

## Design Details

|               |                |
|---------------|----------------|
| Date          | 2020-12-04     |
| Author        | 3dm_kp_0022    |
| Project name  | Linear Static1 |
| Analysis type | Linear static  |



## Units

### Units

|                        |                   |
|------------------------|-------------------|
| Length                 | mm                |
| Force                  | N                 |
| Moment                 | N*mm              |
| Spring Constant        | N/mm              |
| Pressure               | MPa               |
| Specific Weight        | N/mm <sup>3</sup> |
| Temperature Difference | dC                |
| Energy                 | J                 |

## Materials

### Model : Cut-Extrude1 AISI 1020

| Property        | Values   |
|-----------------|----------|
| Elastic Modulus | 0.20E+12 |
| Poisson's Ratio | 0.29     |
| Shear Modulus   | 0.77E+11 |

**Model : Cut-Extrude1 AISI 1020**

|                               |            |
|-------------------------------|------------|
| Thermal Expansion Coefficient | 0.15E-4    |
| Mass Density                  | 0.79E+04   |
| Thermal Conductivity          | 47         |
| Specific Heat                 | 0.42E+03   |
| Tensile Strength              | 4.20507E+8 |
| Yield Strength                | 3.51571E+8 |

**Design**

**Loads & Constrains Information**

**Constraints**

|                         |  |
|-------------------------|--|
| Roller/Slider Fixture 1 | Entities: F25, F15, F12, F22, F17<br>Type: Roller/Slider |
|-------------------------|--|

**Mechanics loads**

|              |   |
|--------------|---|
| Force Load 1 | Entities: F68, F70, F71<br>DirectionType: Global Direction<br>Values: 500N<br>Direction: -0.000000 -0.000000 -1.000000 Flip=false |
|--------------|---|

**Mesh Information**

|                |                              |
|----------------|------------------------------|
| Mesh Type      | (Auto)Triangle & Tetrahedron |
| High Order     | True                         |
| Element Size   | 0.000000                     |
| Tolerance      | 0.500000                     |
| Total Nodes    | 13981                        |
| Total Elements | 11186                        |

**Mesh Information**

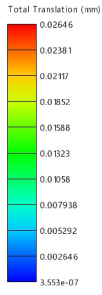


### Result Information

|                          |  |
|--------------------------|--|
| Total Translation(1)     | Type: displacement result<br>SubType: Total Translation<br>Step: 0<br>Deform factor:782004.715020Min: 0.000000<br>Max: 0.000026                    |
| Avg. vonMises Stress(1)  | Type: nodal stress result<br>SubType: Avg. vonMises Stress<br>Step: 0<br>Deform factor:782004.715020Min: 430683.9179<br>83<br>Max: 28562444.112400 |
| Element Strain Energy(1) | Type: scalar result<br>SubType: Element Strain Energy<br>Step: 0<br>Deform factor:782004.715020Min: 0.000000<br>Max: 0.000004                      |

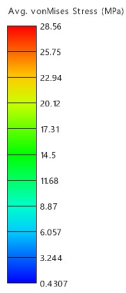
### Total Translation(1)

Model name: Wiertlo  
Task name: Linear Static1  
Plot type: Linear static - Total Translation  
Deform factor: 782004.715020



### Avg. vonMises Stress(1)

Model name: Wiertlo  
Task name: Linear Static1  
Plot type: Linear static - Avg. vonMises Stress  
Deform Factor: 782004.715020



### Element Strain Energy(1)

Model name: Wiertlo  
Task name: Linear Static1  
Plot type: Linear static - Element Strain Energy

