

Course in ANSYS

Boolean's + meshing issues

Course Outline

Introduction

Lesson 1. Modeling reviewed – Boolean's

Lesson 2. Boolean's + meshing issues

Lesson 3. Operate + meshing issues

Lesson 4. Import + meshing issues

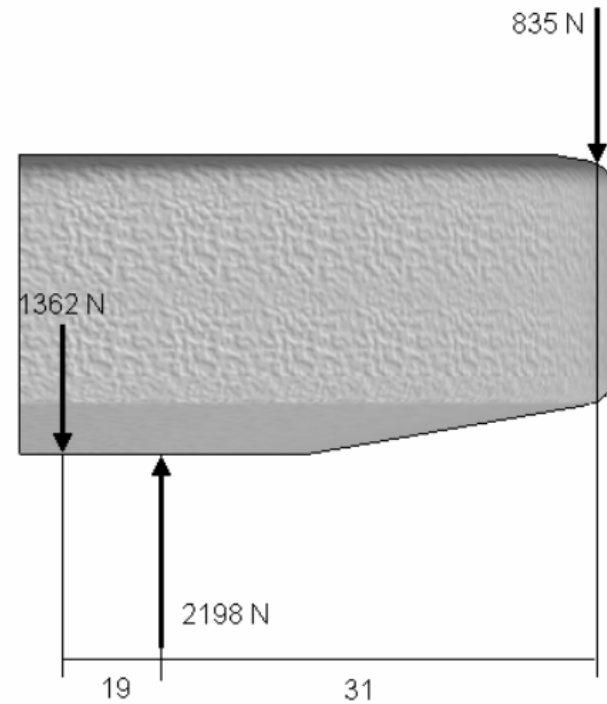
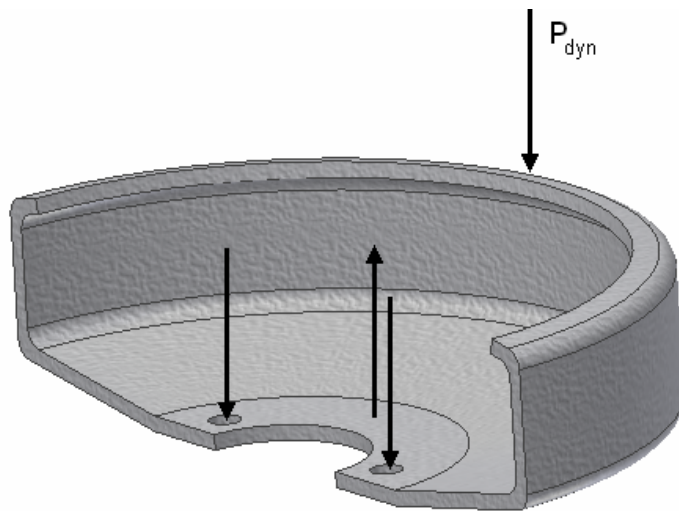
Lesson 5. Meshing – advanced topics

Modeling considerations - reviewed

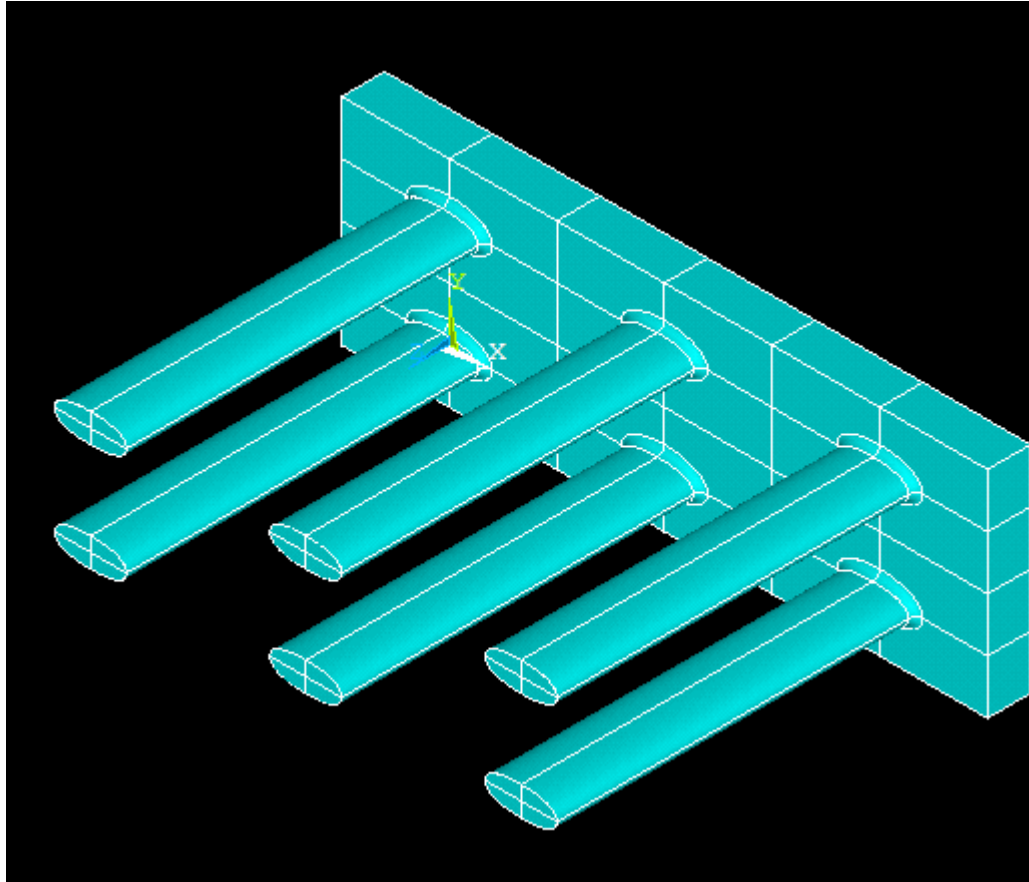
- Review of examples
- Run through example240 and example241
- What element type should be selected for the grinding shield example?
- Mesh method?
 - Model storage *.lgw or *.db?
 - **Element type?**
 - Level of detail?
 - **Mesh method?**
 - Allow model modifications?
 - **Type of analysis to perform?**
 - **Material models?**
 - **Boundary conditions and loads?**

Modeling considerations -reviewed

- Apply the boundary conditions and the loads indicated
- Solve
- Plot the deformed shape



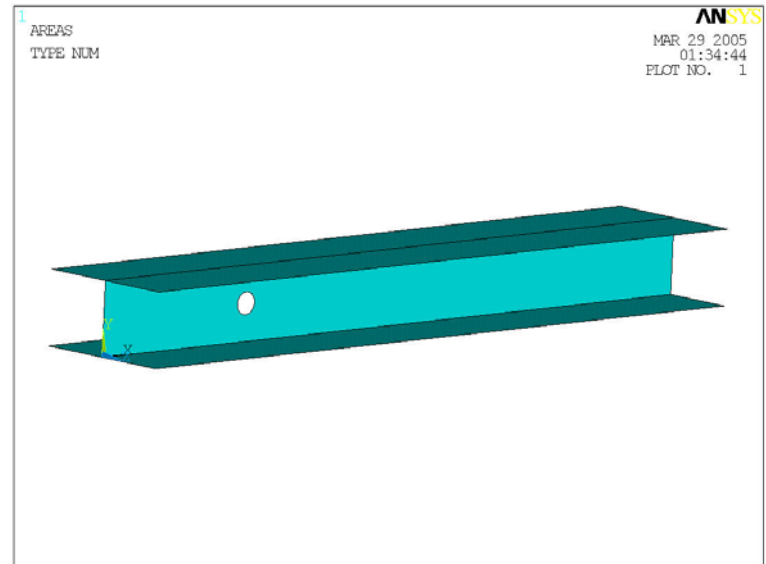
Last time - Fins



Example – I-beam (shell 3D)

```

/PREP7
K, ,,,
K, ,,,100,
K, ,1000,,100,
K, ,1000,,
K, ,1000,,-100,
K, ,,,-100,
K, ,,100,,
K, ,,100,100,
K, ,1000,100,100,
K, ,1000,100,,
K, ,1000,100,-100,
K, ,,100,-100,
LSTR, 1, 2
LSTR, 2, 3
LSTR, 3, 4
LSTR, 4, 5
LSTR, 5, 6
LSTR, 6, 1
LSTR, 1, 4
LSTR, 7, 8
LSTR, 8, 9
LSTR, 9, 10
LSTR, 10, 11
LSTR, 11, 12
LSTR, 12, 7
LSTR, 7, 10
LSTR, 7, 1
LSTR, 10, 4
AL,1,2,3,7
AL,4,5,6,7
AL,14,15,16,7
AL,8,9,10,14
AL,11,12,13,14
CYL4,250,50,15
    
```



Example – I-beam (solid 3D)

```

/PREP7
K, ,0,0,0
K, ,150,0,0
K, ,150,15,0
K, ,80,15,0
K, ,80,285,0
K, ,150,285,0
K, ,150,300,0
K, ,0,300,0
K, ,0,285,0
K, ,70,285,0
K, ,70,15,0
K, ,0,15,0
LSTR, 1, 2
LSTR, 2, 3
LSTR, 3, 4
LSTR, 4, 5
LSTR, 5, 6
LSTR, 6, 7
LSTR, 7, 8
LSTR, 8, 9
LSTR, 9, 10
LSTR, 10, 11
LSTR, 11, 12
LSTR, 12, 1
LSTR, 11, 4
LSTR, 10, 5
AL,12,1,2,3,13,11
AL,13,10,4,14
AL,5,6,7,8,9,14
!*
VOFFST,1,100, ,
!*
VOFFST,2,100, ,
!*
VOFFST,3,100, ,
K,200, 0,150,150,
K,201,40,150,150,
K,202,40,160,150,
!*CIRCLE,PCENT,RAD,PAXIS, PZERO, ARC, NSEG
CIRCLE,200,25,201,202, ,

```

