Thermophysical Properties: SS316L

Property Table

Property	Value	Units	Data Source
Density at 298 K	7955	kg/m^3	[1]
Specific heat capacity (solid)	423.0 + 0.1329 T	$J/(kg\ K)$	[1]
Specific heat capacity (liquid)	770.4	$J/(kg\ K)$	[1]
Thermal conductivity (solid)	4.957 + 0.01571 T	$J/(m\ s\ K)$	[1]
Thermal conductivity (liquid)	11.51 + 0.003279 T	$J/(m\ s\ K)$	[1]
Dynamic viscosity at 1730 K	0.002188	$kg/(m\ s)$	[1]
Thermal expansion, linear, at 1730 K	3.101e-05	$1/K$	[1]
Latent heat of fusion	268000.0	J/kg	[1]
Latent heat of vaporization	7410000.0	J/kg	[1]
Emissivity	0.4	$-$	-
Molecular mass	55.845	g/mol	-
Liquidus temperature	1730	K	[1]
Logarithm of the vapor pressure	6.1127 + -18868.0 T^{-1}	$\log(atm)$	[1]
Laser absorption	0.36	$-$	-
Solidus/eutecic temperature	1670	K	[1]

NOTE: This file currently excludes the Surface Tension and Marangoni coefficient due to the need for function representations other than Laurent polynomials.

References

[1] C.S. Kim, Thermophysical properties of stainless steels, Argonne National Laboratory, Argonne, Illinois, 1975.