PARAMETERS TAKEN

I used a frying pan with circular wooden handle and a sphere at the end to enclose the metal opening.

The frying pan was heated at the bottom using a surface flux which was calculated with the help of Heating capacity in our gas stoves and the bottom surface area.

The heating capacity taken was 6000 BTU which converts to 1.758 kW and the area of the bottom of frying pan was 6362.752 mm2.

There were three surface contact constraints between the wood and metal at front and end and the contact between wood and wood as there were 3 components.

There was a total of 9 loads including the convective

Film for each surface and one surface flux.

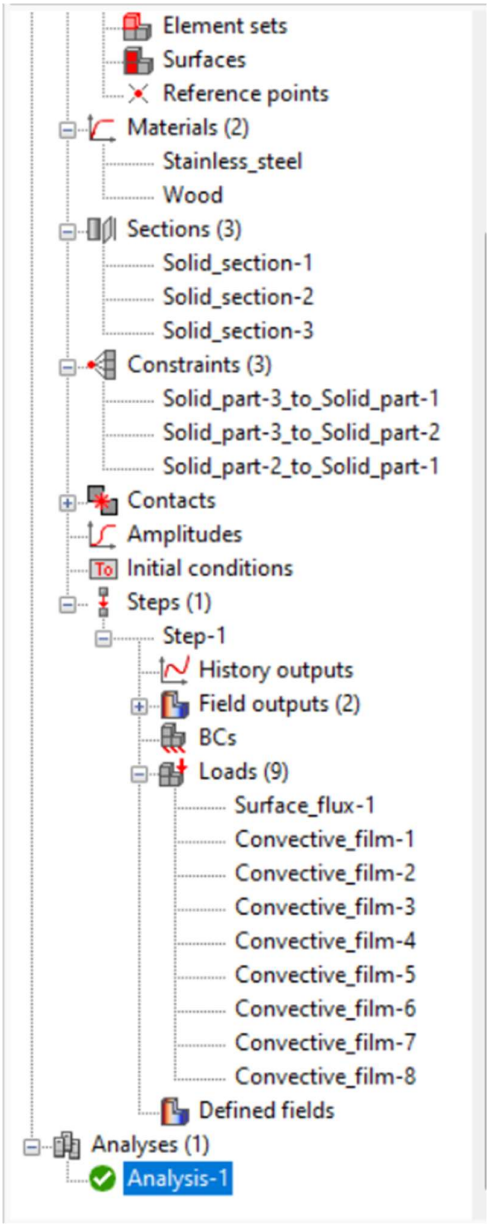
Then the analysis was done to

See the below results.

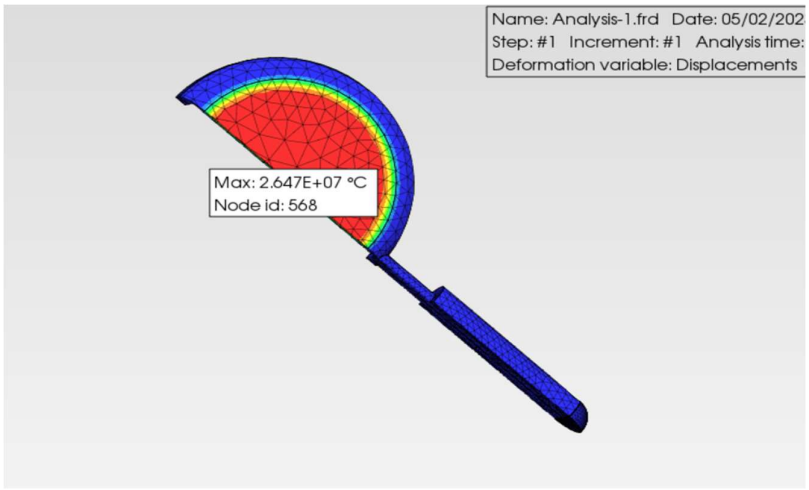
The thermal conductivity assumed for stainless steel

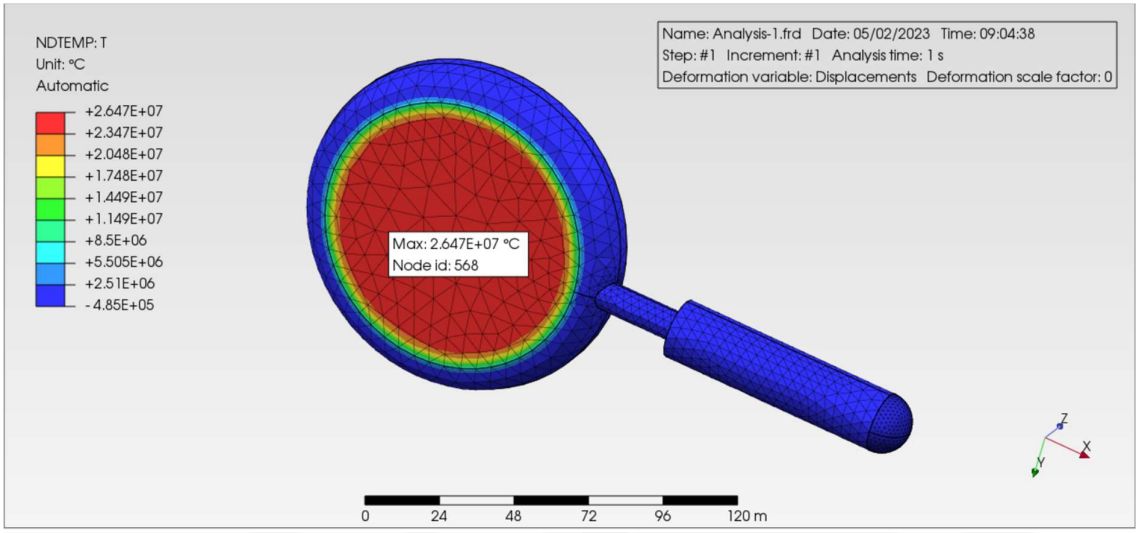
As the frying material was 19.

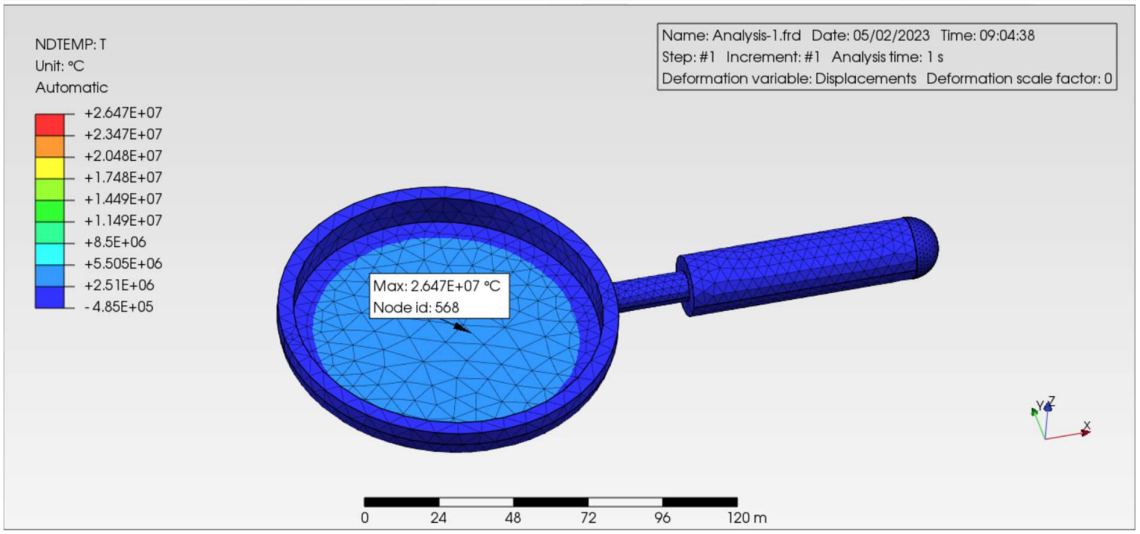
The thermal conductivity for wood was taken 0.15.



Results:


Name: Analysis-1.frd Date: 05/02/202
Step: #1 Increment: #1 Analysis time:
Deformation variable: Displacements
Max: 2.647E+07 °C
Node id: 568


NDTEMP: T
Unit: °C
Automatic
+2.647E+07
+2.347E+07
+2.048E+07
+1.748E+07
+1.449E+07
+1.149E+07
+8.5E+06
+5.505E+06
+2.51E+06
- 4.85E+05
Name: Analysis-1.frd Date: 05/02/2023 Time: 09:04:38
Step: #1 Increment: #1 Analysis time: 1 s
Deformation variable: Displacements Deformation scale factor: 0
Max: 2.647E+07 °C
Node id: 568
Z
X
Y
0
24
48
72
96
120 m


NDTEMP: T
Unit: °C
Automatic
+2.647E+07
+2.347E+07
+2.048E+07
+1.748E+07
+1.449E+07
+1.149E+07
+8.5E+06
+5.505E+06
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Name: Analysis-1.frd Date: 05/02/2023 Time: 09:04:38
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