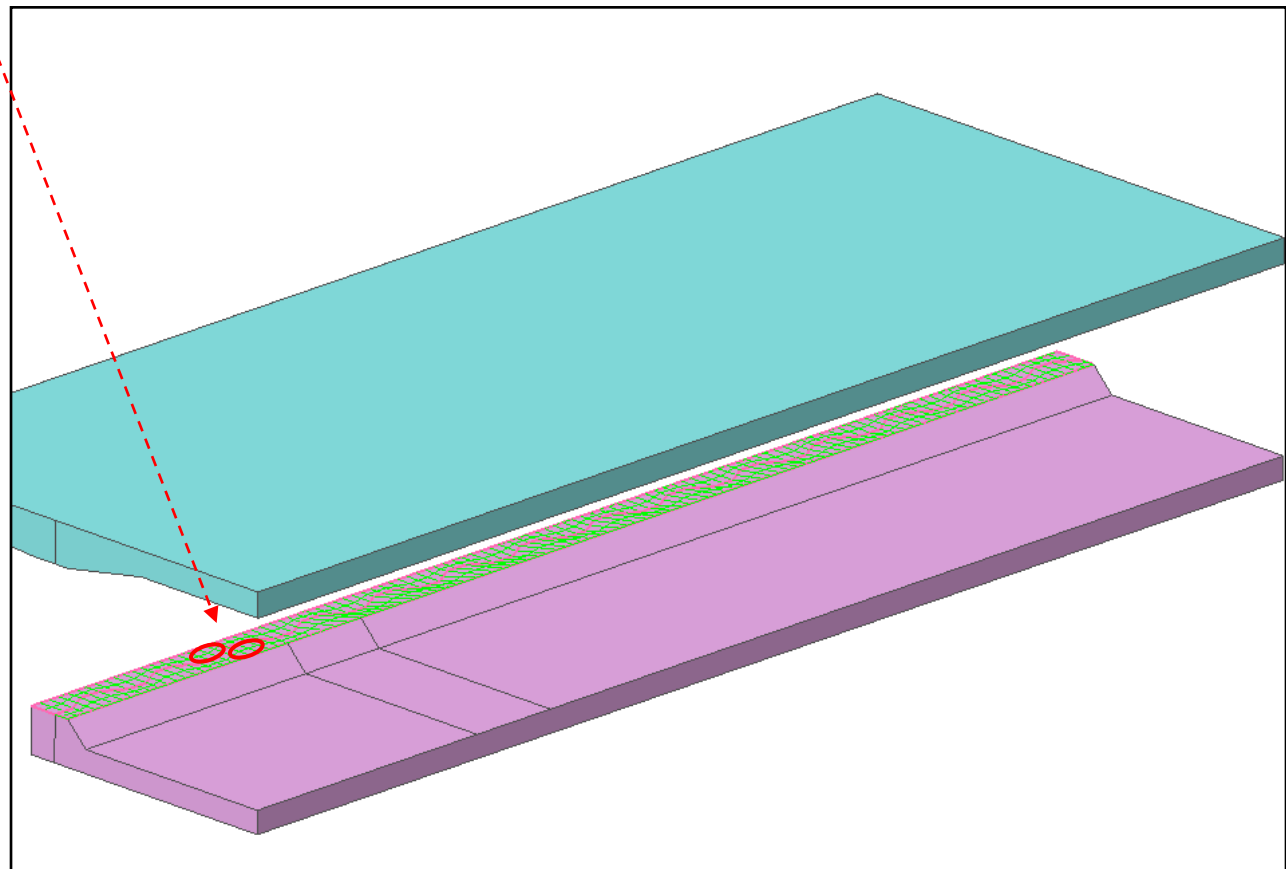
2. Select "Keep" for Shape Display after Meshing

3. Click [OK] Button

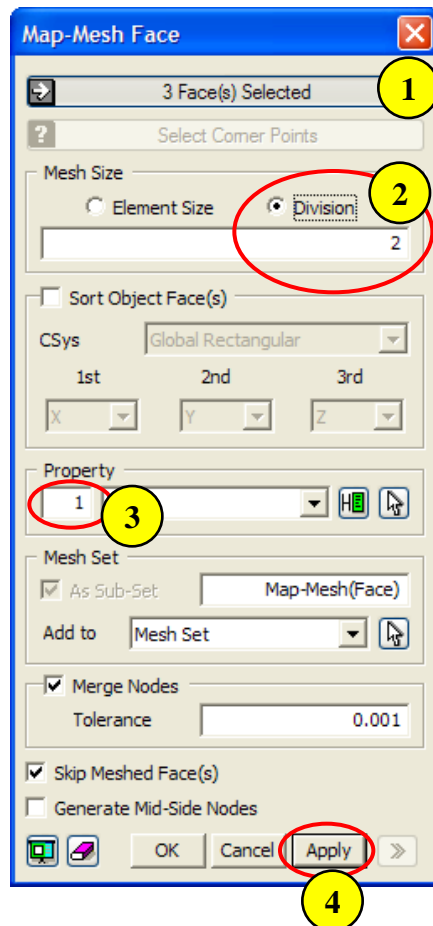
Step 24.



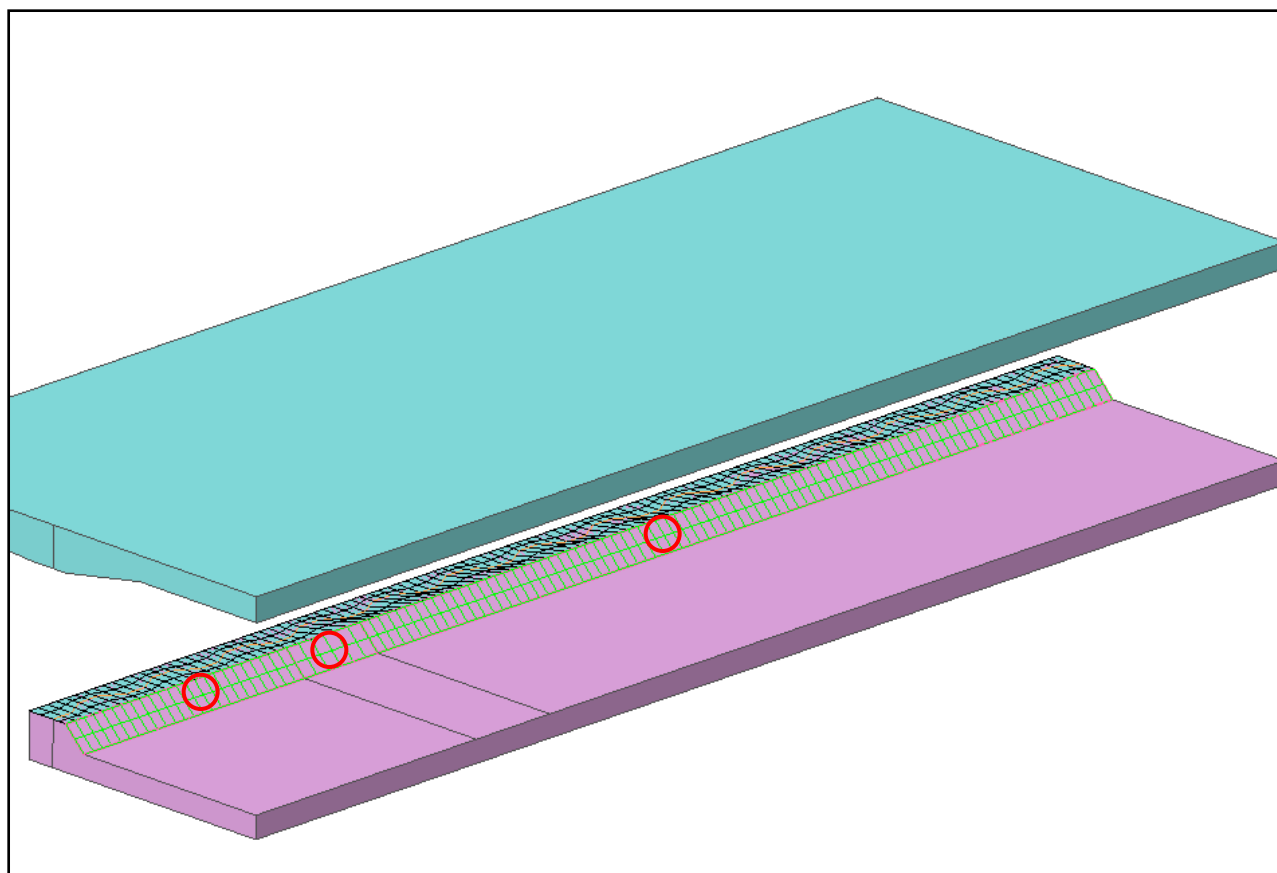
1. Mesh > Map Mesh > Face ...
2. Select 2 Faces marked by "O" (See Figure)
3. Mesh Size : Division (2)
4. Property : 1
5. Click [Apply] Button



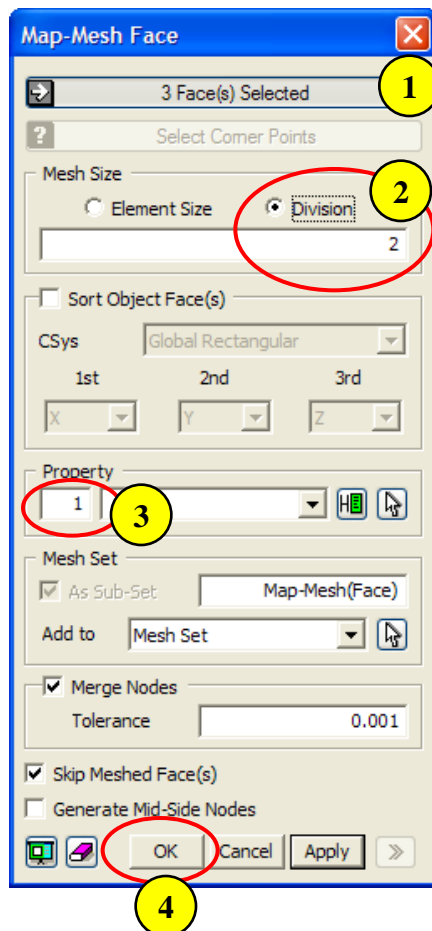
Step 25.



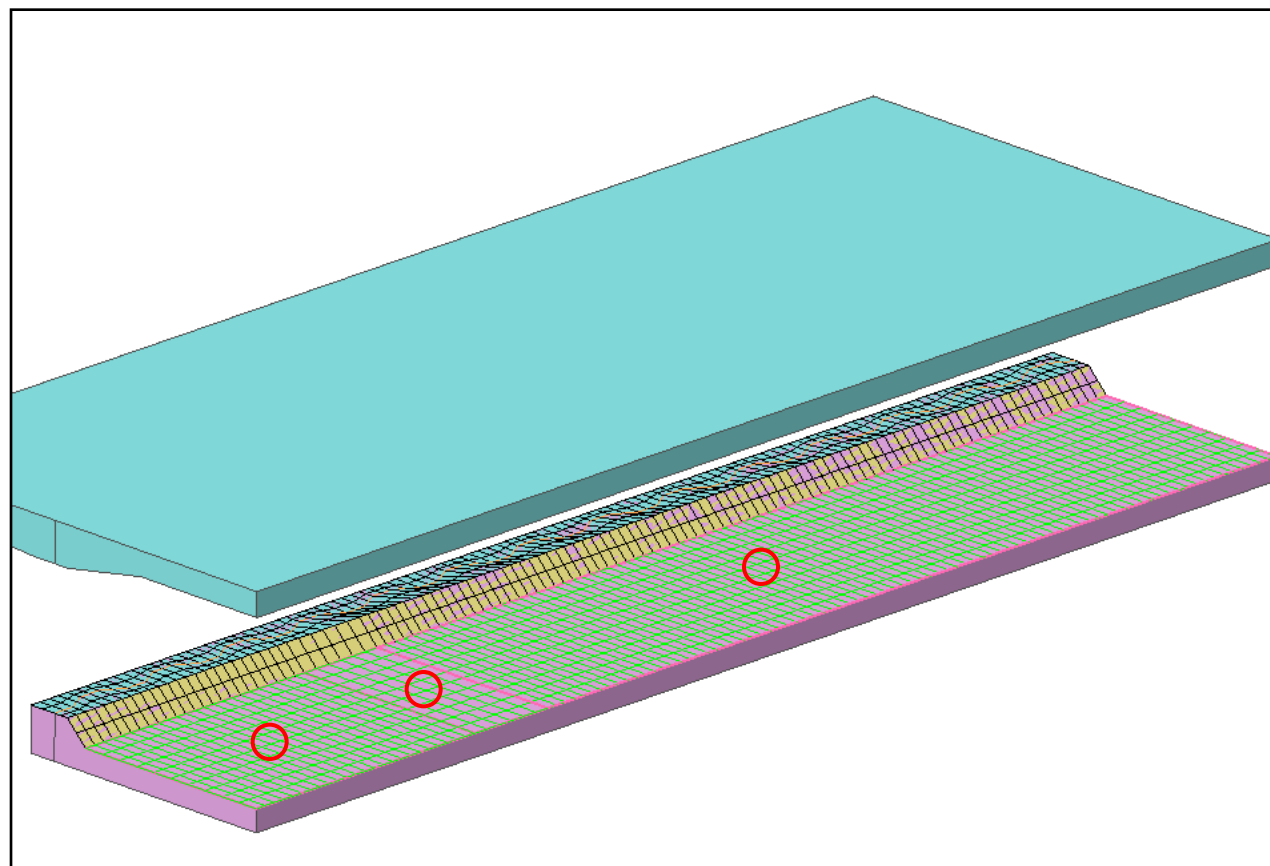
1. Select 3 Faces marked by "O" (See Figure)
2. Mesh Size : Division (2)
3. Property : 1
4. Click [Apply] Button



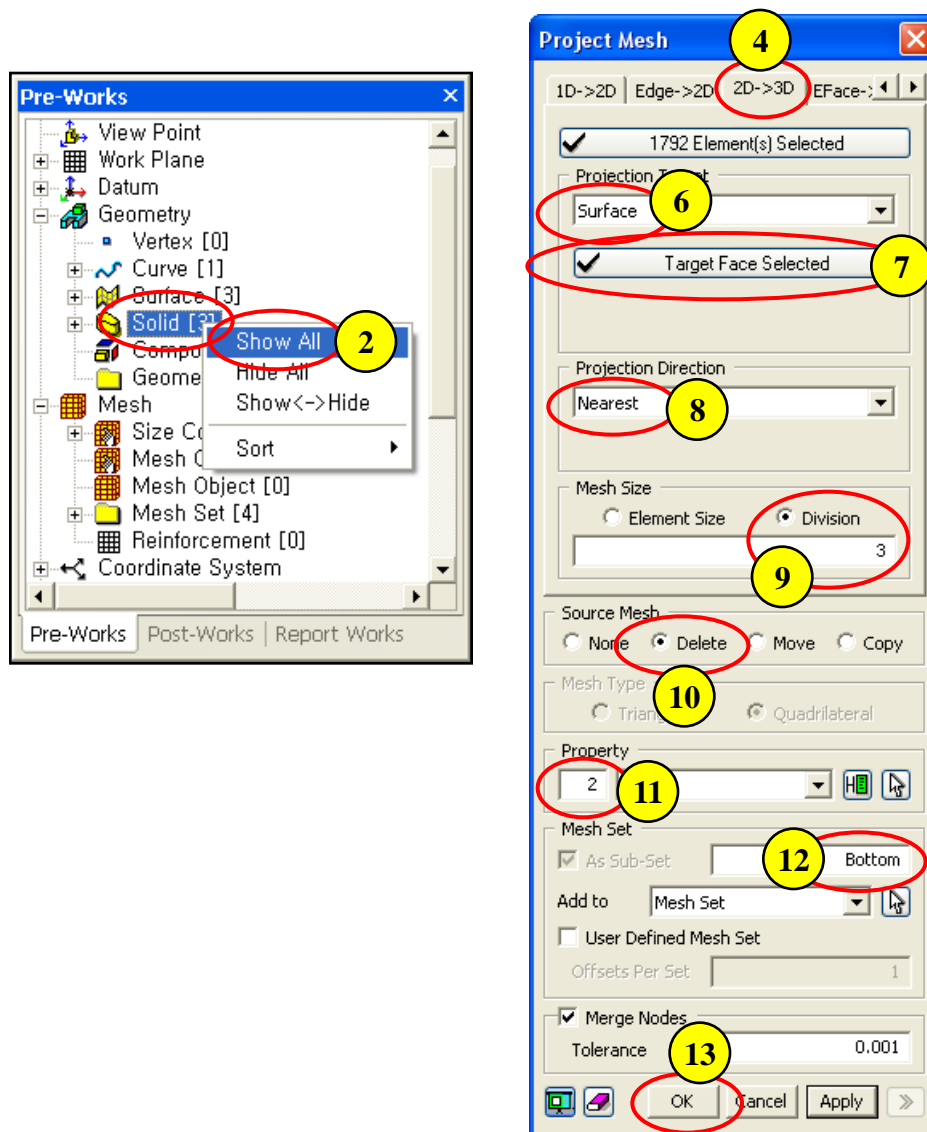
Step 26.



1. Select 3 Faces marked by "O" (See Figure)
2. Mesh Size : Division (2)
3. Property : 1
4. Click [OK] Button



Step 27-1.



1. Pre-Works Tree : Geometry > Solid ...

2. Click Right Mouse Button and Select "Show All"

3. Mesh > Protrude Mesh > Project ...

4. Select "2D->3D" Tab

5. Select "Displayed"

6. Select "Surface" for Projection Target

7. Select Bottom Face (See Figure)

8. Select "Nearest" for Projection Direction

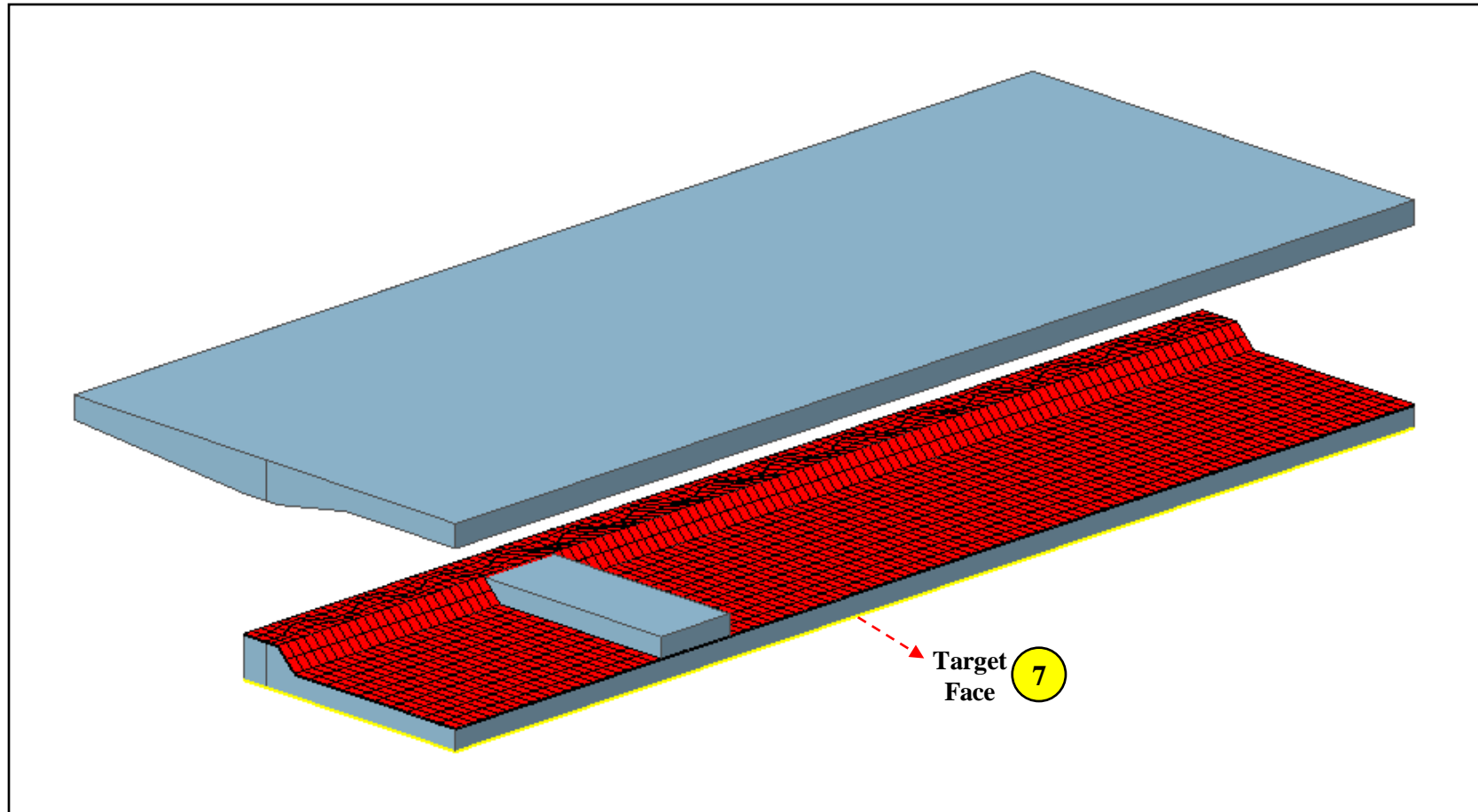
9. Division : 3

10. Source Mesh : Delete

11. Property : 2

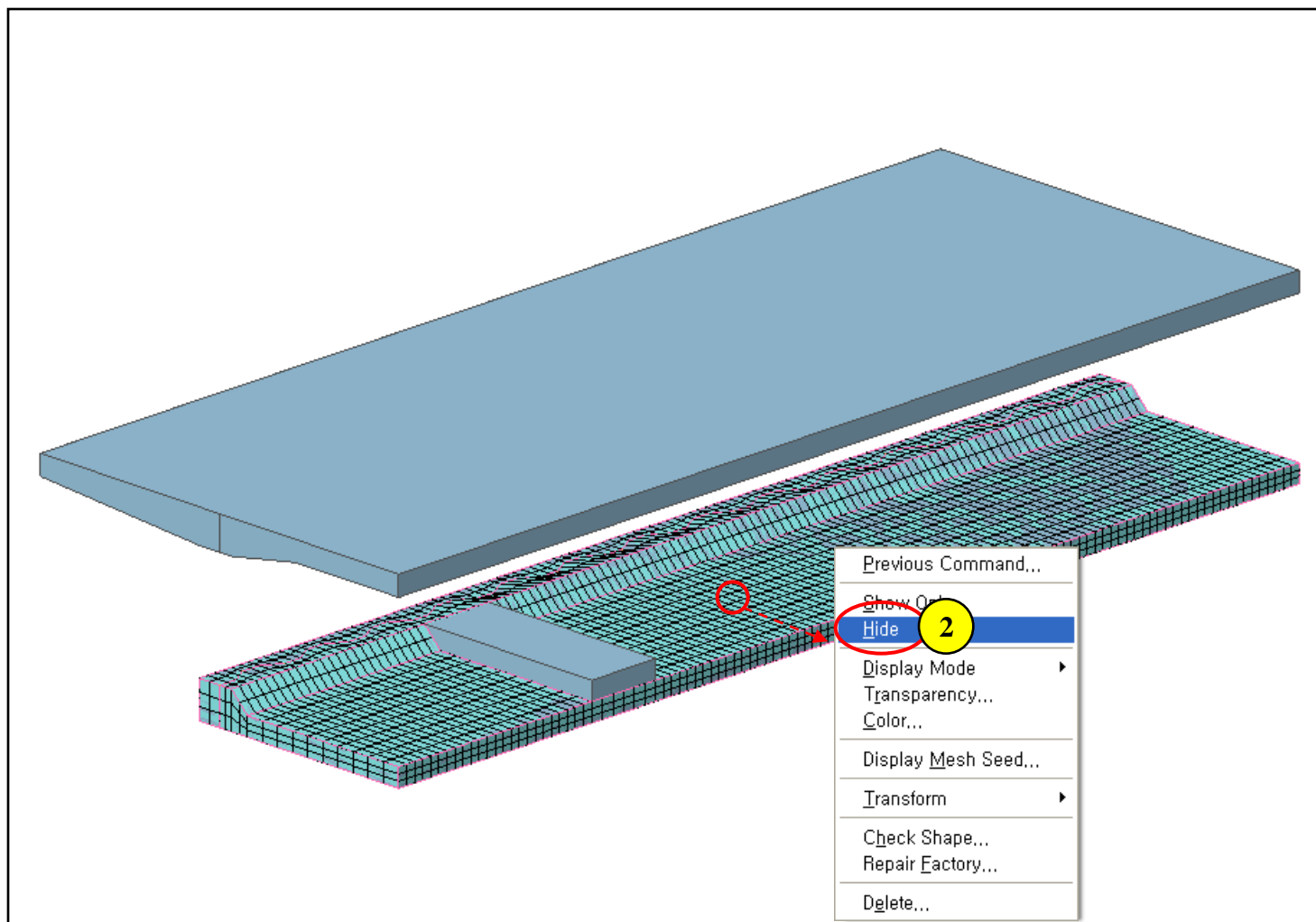
12. Mesh Set : Bottom

13. Click [OK] Button

Step 27-2.

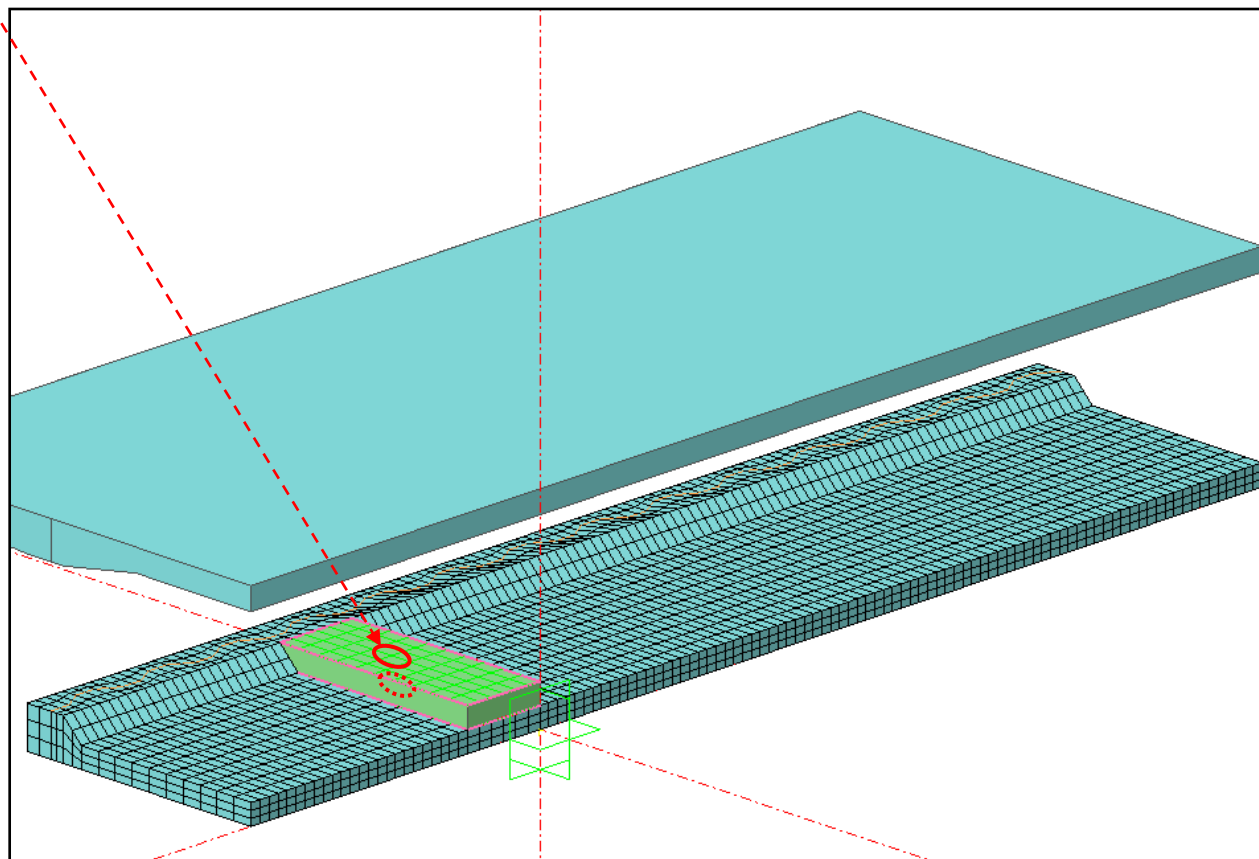
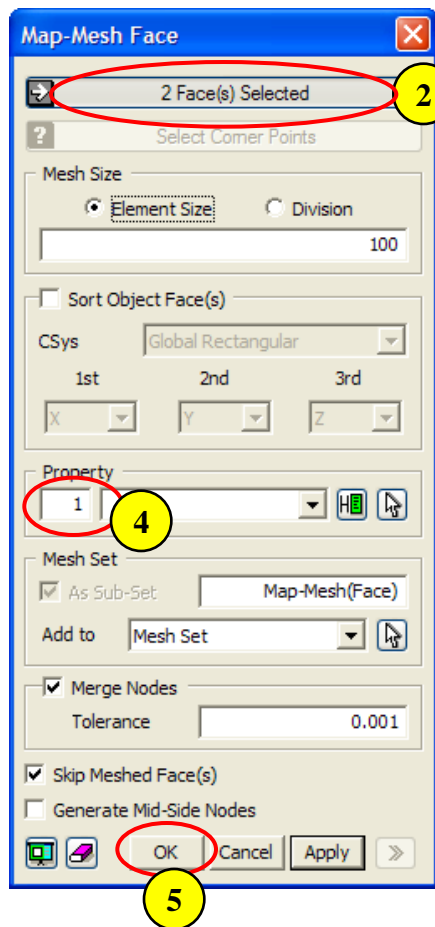
Step 28.

1. Select Bottom Solid marked by “O” (See Figure)
2. Click Right Mouse Button and Select “Hide”

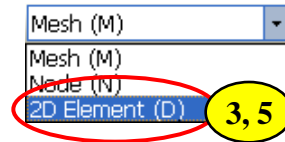
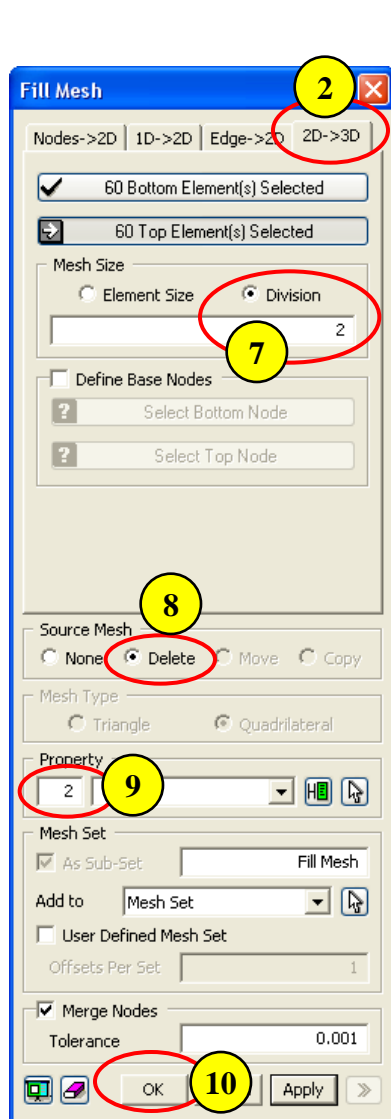


Step 29.

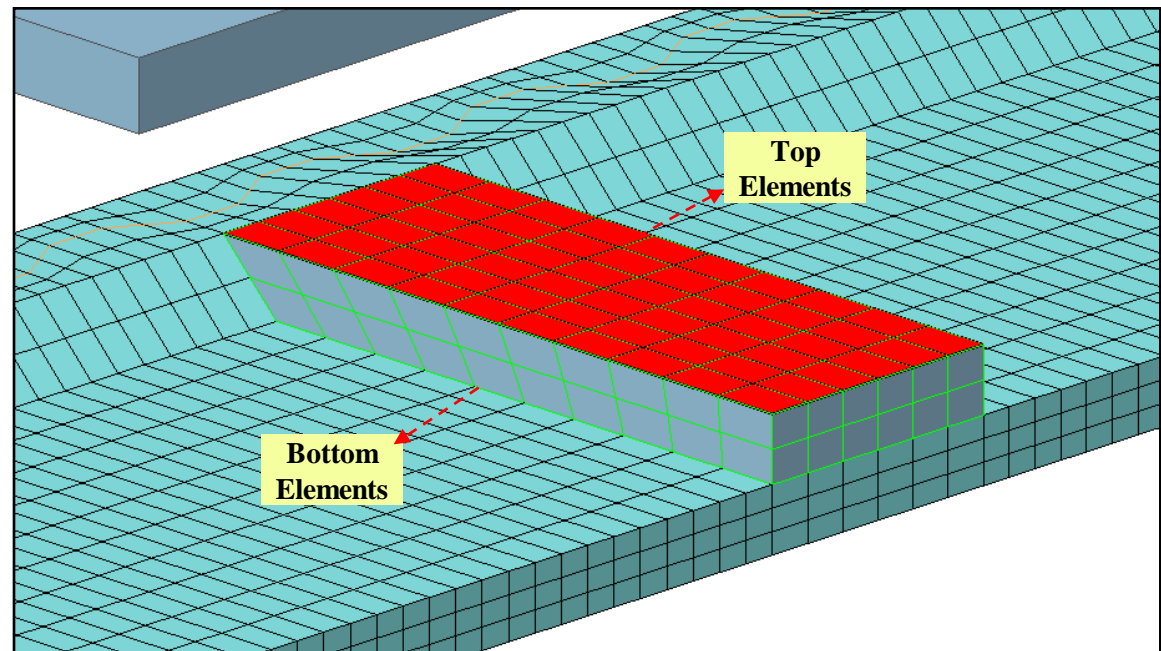
1. *Mesh > Map Mesh > Face ...*
2. *Select Top & Bottom Face of Solid (See Figure)*
3. *Use Default Mesh Size*
4. *Property : 1*
5. *Click [OK] Button*



Step 30-1.

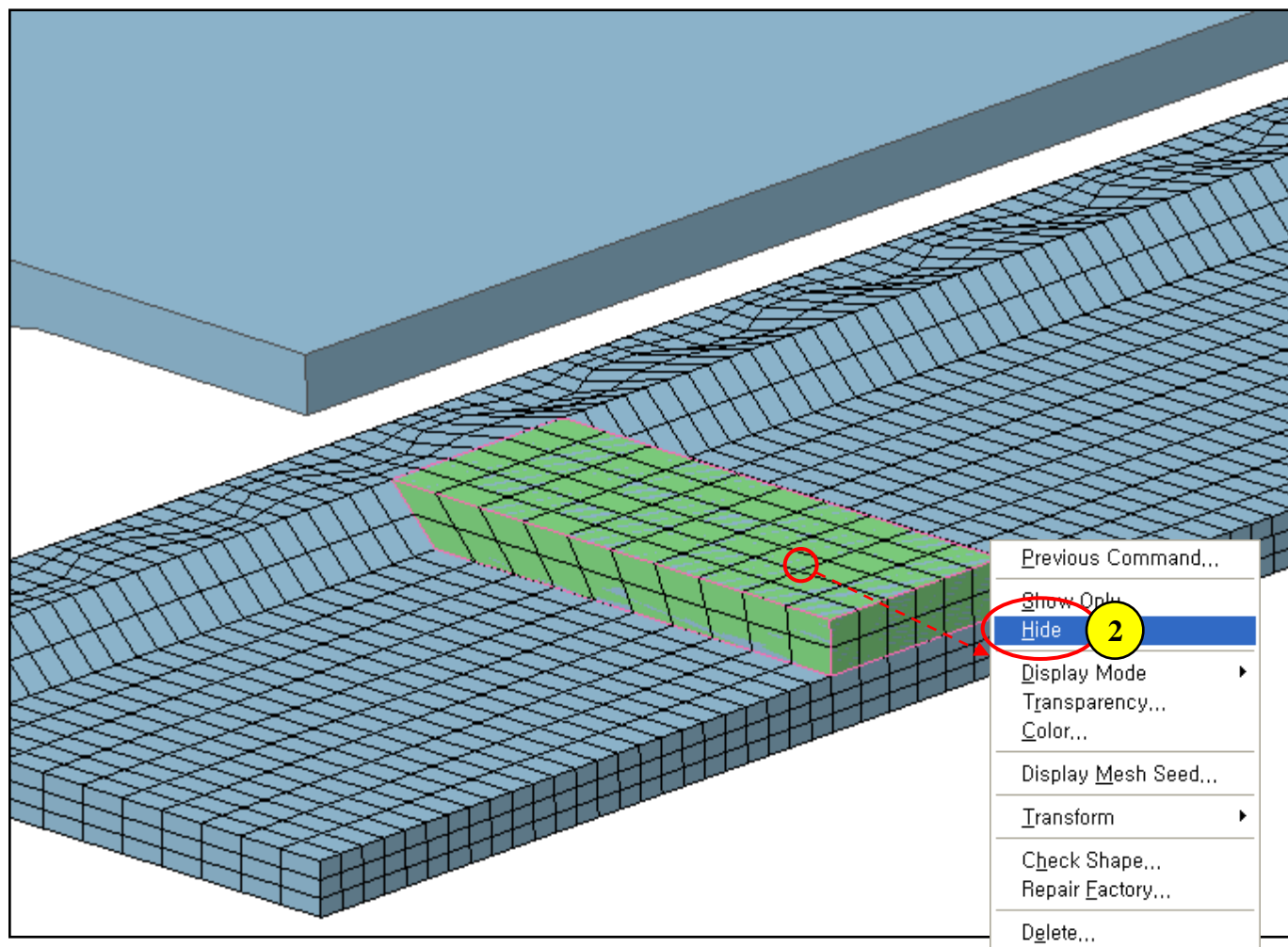


1. Mesh > Protrude Mesh > Fill ...
2. Select "2D->3D" Tab
3. Change Selection Filter to "2D Element (D)"
4. Select 60 Bottom Elements (See Figure)
5. Change Selection Filter to "2D Element (D)"
6. Select 60 Top Elements (See Figure)
7. Mesh Size : Division (2)
8. Source Mesh : Delete
9. Property : 2
10. Click [OK] Button

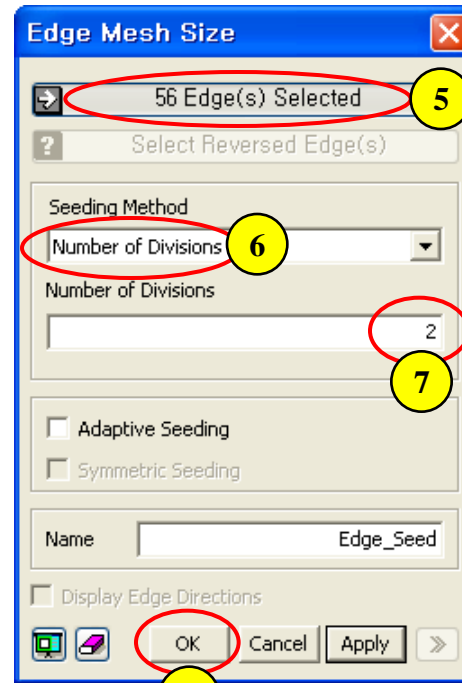
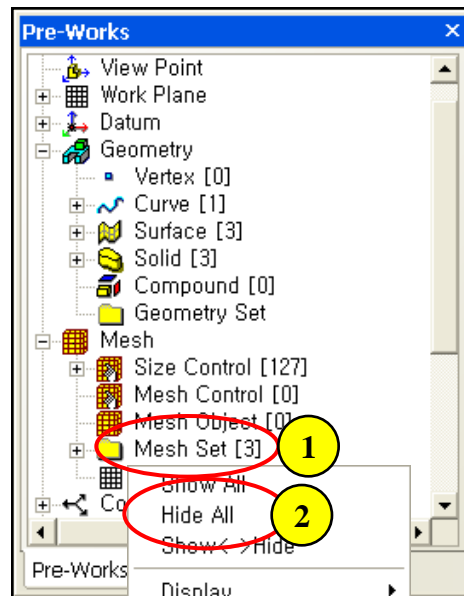


Step 30-2.

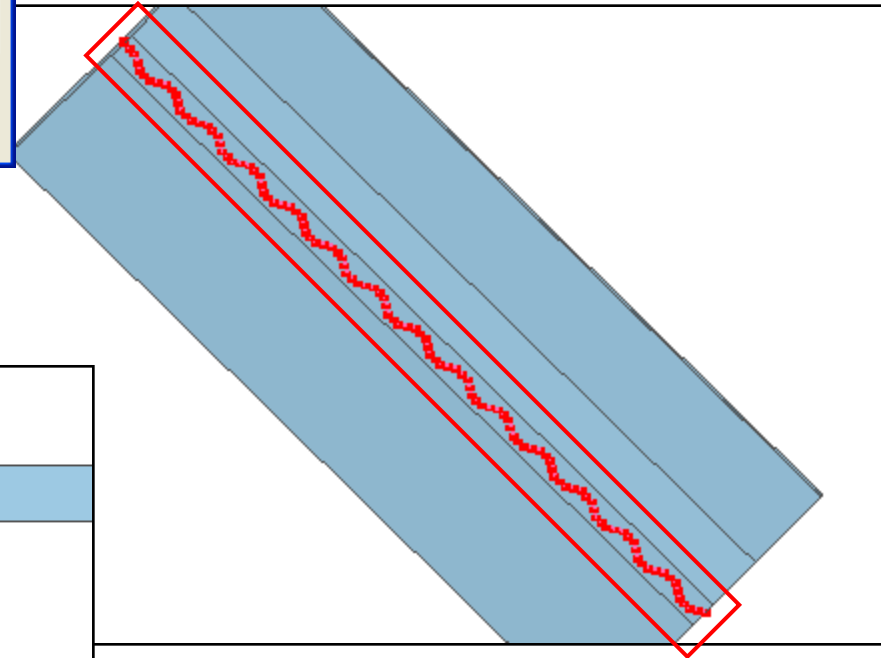
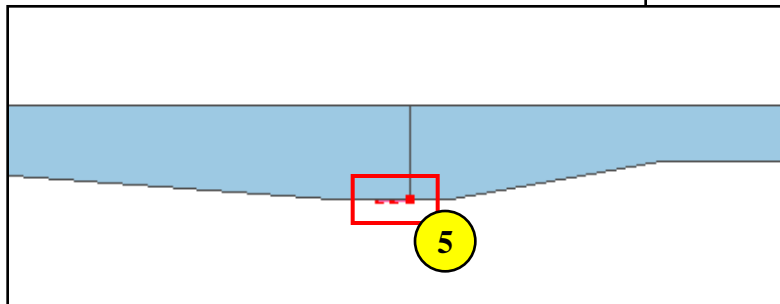
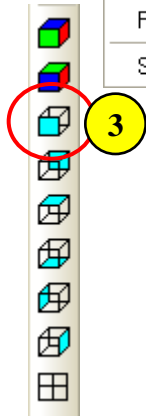
1. Select Solid marked by “○” (See Figure)
2. Click Right Mouse Button and Select “Hide”



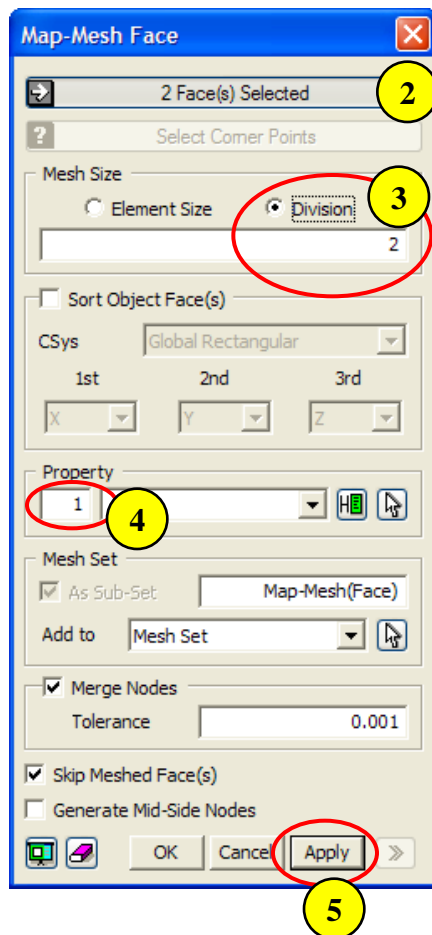
Step 31.



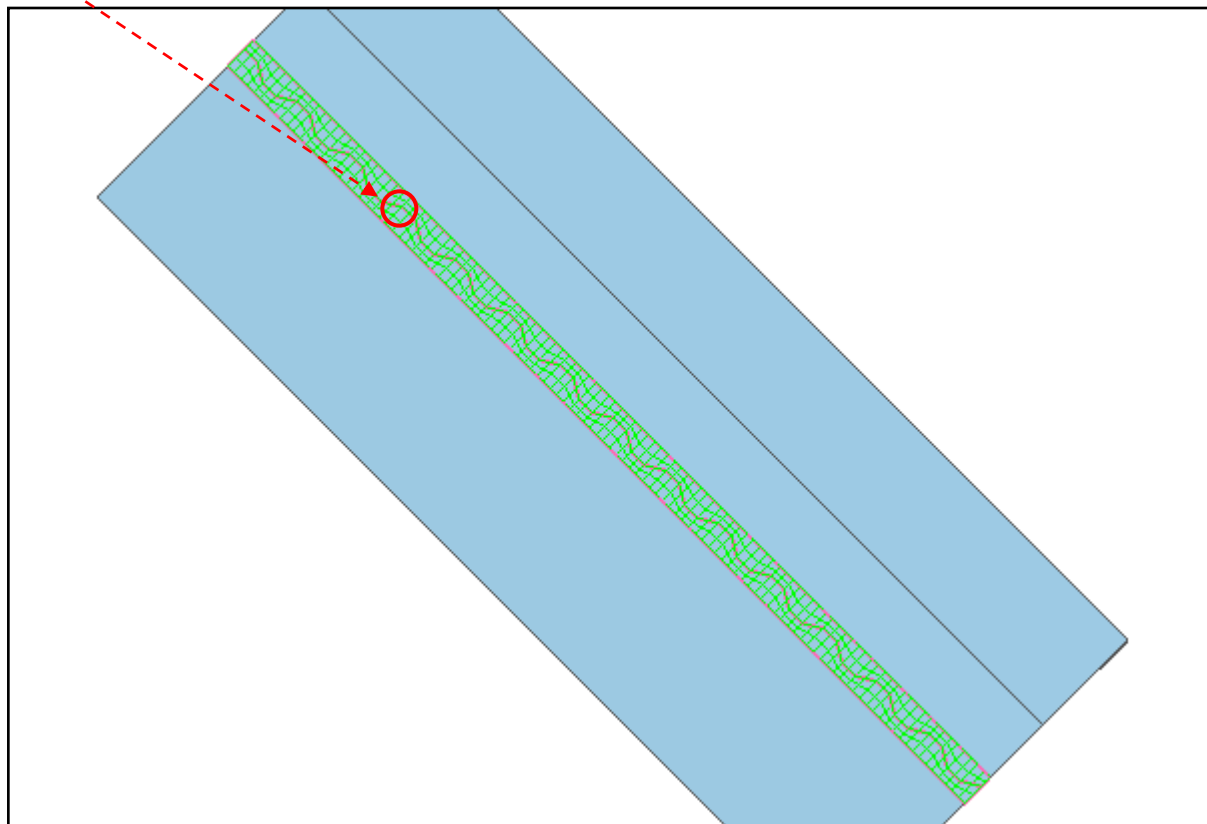
1. Works Tree > Mesh > Mesh Set
2. Click Right Mouse Button and Select "Hide All"
3. Click "Front View"
4. Mesh > Size Control > Along Edge ...
5. Select 56 Edges (See Figure)
6. Select "Number of Divisions" for Seeding Method
7. Number of Divisions : 2
8. Click [OK] Button



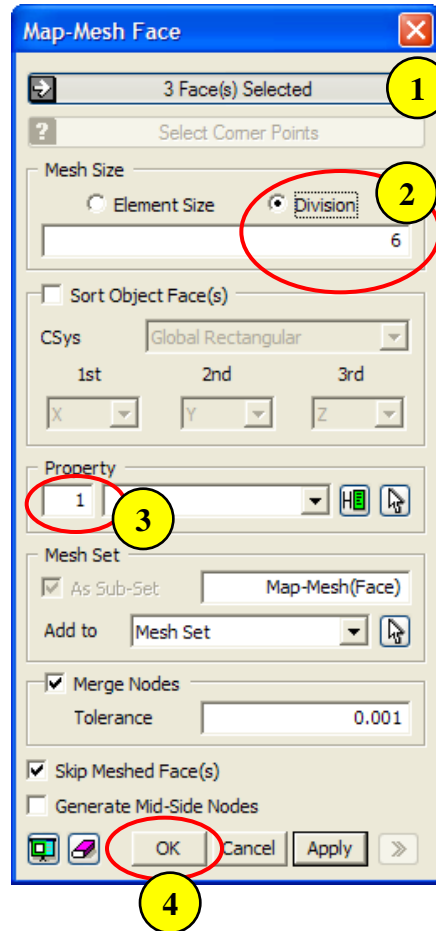
Step 32.



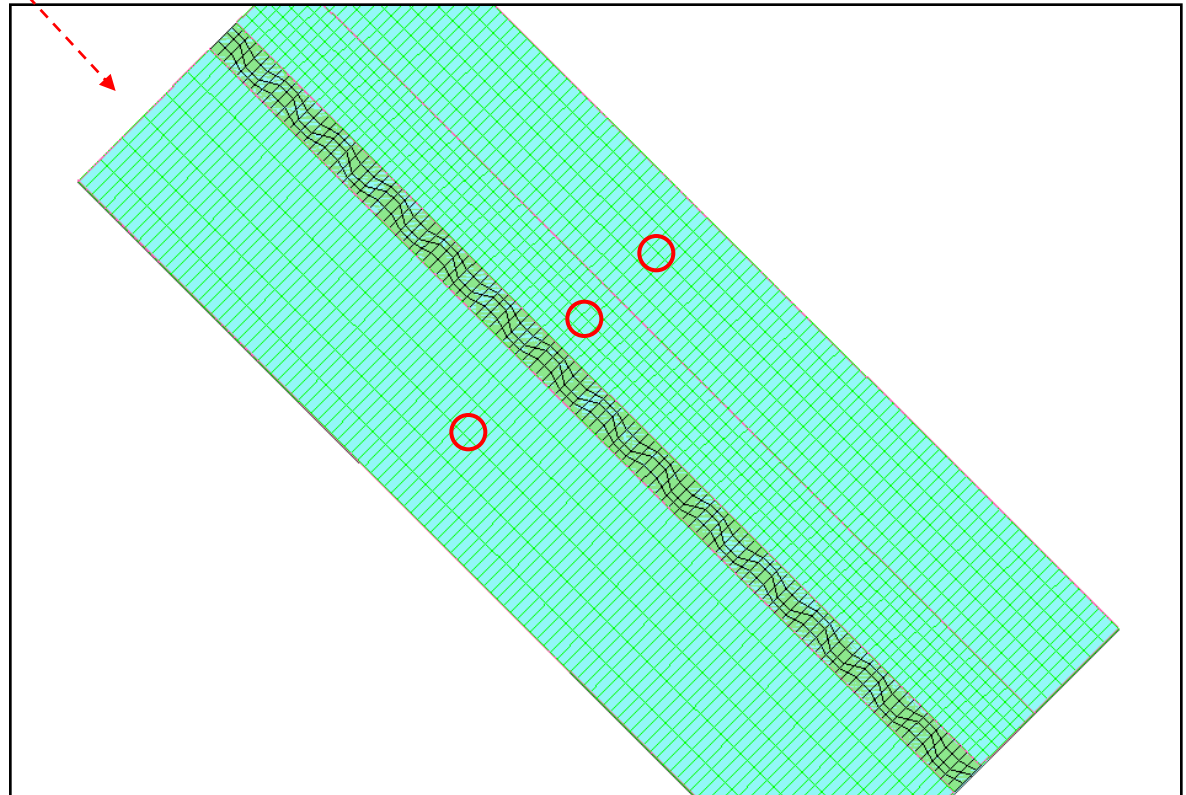
1. Mesh > Map Mesh > Face ...
2. Select 2 Faces marked by "O" (See Figure)
3. Mesh Size : Division (2)
4. Property : 1
5. Click [Apply] Button

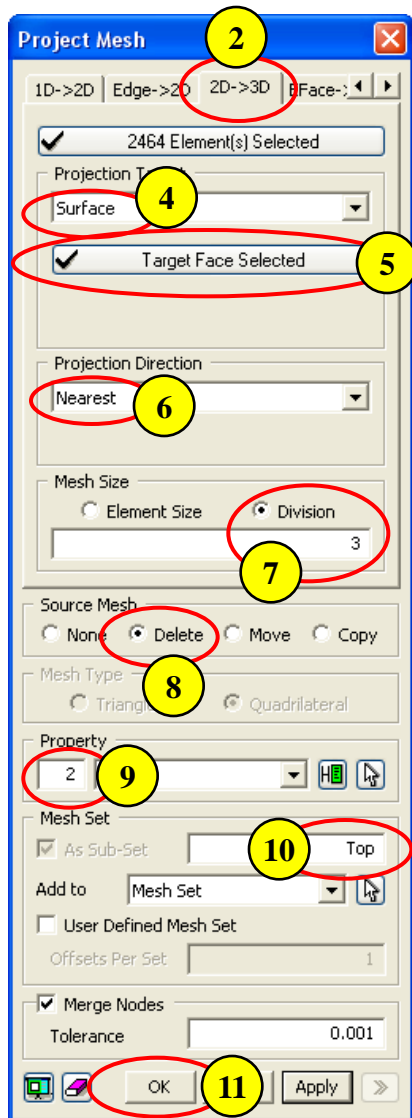



Step 33.

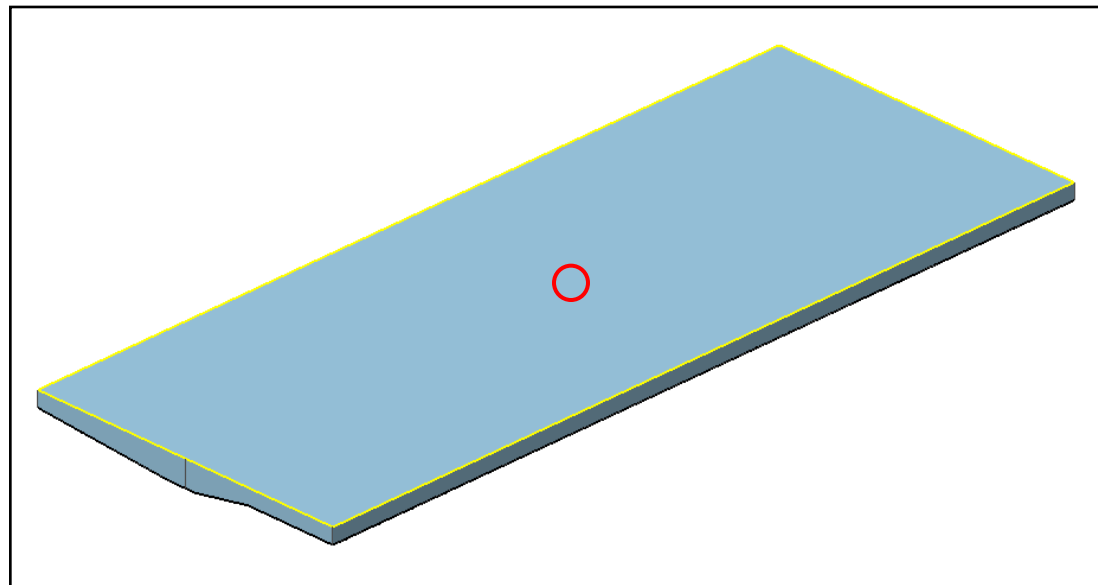


1. Select 3 Faces marked by "O" (See Figure)
2. Mesh Size : Division (6)
3. Property : 1
4. Click [OK] Button

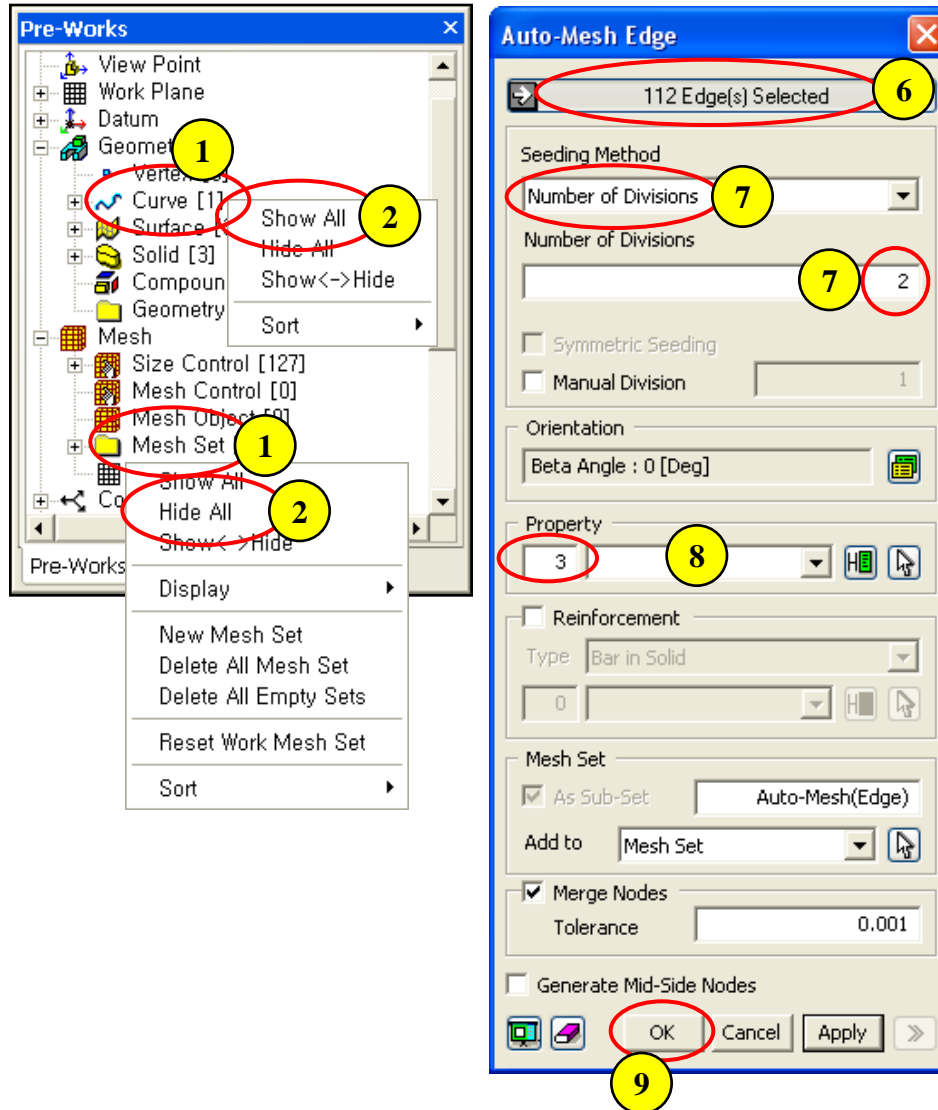


Step 34.

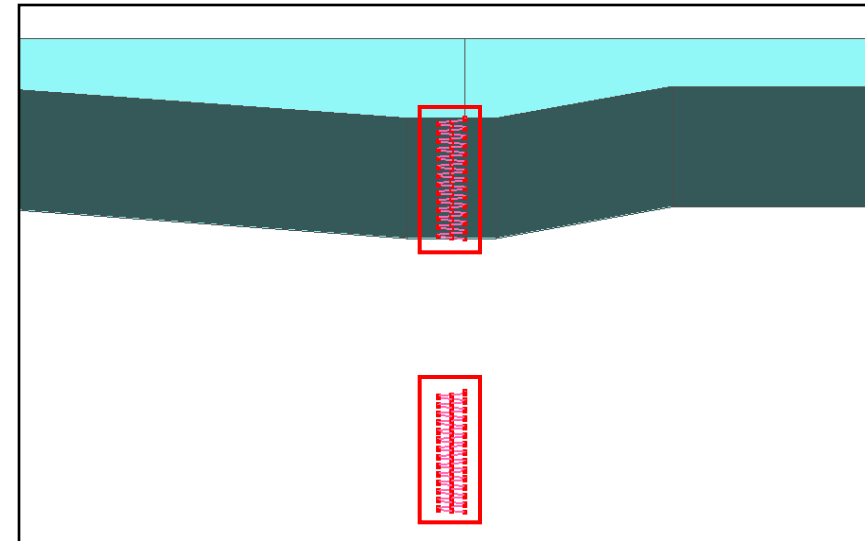
1. Mesh > Protrude Mesh > Project ...
2. Select "2D->3D" tab
3. Select  "Displayed"
4. Select "Surface" for Projection Target
5. Select Top Face marked by "O" (See Figure)
6. Select "Nearest" for Projection Direction
7. Division : 3
8. Source Mesh : Delete
9. Property : 2
10. Mesh Set : Top
11. Click [OK] Button



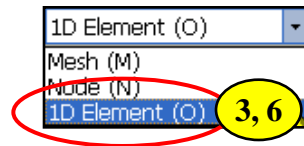
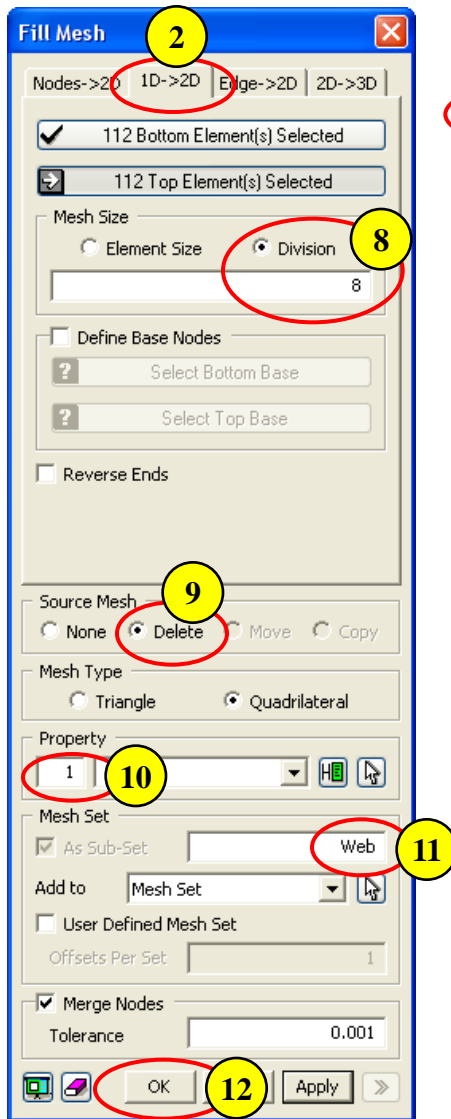
Step 35.



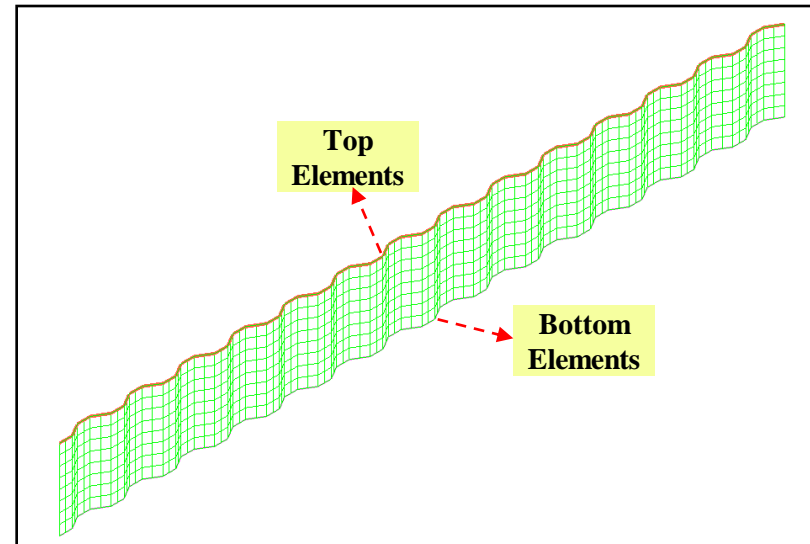
1. Pre-Works Tree : Mesh > Mesh Set...
2. Click Right Mouse Button and Select "Hide All"
3. Pre-Works Tree : Geometry > Curve...
4. Click Right Mouse Button and Select "Show All"
5. Mesh > Auto Mesh > Edge ...
6. Select 112 Edges (See Figure)
7. Seeding Method : Number of Divisions (2)
8. Property : 3
9. Click [OK] Button



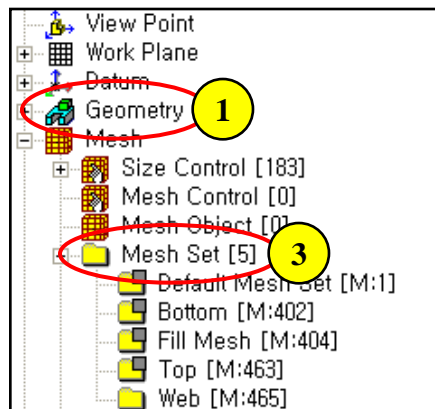
Step 36.



1. Mesh > Protrude Mesh > Fill ...
2. Select "1D->2D" tab
3. Change Selection Filter to "1D Element (O)"
4. Select 112 Bottom Elements (See Figure)
5. Click "Select Top Element(s)" Button
6. Change Selection Filter to "1D Element (O)"
7. Select 112 Top Elements (See Figure)
8. Mesh Size : Division (8)
9. Source Mesh : Delete
10. Property : 1
11. Mesh Set : Web
12. Click [OK] Button



Step 37.

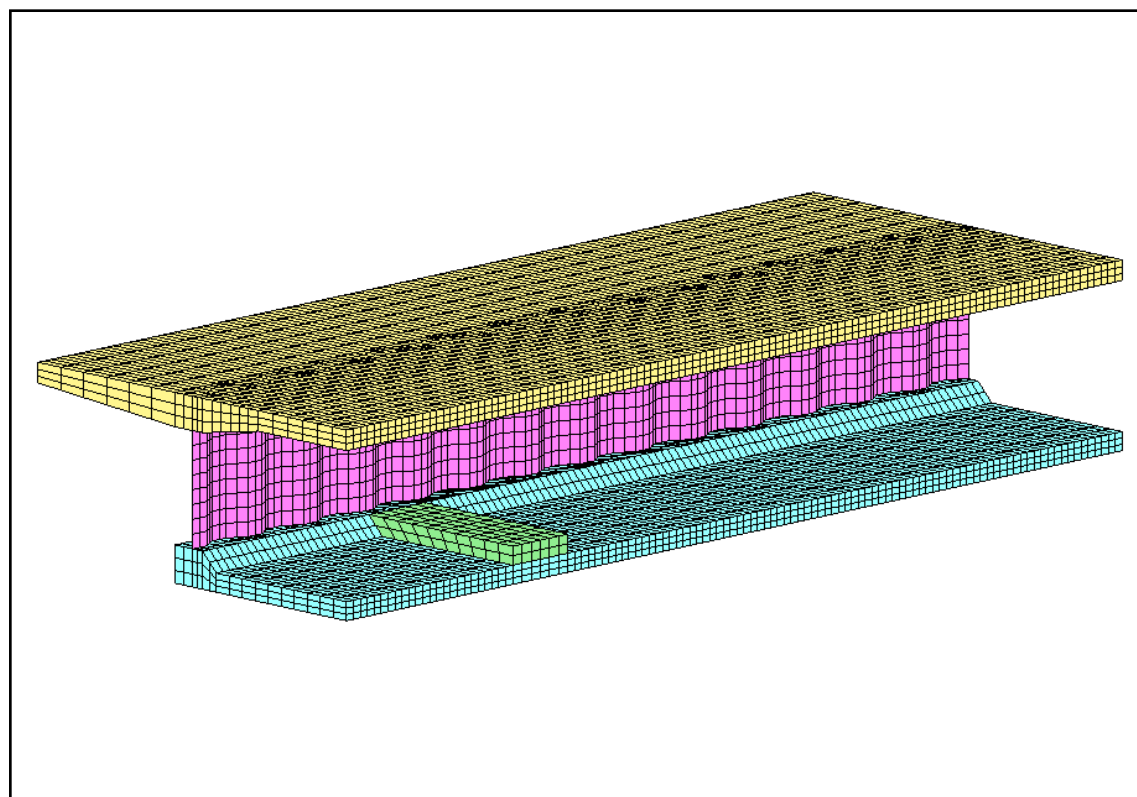
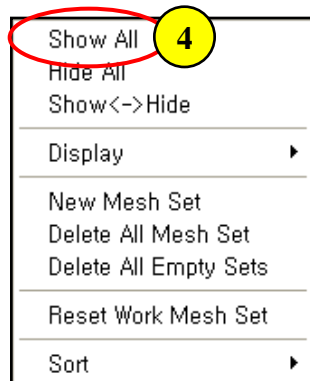
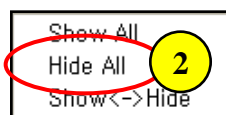


1. Pre-Works Tree : Geometry ...

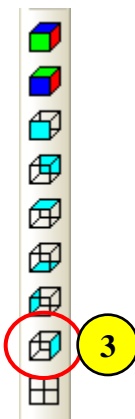
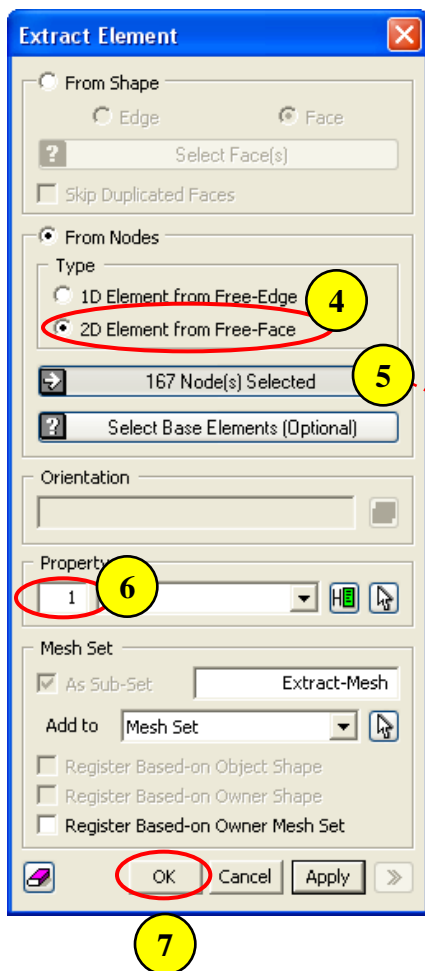
2. Click Right Mouse Button and Select “Hide All”

3. Pre-Works Tree : Mesh > Mesh Set ...

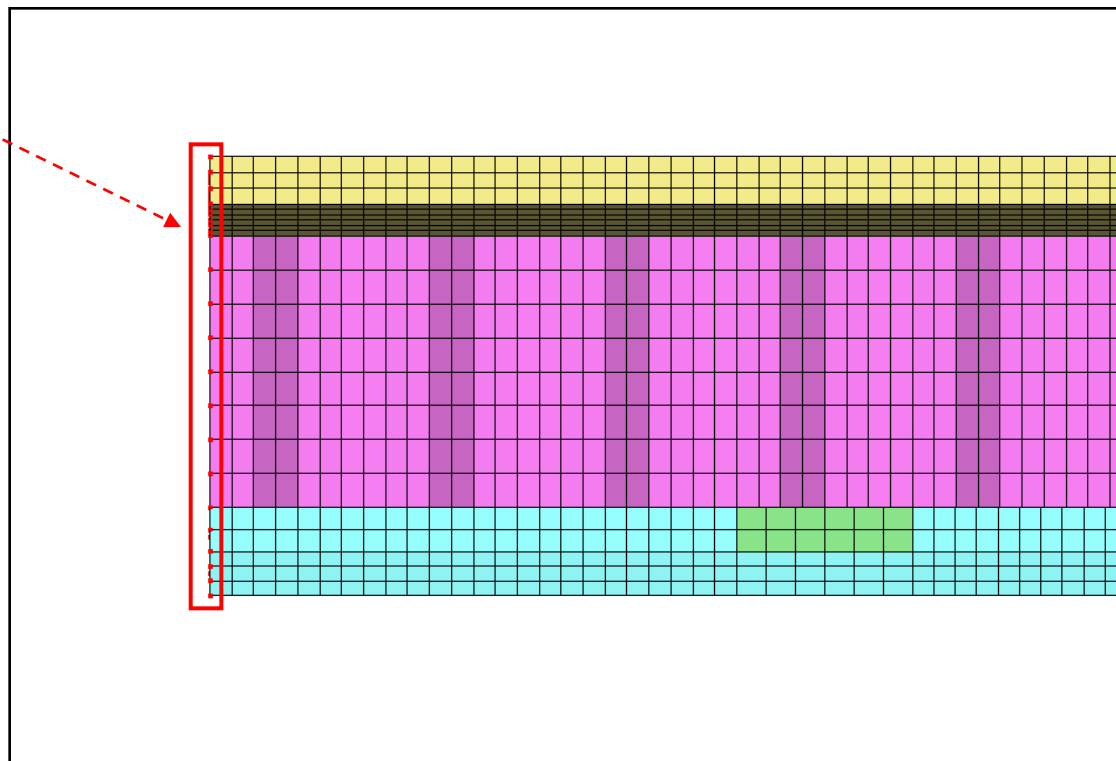
4. Click Right Mouse Button and Select “Show All”



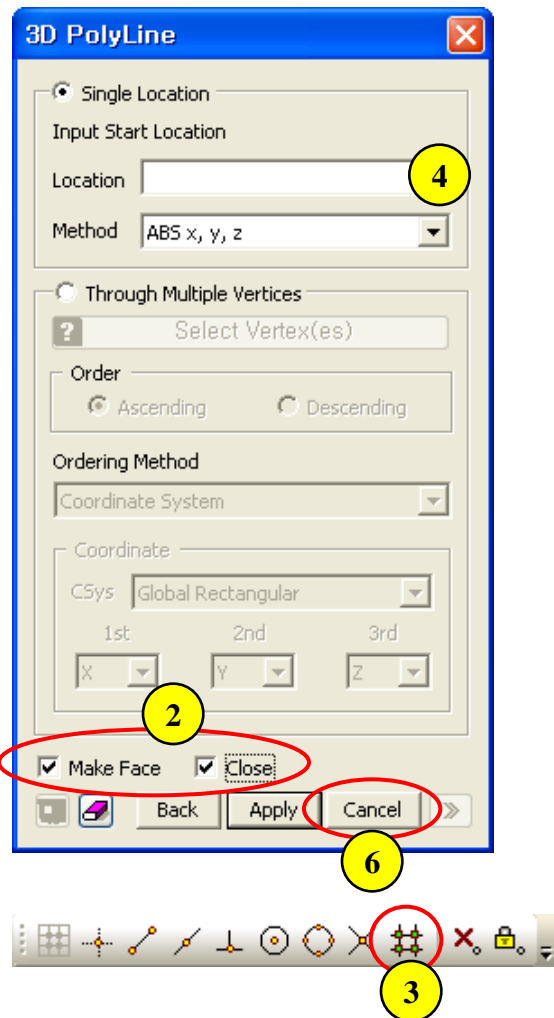
Step 38.



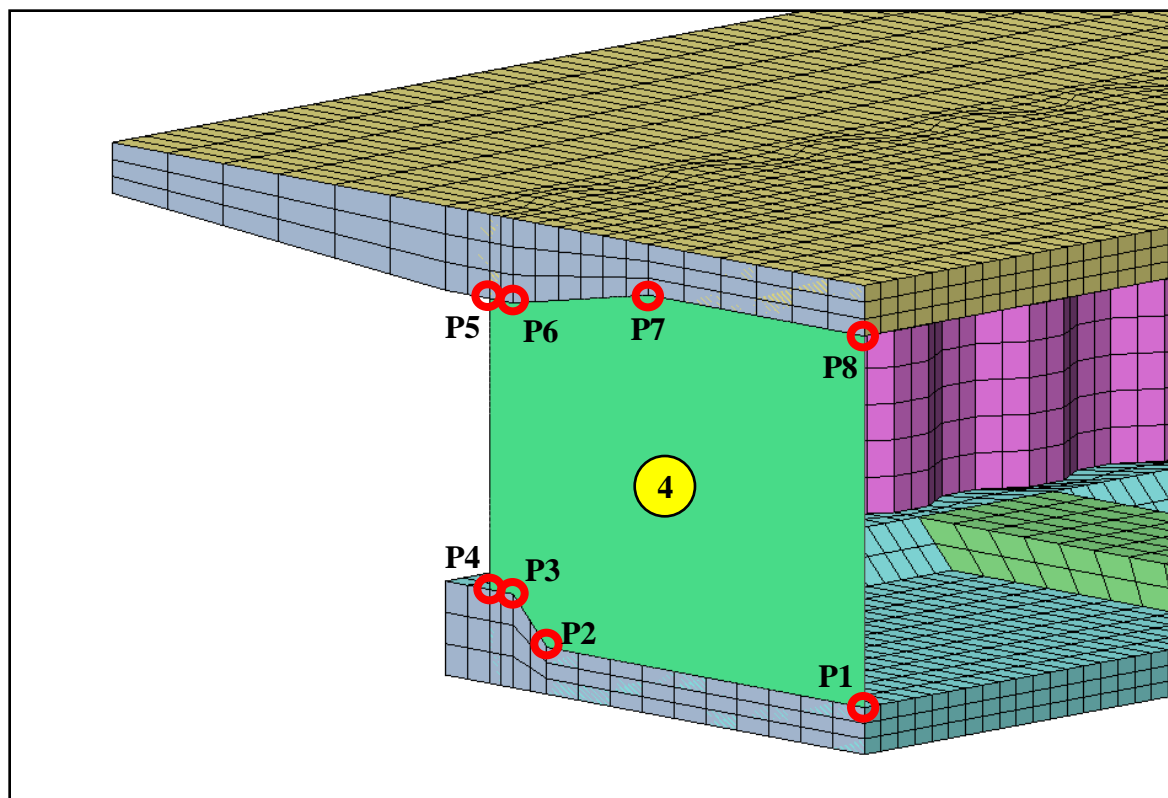
1. Mesh > Element > Extract Element ...
2. Check on "From Nodes"
3. Click "Right View"
4. Type : 2D Element from Free-Face
5. Select 167 Nodes (See Figure)
6. Property : 1
7. Click [OK] Button



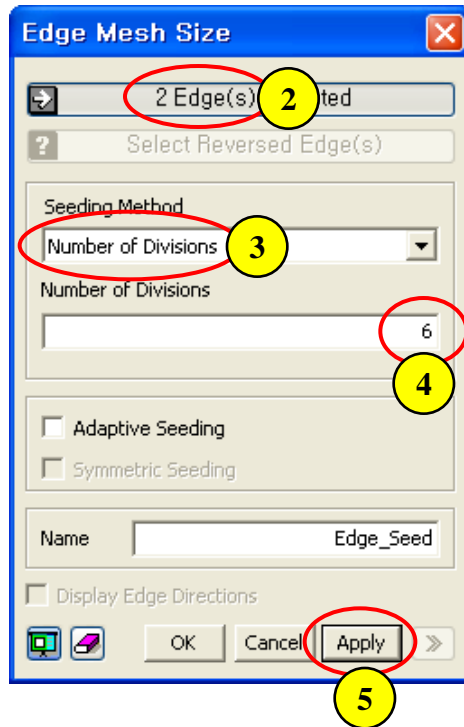
Step 39.



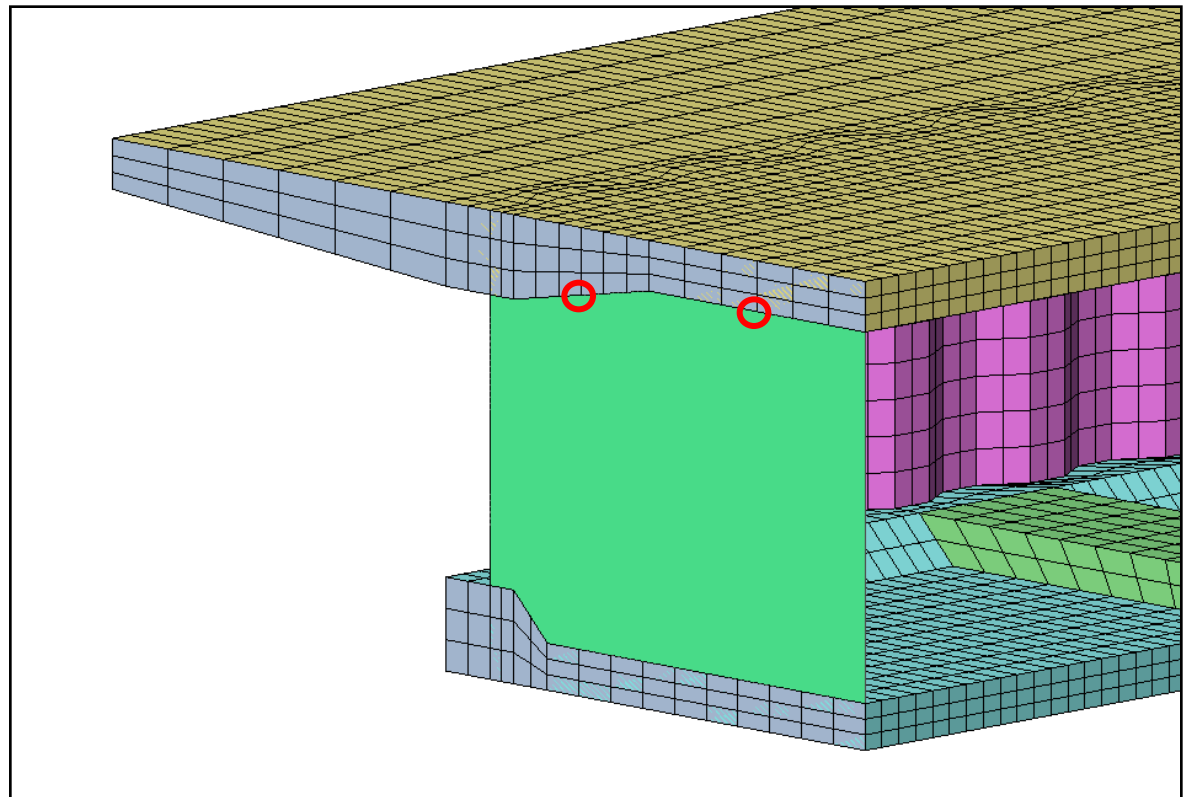
1. Geometry > Curve > Create 3D > Polyline (Wire)...
2. Check on “Make Face” & “Close”
3. Toggle on “Node Snap”
4. Select P1~P8 in sequential order (See Figure)
5. Click Right Mouse Button on the work window
6. Click [Cancel] Button



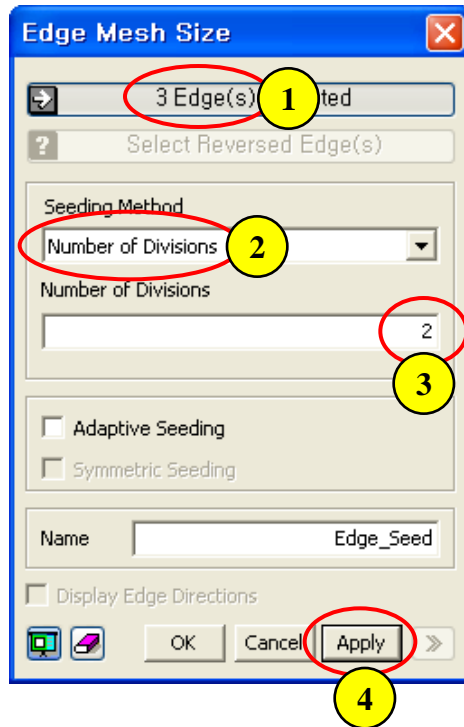
Step 40.



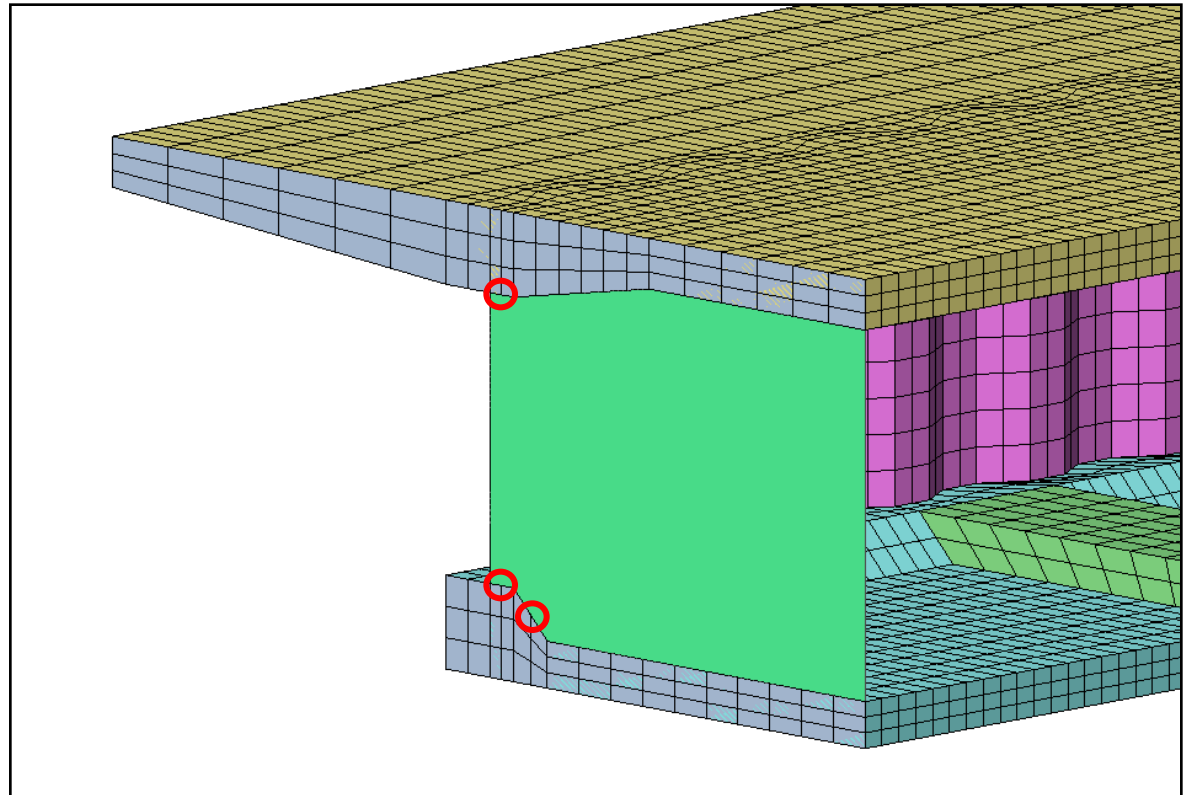
1. Mesh > Size Control > Along Edge ...
2. Select 2 Edges marked by "O" (See Figure)
3. Select "Number of Divisions" for Seeding Method
4. Number of Divisions : 6
5. Click [Apply] Button



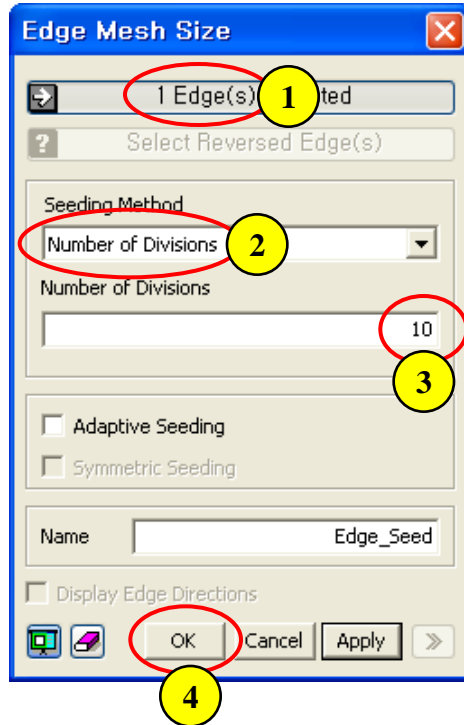
Step 41.



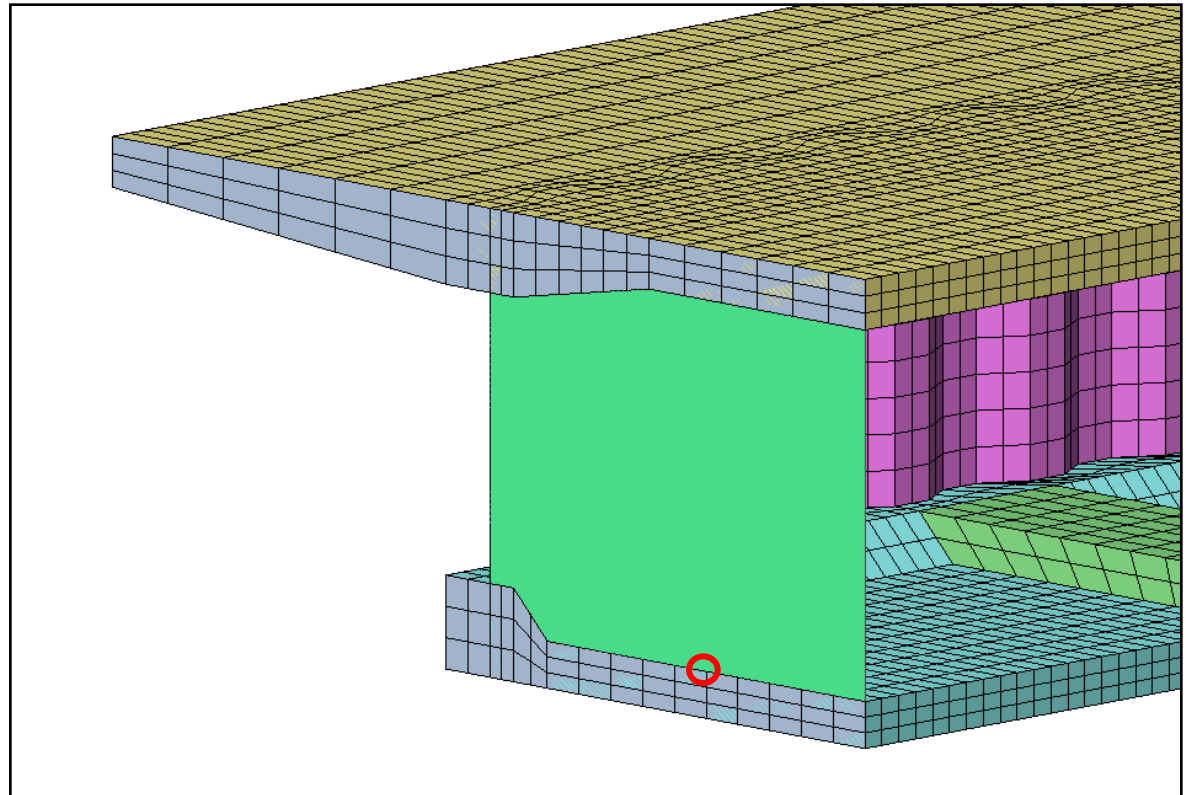
1. Select 3 Edges marked by “O” (See Figure)
2. Select “Number of Divisions” for Seeding Method
3. Number of Divisions : 2
4. Click [Apply] Button



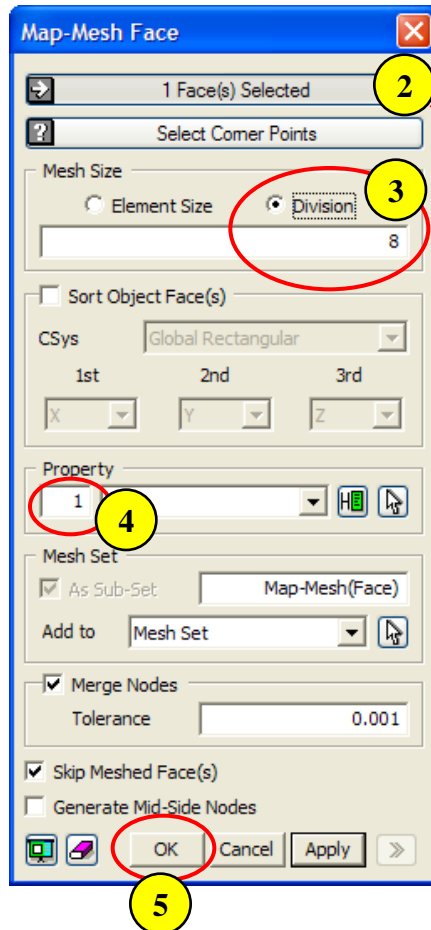
Step 42.



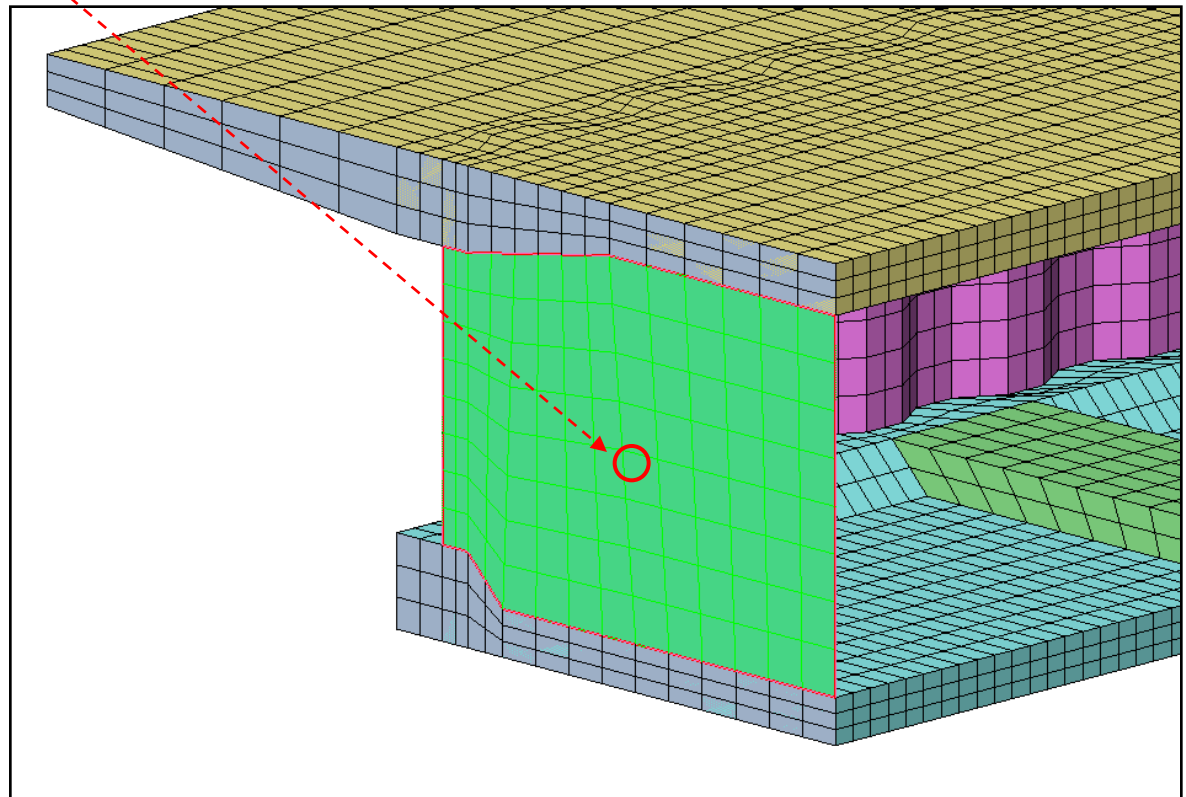
1. Select Edge marked by “O” (See Figure)
2. Select “Number of Divisions” for Seeding Method
3. Number of Divisions : 10
4. Click [OK] Button



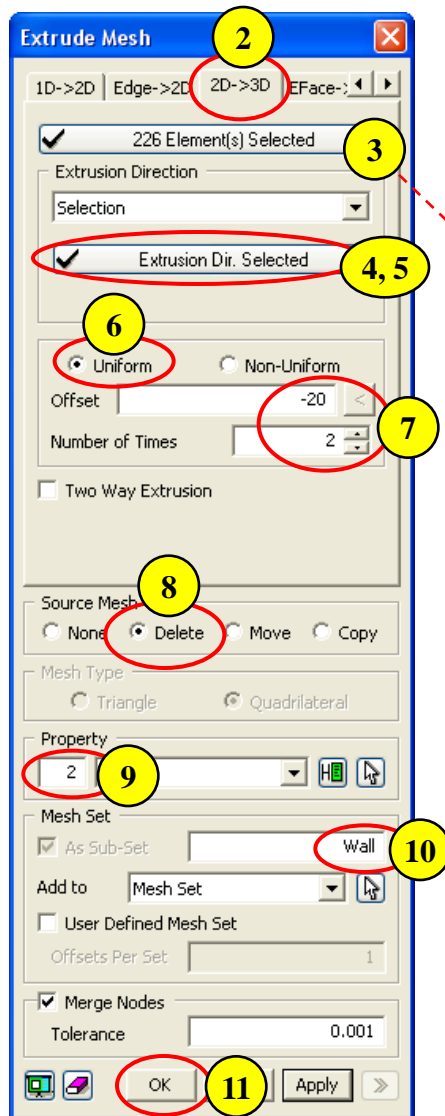
Step 43.



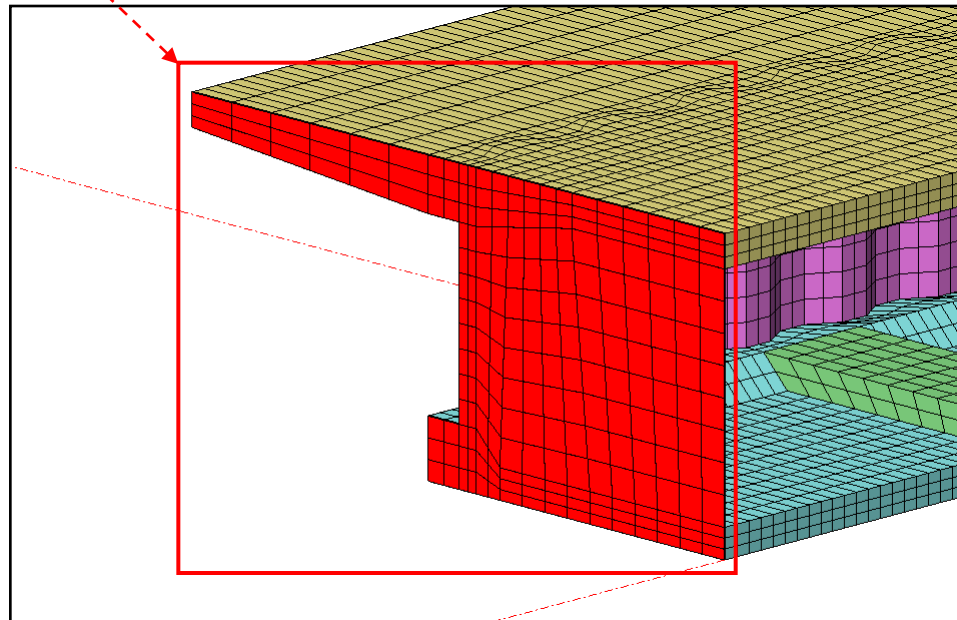
1. Mesh > Map Mesh > Face ...
2. Select Face marked by "O" (See Figure)
3. Division : 8
4. Property : 1
5. Click [OK] Button



Step 44.



1. Mesh > Protrude Mesh > Extrude ...
2. Select "2D->3D" tab
3. Select 226 Elements (See Figure)
4. Click "Select Extrusion Direction" Button
5. Select "Y-Axis"
6. Check on "Uniform"
7. Offset (-20) , Number of Times (2)
8. Source Mesh : Delete
9. Property : 2
10. Mesh Set : Wall
11. Click [OK] Button



Step 45.

The screenshot shows the 'Create Material' dialog box with the 'Isotropic' tab selected. The following fields are highlighted with yellow circles and numbered:

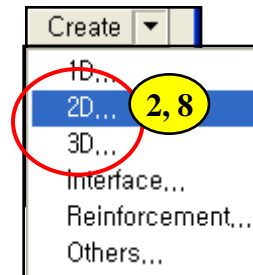
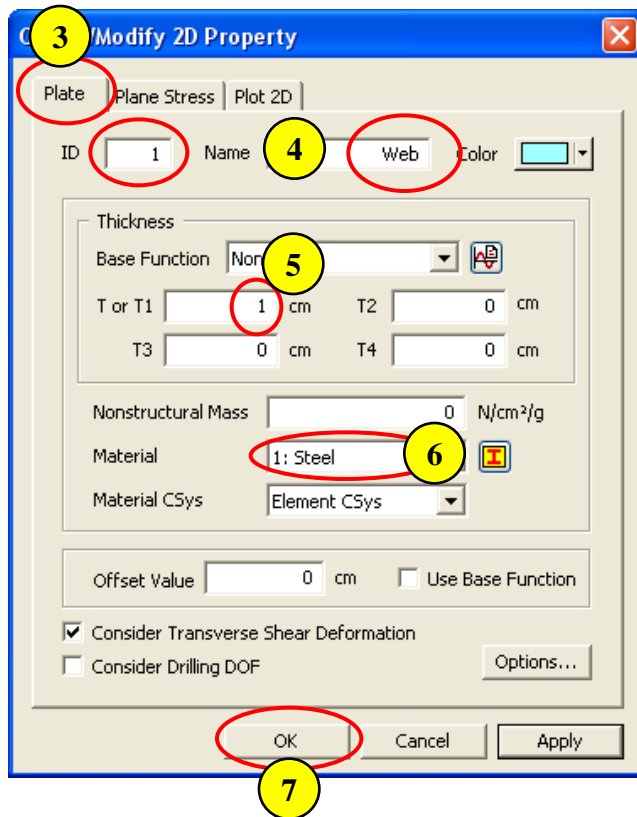
- 3: 'Isotropic' tab
- 4: 'Name' field containing 'Steel'
- 5, 6: 'Elastic Modulus' field containing '2e7' and 'N/cm²'
- 7: 'Weight Density' field containing '0.07698' and 'N/cm³'
- 8: 'Model Type' dropdown menu set to 'Elastic'
- 9: 'Apply' button

The screenshot shows the 'Create Material' dialog box with the 'Isotropic' tab selected. The following fields are highlighted with yellow circles and numbered:

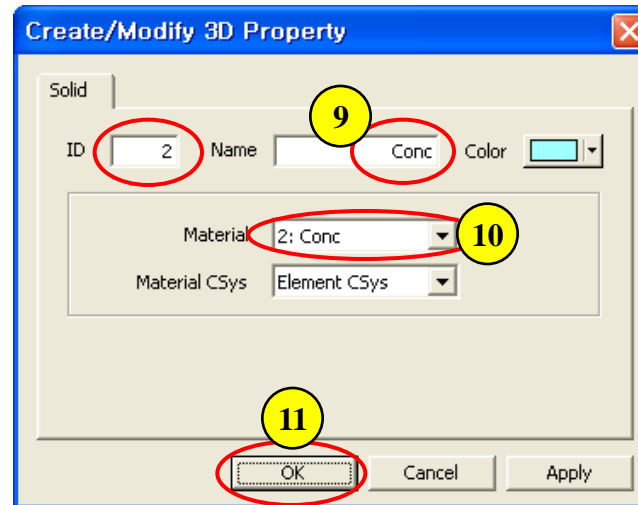
- 10: 'Isotropic' tab
- 11: 'Name' field containing 'Conc'
- 12, 13: 'Elastic Modulus' field containing '2.4e6' and 'N/cm²'
- 14: 'Weight Density' field containing '0.02452' and 'N/cm³'
- 15: 'Model Type' dropdown menu set to 'Elastic'
- 16: 'OK' button

1. Analysis > Material ...
2. Click [Create] Button
3. Select "Isotropic" tab
4. ID: 1, Name : Steel
5. Elastic Modulus : $2e7 \text{ N/cm}^2$
6. Poisson's Ratio : 0.3
7. Weight Density : 0.07698 N/cm^3
8. Model Type : Elastic
9. Click [Apply] Button
10. Select "Isotropic" tab
11. ID : 2, Name : Conc
12. Elastic Modulus : $2.4e6 \text{ N/cm}^2$
13. Poisson's Ratio : 0.167
14. Weight Density : 0.02452 N/cm^3
15. Model Type : Elastic
16. Click [OK] Button
17. Click [Close] Button

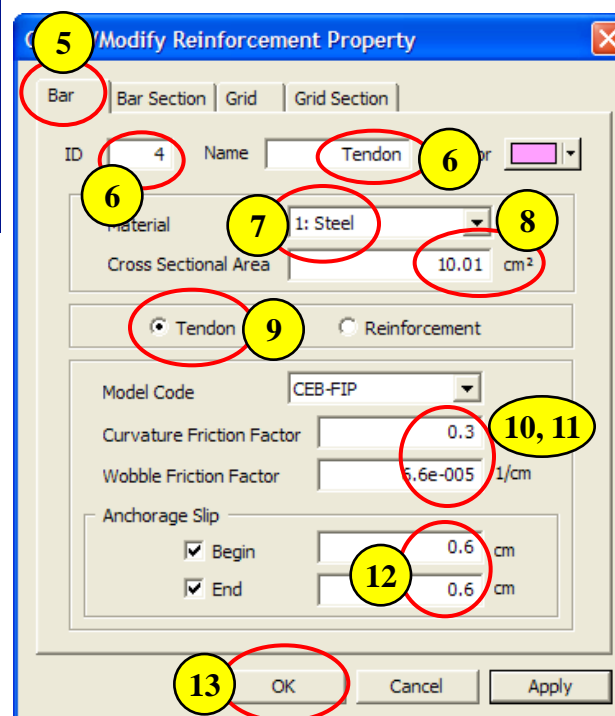
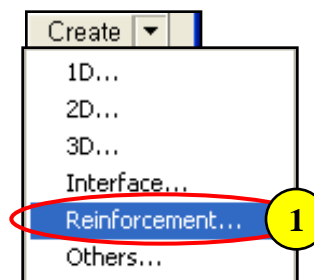
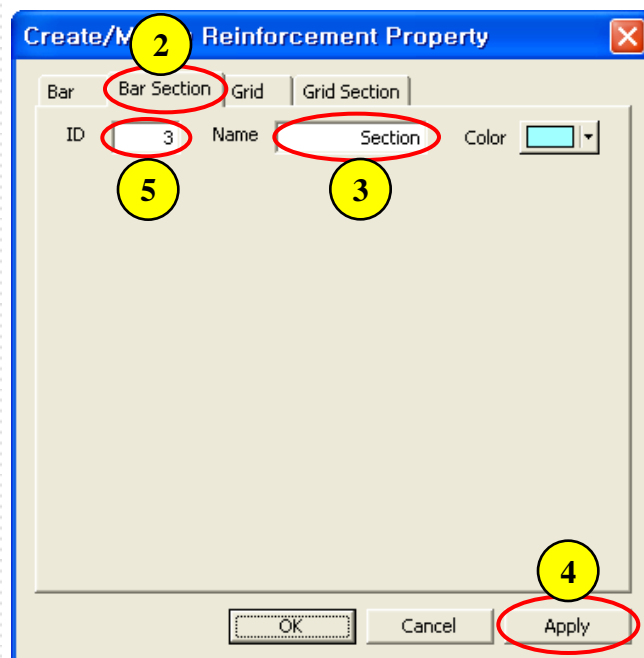
Step 46.



1. Analysis > Property ...
2. Create 2D ...
3. Select "Plate" tab
4. ID : 1 , Name : Web
5. Thickness : 1 cm
6. Select "1: Steel" for Material
7. Click [OK] Button
8. Create 3D ...
9. ID : 2 , Name : Conc
10. Select "2: Conc" for Material
11. Click [OK] Button
12. Click [Close] Button

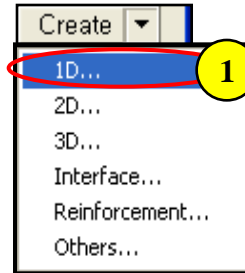
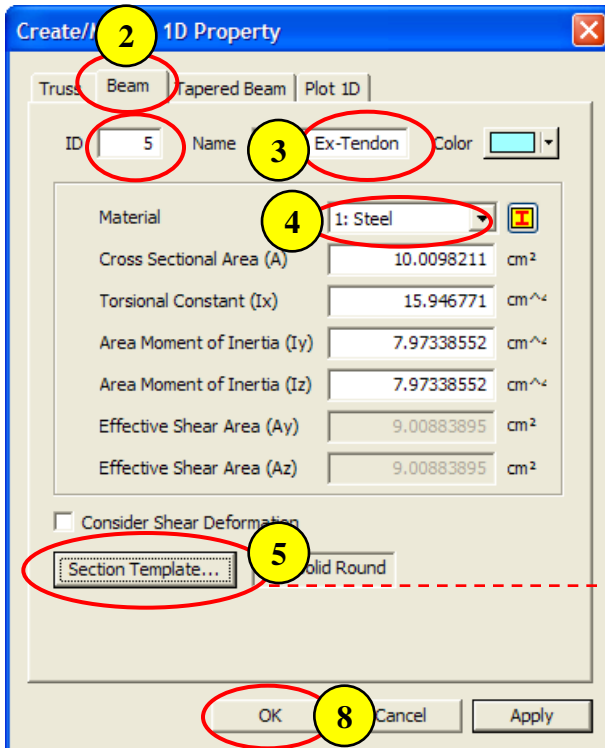


Step 47.

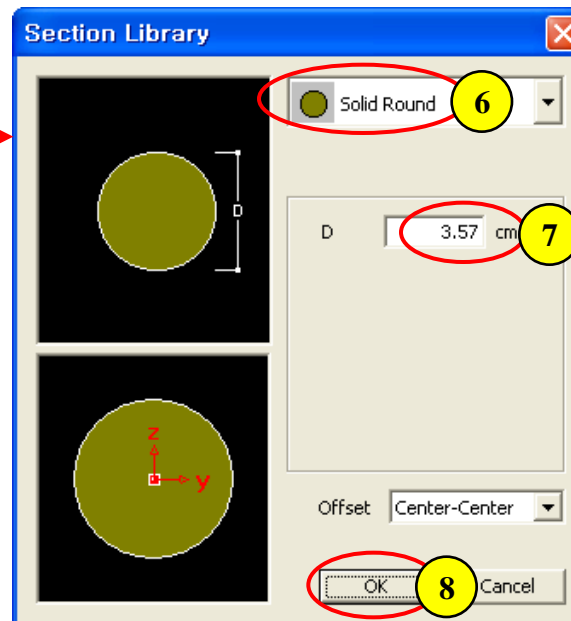


1. Create Reinforcement ...
2. Select "Bar Section" tab
3. ID : 3 , Name : Section
4. Click [Apply] Button
5. Select "Bar" tab
6. ID : 4 , Name : Tendon
7. Select "1: Steel" for Material
8. Cross Section Area : 10.01 cm²
9. Check on "Tendon"
10. Curvature Friction Factor : 0.3
11. Wobble Friction Factor : 6.6e-5
12. Anchorage Slip : 0.6 cm
13. Click [OK] Button

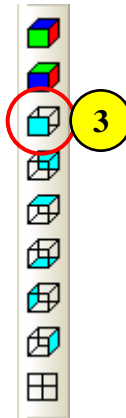
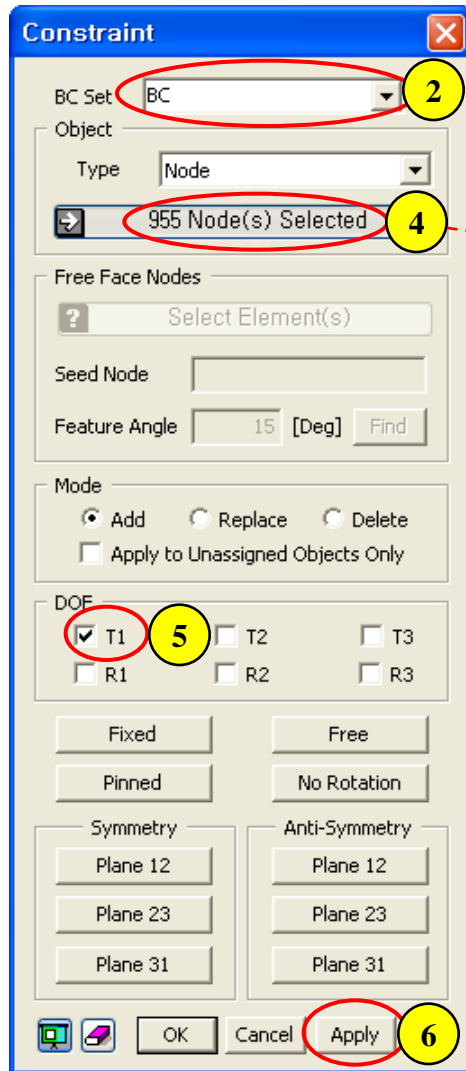
Step 48.



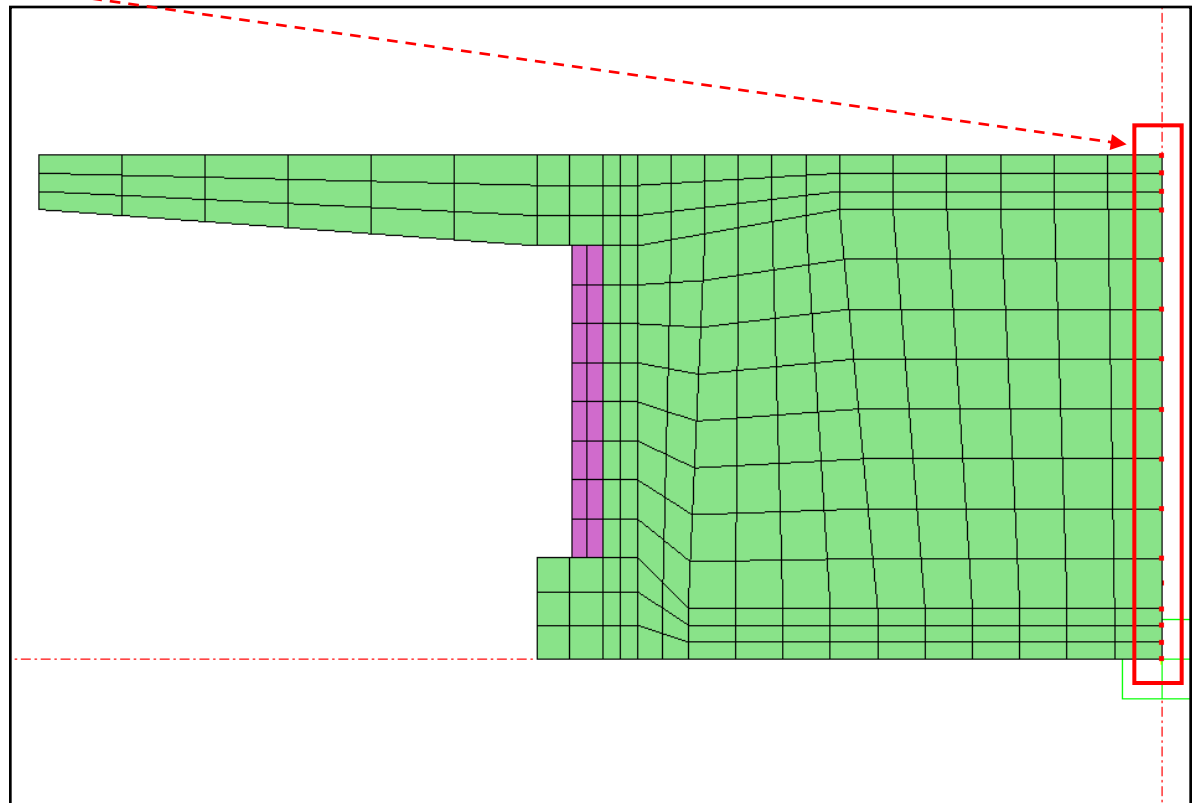
1. Create 1D ...
2. Select "Beam" tab
3. ID : 5 , Name : Ex-Tendon
4. Select "1: Steel" for Material
5. Click [Section Template...] Button
6. Select "Solid Round"
7. D : 3.57 cm
8. Click [OK] Button
9. Click [Close] Button



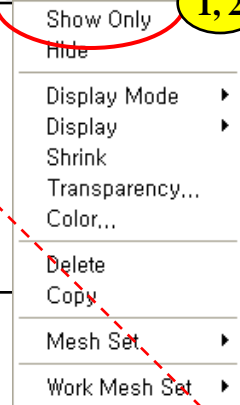
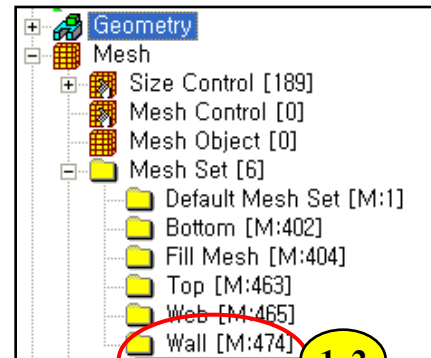
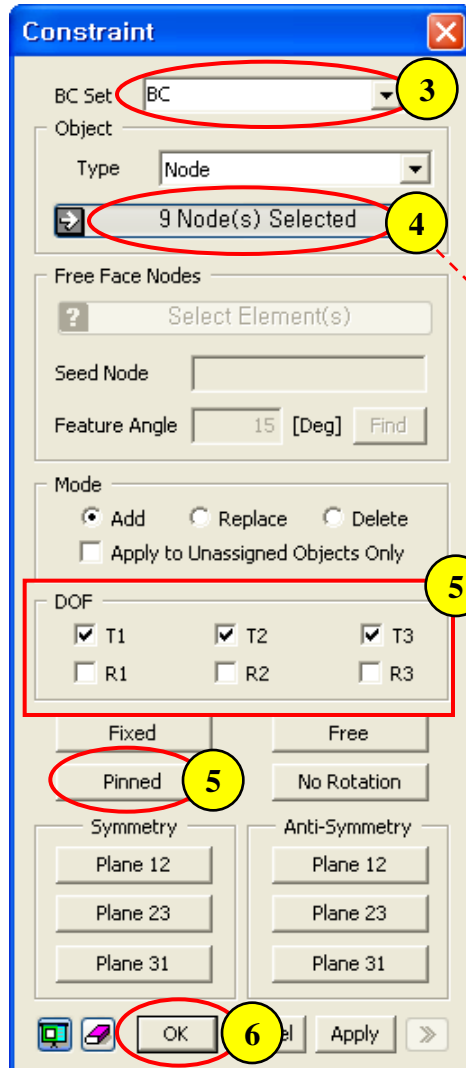
Step 49.



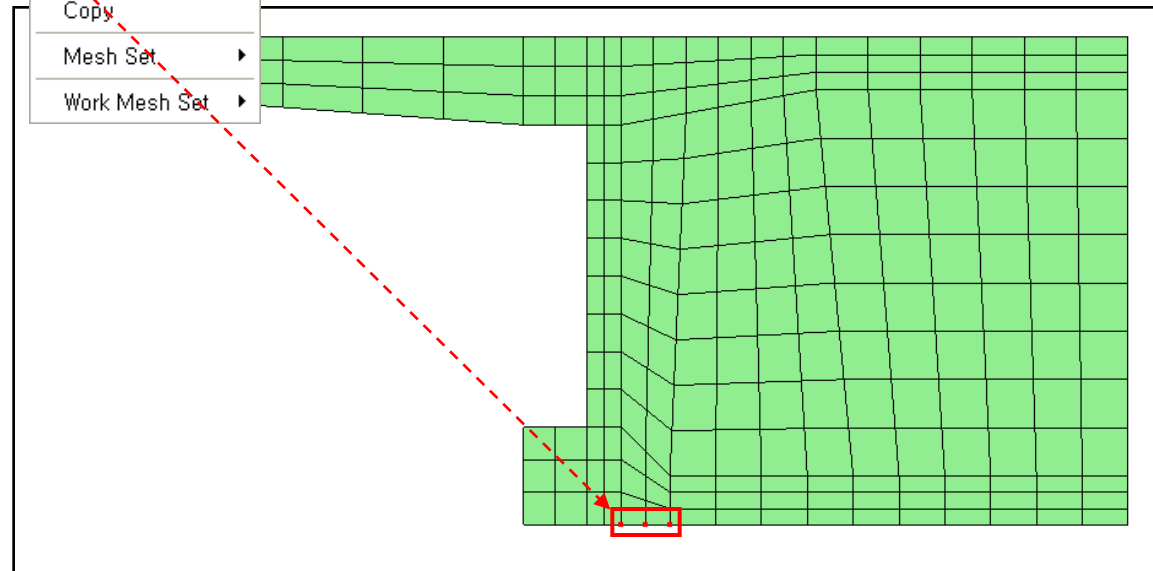
1. Analysis > BC > Constraint ...
2. BC Set : BC
3. Click "Front View"
4. Select 955 Nodes (See Figure)
5. Check on "T1"
6. Click [Apply] Button



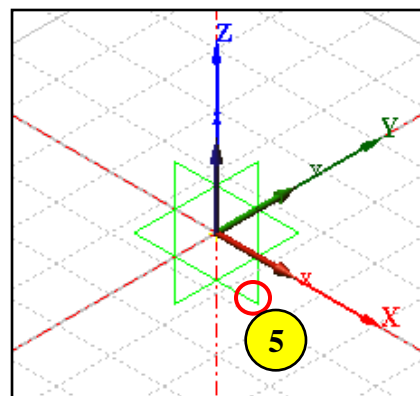
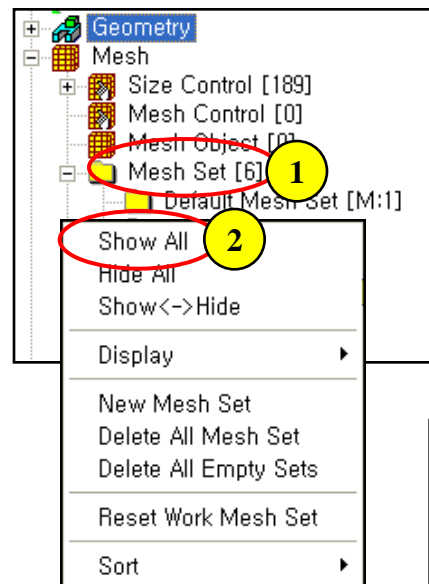
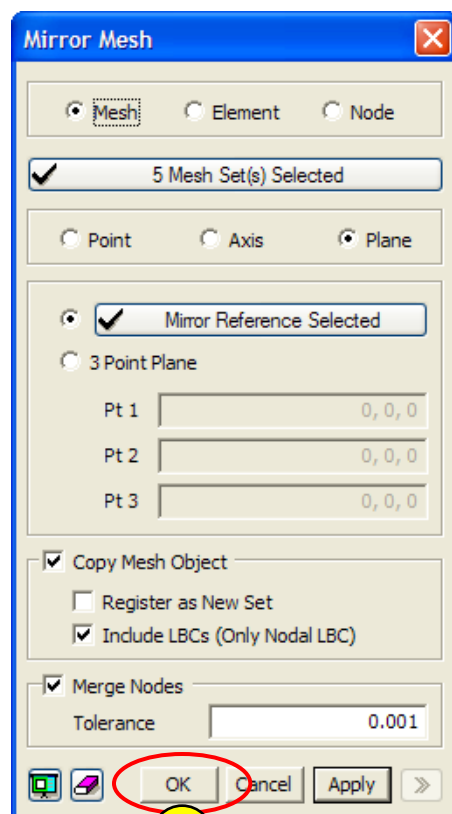
Step 50.



1. Pre-Works Tree : Mesh > Mesh Set > Wall ...
2. Click Right Mouse Button and Select "Show Only"
3. BC Set : BC
4. Select 9 Nodes (See Figure)
5. Click [Pinned] Button
6. Click [OK] Button



Step 51.



1. Pre-Works Tree : Mesh > Mesh Set ...

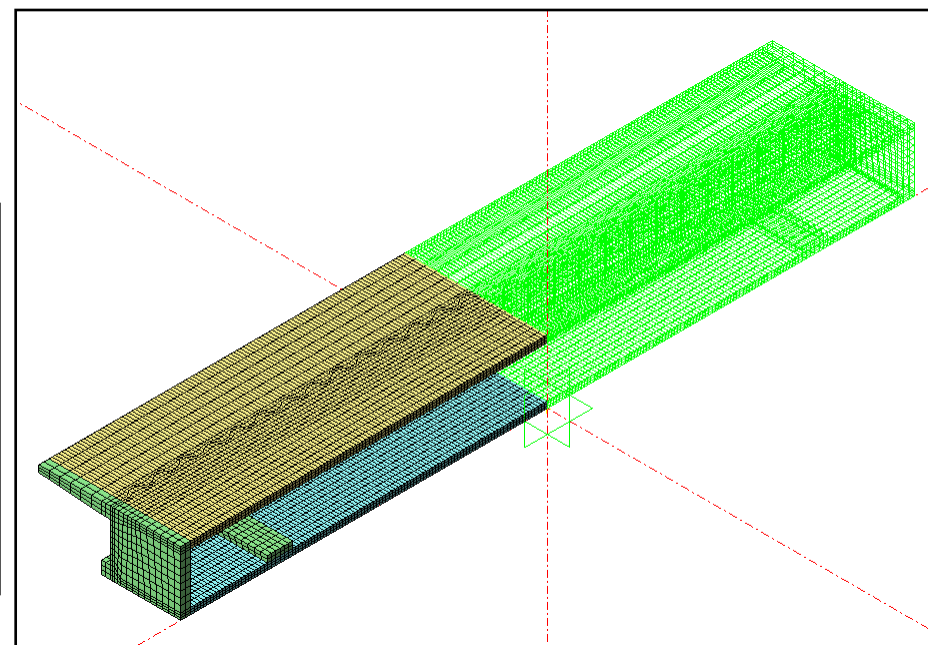
2. Click Right Mouse Button and Select "Show All"

3. Mesh > Transform > Mirror ...

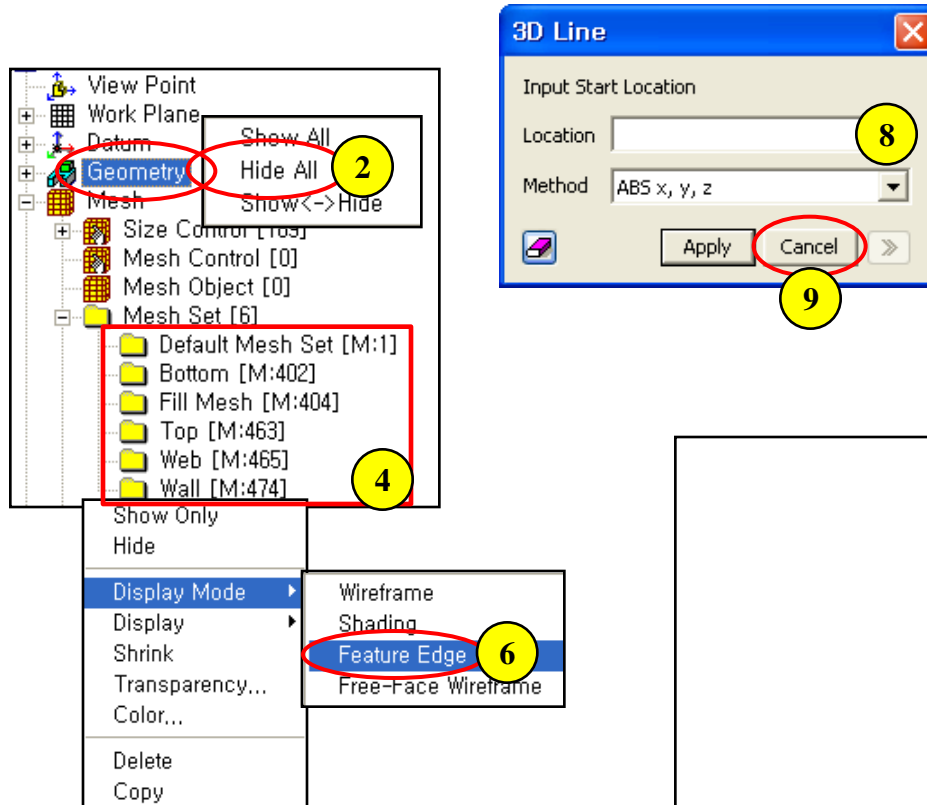
4. Select  "Displayed"

5. Mirror Plane : XZ-Plane

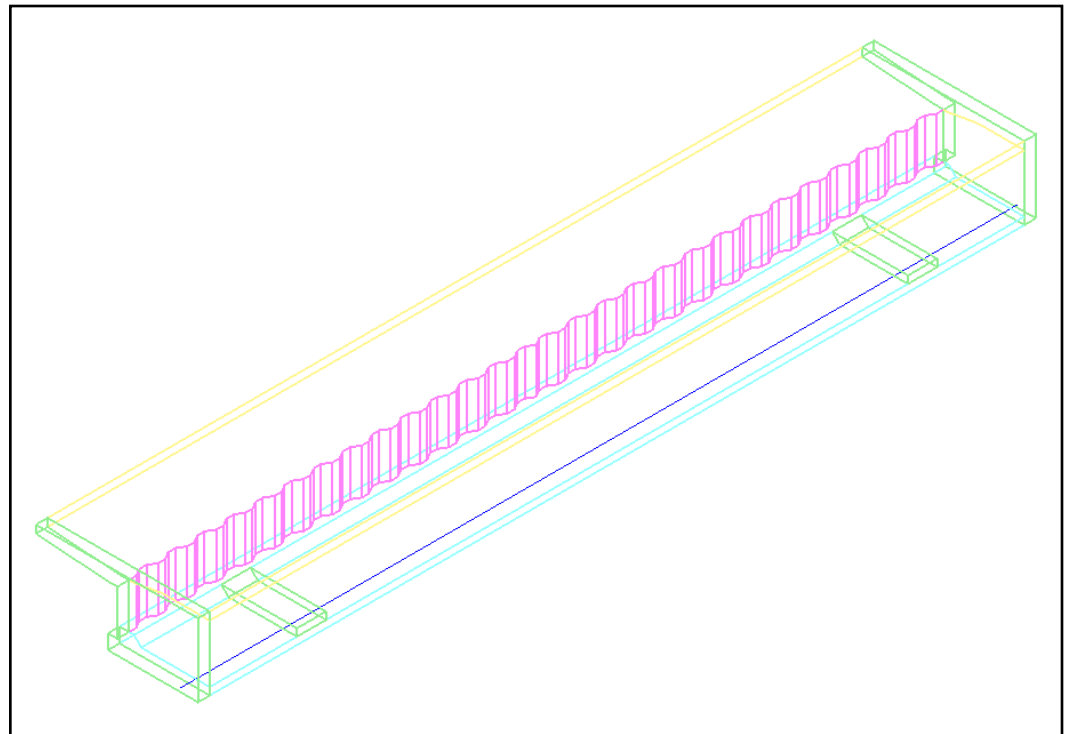
6. Click [OK] Button



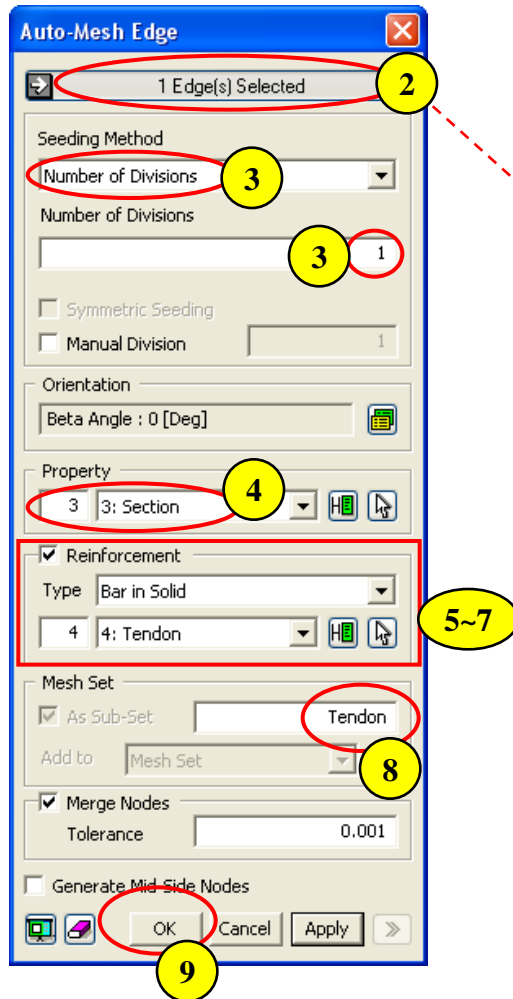
Step 52.



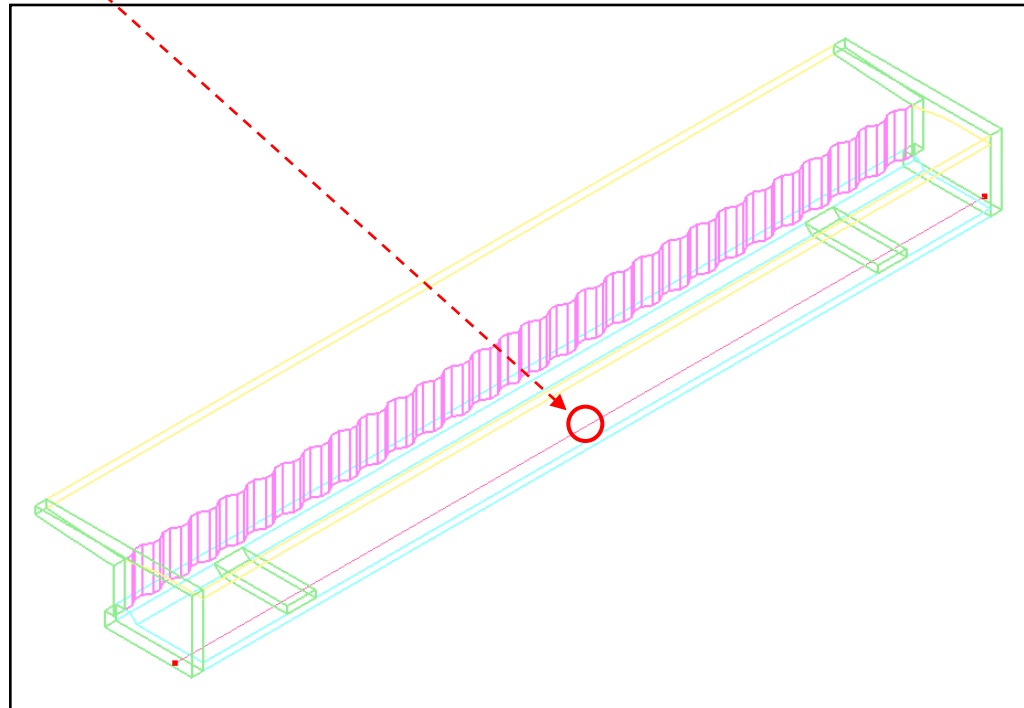
1. Pre-Works Tree : Geometry...
2. Click Right Mouse Button and Select "Hide All"
3. Pre-Works Tree : Mesh > Mesh Set ...
4. Select all Mesh Set
5. Click Right Mouse Button
6. Select "Display Mode > Feature Edge"
7. Geometry > Curve > Create 3D > Line ...
8. Location : (-60, -1440, 12.5) , <0, 2880, 0>
9. Click [Cancel] Button



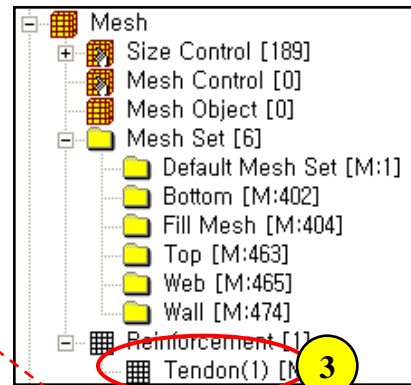
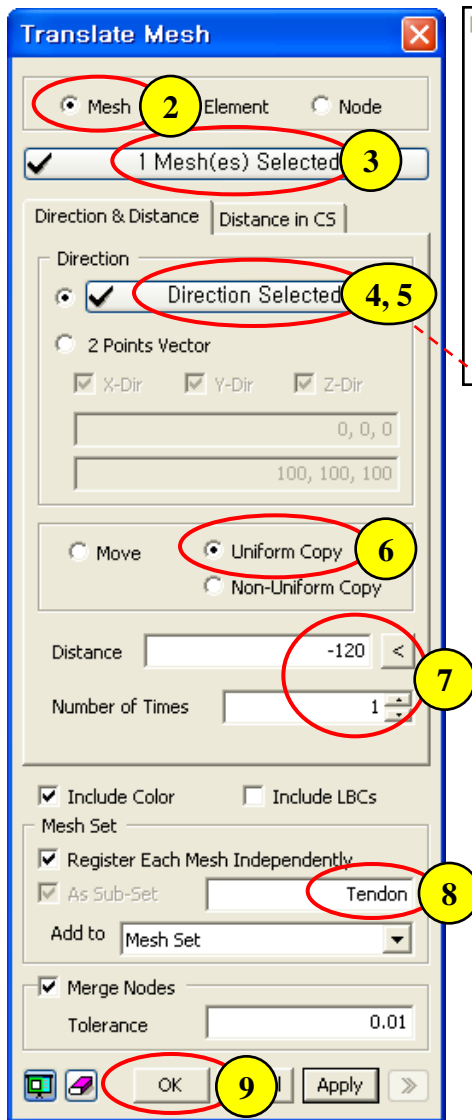
Step 53.



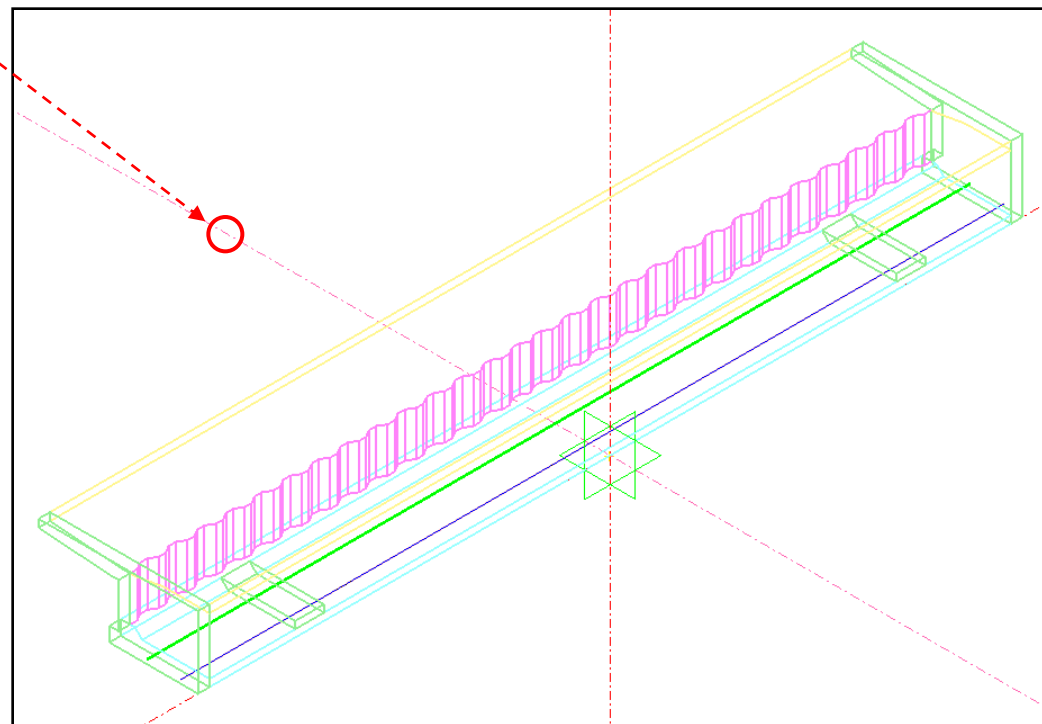
1. Mesh > Auto Mesh > Edge ...
2. Select Edge marked by "O" (See Figure)
3. Seeding Method : Number of Divisions (1)
4. Property : "3: Section"
5. Check on "Reinforcement"
6. Type : Bar in Solid
7. Property : "4: Tendon"
8. Mesh Set : Tendon
9. Click [OK] Button



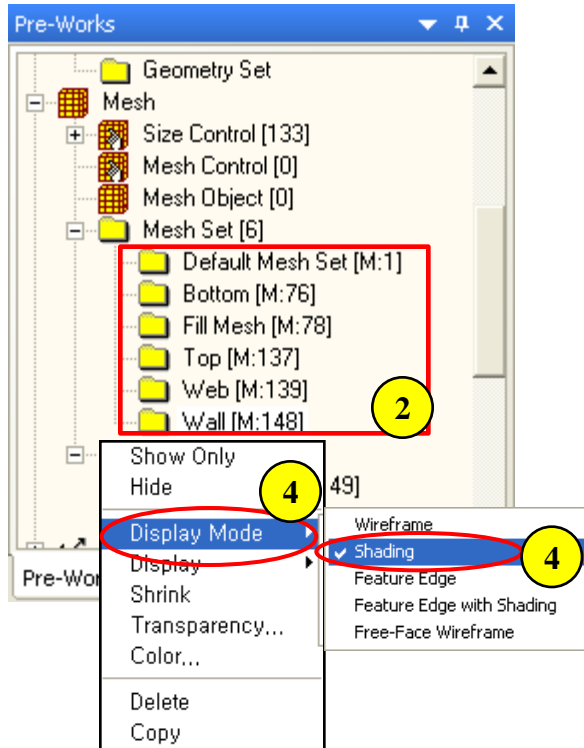
Step 54.



1. Mesh > Transform > Translate ...
2. Select "Mesh"
3. Select "Mesh > Reinforcement > Tendon(1)" in Works Tree
4. Click "Select Direction" Button
5. Select "X-Axis"
6. Select "Uniform Copy"
7. Distance (-120) , Number of Times (1)
8. Mesh Set : Tendon
9. Click [OK] Button



Step 55.

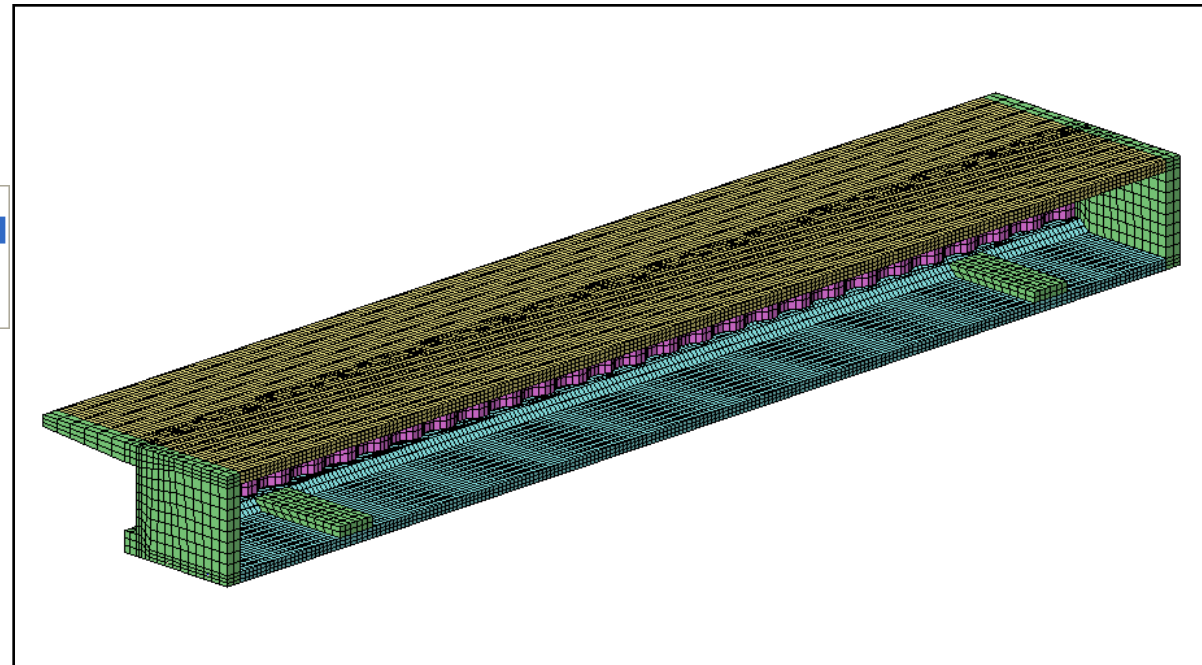


1. Pre-Works Tree : Mesh > Mesh Set ...

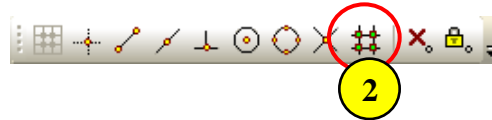
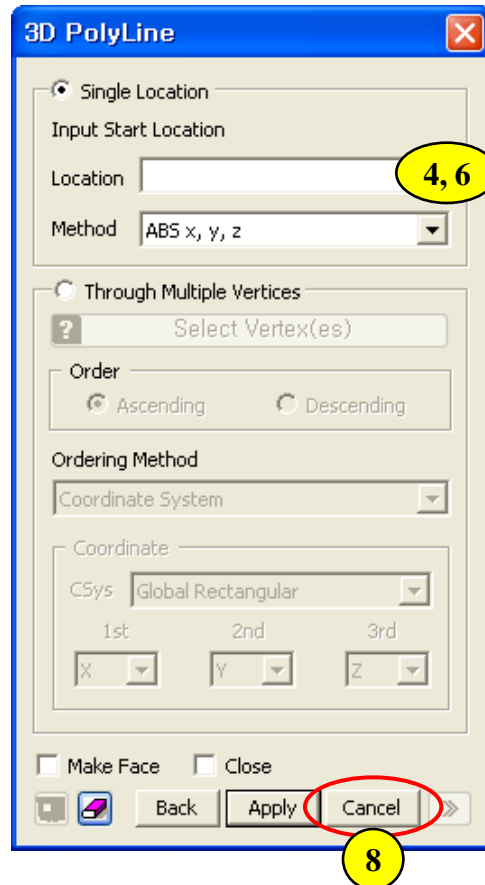
2. Select all Mesh Set

3. Click Right Mouse Button

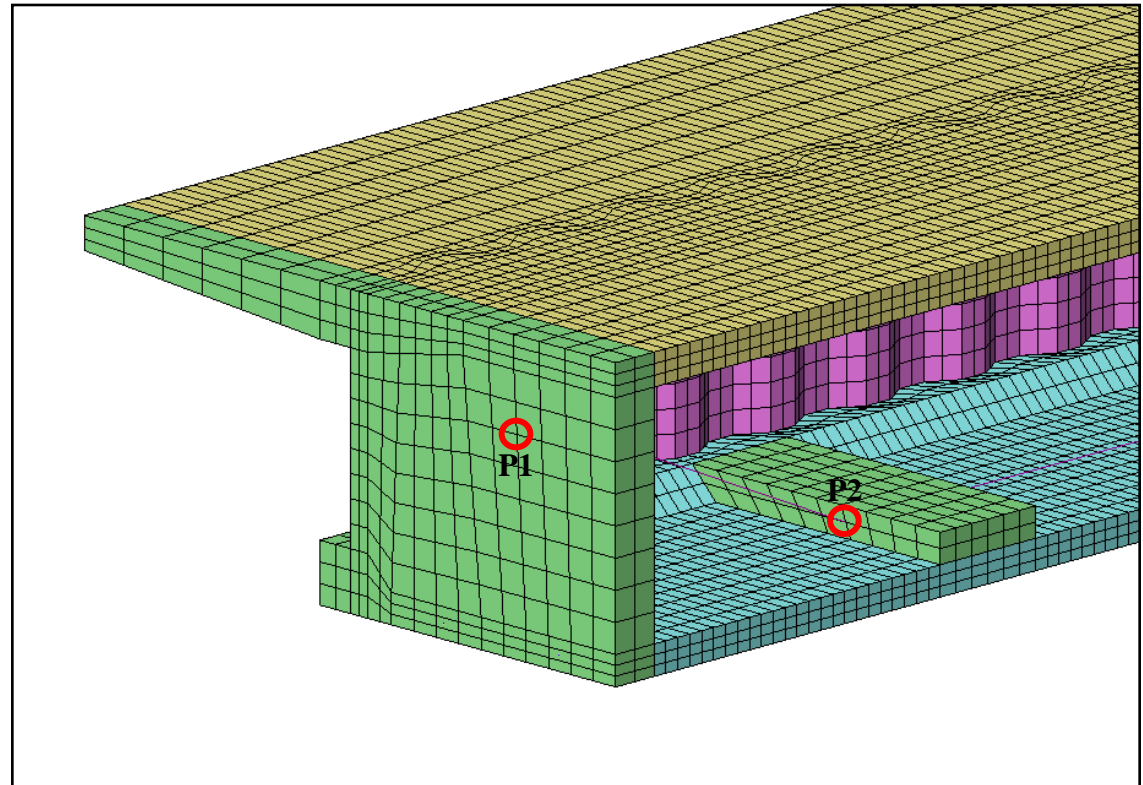
4. Select "Display Mode" and "Shading"



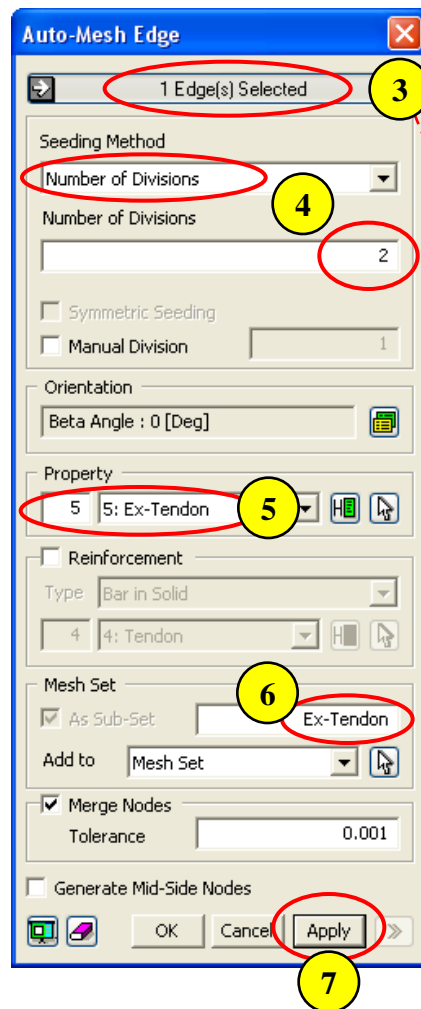
Step 56.



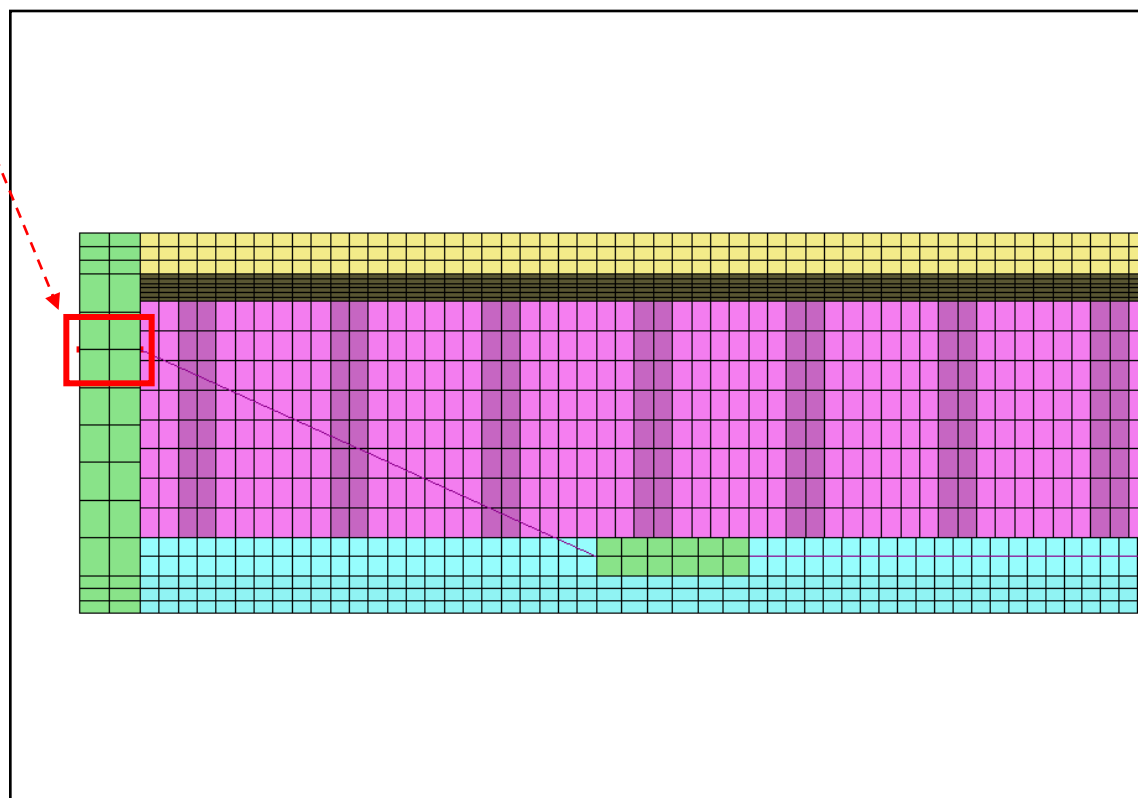
1. *Geometry > Curve > Create 3D > PolyLine ...*
2. *Toggle on "Node Snap"*
3. *Select P1*
4. *Location : <0, 40, 0>*
5. *Select P2*
6. *Location : <0, 100, 0> , <0, 2000, 0>*
7. *Click Right Mouse Button on the Work Window*
8. *Click [Cancel] Button*



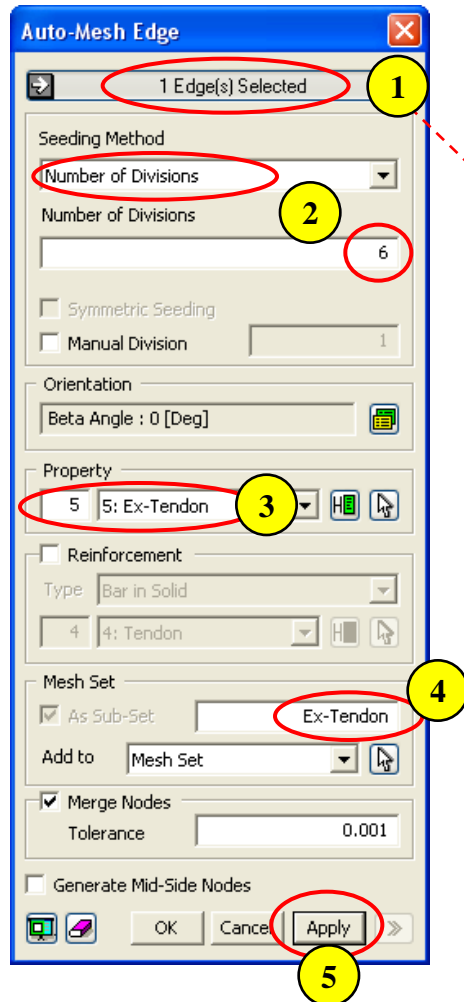
Step 57.



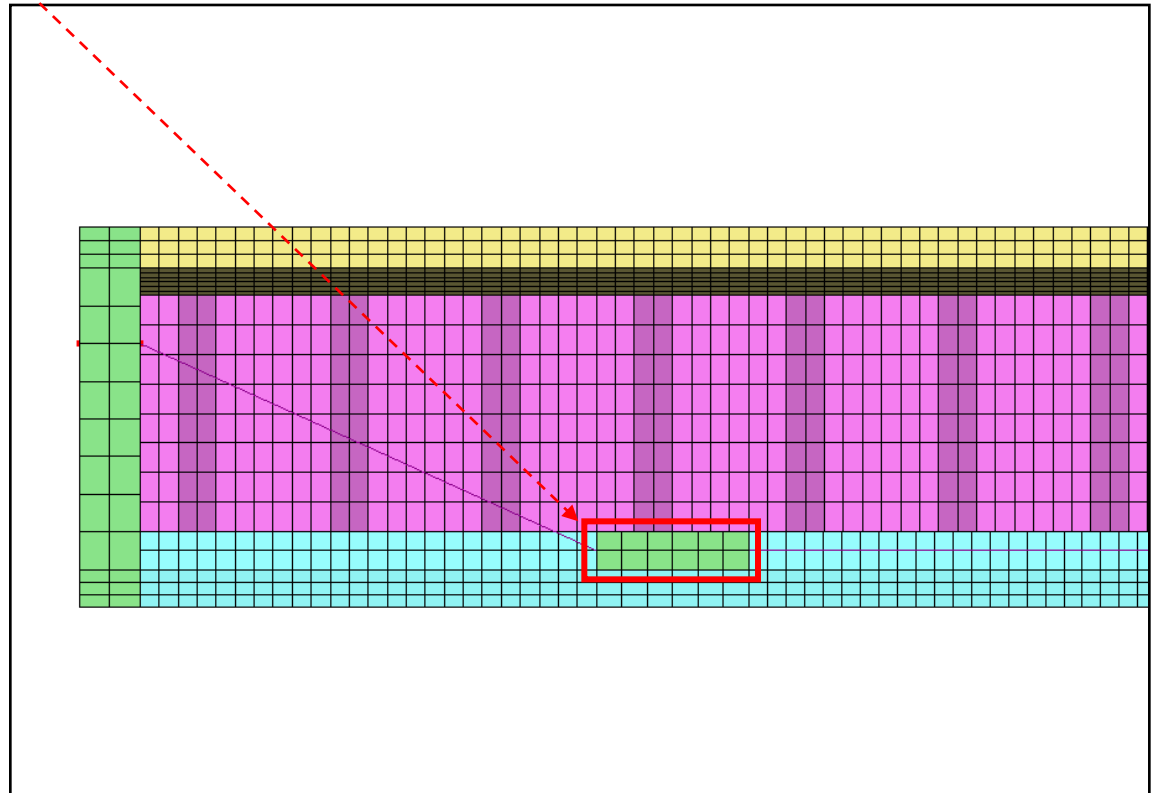
1. Mesh > Auto Mesh > Edge ...
2. Click "Right View"
3. Select Edge (See Figure)
4. Seeding Method : Number of Divisions (2)
5. Property : "5: Ex-Tendon"
6. Mesh Set : Ex-Tendon
7. Click [Apply] Button



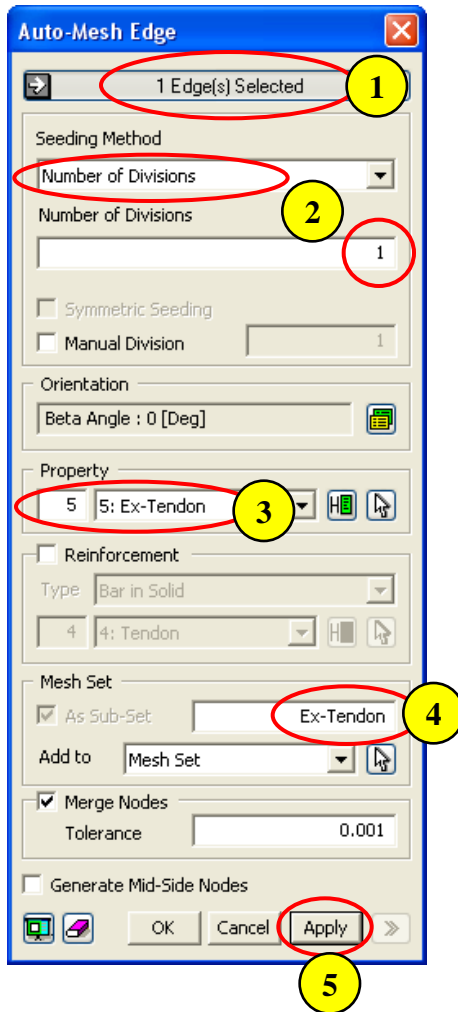
Step 58.



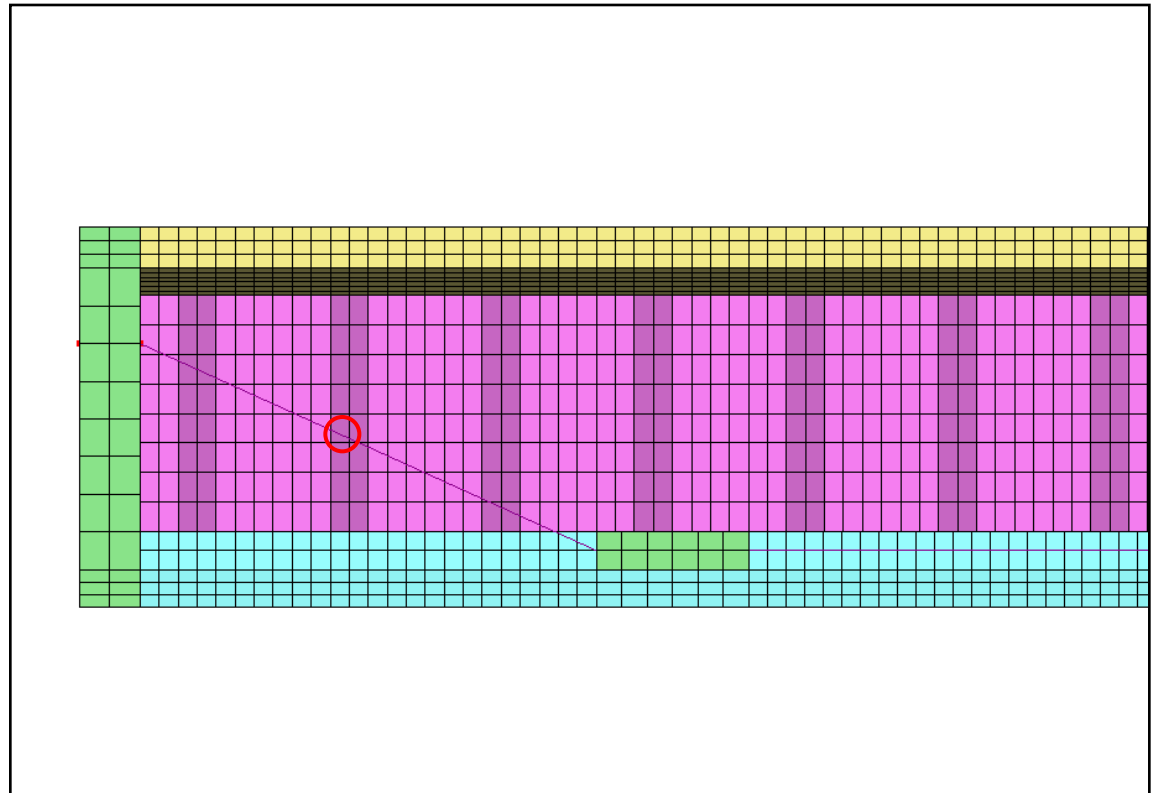
1. Select Edge (See Figure)
2. Seeding Method : Number of Divisions (6)
3. Property : "5: Ex-Tendon"
4. Mesh Set : Ex-Tendon
5. Click [Apply] Button



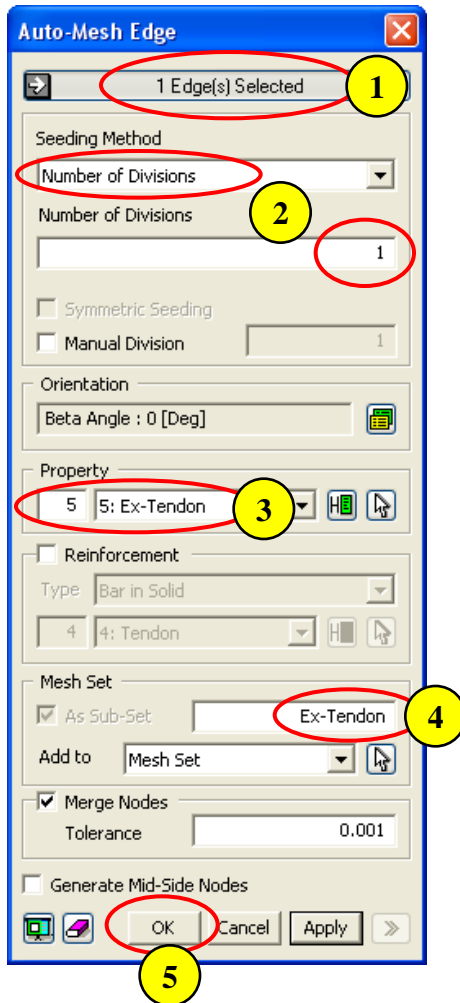
Step 59.



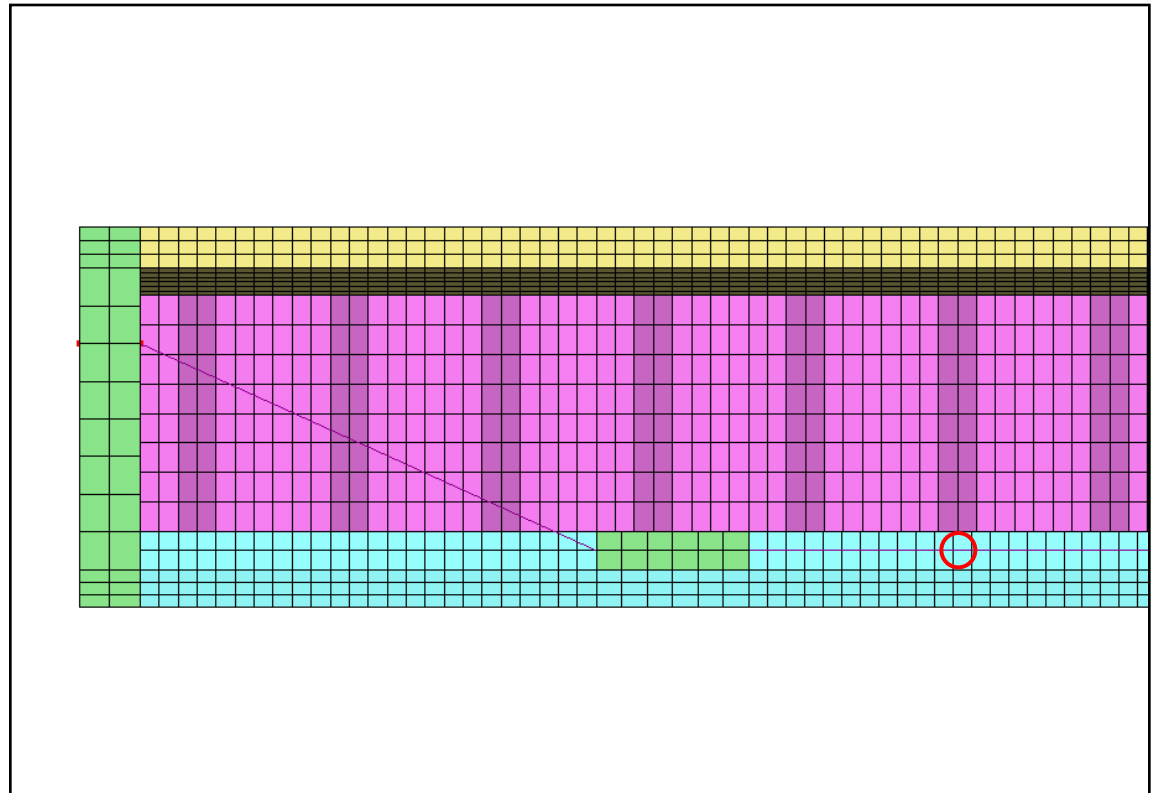
1. Select 2Edges marked by “O” (See Figure)
2. Seeding Method : Number of Divisions (1)
3. Property : “5: Ex-Tendon”
4. Mesh Set : Ex-Tendon
5. Click [Apply] Button



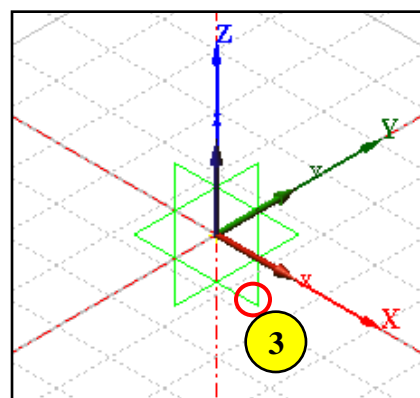
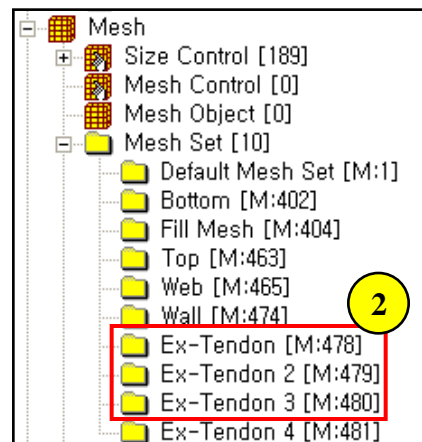
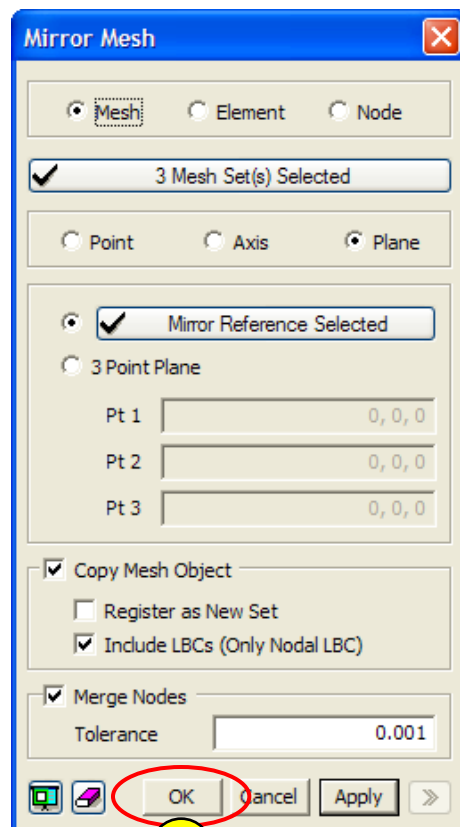
Step 60.



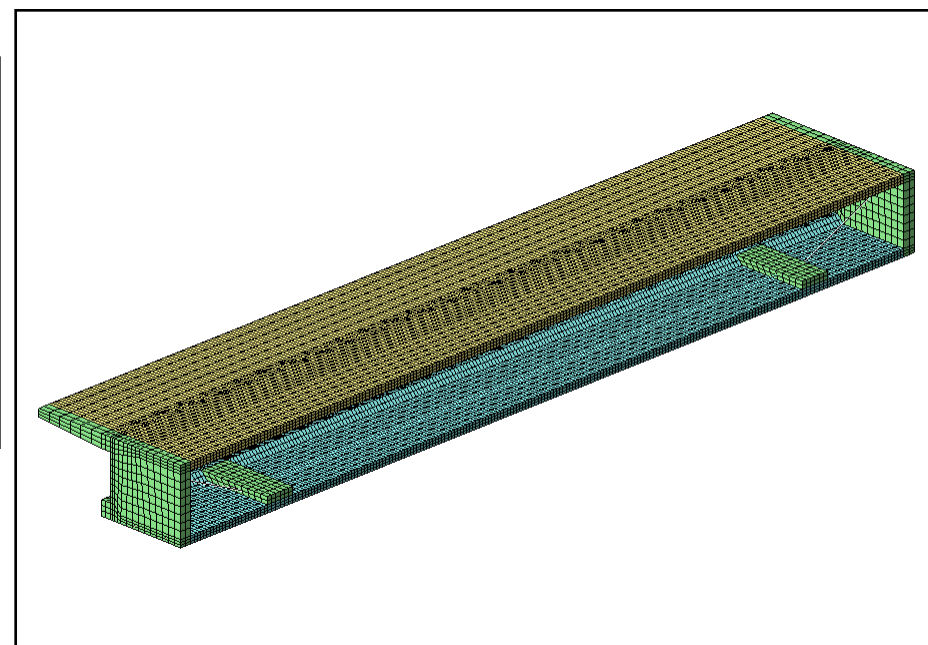
1. Select Edge marked by “○” (See Figure)
2. Seeding Method : Number of Divisions (1)
3. Property : “5: Ex-Tendon”
4. Mesh Set : Ex-Tendon
5. Click [OK] Button



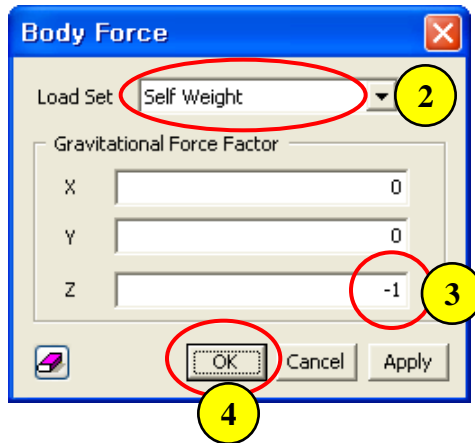
Step 61.



1. Mesh > Transform > Mirror ...
2. Select 3 Mesh Sets in Pre-Works Tree (See Figure)
3. Mirror Plane : XZ-Plane
4. Click [OK] Button



Step 62.



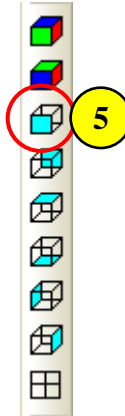
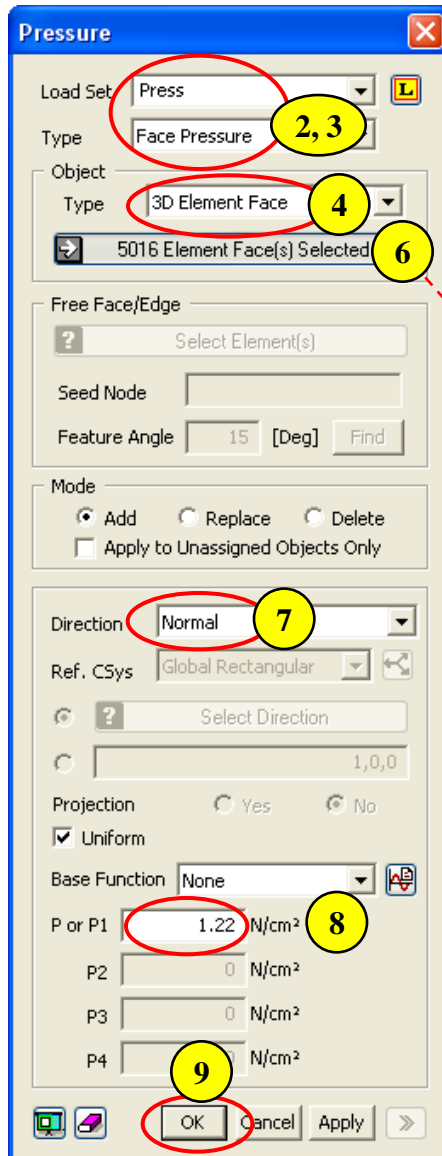
1. Analysis > Load > Body Force ...

2. Load Set : Self Weight

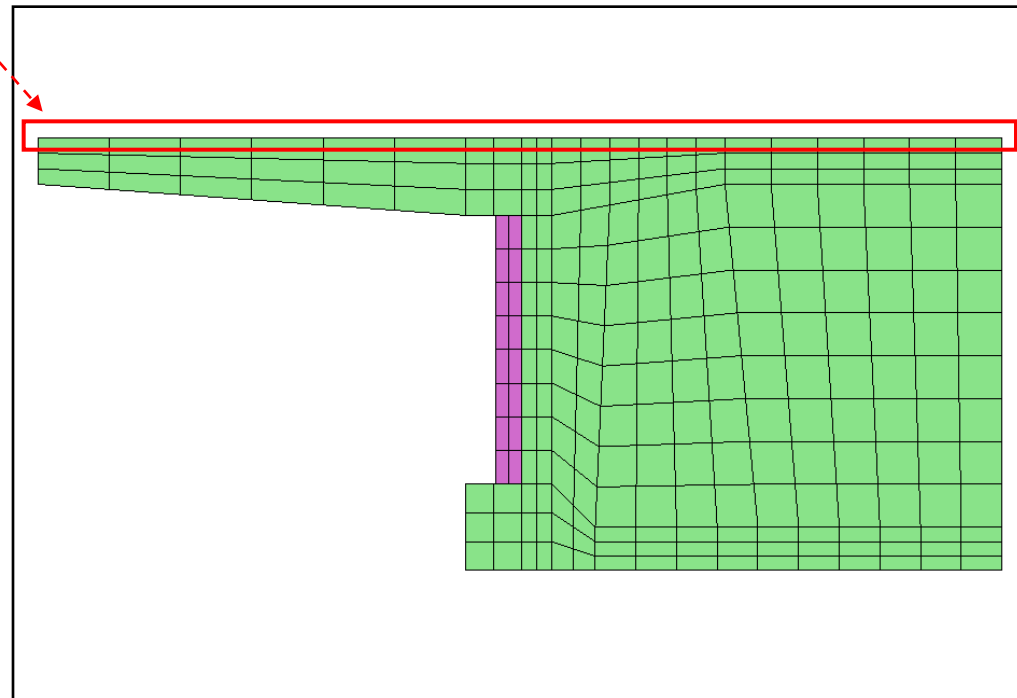
3. Z: -1

4. Click [OK] Button

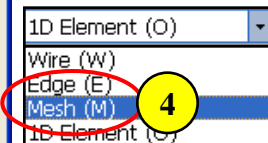
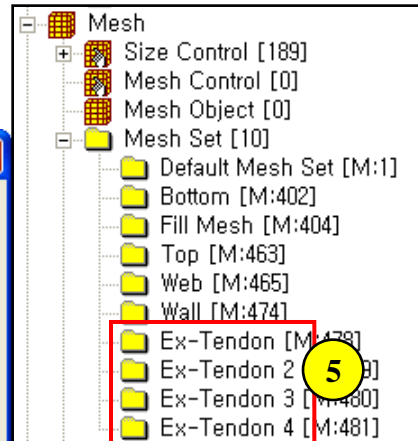
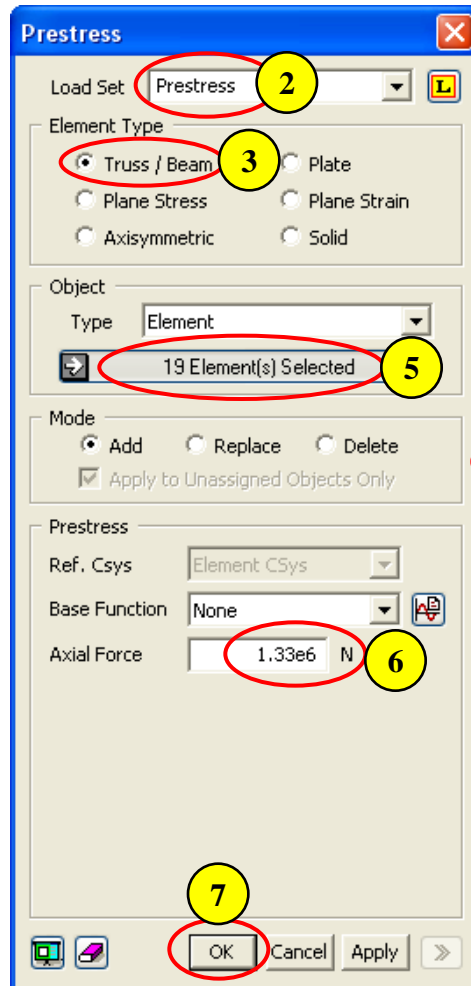
Step 63.



1. Analysis > Load > Pressure ...
2. Load Set : Press
3. Type : Face Pressure
4. Object Type : 3D Element Face
5. Click "Front View"
6. Select 5016 Elements (See Figure)
7. Direction : Normal
8. P or P1 : 1.22 N/cm²
9. Click [OK] Button



Step 64.



1. Analysis > Load > Prestress ...

2. Load Set : Prestress

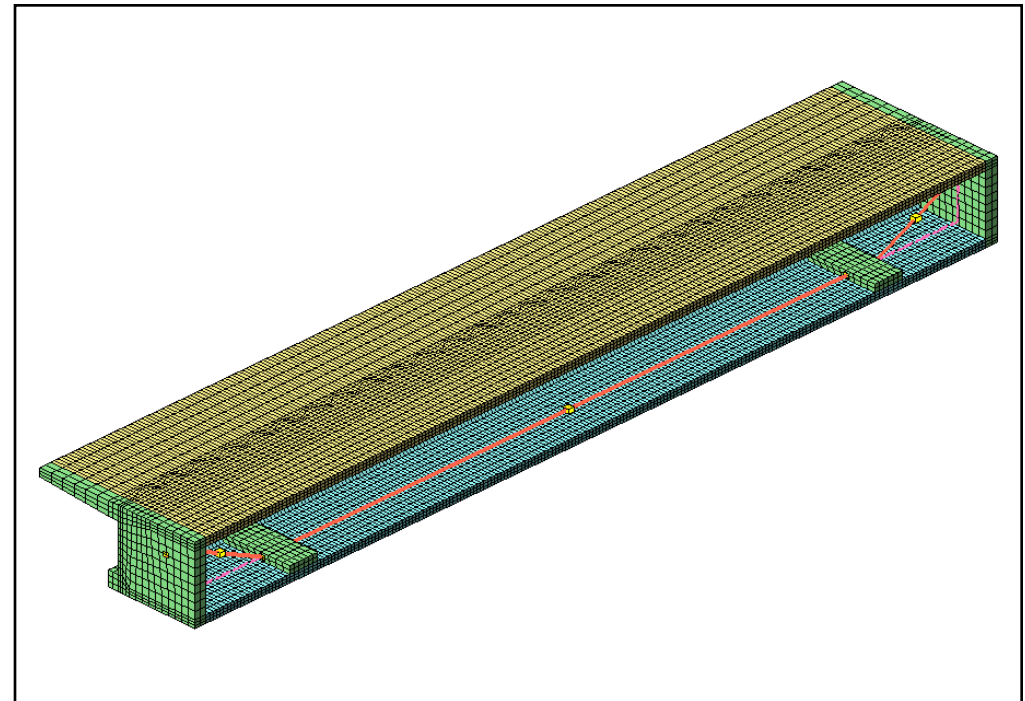
3. Element Type : Truss / Beam

4. Change Selection Filter to "Mesh (M)"

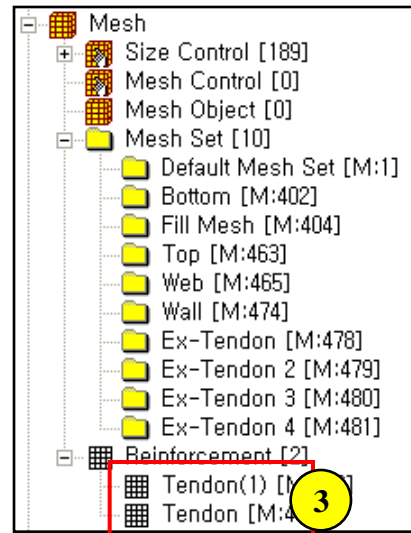
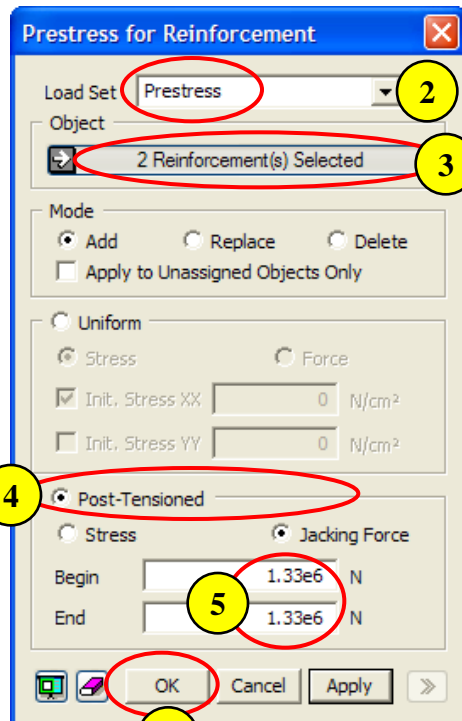
5. Select all "Ex-Tendon" Mesh Set in Pre-Works Tree

6. Axial Force : 1.33e6 N

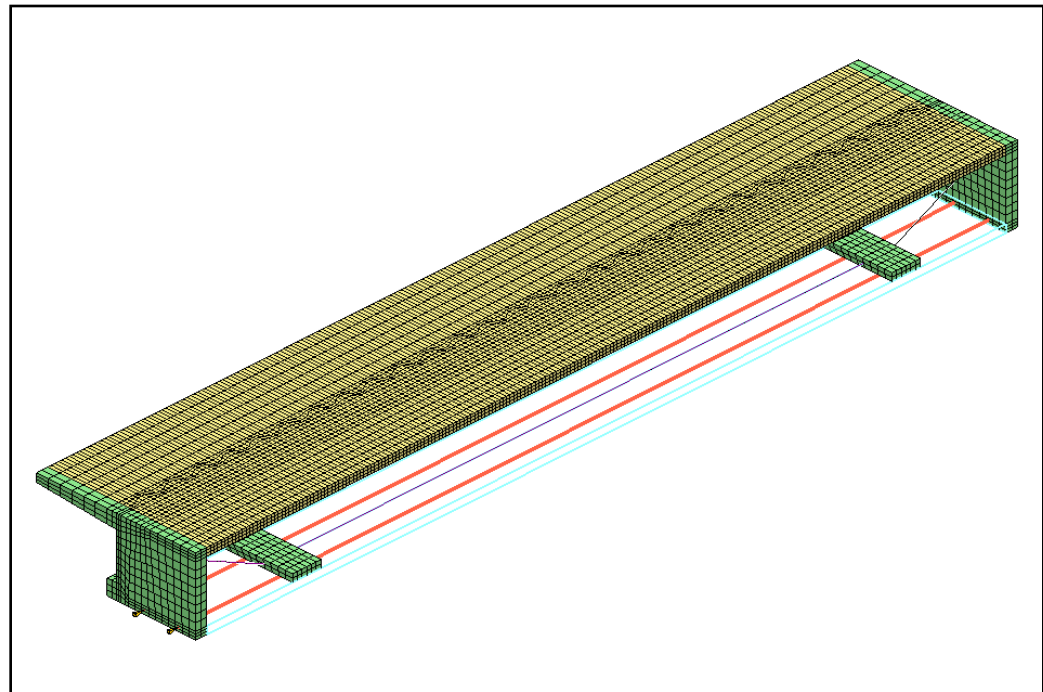
7. Click [OK] Button



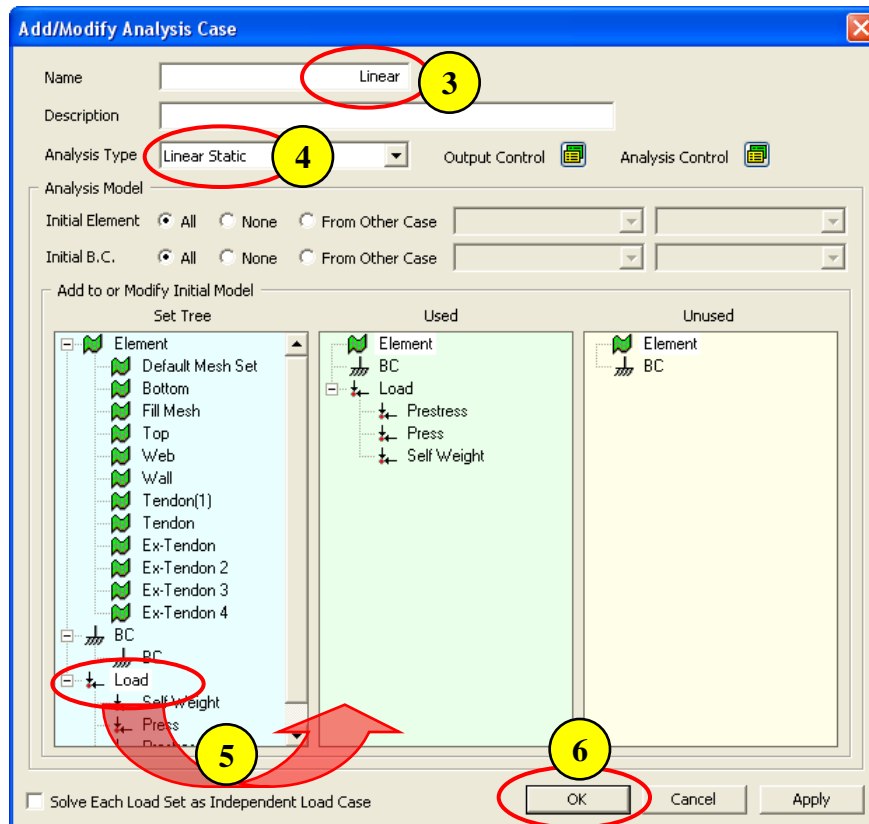
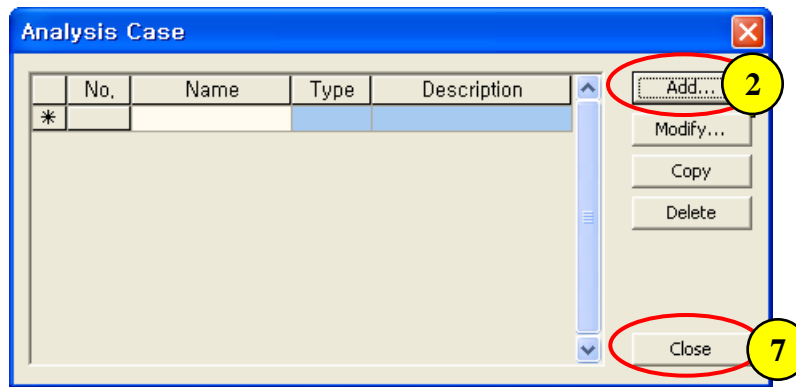
Step 65.



1. Analysis > Load > Prestress for Reinforcement ...
2. Select "Prestress" for Load Set
3. Select 2 Reinforcements in Pre-Works Tree
4. Check on "Post tensioned (Jacking Force)"
5. Begin & End Force : 1.33e6 N
6. Click [OK] Button



Step 66.



1. Analysis > Analysis Case ...

2. Click [Add] Button

3. Name : Linear

4. Analysis Type : Linear Static

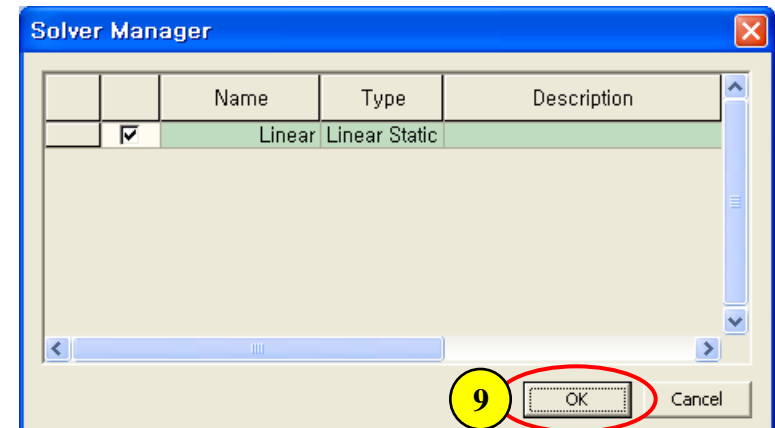
5. Drag & Drop "Load" to "Used" Window

6. Click [OK] Button

7. Click [Close] Button

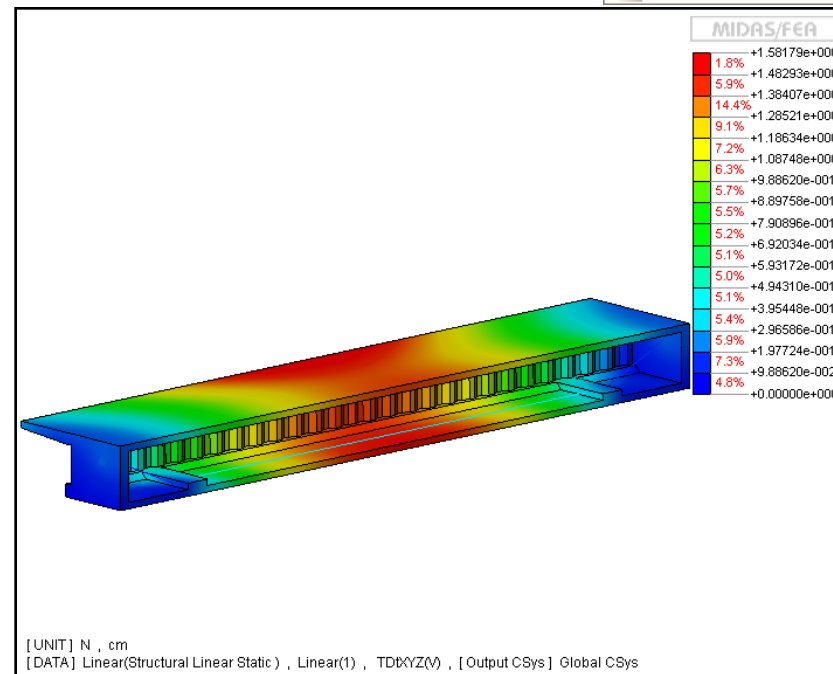
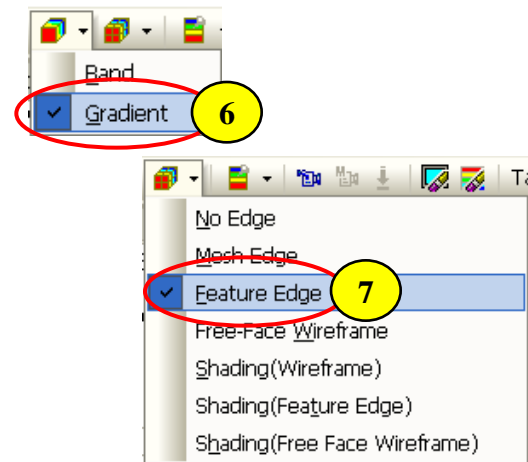
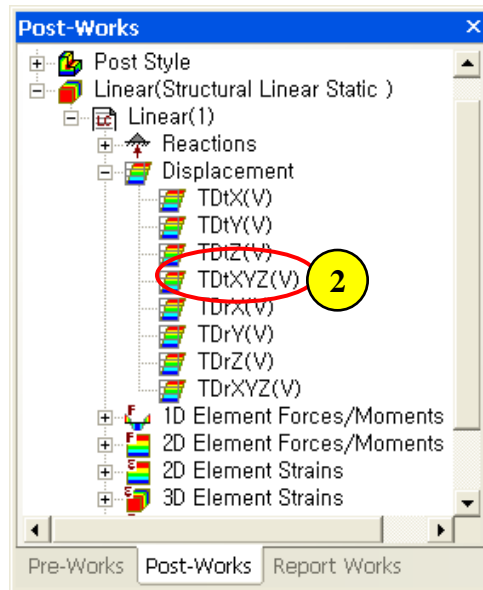
8. Analysis > Solve ...

9. Click [OK] Button

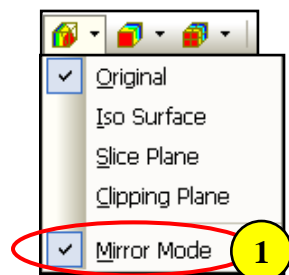


Step 67.

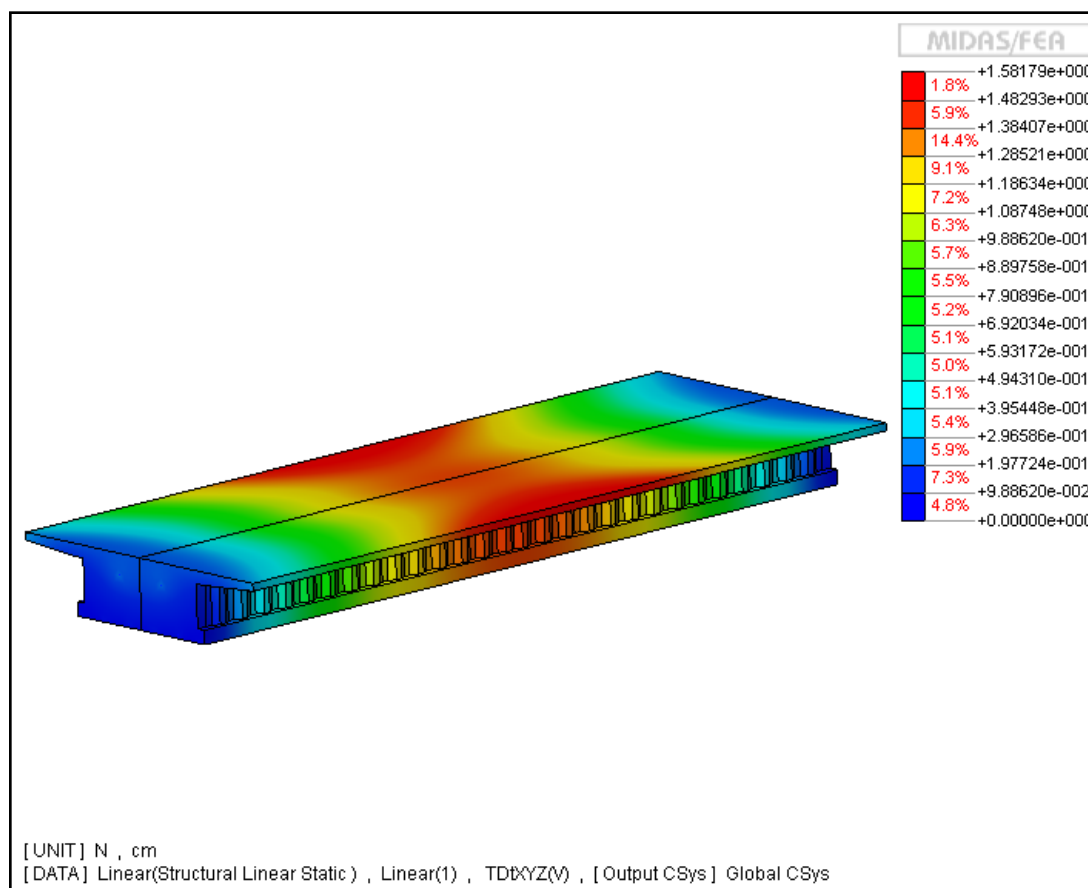
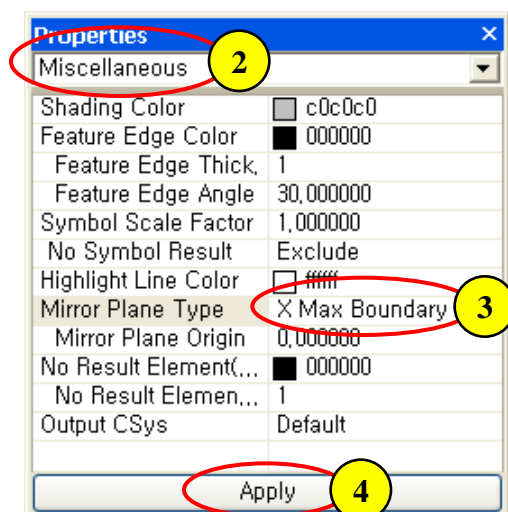
1. Post-Works Tree : Linear (Structural Linear Static) > Linear(1) > Displacement
2. Double Click “TDtXYZ(V)”
3. Click “Sens.” Button
4. Select “Undeformed” for Mesh Shape (See Figure)
5. Select “Post Style” Toolbar
6. Select “Gradient” for Contour Type
7. Select “Feature Edge” for Edge Type



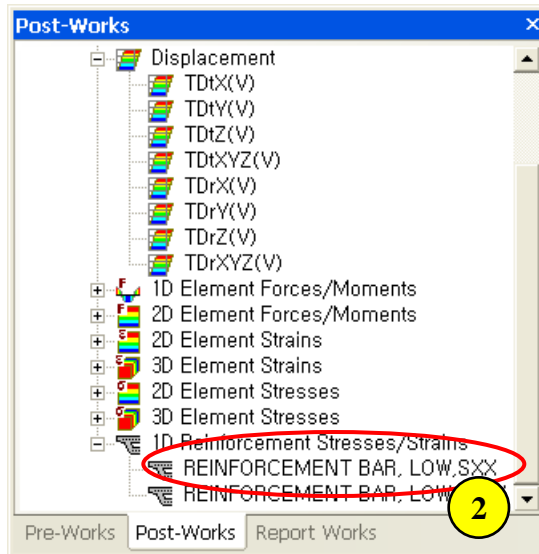
Step 68.



1. Select "Mirror Mode" for Visualization
2. Property Window : Miscellaneous
3. Select "X Max Boundary" for Mirror Plane Type
4. Click [Apply] Button



Step 69.



1. Post-Works Tree : Linear (Structural Linear Static) > Linear(1) > 1D Reinforcement Stresses/Strains
2. Double Click “REINFORCEMENT BAR, LOW,SXX”
3. Property Window : Contour
4. No Result Entity : Feature Edge
5. Click [Apply] Button

