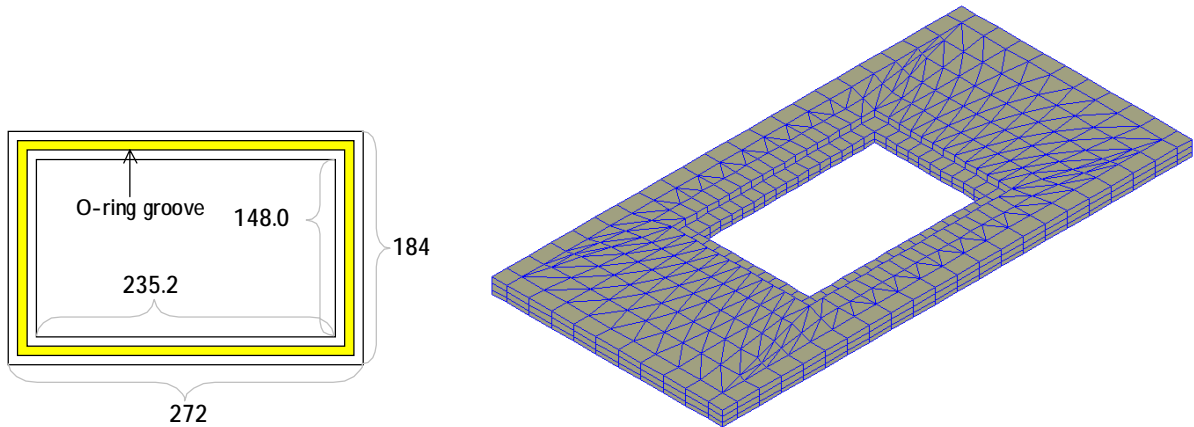


- Window Clear aperture 215.2mm \* 128mm
  - + space 10mm each side, then 235.2 mm\*148mm
  - O-ring G250 (ID=249.2mm, OD=260.7mm)
  - + space for outside of O-ring 5mm each side, then 272mm \* 184mm
  - ( a little rough estimate)



➤ Aluminum Property

|        | Density<br>10 <sup>3</sup> [kg/m <sup>3</sup> ] | Young's modulus<br>10 <sup>9</sup> [Pa] | Poisson ratio | Yield strength<br>10 <sup>6</sup> [Pa] |
|--------|---|---|---------------|--|
| Al2024 | 2.77  | 73.1                                    | 0.33          | 76-393                                 |
| Al6061 | 2.68  | 68.2                                    | 0.332         | 55-276                                 |
| Al7075 | 2.79  | 71.7                                    | --            | 103-503                                |

➤ Result

t=15mm

|        | Displacment<br>dx[um] | Displacement<br>dy[um] | Displacement<br>dz[um] | Total disp.<br>[um] | Max stress<br>[MPa] |
|--------|-----------------------|------------------------|------------------------|---------------------|---------------------|
| Al2024 | 5.11                  | 5.91                   | 71.55                  | 71.63               | 7.08                |
| Al6061 | 5.48                  | 6.33                   | 76.69                  | 76.78               | 7.08                |
| Al7075 | 3.55                  | 5.79                   | 64.88                  | 64.94               | 7.77                |

t=20mm

|        | Displacment<br>dx[um] | Displacement<br>dy[um] | Displacement<br>dz[um] | Total disp.<br>[um] | Max stress<br>[MPa] |
|--------|-----------------------|------------------------|------------------------|---------------------|---------------------|
| Al2024 | 3.53                  | 4.47                   | 39.48                  | 39.52               | 6.20                |
| Al6061 | 3.79                  | 4.79                   | 42.32                  | 42.36               | 6.20                |
| Al7075 | 3.48                  | 4.58                   | 40.15                  | 40.19               | 6.15                |