

SIMULAZIONE STAMPATA COPERCHIO

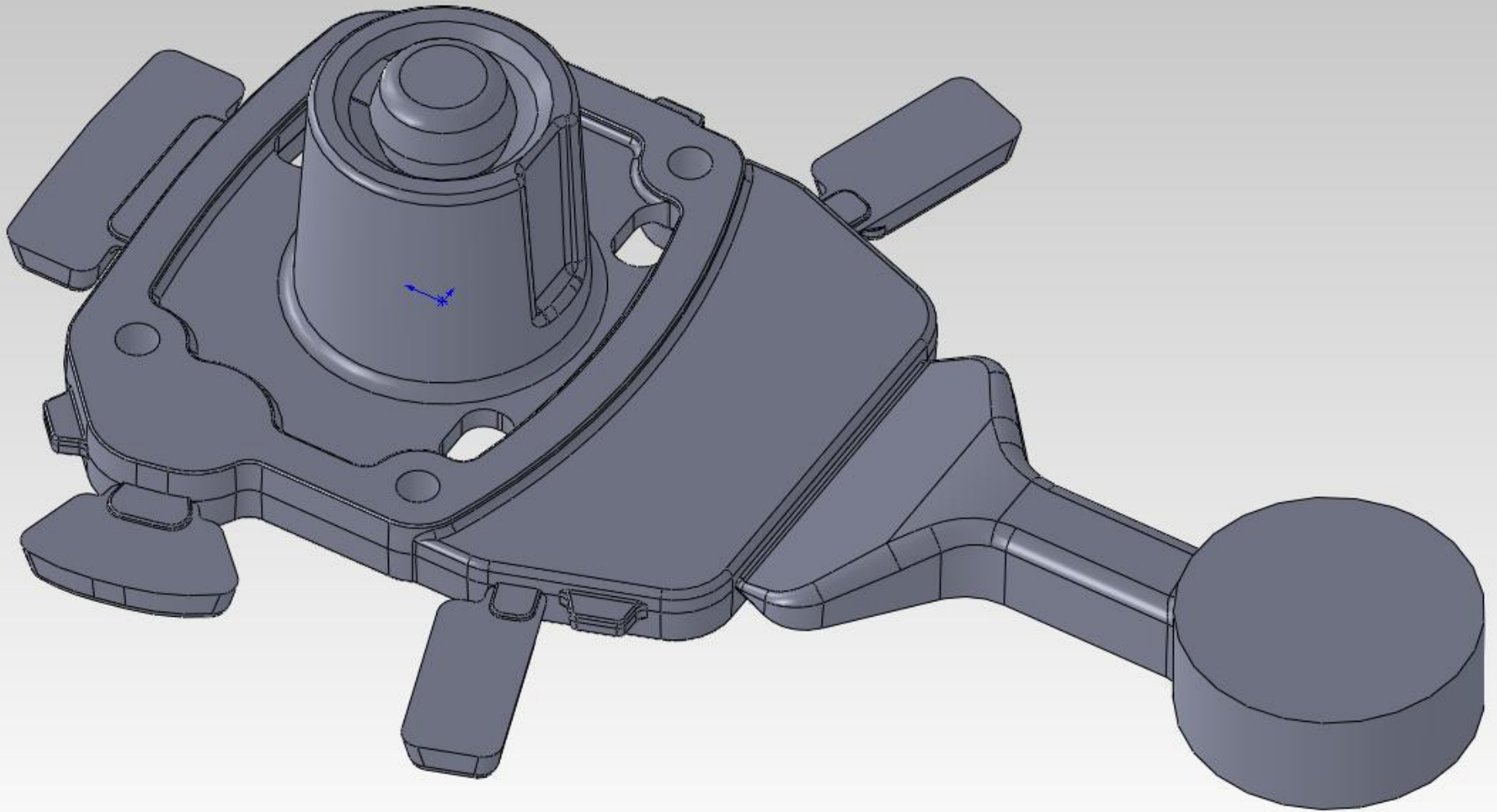


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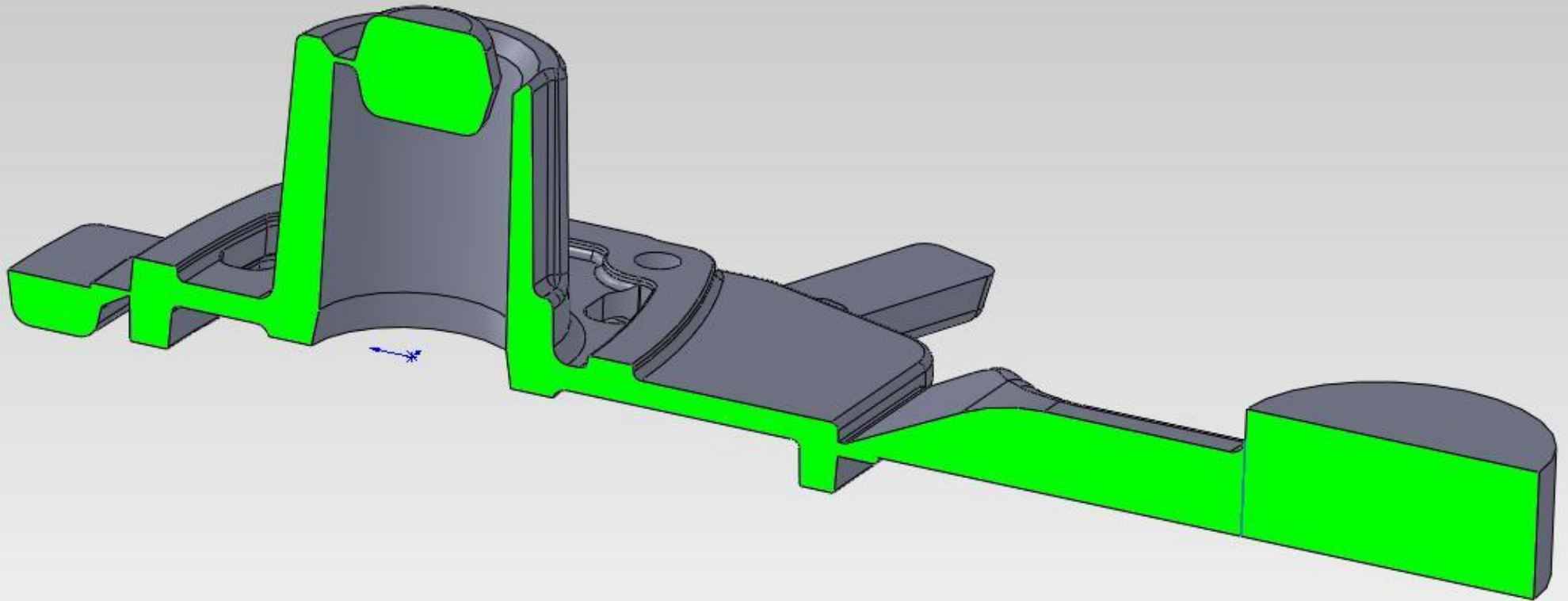
Layout Stampata



Layout Stampata



Layout Stampata



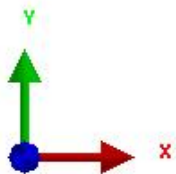
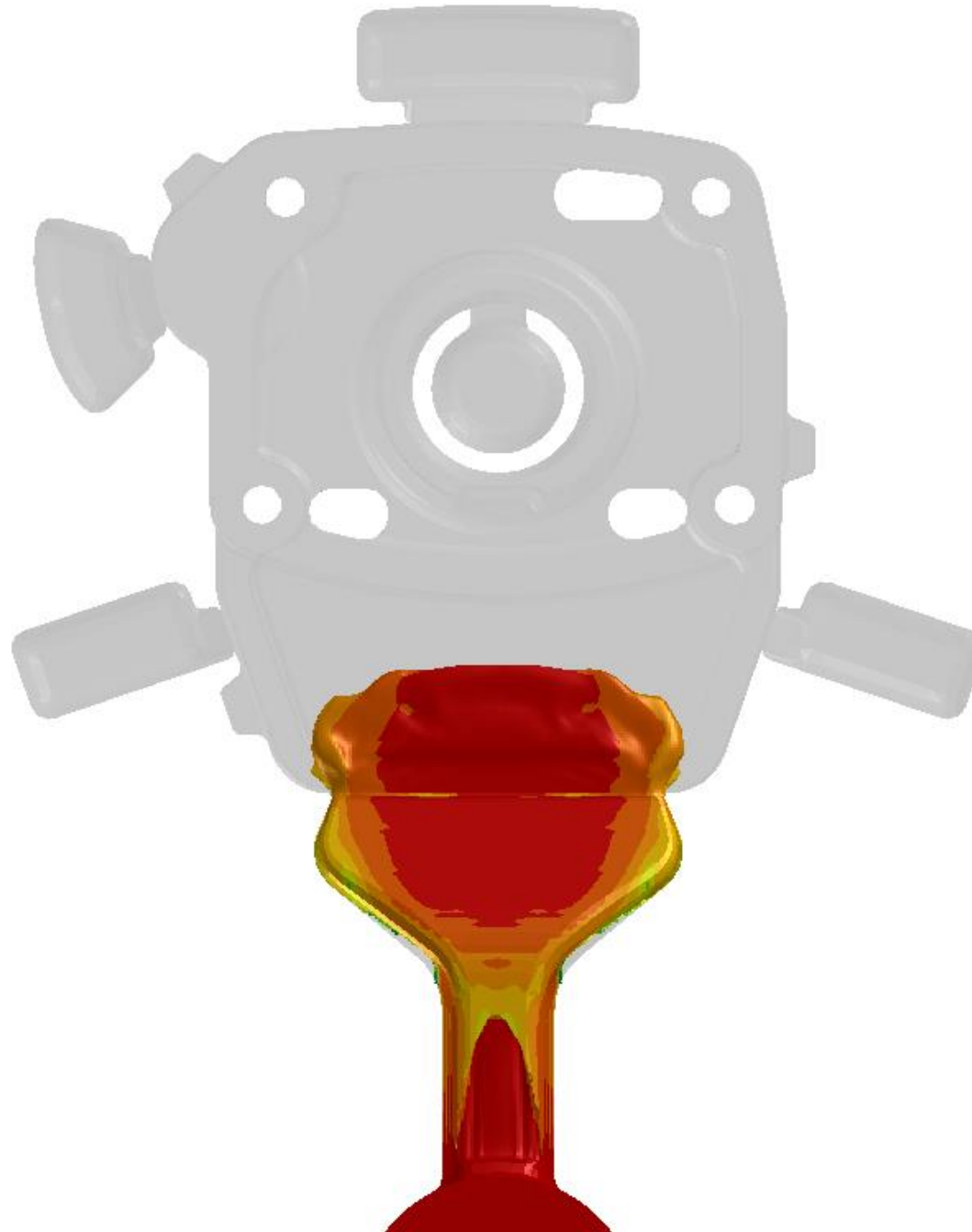
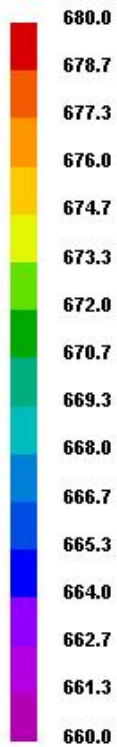
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 11 / 6.300e-004

Total Time : 0.0251 sec



QuikCAST

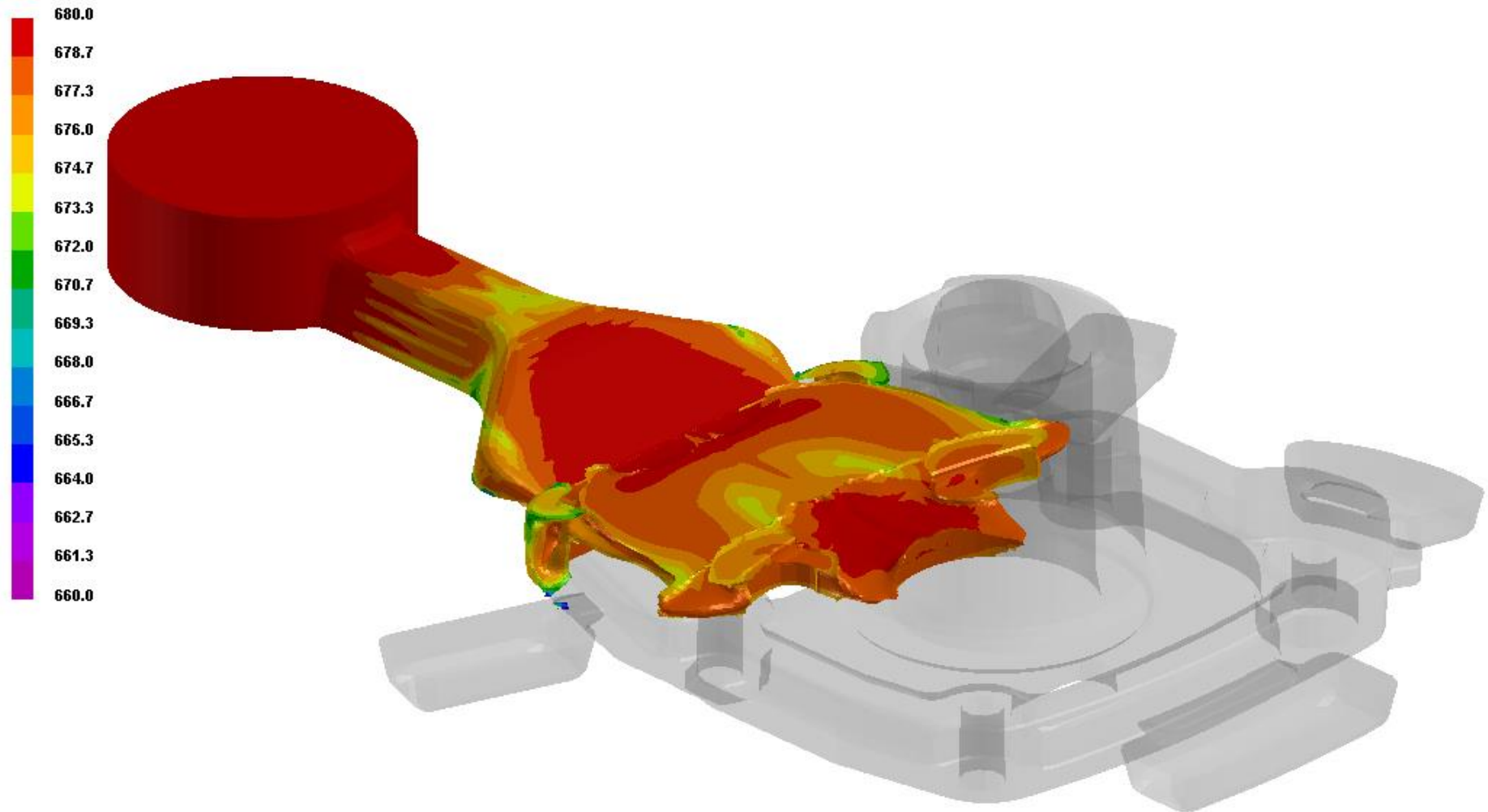
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 18 / 6.071e-004

Total Time : 0.0293 sec



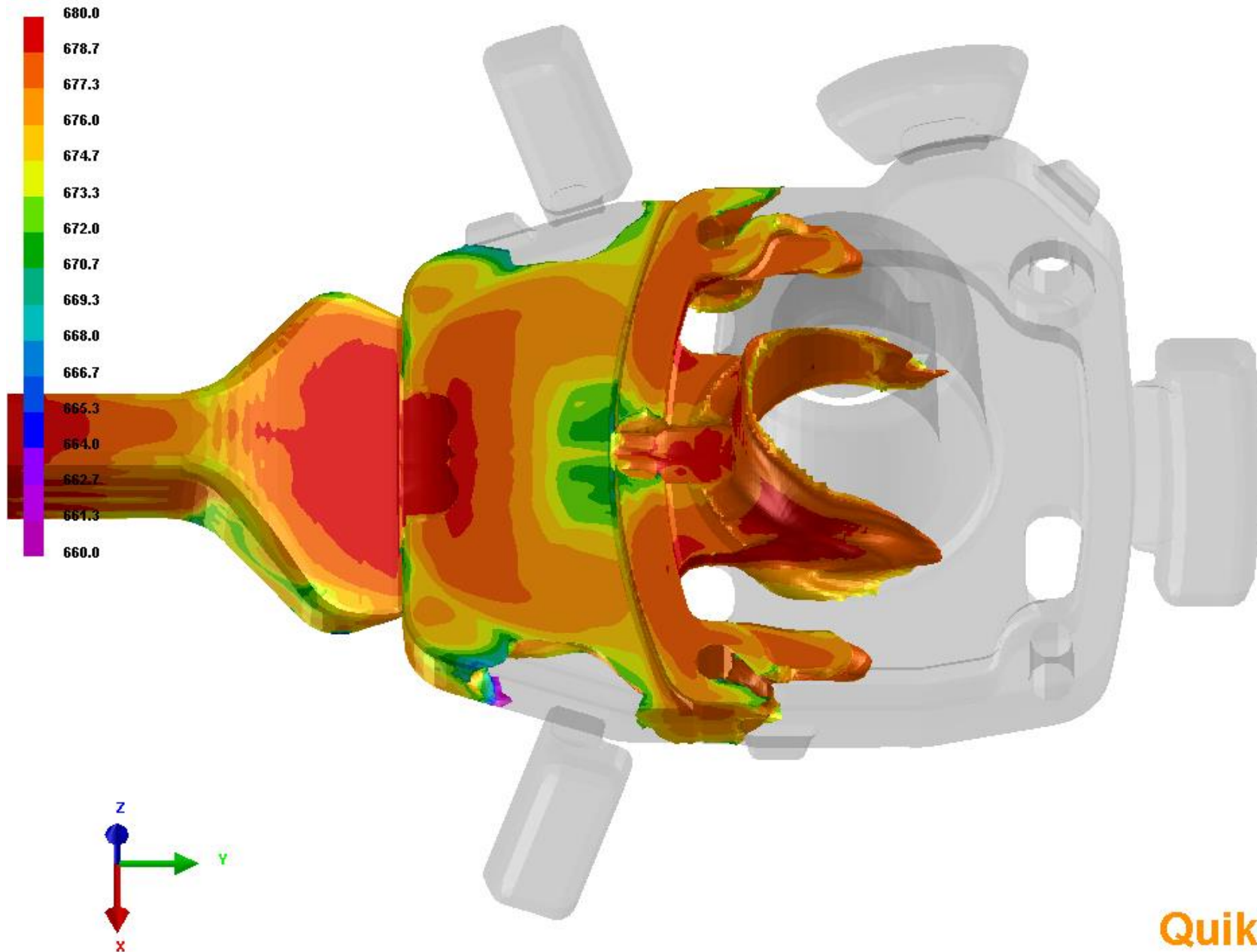
QuikCAST

Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 23 / 6.377e-004
Total Time : 0.0324 sec



QuikCAST

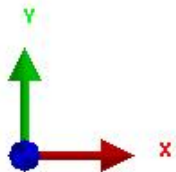
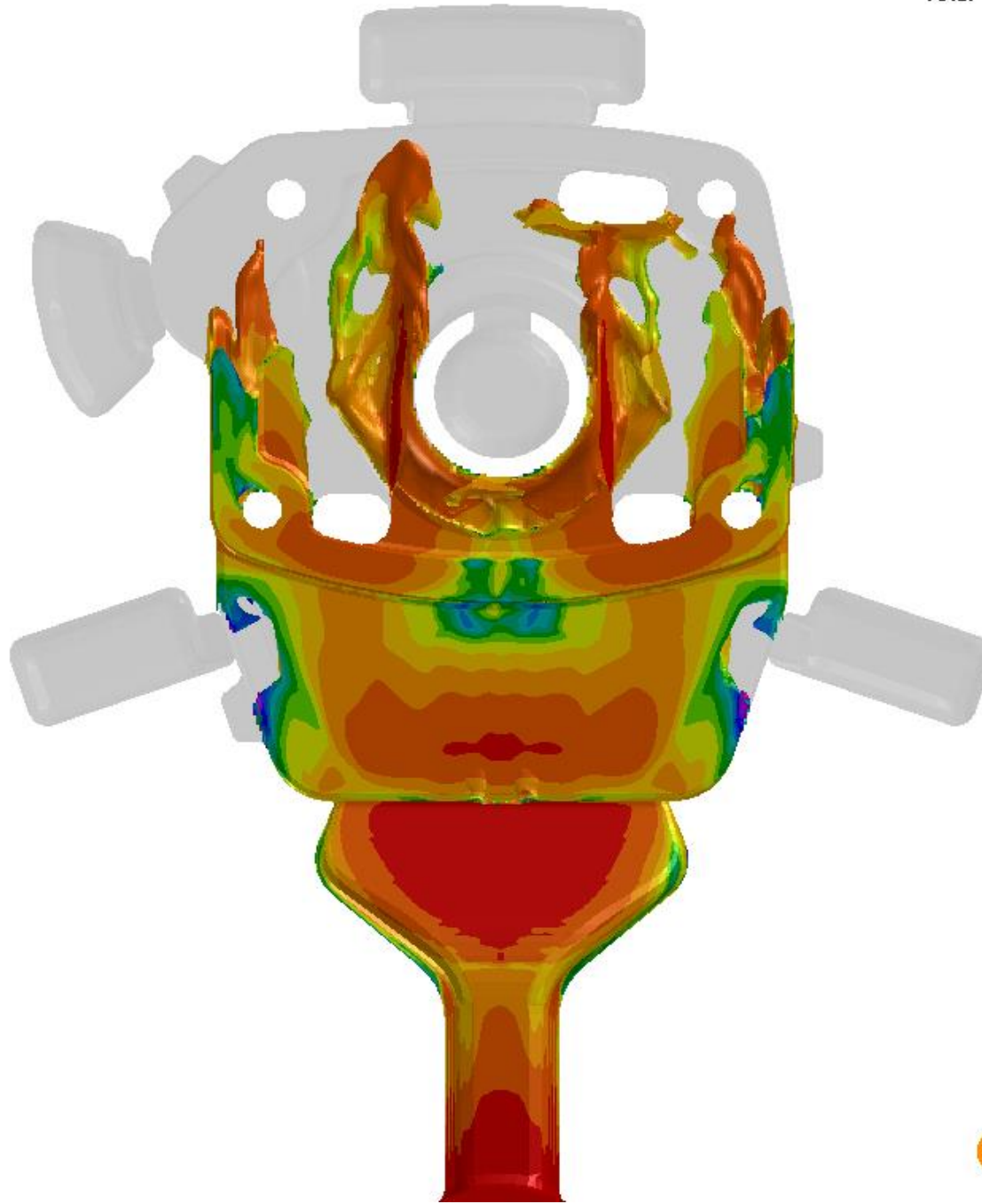
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 29 / 5.994e-004

Total Time : 0.0360 sec



QuikCAST

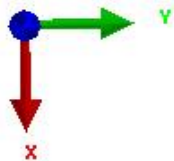
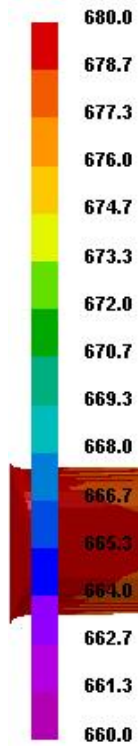
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 34 / 6.049e-004

Total Time : 0.0390 sec



QuikCAST

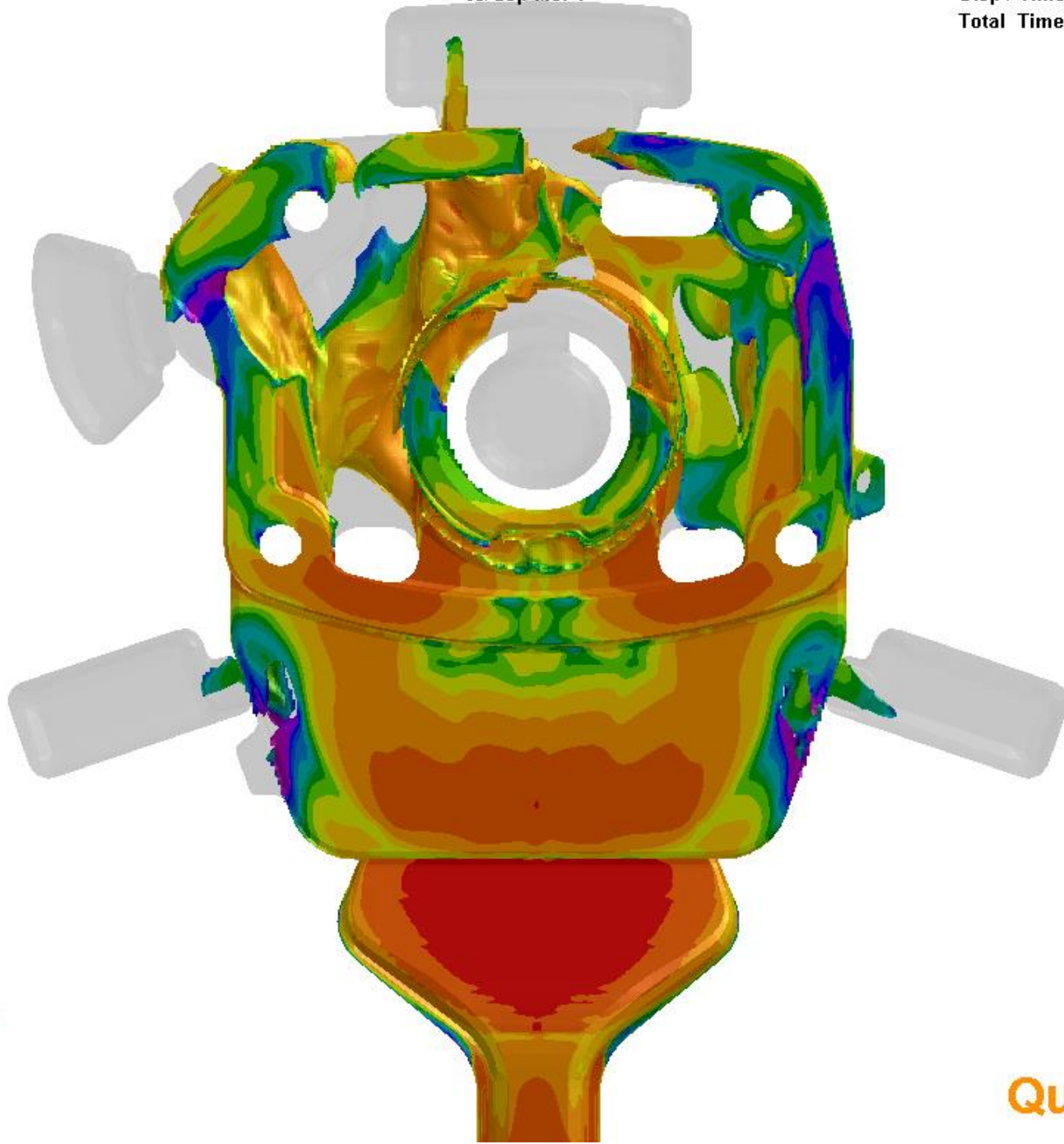
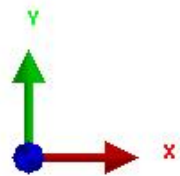
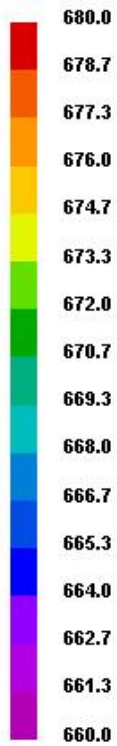
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 44 / 6.385e-004

Total Time : 0.0452 sec



QuikCAST

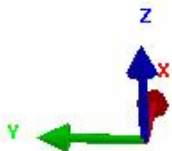
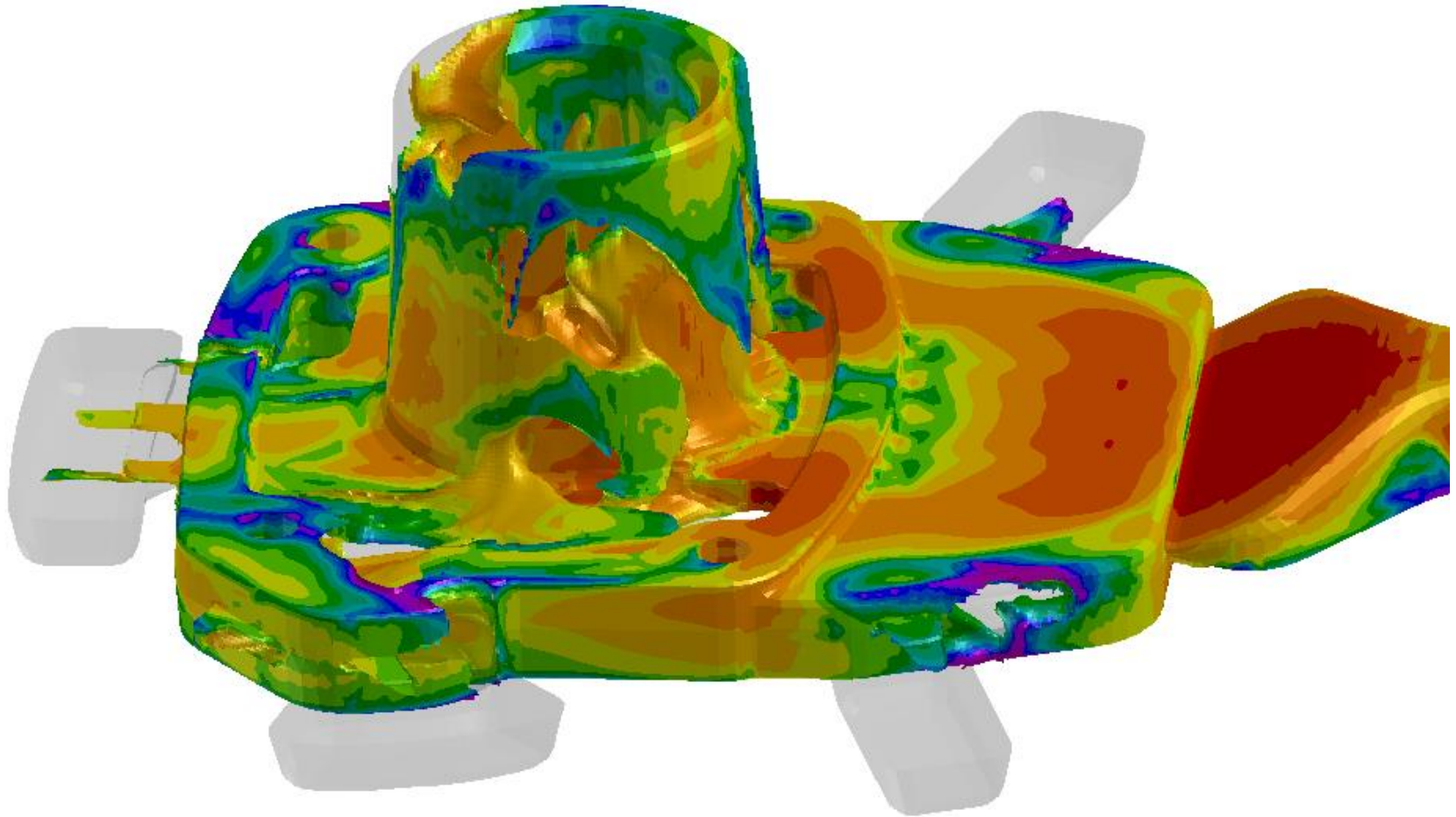
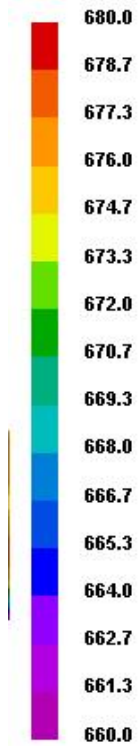
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 49 / 6.355e-004

Total Time : 0.0482 sec



QuikCAST

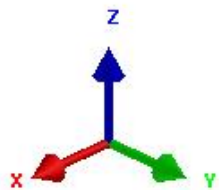
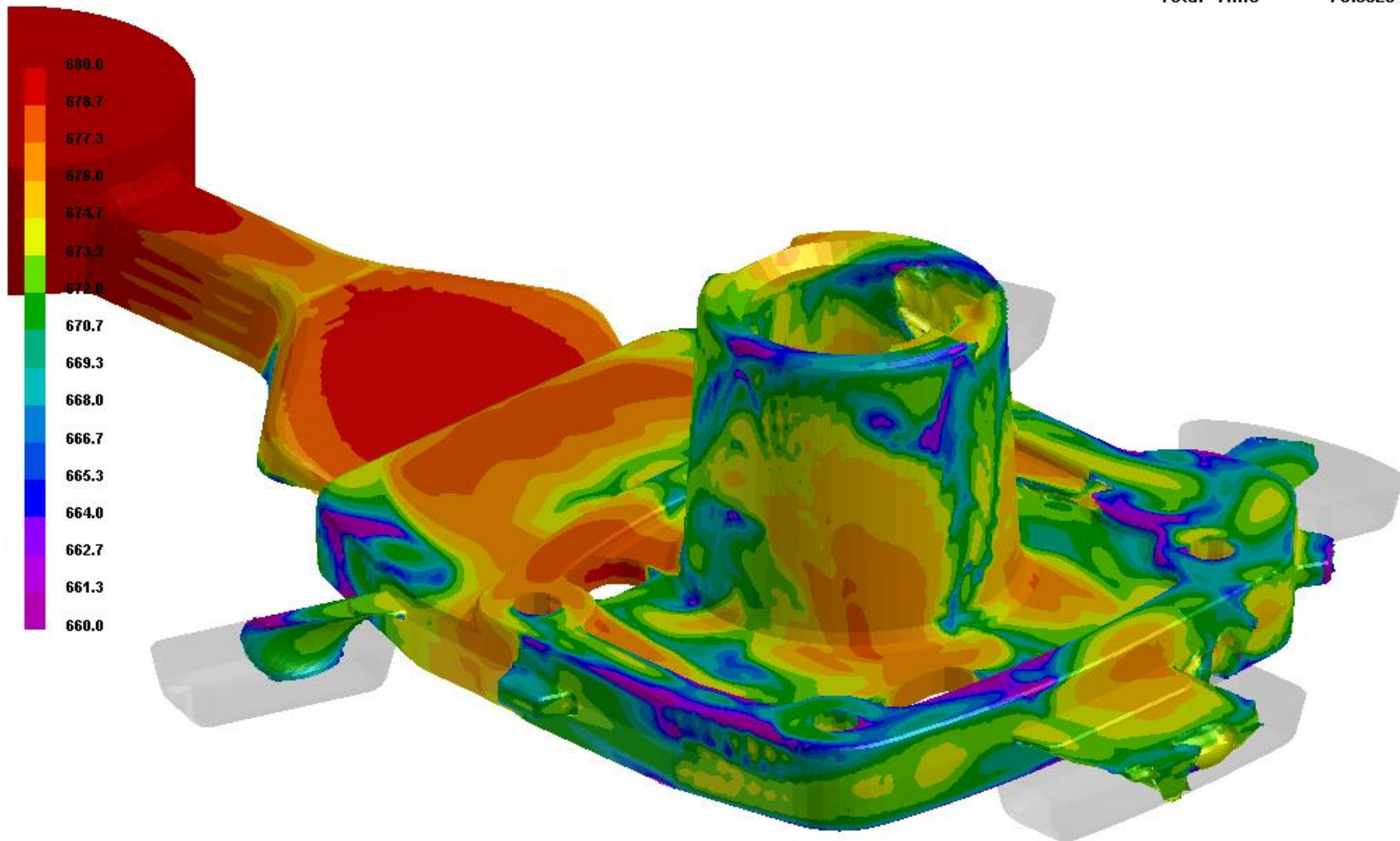
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 56 / 5.987e-004

Total Time : 0.0525 sec



QuikCAST

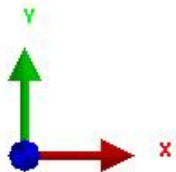
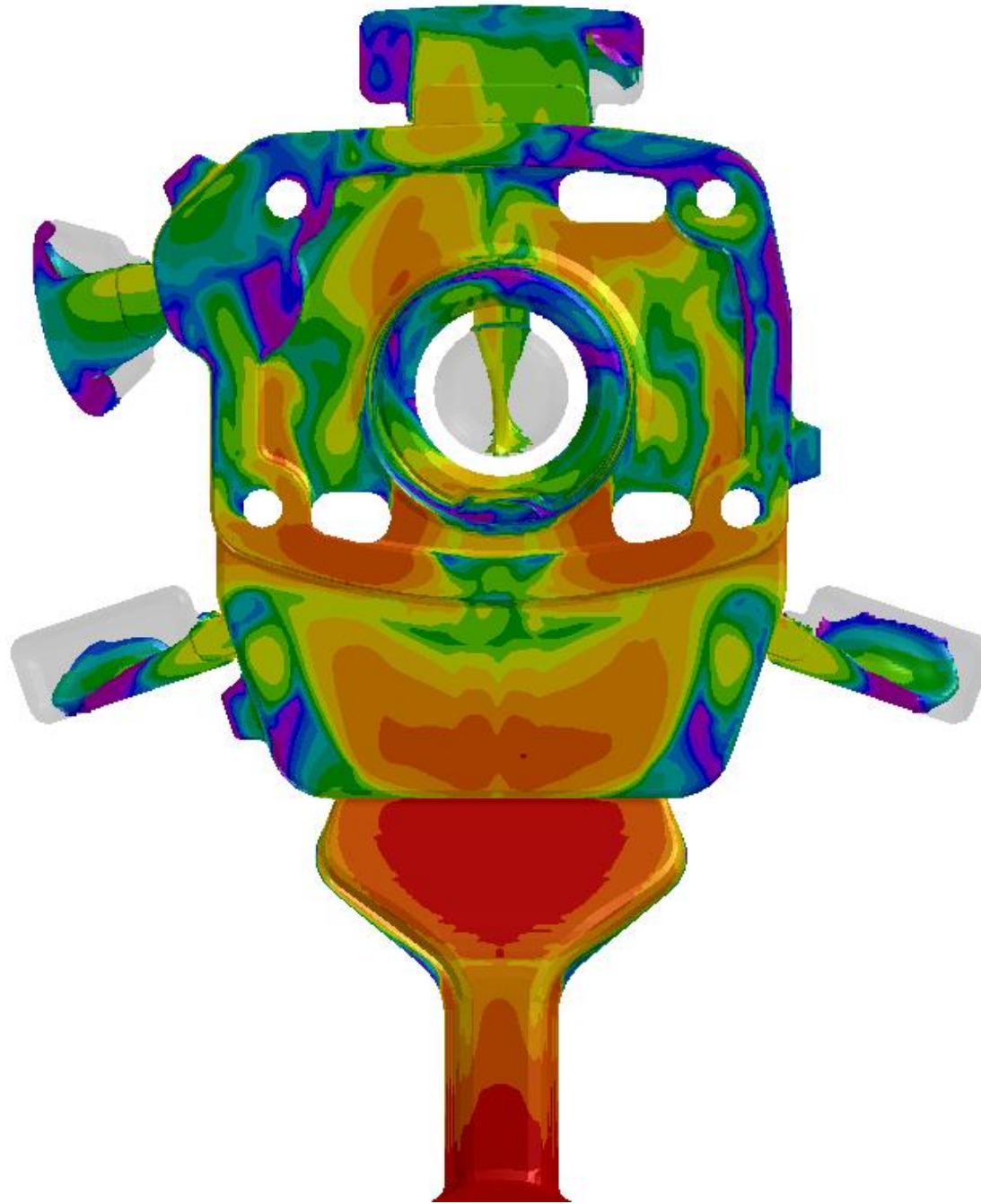
Temperature

Temperature [C]

v0/Cop-Mer-1

Step / Time Step : 65 / 6.072e-004

Total Time : 0.0580 sec



QuikCAST

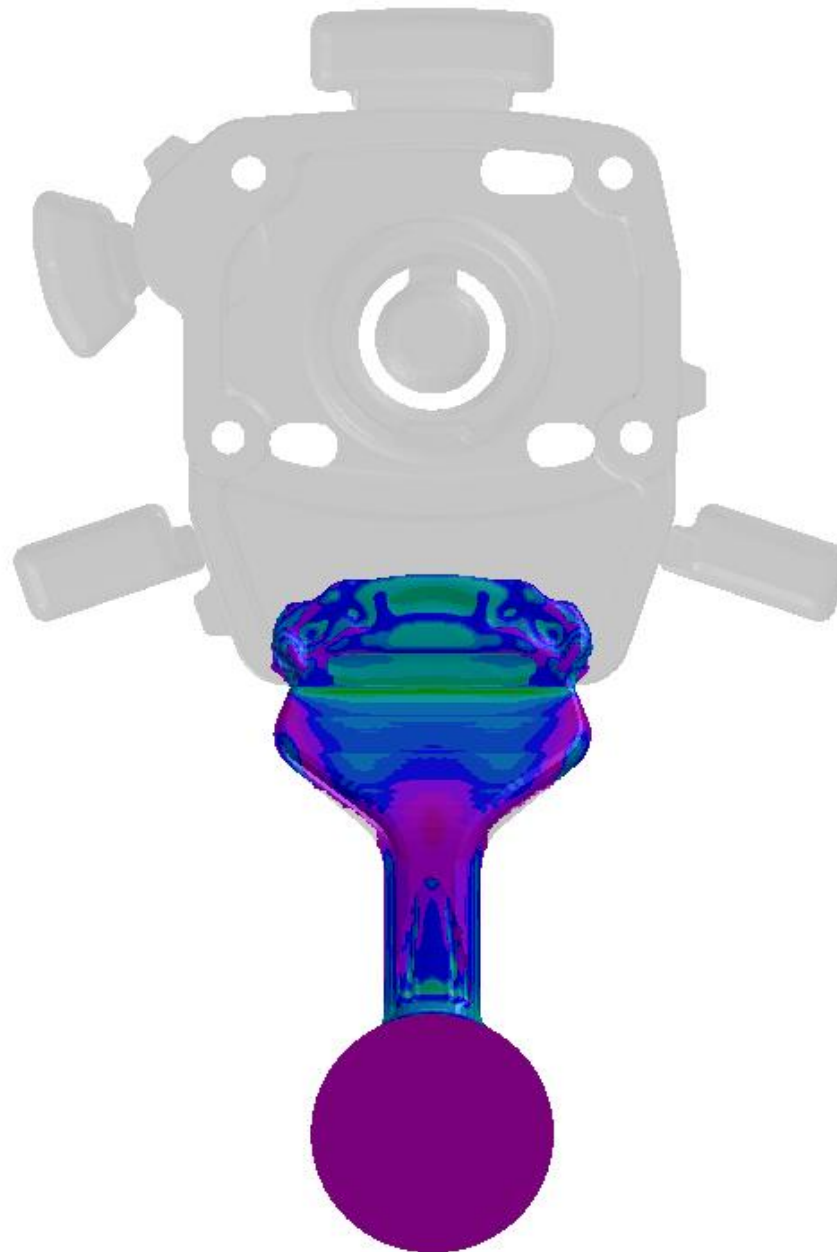
Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 11 / 6.300e-004

Total Time : 0.0251 sec



QuikCAST

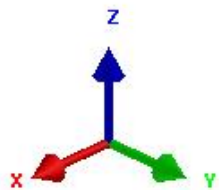
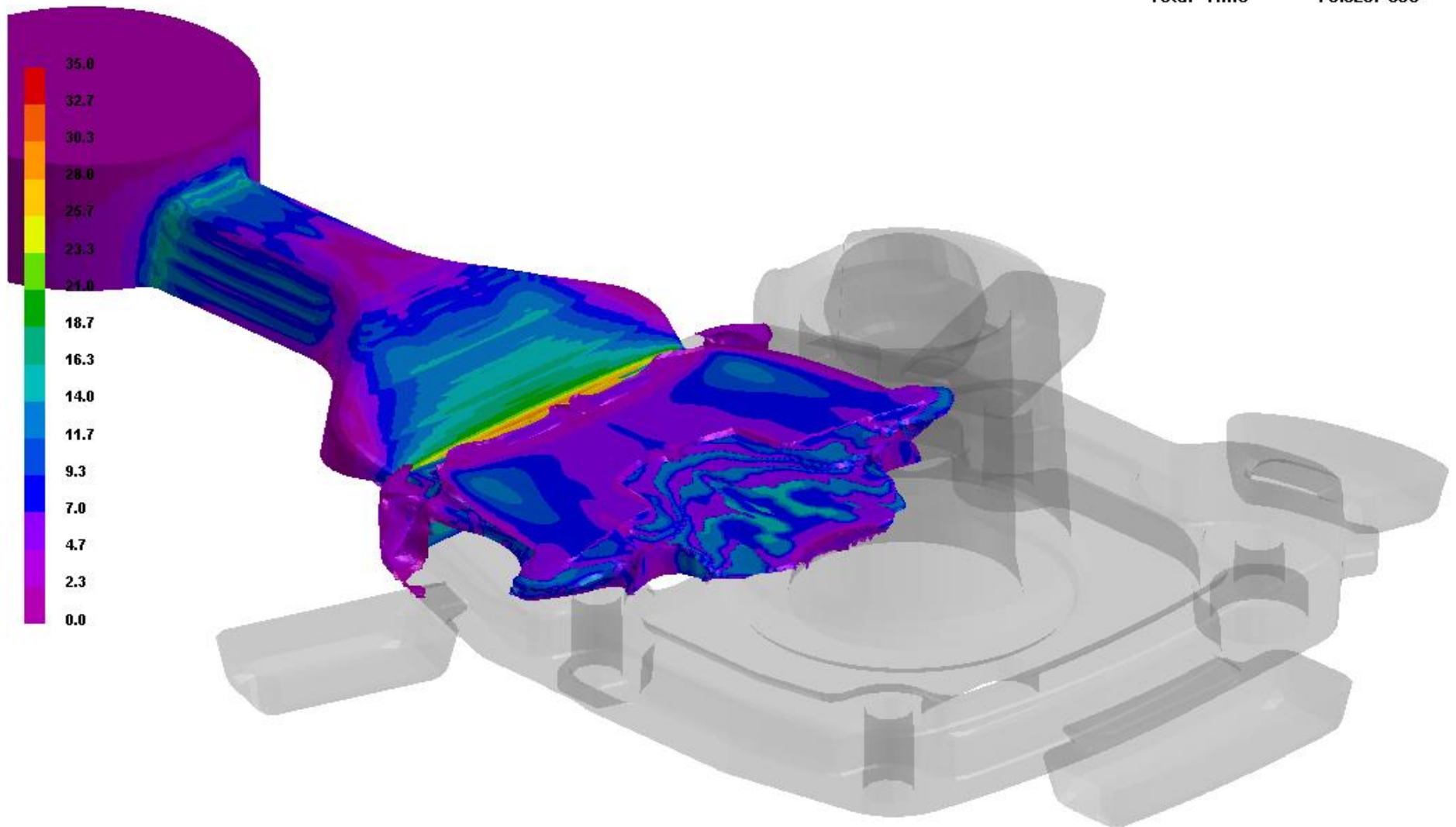
Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 17 / 6.007e-004

Total Time : 0.0287 sec



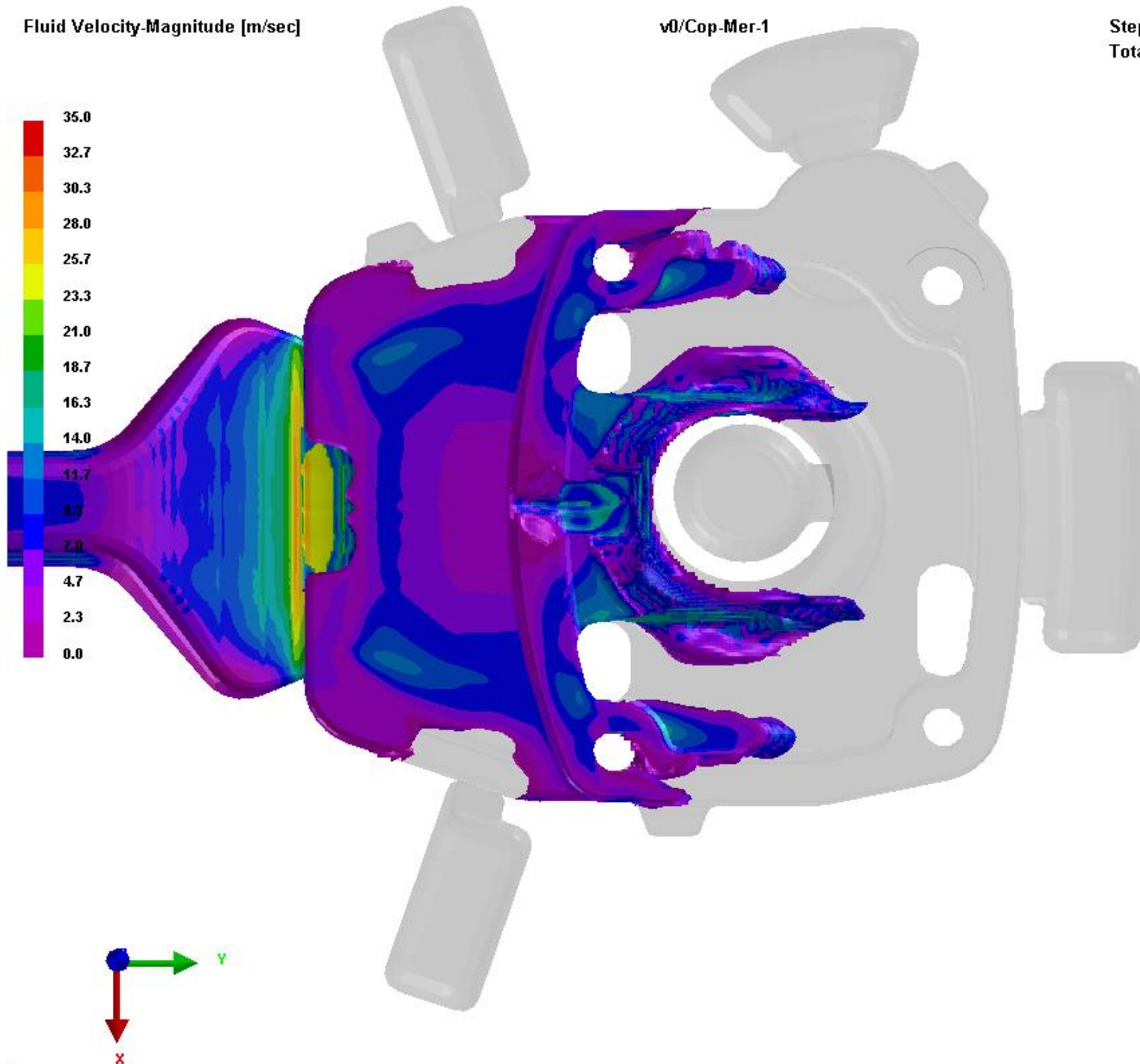
QuikCAST

Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 24 / 6.116e-004
Total Time : 0.0330 sec



QuikCAST

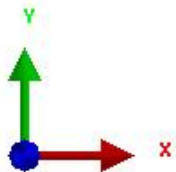
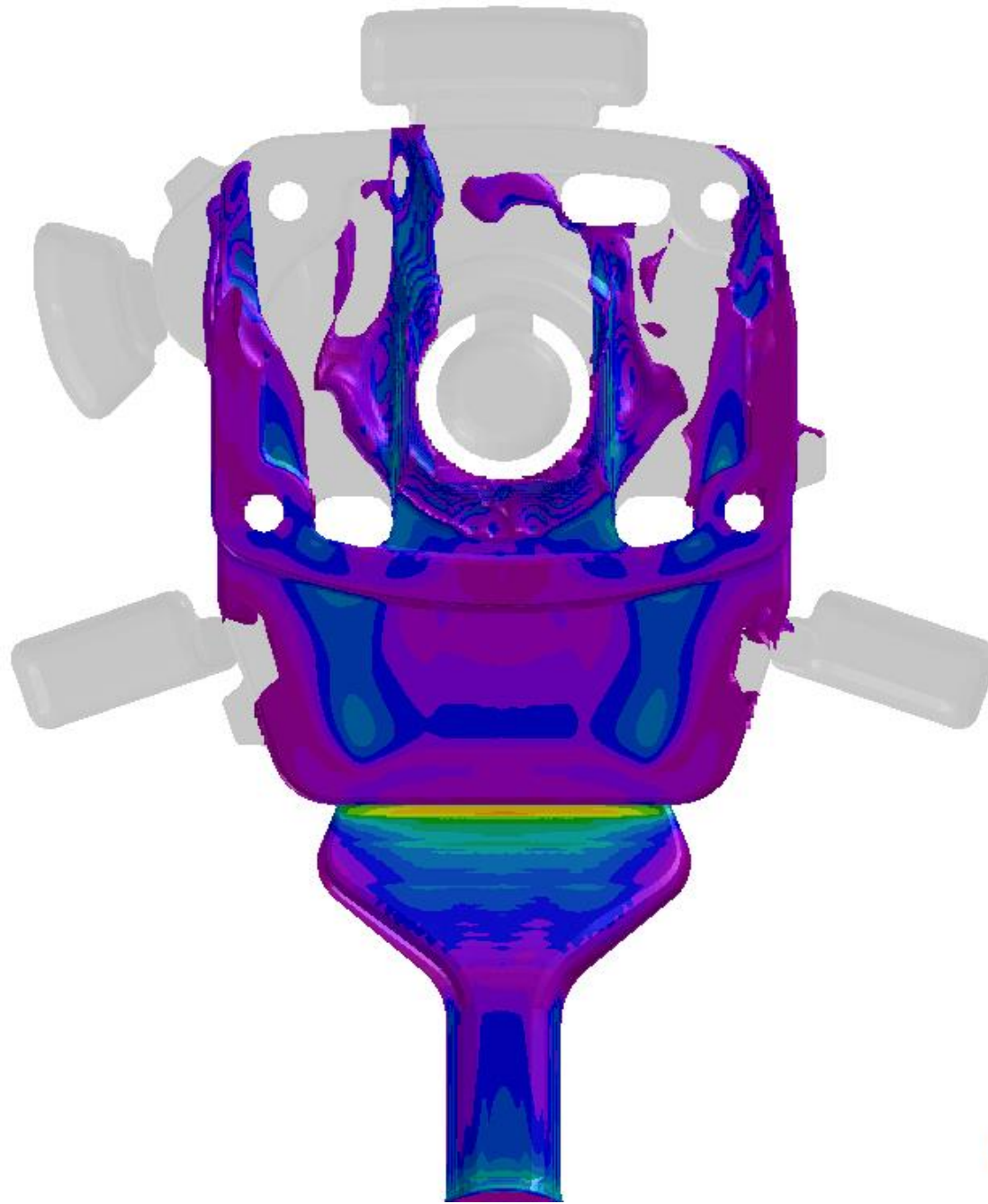
Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 34 / 6.049e-004

Total Time : 0.0390 sec



QuikCAST

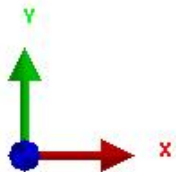
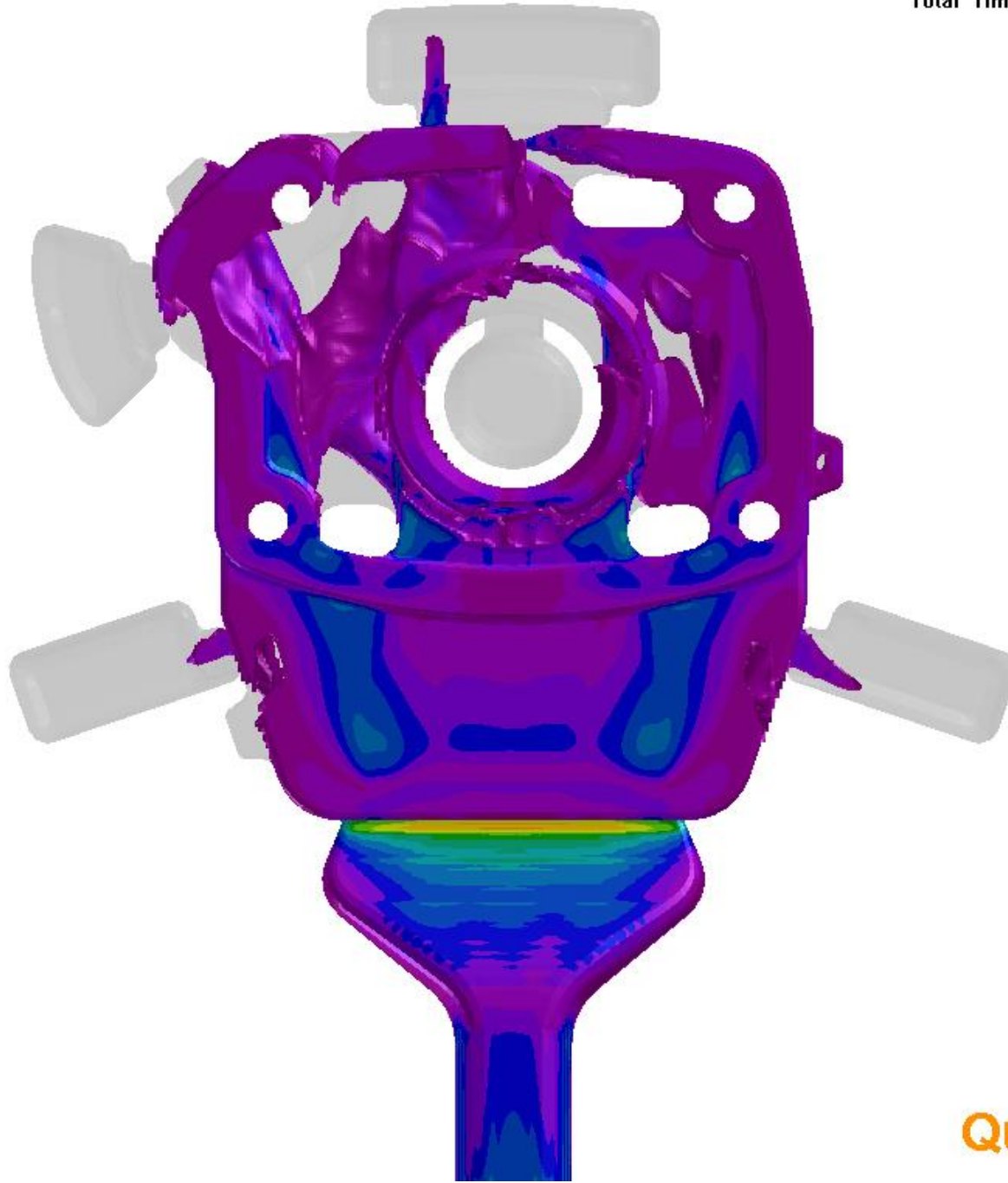
Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 45 / 5.882e-004

Total Time : 0.0458 sec



QuikCAST

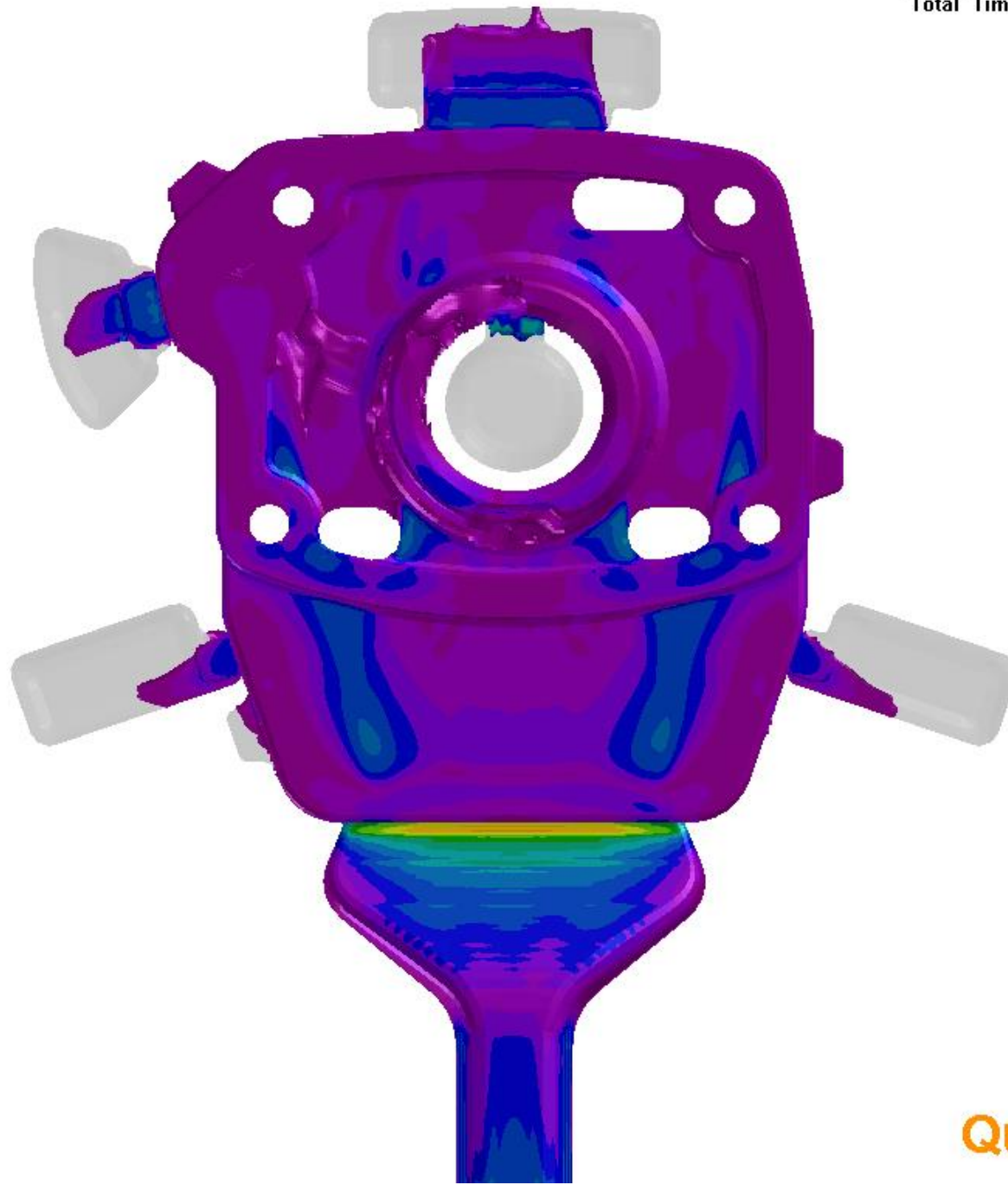
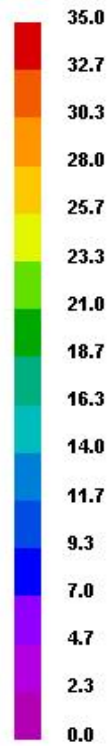
Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 54 / 5.881e-004

Total Time : 0.0512 sec



QuikCAST

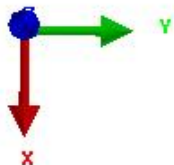
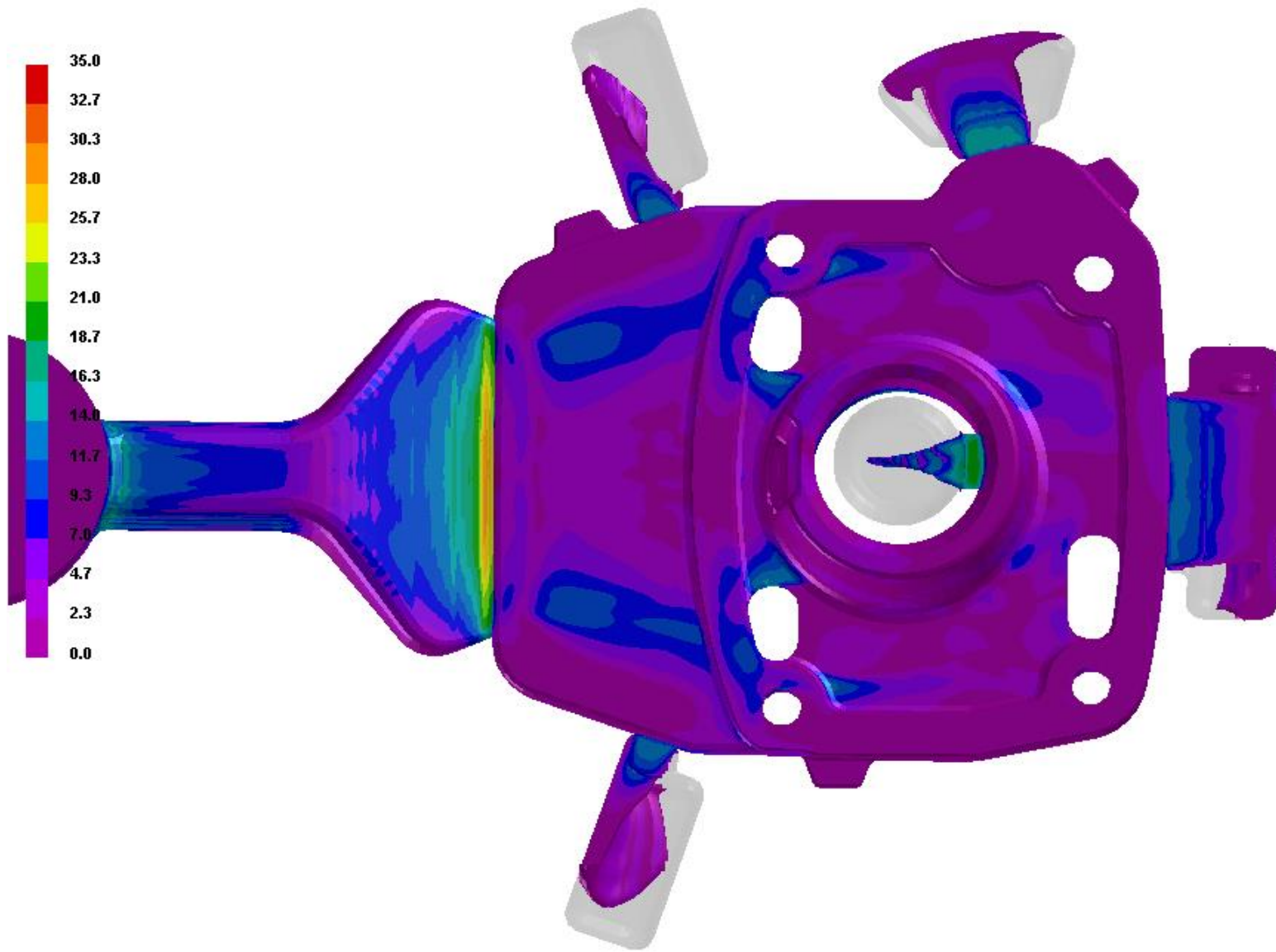
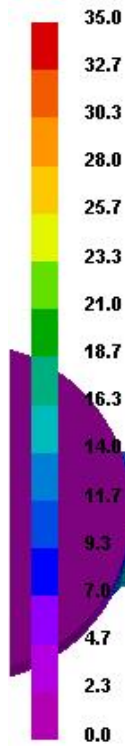
Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 63 / 6.133e-004

Total Time : 0.0567 sec



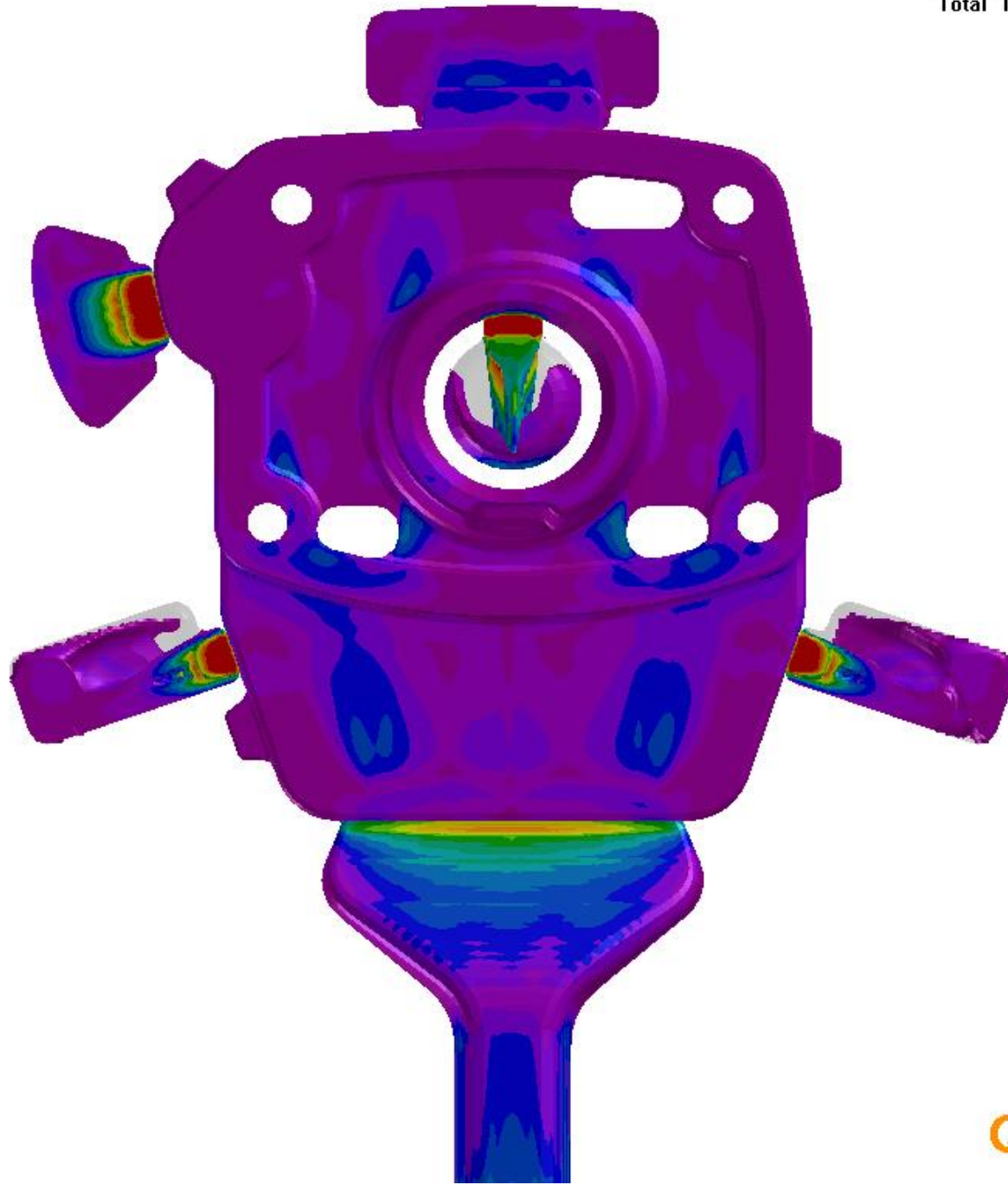
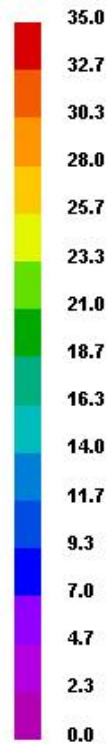
QuikCAST

Velocity

Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 74 / 6.147e-004
Total Time : 0.0634 sec



QuikCAST

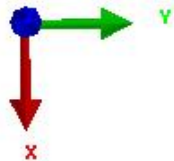
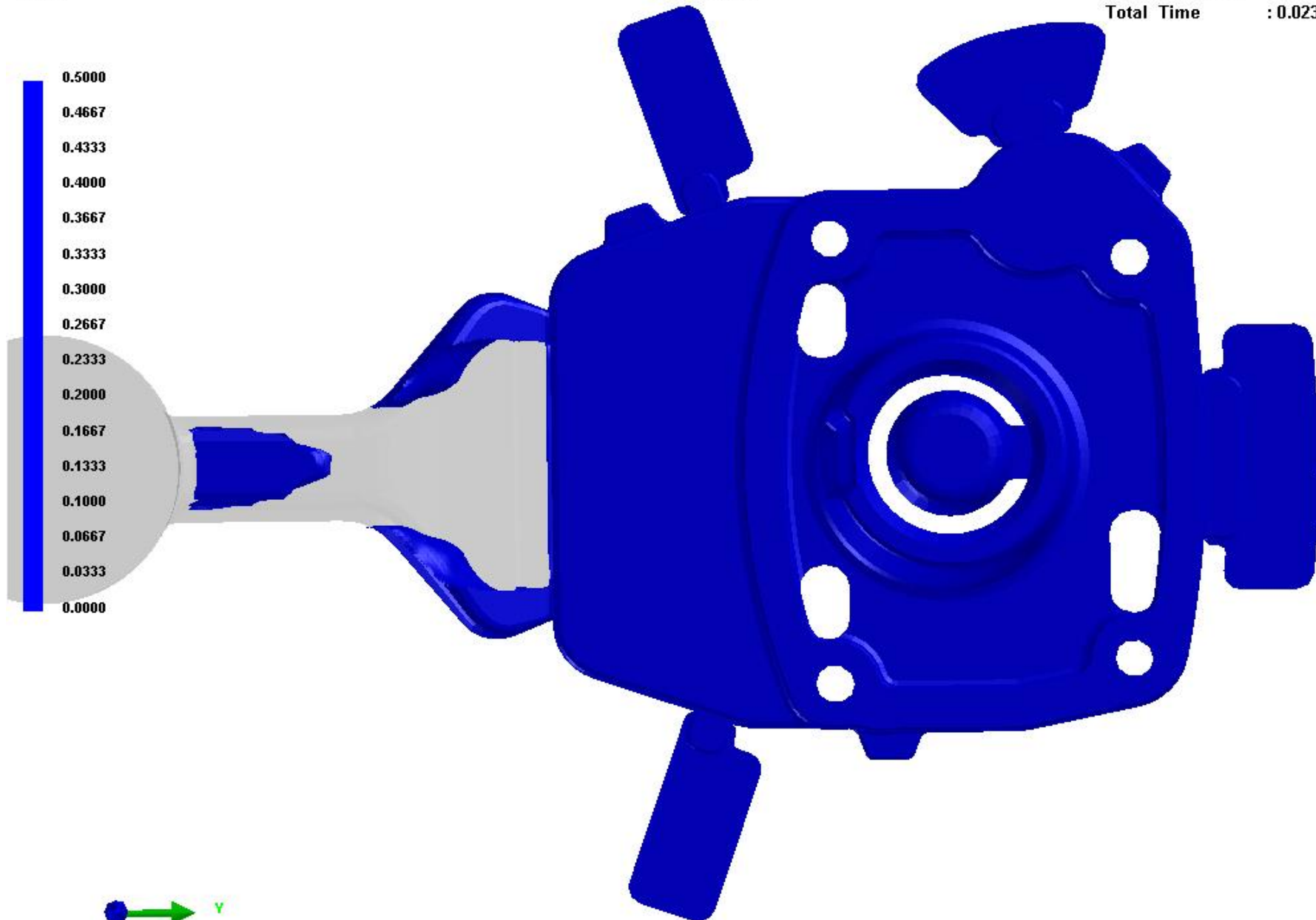
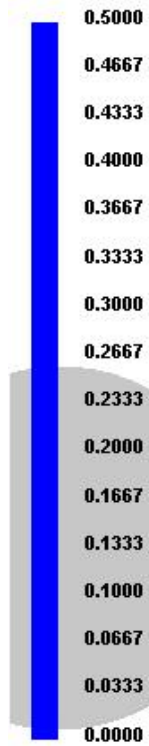
Gas Porosity

Voids

v0/Cop-Mer-1

Step / Time Step : 9 / 5.910e-004

Total Time : 0.0238 sec



QuikCAST

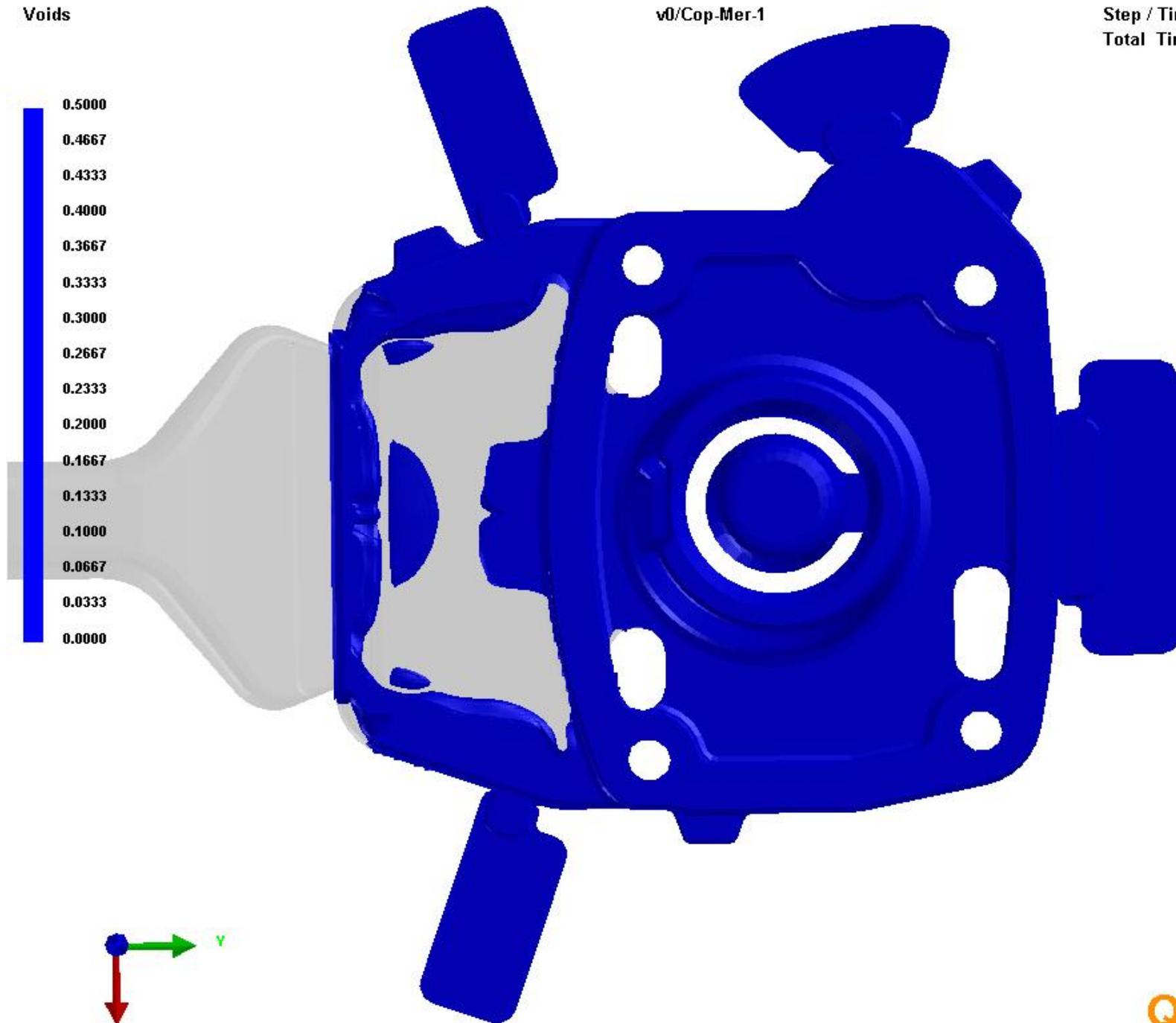
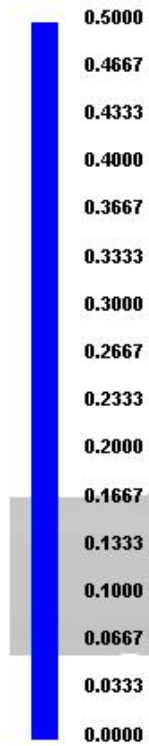
Gas Porosity

Voids

v0/Cop-Mer-1

Step / Time Step : 17 / 6.007e-004

Total Time : 0.0287 sec



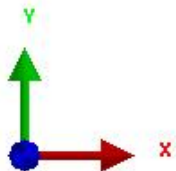
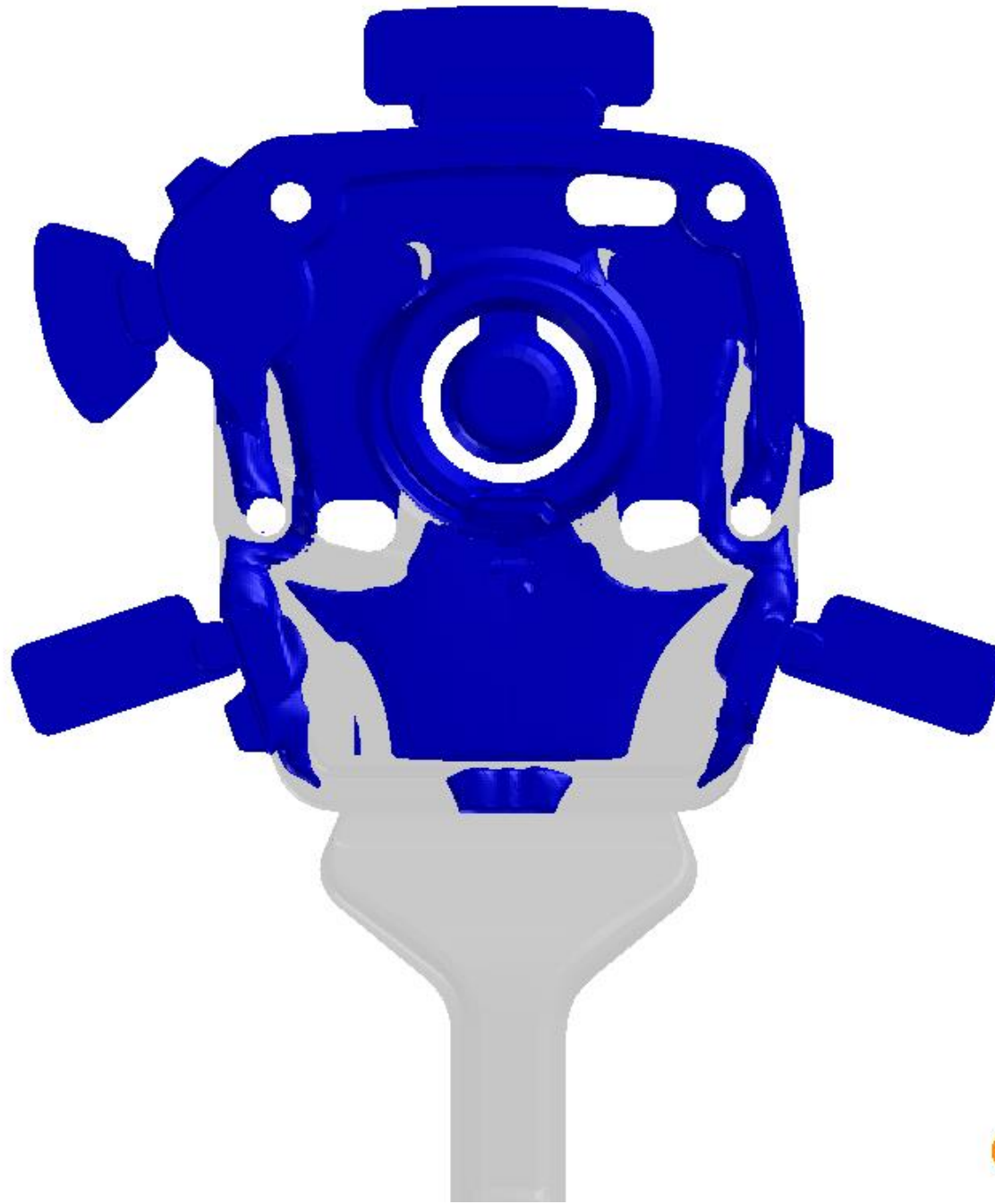
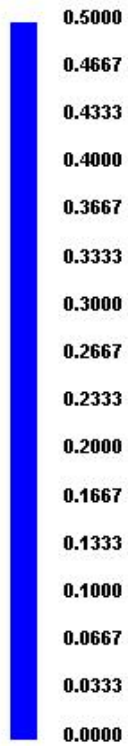
QuikCAST

Gas Porosity

Voids

v0/Cop-Mer-1

Step / Time Step : 26 / 6.023e-004
Total Time : 0.0342 sec



QuikCAST

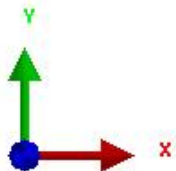
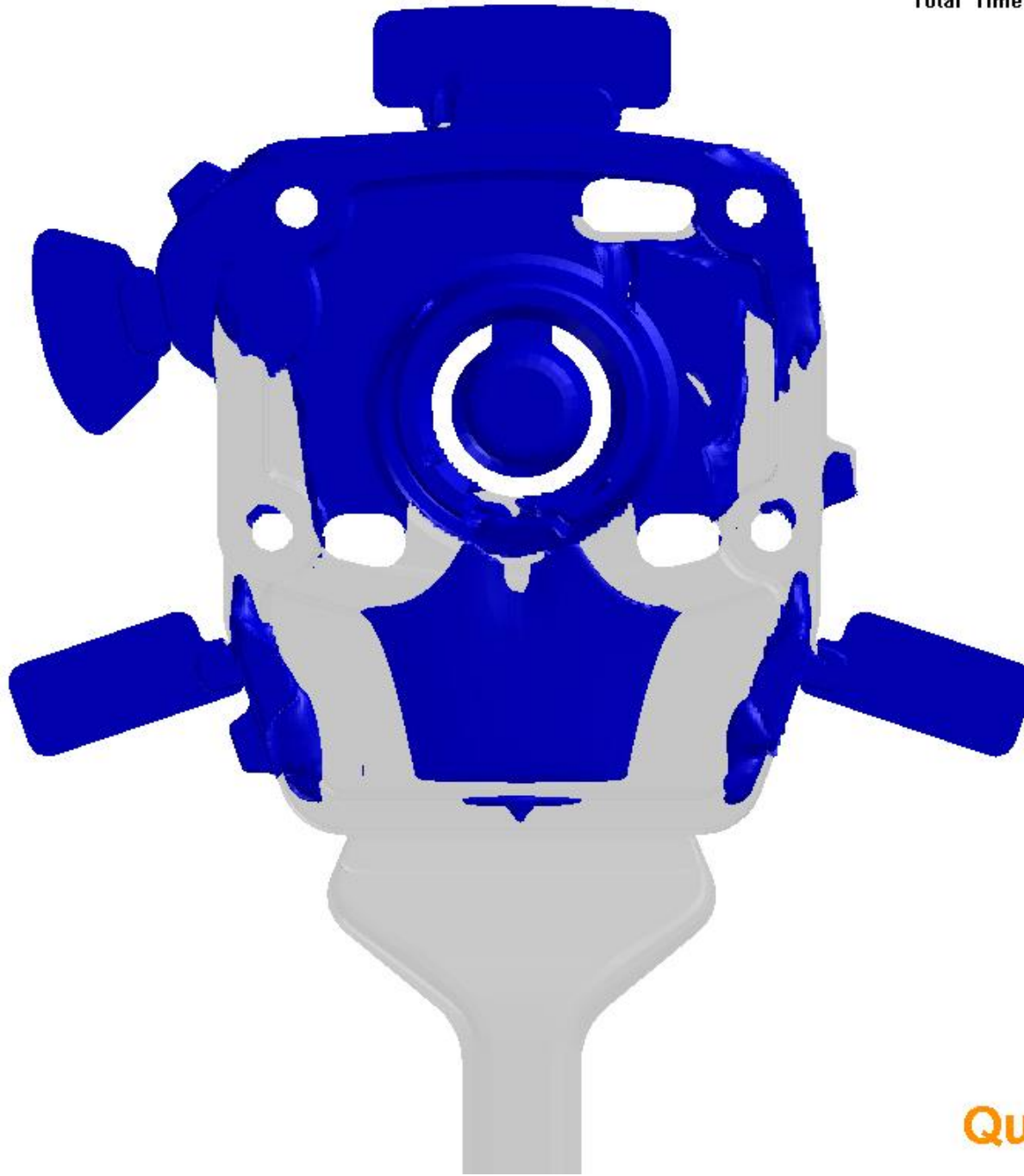
Gas Porosity

Voids

v0/Cop-Mer-1

Step / Time Step : 37 / 5.944e-004

Total Time : 0.0409 sec



QuikCAST

Gas Porosity

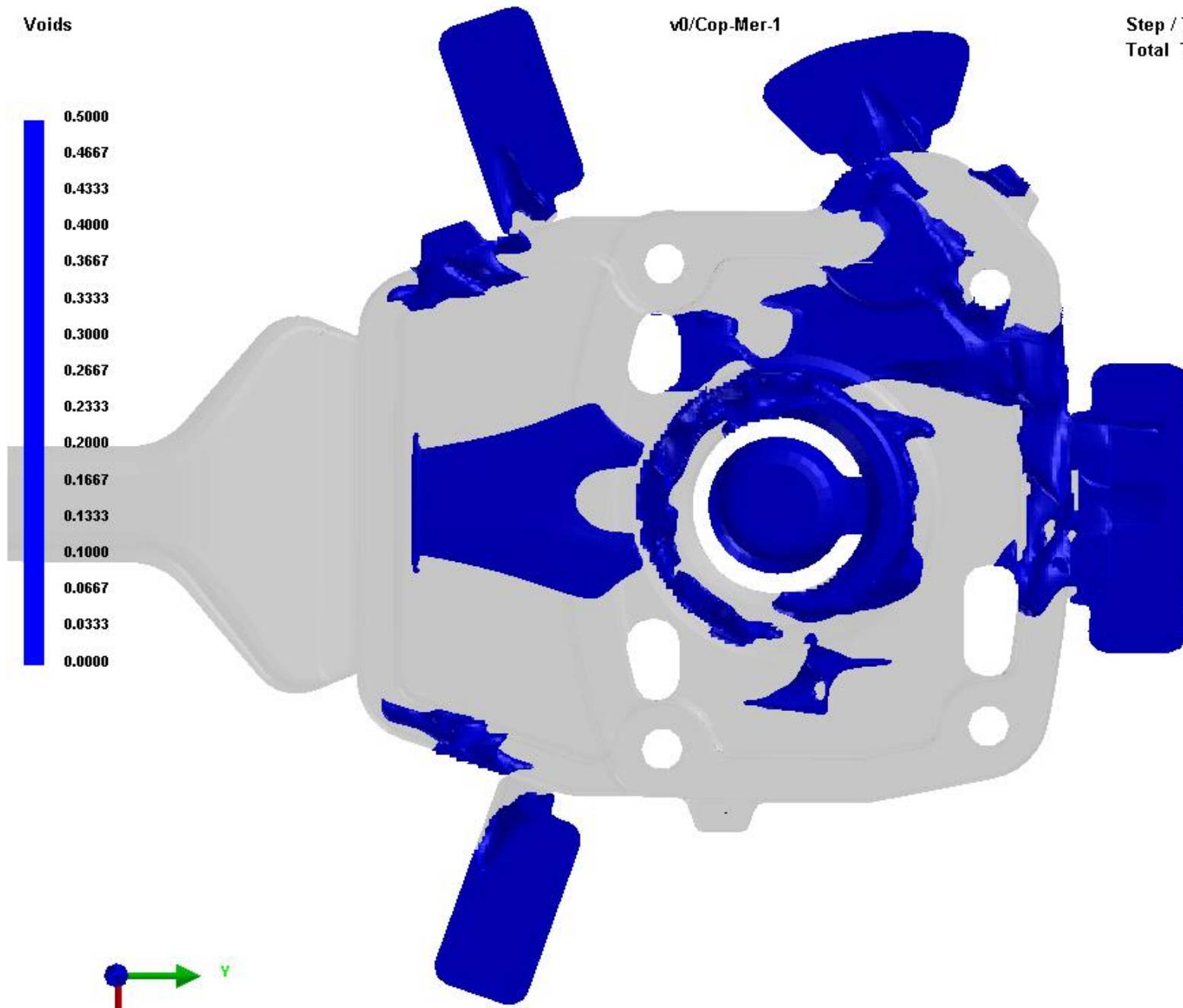
Voids

v0/Cop-Mer-1

Step / Time Step : 50 / 5.868e-004

Total Time : 0.0488 sec

0.5000
0.4667
0.4333
0.4000
0.3667
0.3333
0.3000
0.2667
0.2333
0.2000
0.1667
0.1333
0.1000
0.0667
0.0333
0.0000



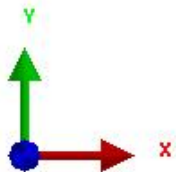
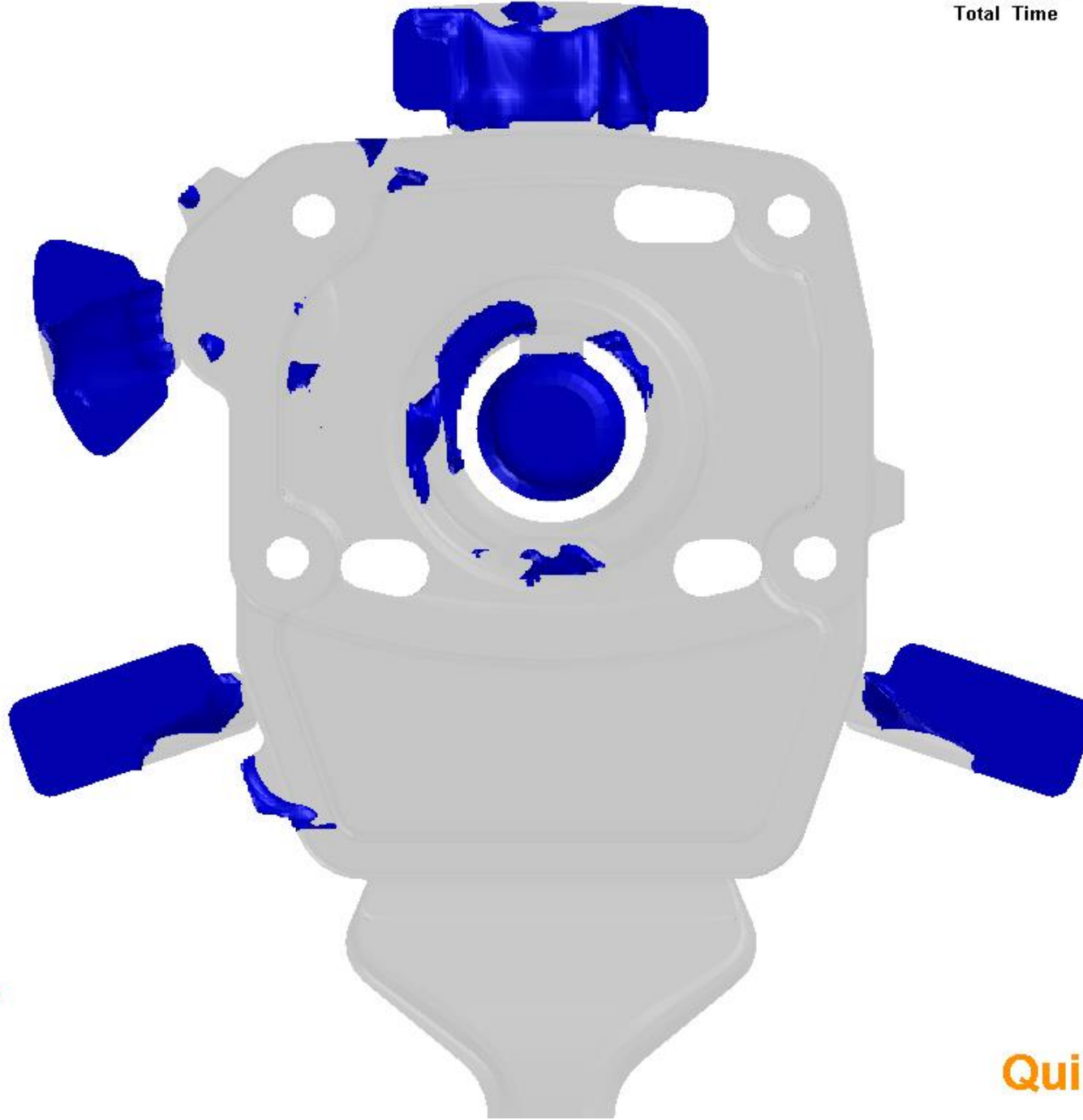
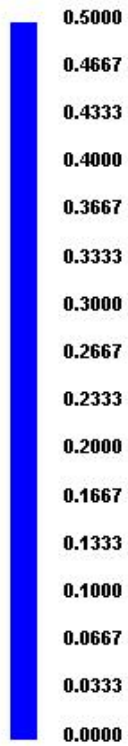
QuikCAST

Gas Porosity

Voids

v0/Cop-Mer-1

Step / Time Step : 58 / 6.258e-004
Total Time : 0.0537 sec



QuikCAST

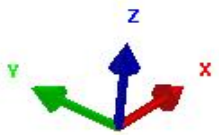
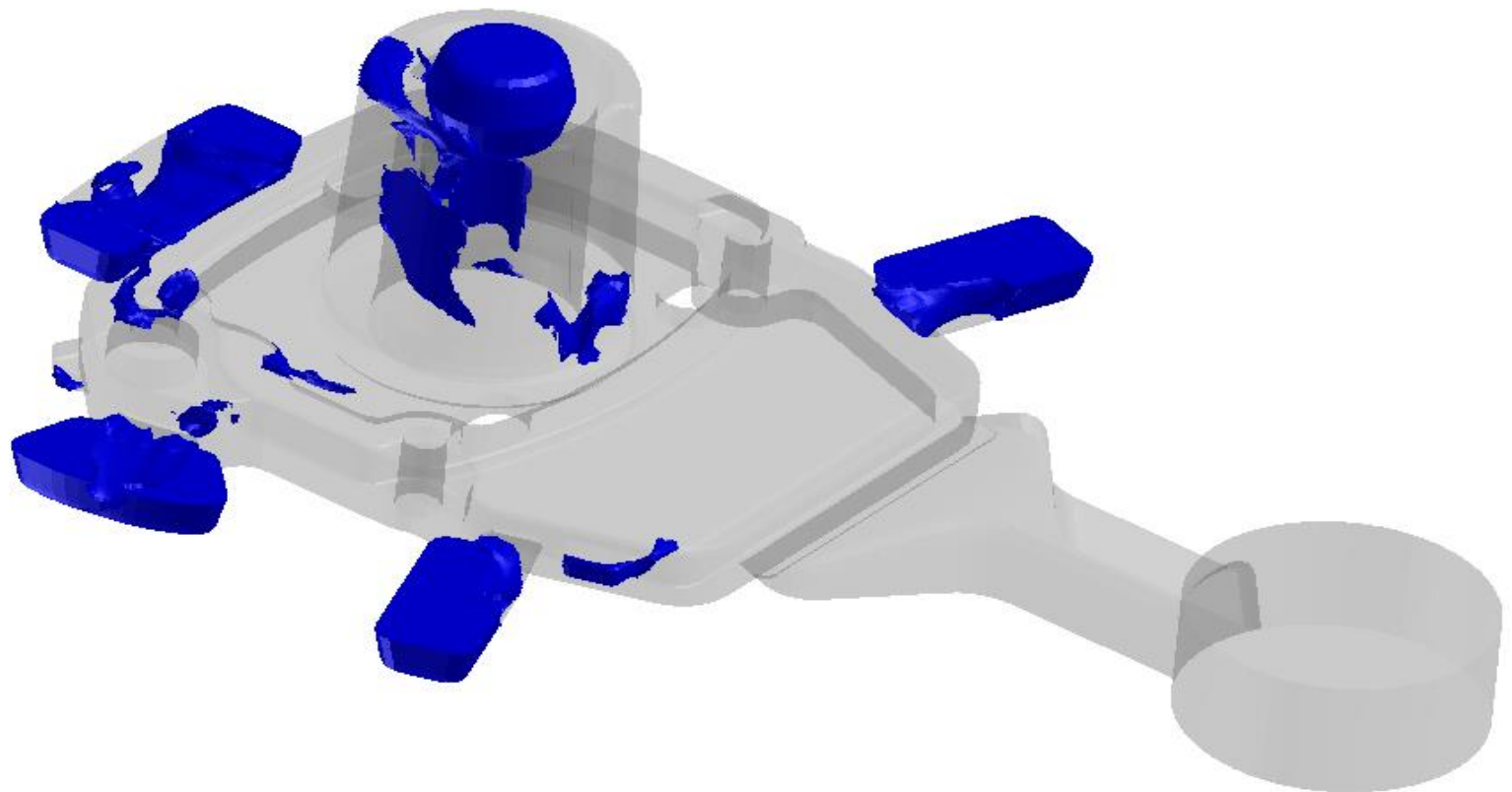
Gas Porosity

Voids

v0/Cop-Mer-1

Step / Time Step : 57 / 5.941e-004

Total Time : 0.0531 sec



QuikCAST

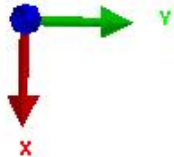
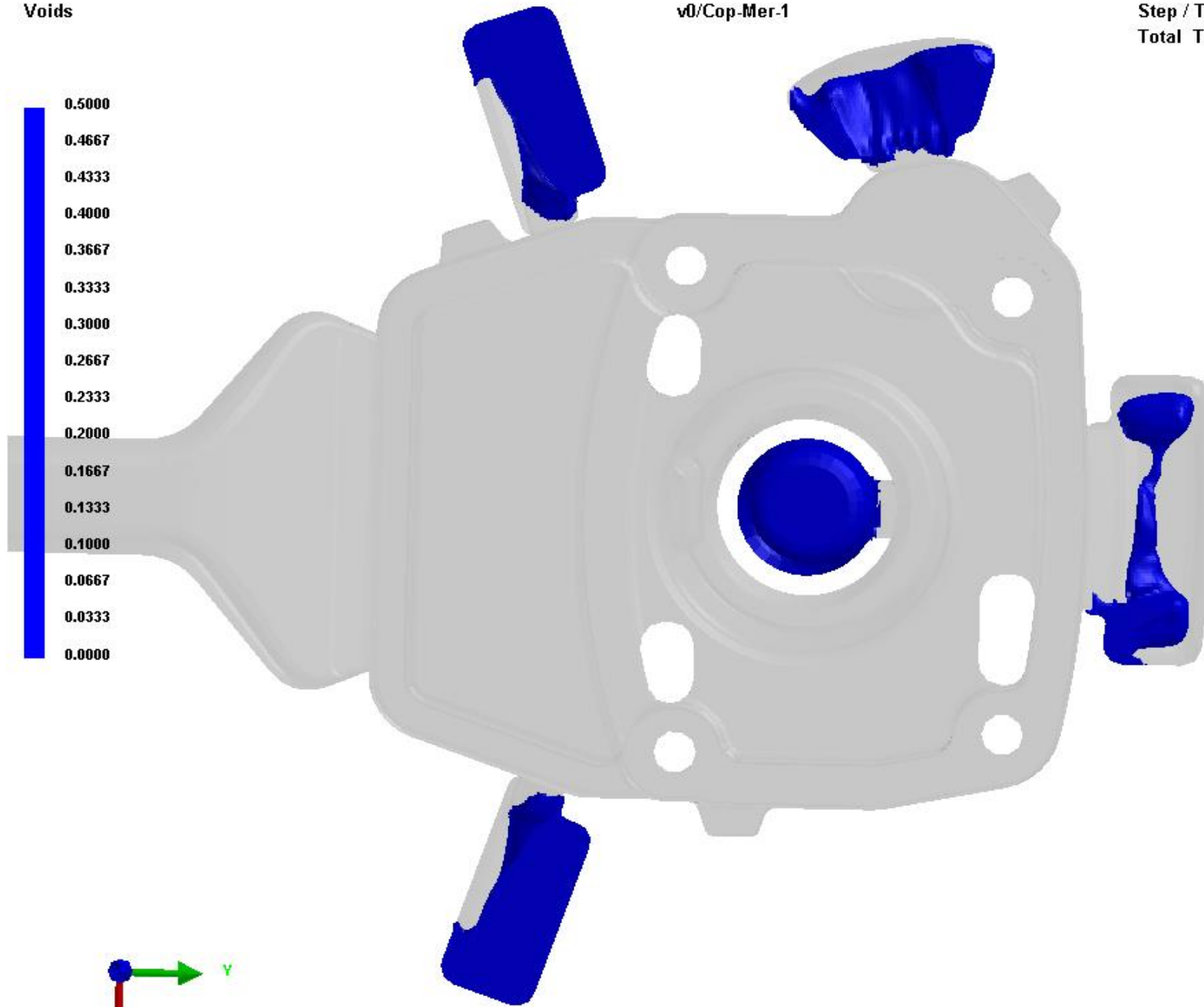
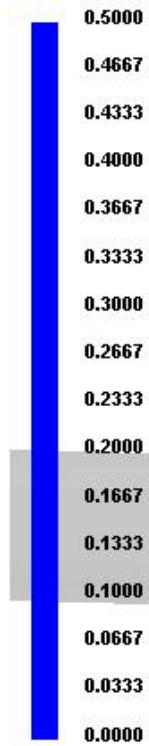
Gas Porosity

Voids

v0/Cop-Mer-1

Step / Time Step : 66 / 6.058e-004

Total Time : 0.0586 sec



QuikCAST

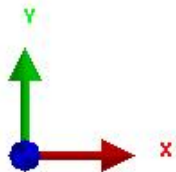
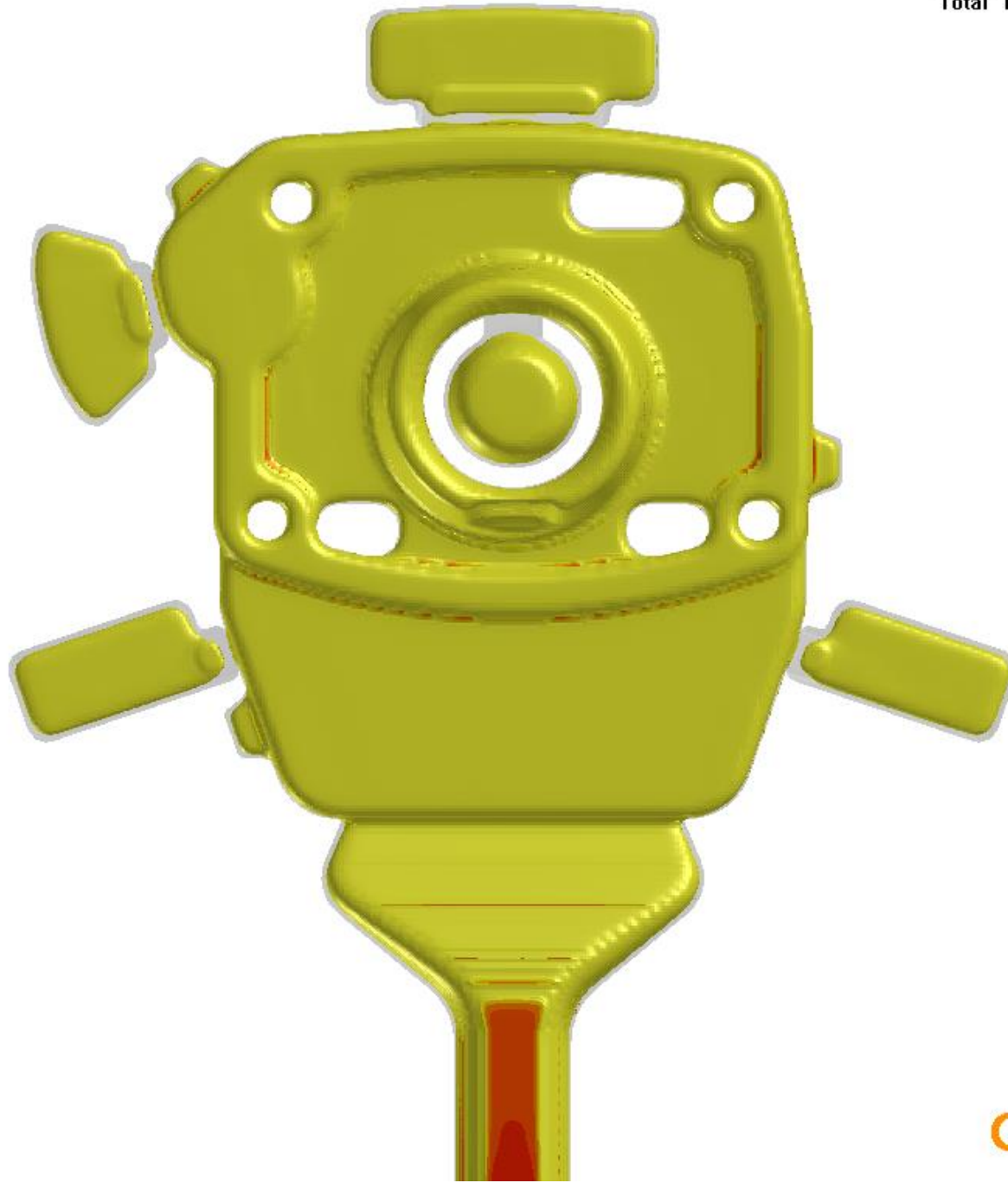
Solidification

Fraction Solid

v0/Cop-Mer-1

Step / Time Step : 81 / 1.290e-001

Total Time : 0.1964 sec



QuikCAST

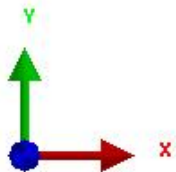
Solidification

Fraction Solid

v0/Cop-Mer-1

Step / Time Step : 102 / 1.964e-002

Total Time : 0.5329 sec



QuikCAST

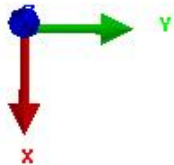
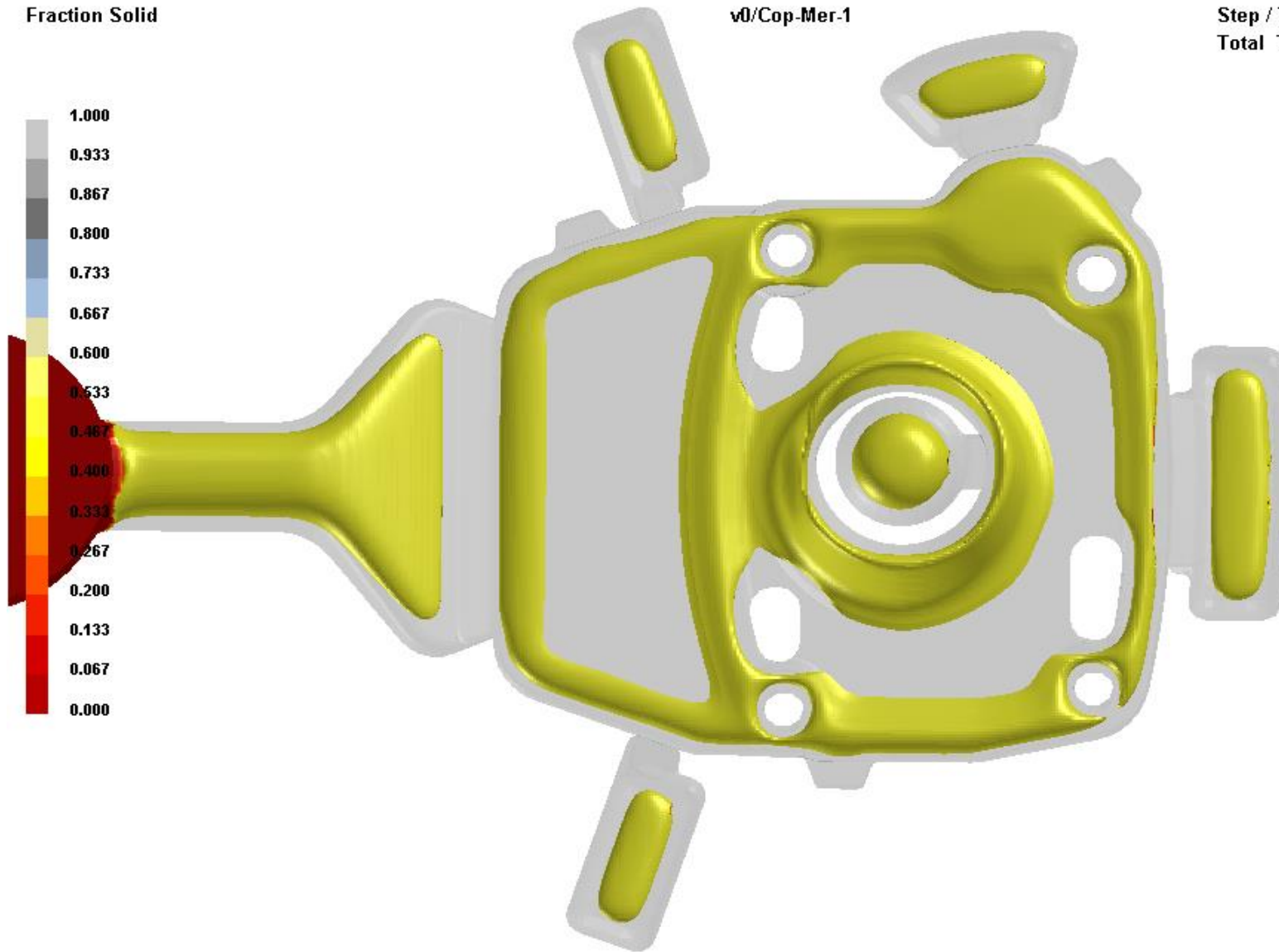
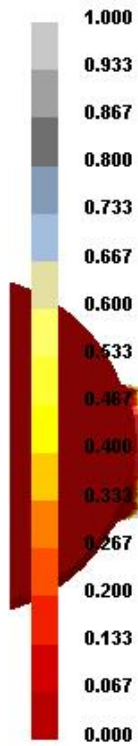
Solidification

Fraction Solid

v0/Cop-Mer-1

Step / Time Step : 120 / 2.432e-002

Total Time : 0.9140 sec



QuikCAST

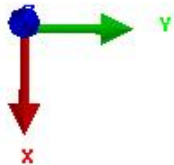
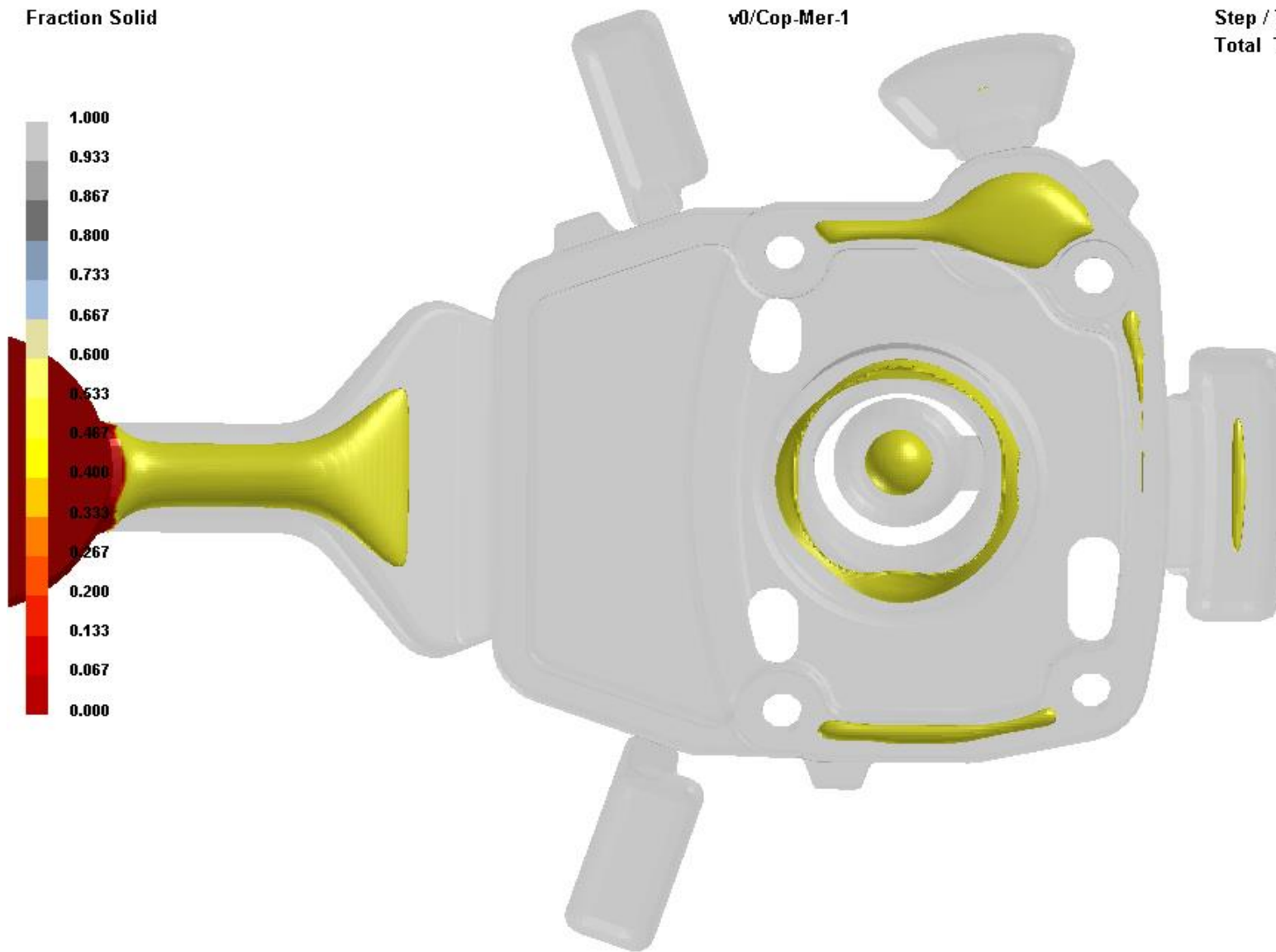
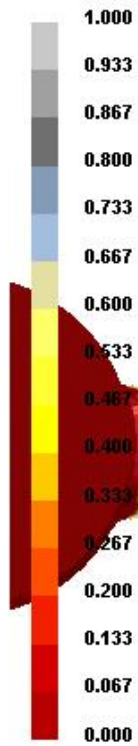
Solidification

Fraction Solid

v0/Cop-Mer-1

Step / Time Step : 143 / 6.846e-002

Total Time : 1.7949 sec



QuikCAST

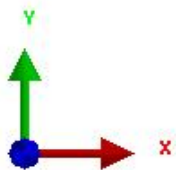
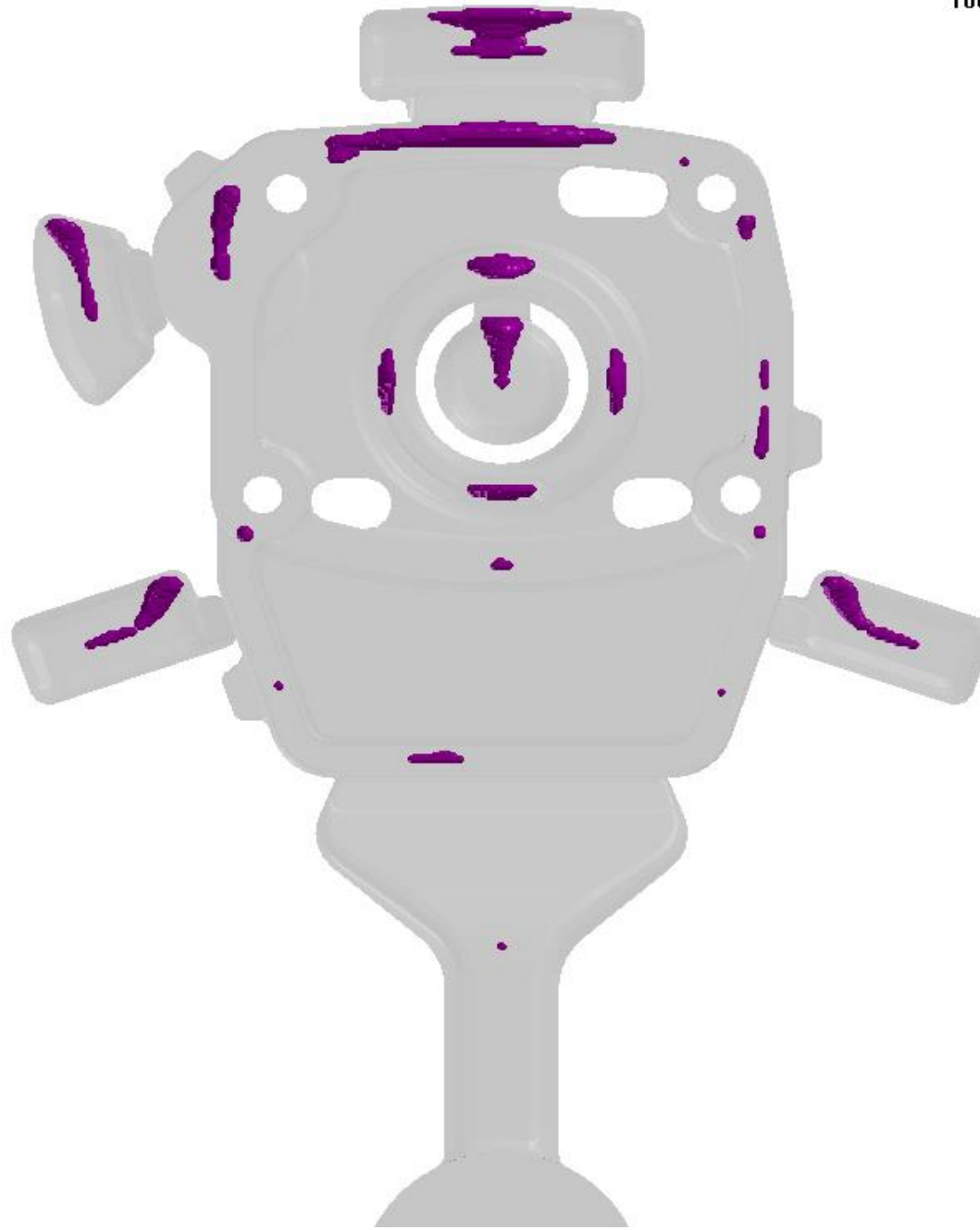
Shrinkage Porosity

Shrinkage Porosity [%]

v0/Cop-Mer-1

Step / Time Step : 152 / 9.964e+002

Total Time : 1000.0000 sec



QuikCAST

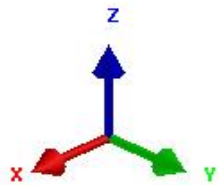
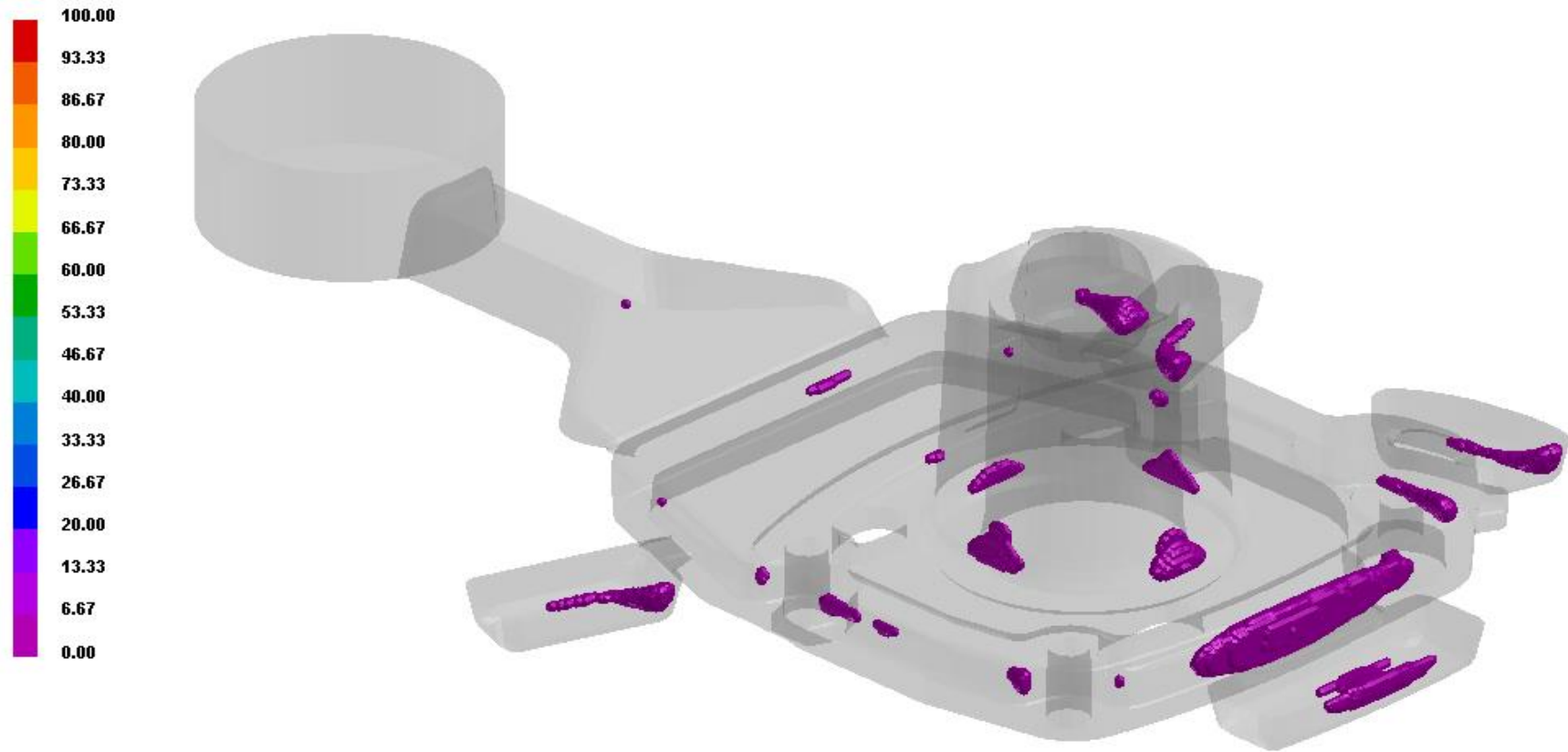
Shrinkage Porosity

Shrinkage Porosity [%]

v0/Cop-Mer-1

Step / Time Step : 152 / 9.964e+002

Total Time : 1000.0000 sec



QuikCAST

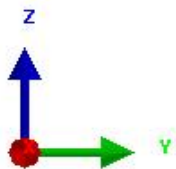
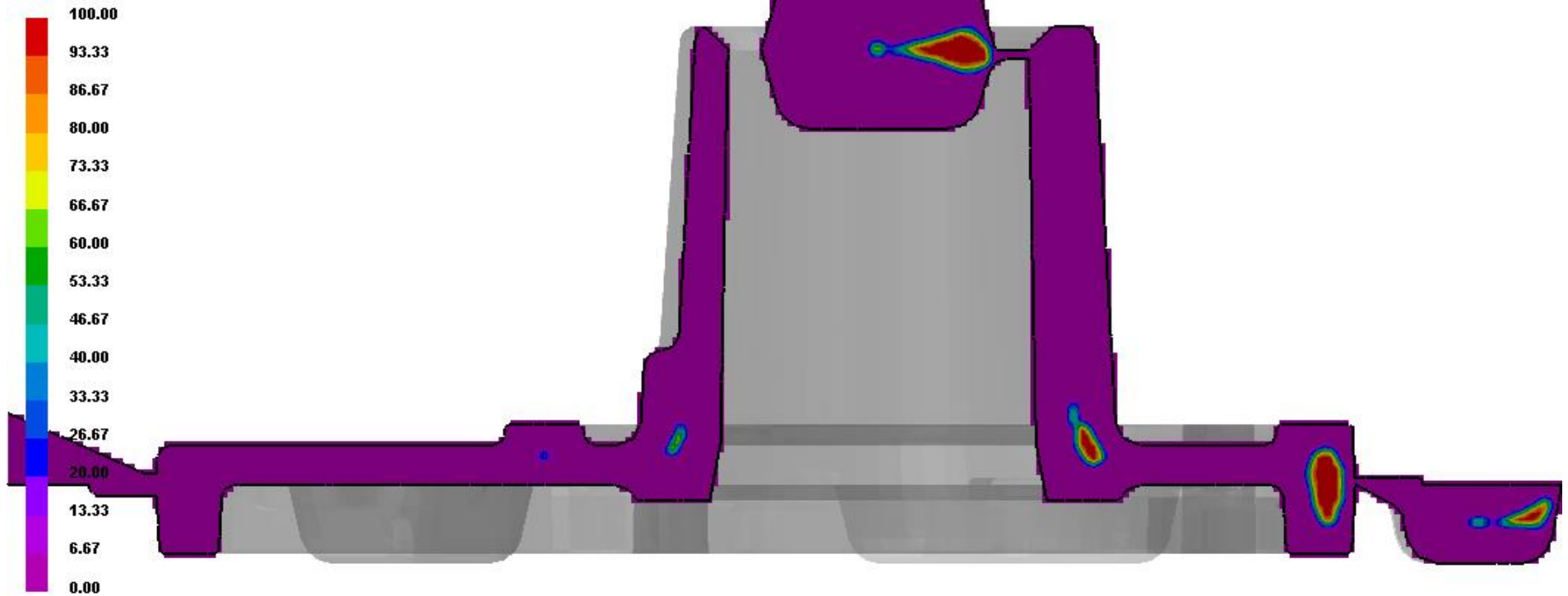
Shrinkage Porosity

Shrinkage Porosity [%]

v0/Cop-Mer-1

Step / Time Step : 152 / 9.964e+002

Total Time : 1000.0000 sec



QuikCAST

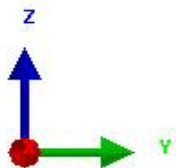
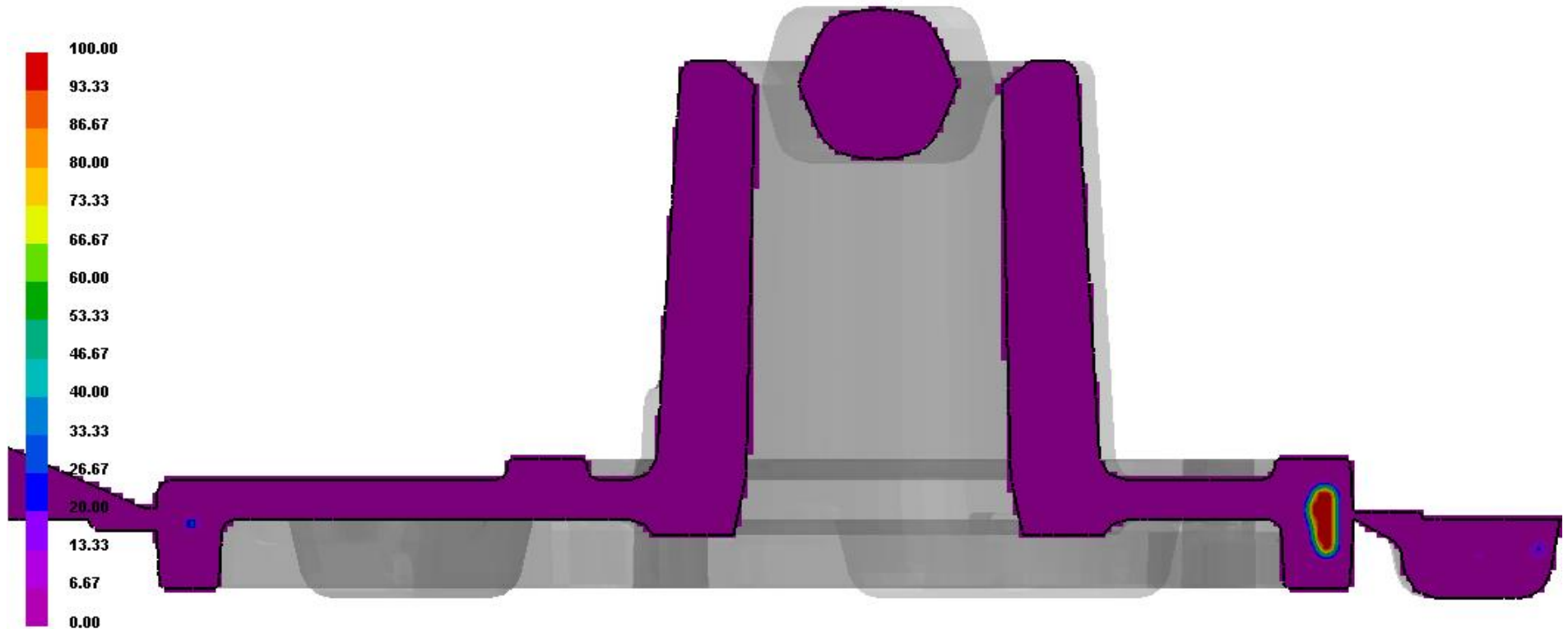
Shrinkage Porosity

Shrinkage Porosity [%]

v0/Cop-Mer-1

Step / Time Step : 152 / 9.964e+002

Total Time : 1000.0000 sec



QuikCAST

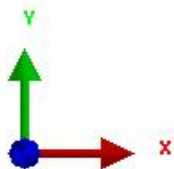
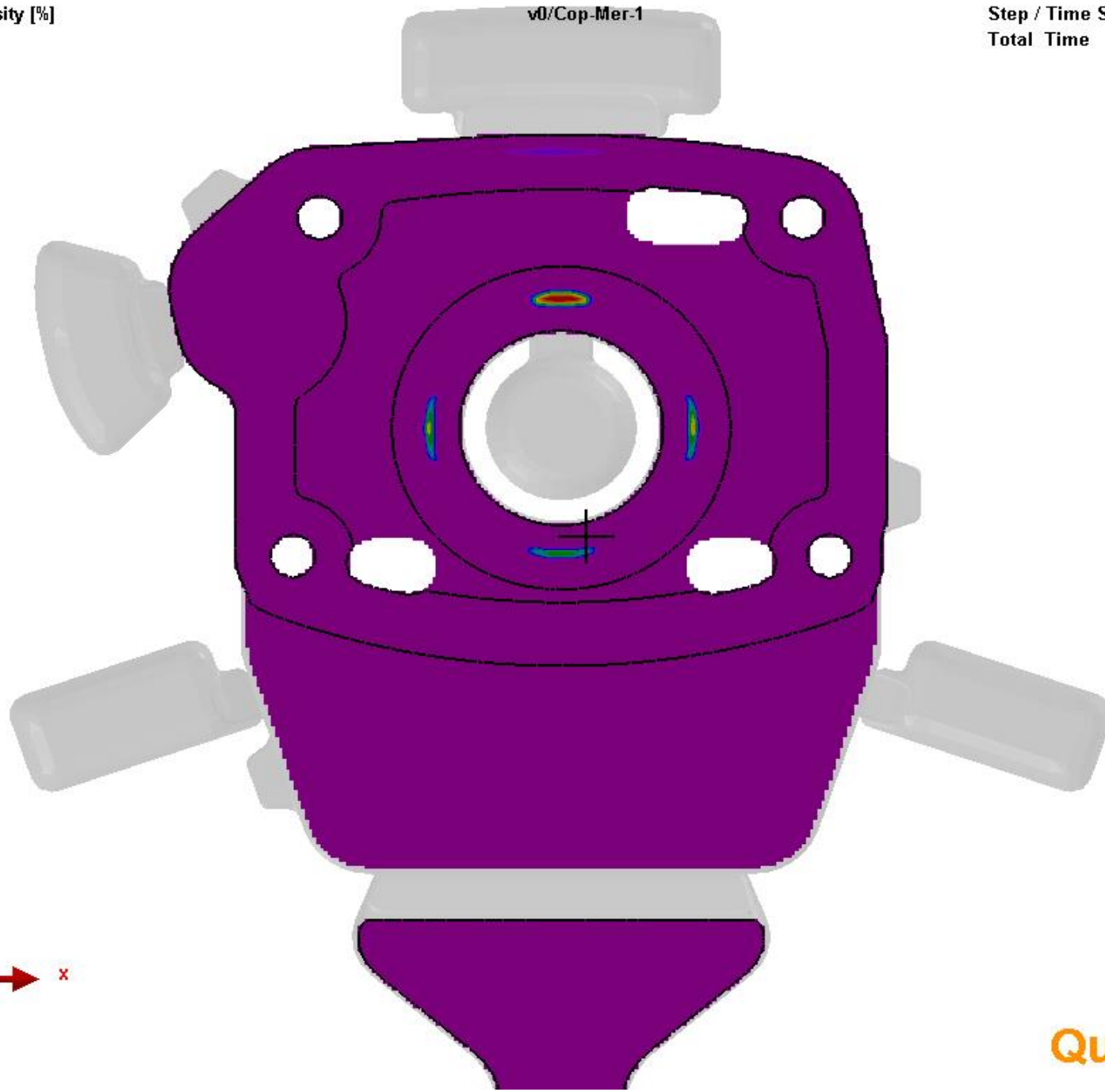
Shrinkage Porosity

Shrinkage Porosity [%]

v0/Cop-Mer-1

Step / Time Step : 152 / 9.964e+002

Total Time : 1000.0000 sec

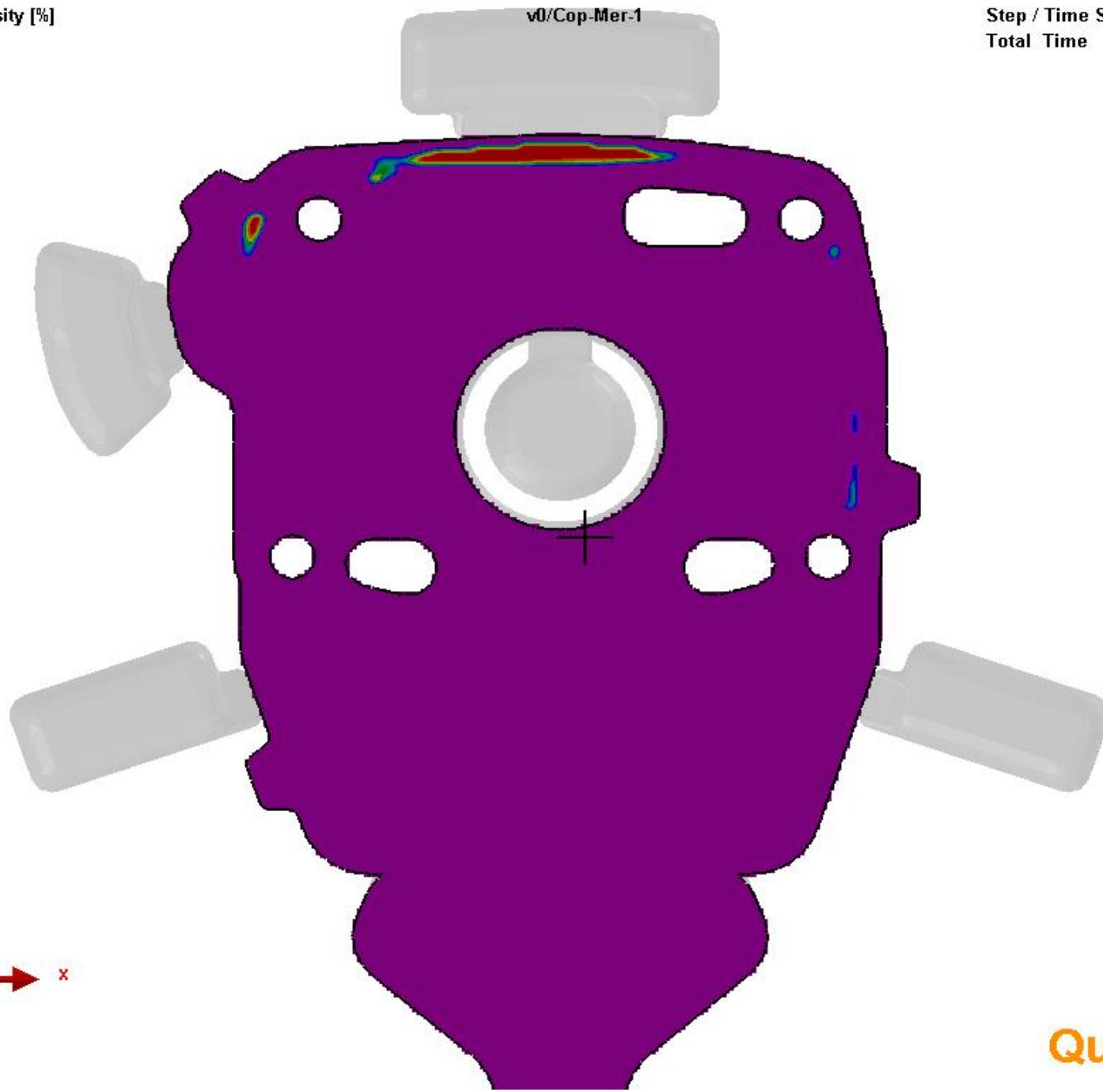


QuikCAST

Shrinkage Porosity

Shrinkage Porosity [%]

Step / Time Step : 152 / 9.964e+002
Total Time : 1000.0000 sec

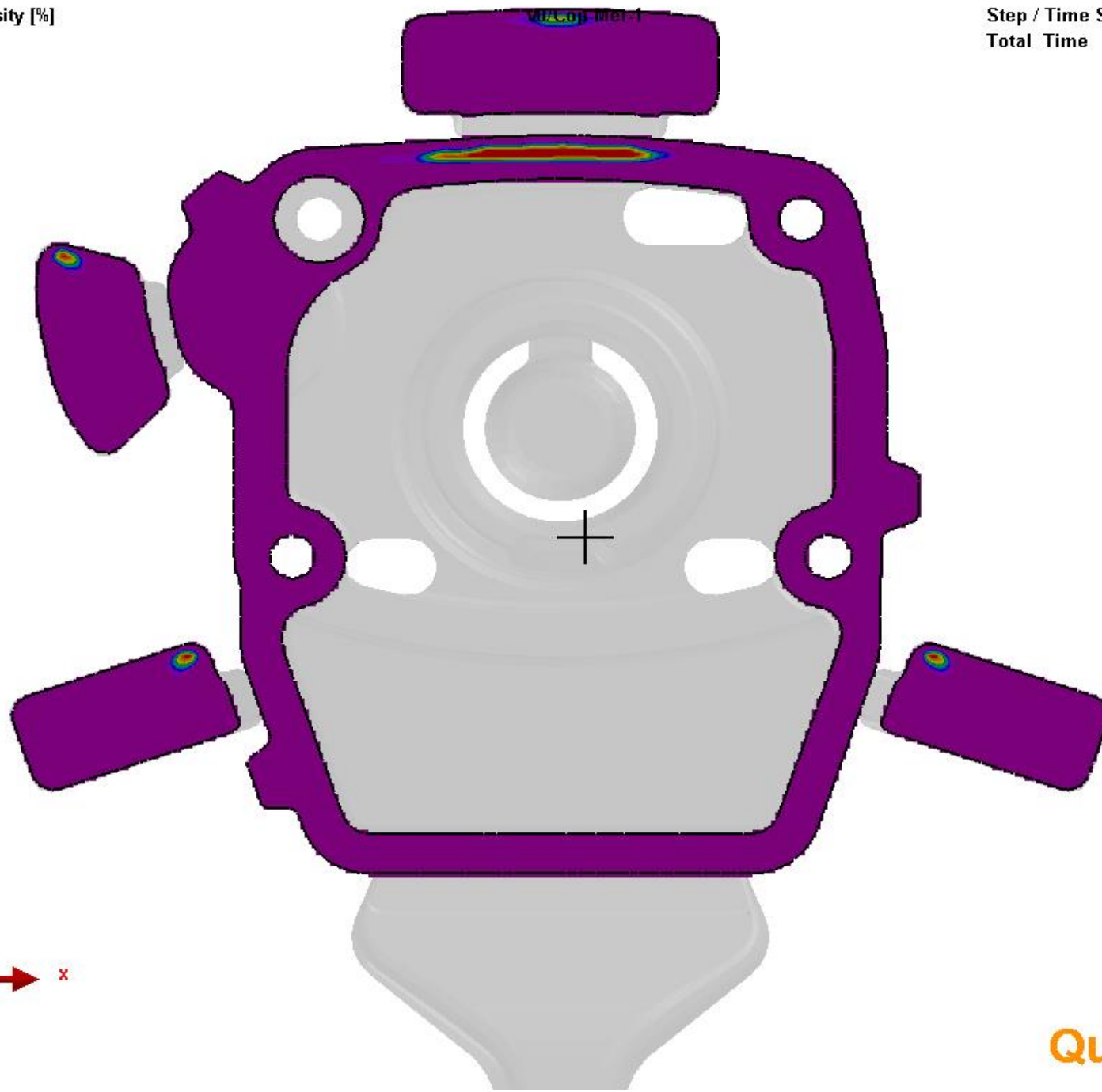


QuikCAST

Shrinkage Porosity

Shrinkage Porosity [%]

Step / Time Step : 152 / 9.964e+002
Total Time : 1000.0000 sec



QuikCAST

Conclusioni

Lega stampata: UNI EN AB 46100

Velocità Prima fase: 0,2 m/sec

Velocità Seconda fase: 3 m/sec

Temperatura lega: 680 C°

Temperatura matrici stampo: 220 C°

Le temperature della lega risultano in generale buone.

Velocità adeguate sia all'attacco di colata che su tutto il pezzo.

Aria inglobata ridotta al minimo grazie alla conformazione della colata e dei pozzetti di sfiato, tuttavia piccole zone critiche rimangono in prossimità del canotto centrale.

Alcuni problemi risultano nella solidificazione a causa di zone con spessore massivo nel pezzo, creando così alcune porosità da ritiro.

N.B. Tutti i pozzetti sono da sfiatare.