

# 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.