

NAGFORGE RESULTS

Progression Design Software - Hot Forging

PART MODEL

NAGFORGE DESKTOP (MODEL SECTION)

The User creates the part by adding the primitives and specifying the dimensions

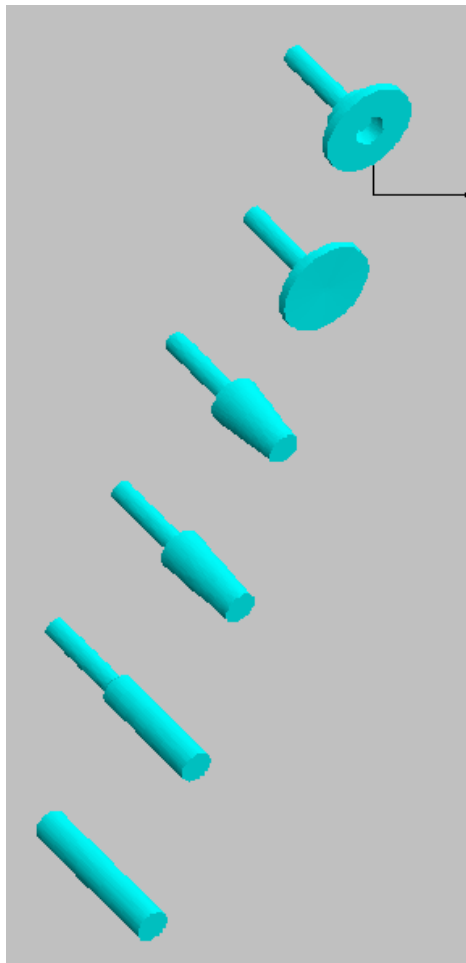
The screenshot displays the NAGFORGE software interface. On the left, a 3D model of a mechanical part is shown with various dimensions and numbered regions (1-9). A yellow callout box at the bottom left contains the text: **PART VOLUMES, SURFACE AREA AND WEIGHT**. A red arrow points from this text to the 'Weight' field in the 'Calculator' window. The 'Calculator' window shows the following data:

Union ID :	9	Surf. Area, (Appx)	18.764116
Density :	Steel Alloy, 0.28, .0077	Weight	0.864253
Prim IDs , separated by commas :		Surf. Area (Appx)	
		Volume	
Heading Wire Dia. :		L/D	
Rod Extrusion :			
Initial Dia. :		Extruded Dia. :	
		% Reduction	

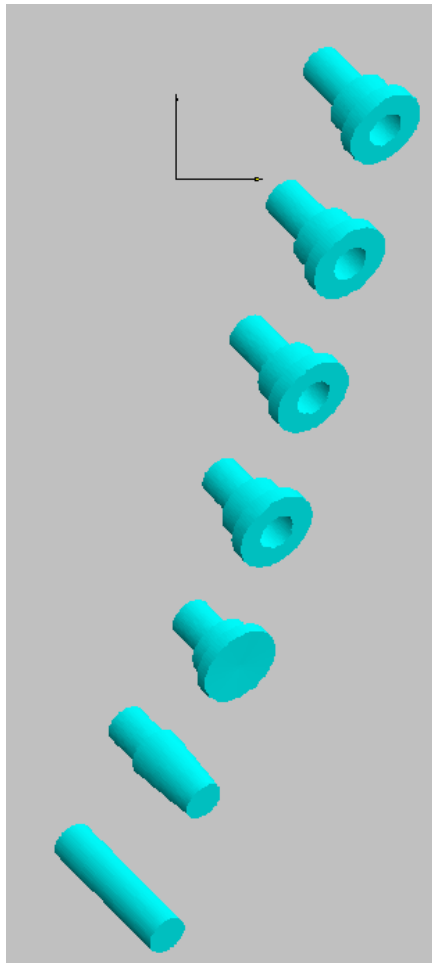
On the right side of the interface is a 'Model' toolbar with various primitive shapes and options like 'HOLLOW', 'SHEET METAL', 'UNION', 'ANY', 'USER', and 'Action' buttons (Create, Move, Subtract, etc.).

AUTO DESIGN

NAGFORGE



EXAMPLE 1



EXAMPLE 2

Preform Design

Select Part
 Cursor ID : 4

Blank Diameter:
 Any Specific
 Desired Diameter :

Show Max : 20.000 Min : 0.0000

No. of Operations:
 Design using opers. : 7
 Show Max : 5 Min : 4

Machine
 Template
 All Combine

Progression Designs:
 No. of designs: 2
 Design: 2 Next > Show Prev <

DXF - Pr. Design
 Process info..
 Machine Info..
 Save as Template..
 Transfer to Modify
 Default Tooling
 DXF - Default Tool.

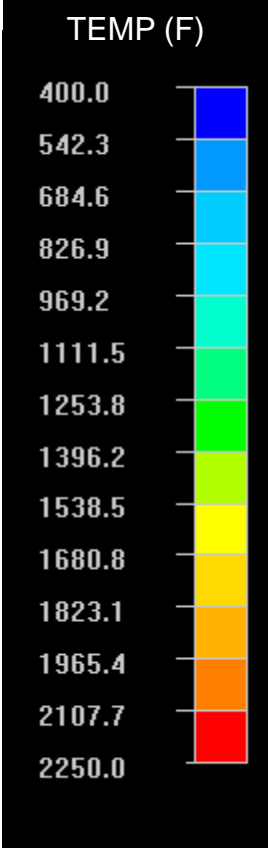
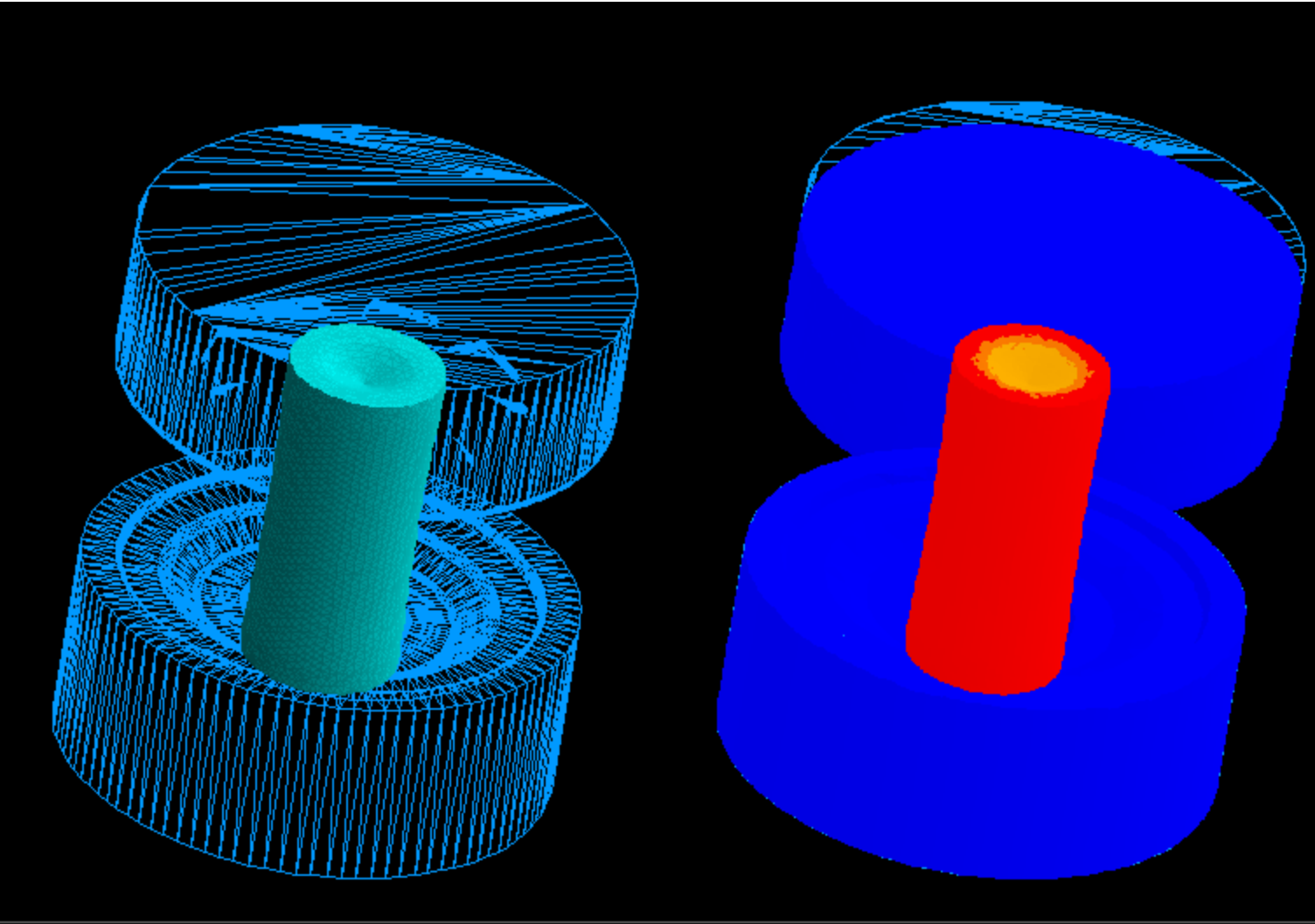
THE USER ENTERS

- 1) Part Material & Temperature info
- 2) Specific Blank Dia (if any)
- 3) Number of stations.

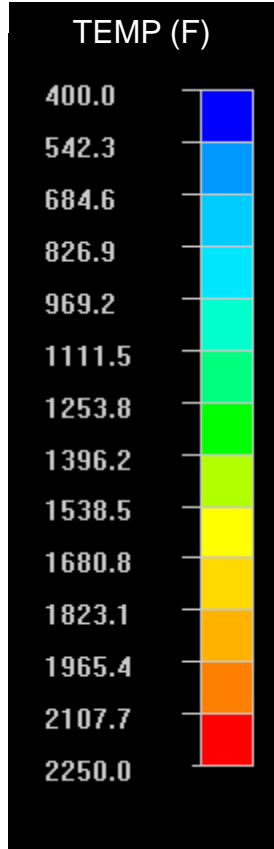
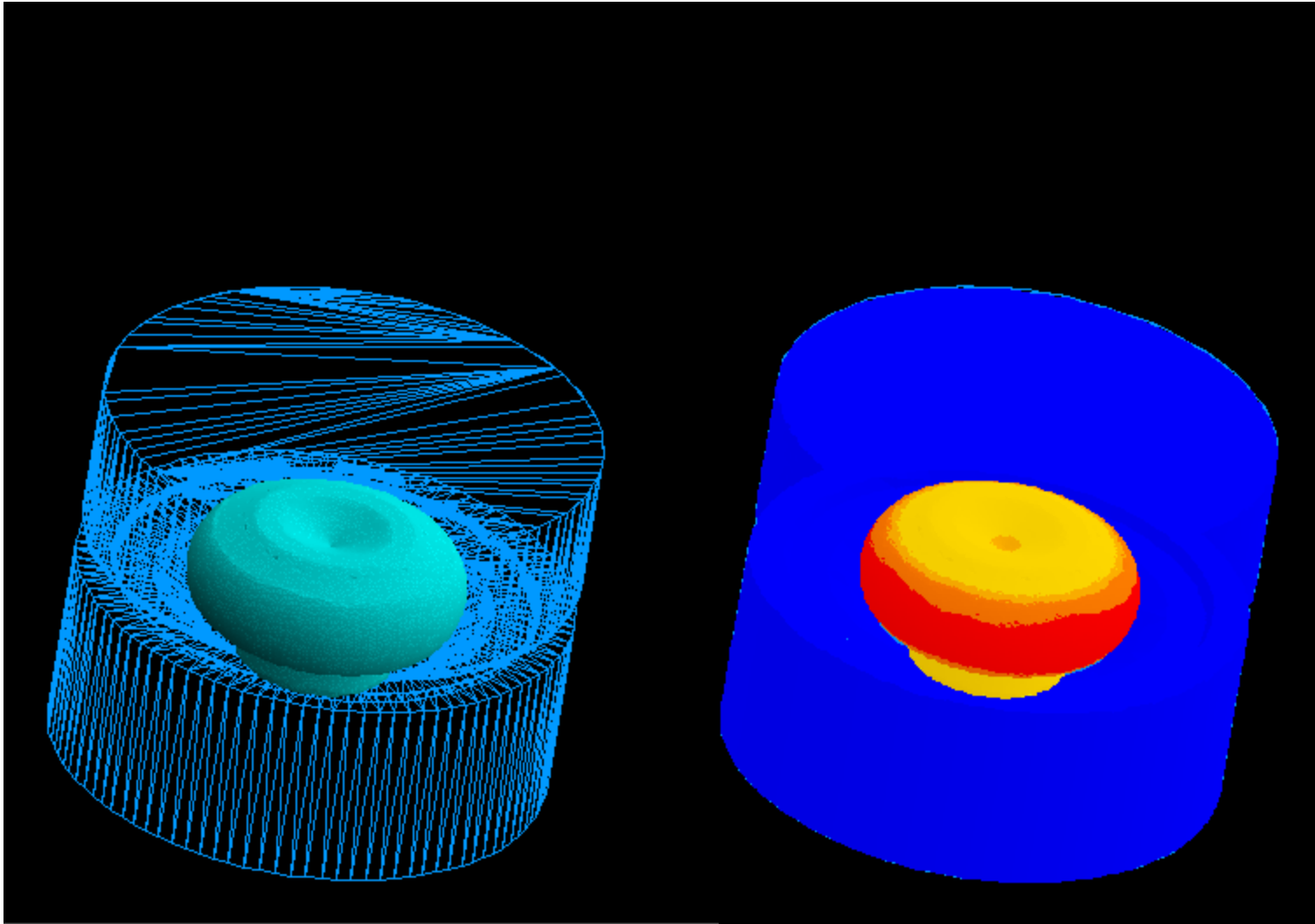
Once the selections are made, the user clicks on Design, and the program automatically generates some progression design ideas with complete dimensions and other pertinent information.

NAGSIM.3D RESULTS
Hot Forging – FEA Simulation Software

PART DEFORMATION AND TEMPERATURE

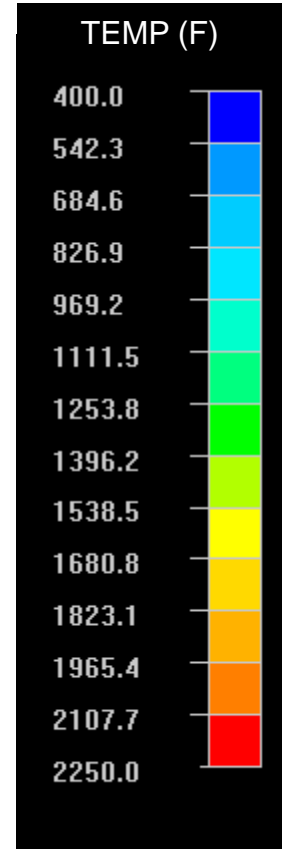
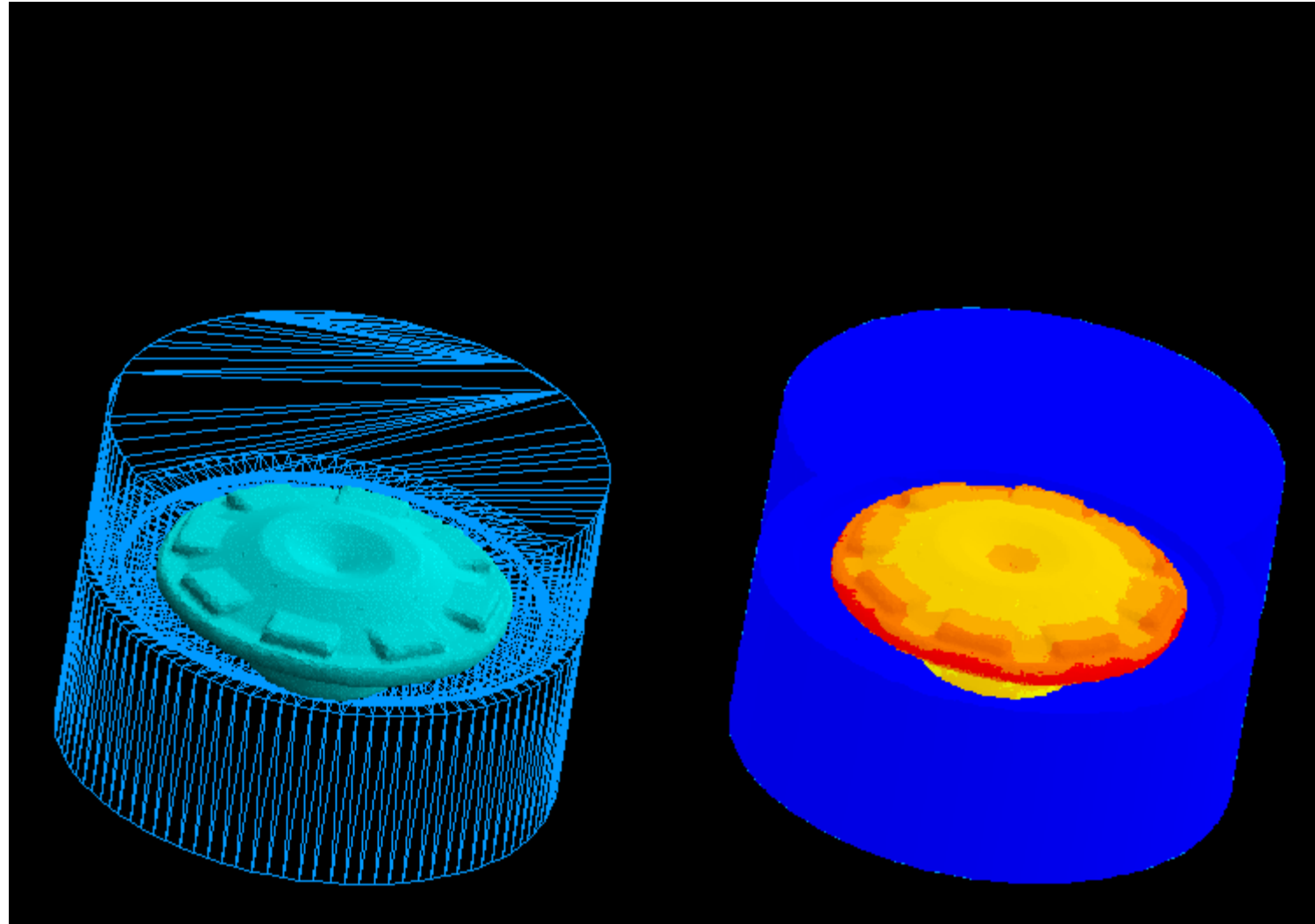


PART DEFORMATION AND TEMPERATURE

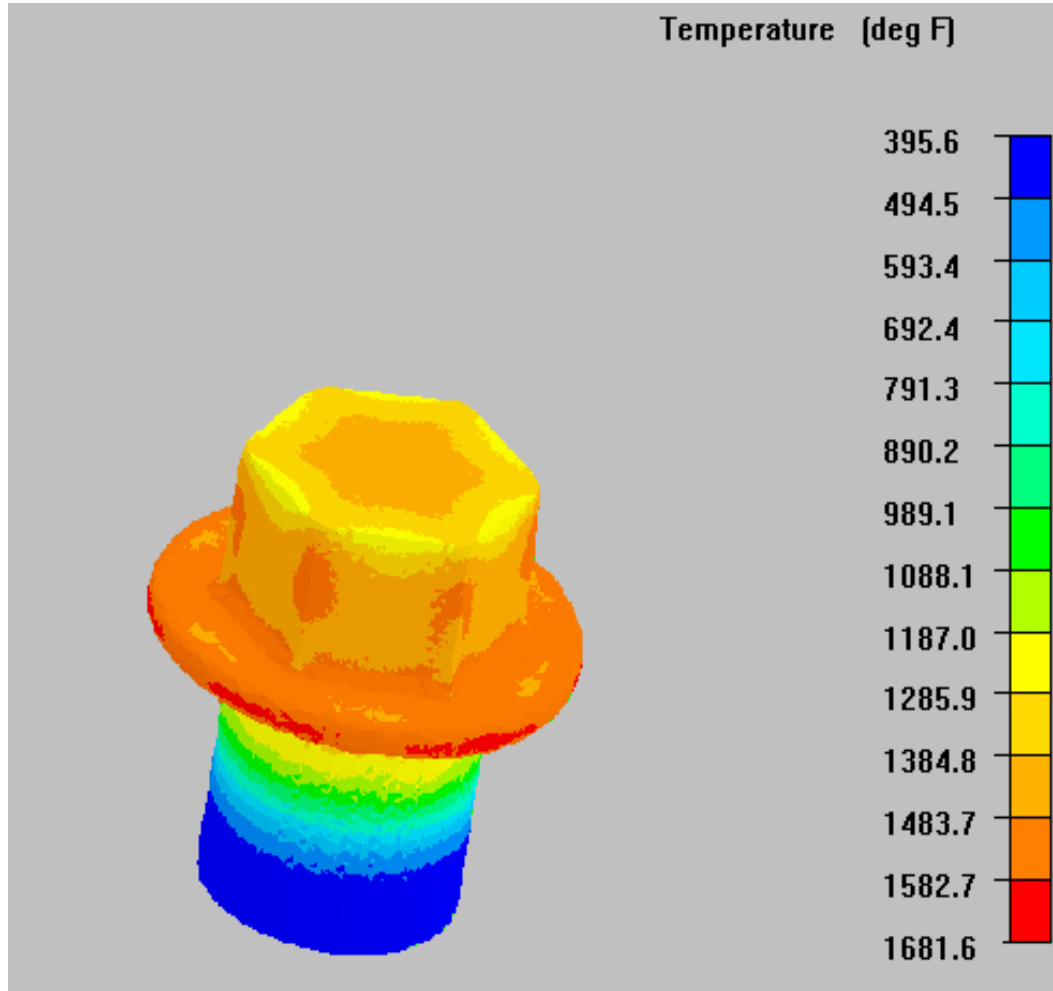


PART DEFORMATION AND TEMPERATURE

NAGSIM.3D RESULTS



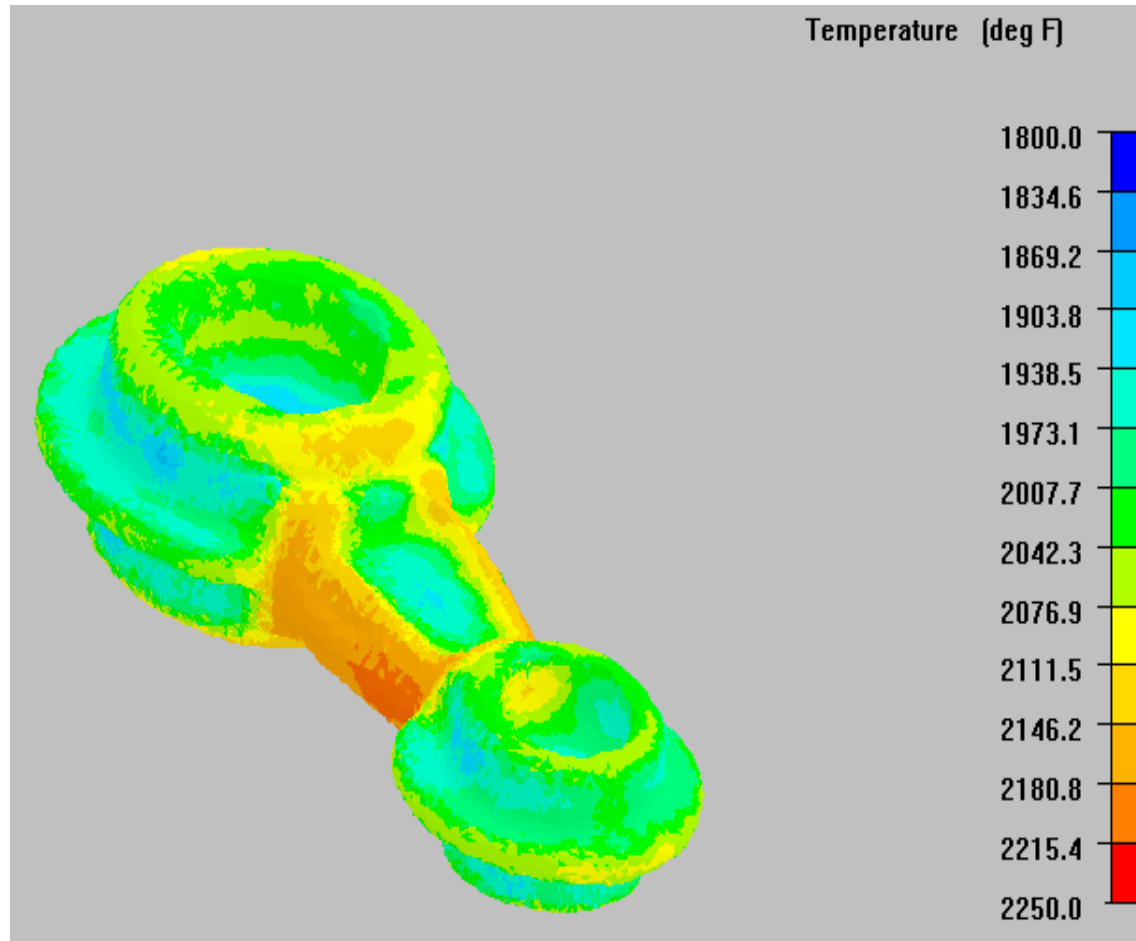
OTHER EXAMPLES – HOT FORGING



HEX BOLT HOT FORGING
(Different starting temperatures in the Head and Shank)

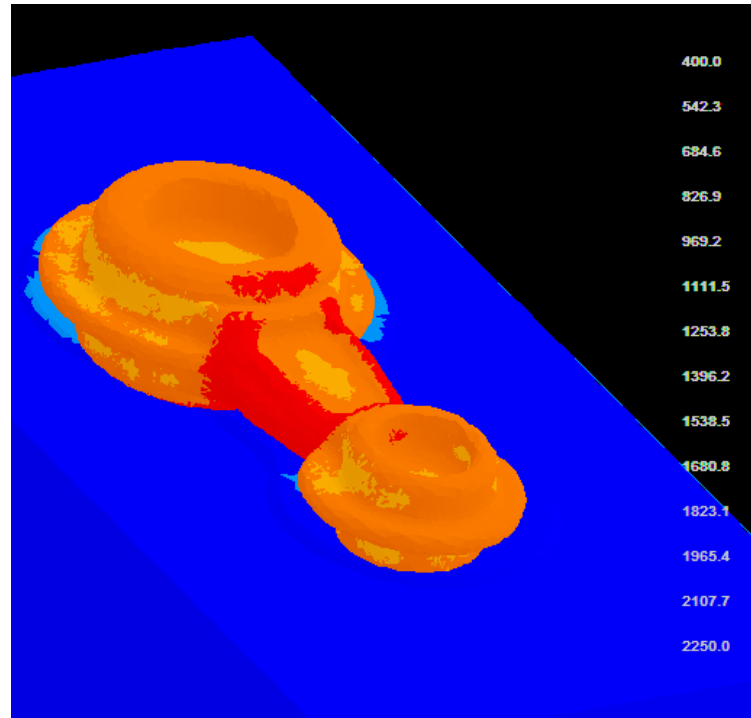
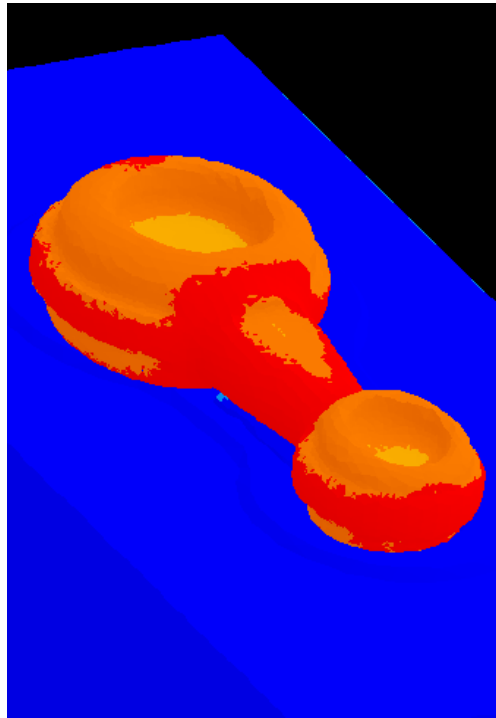
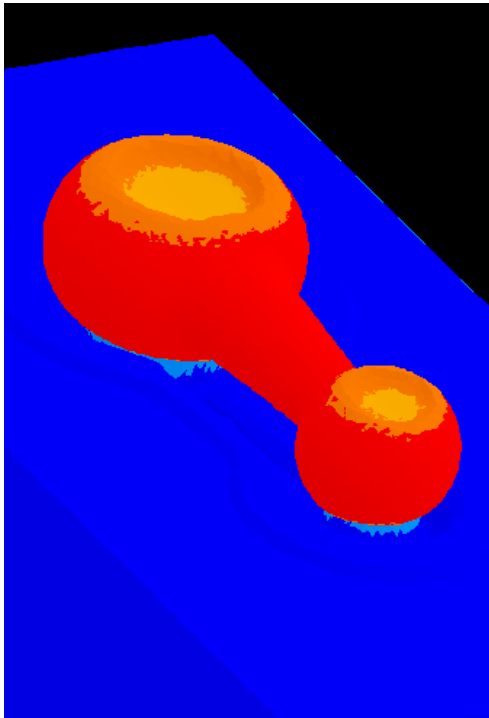
OTHER EXAMPLES – HOT FORGING

NAGSIM.3D RESULTS



**HOT FORGING OF A
CONNECTING ROD**

OTHER EXAMPLES – HOT FORGING



OTHER EXAMPLES – HOT FORGING

