

HAYNES[®] 556[®] alloy

Physical Properties

Physical Property	British Units		Metric Units	
Density	RT	0.297 lb/in ³	RT	8.23 g/cm ³
Melting Temperature	2425-2580°F	-	1330-1415°C	-
Electrical Resistivity	RT	35.7 μohm-in	RT	95.2 μohm-cm
	200°F	38.7 μohm-in	100°C	98.6 μohm-cm
	400°F	40.5 μohm-in	200°C	102.6 μohm-cm
	600°F	42.1 μohm-in	300°C	106.5 μohm-cm
	800°F	43.5 μohm-in	400°C	109.5 μohm-cm
	1000°F	44.7 μohm-in	500°C	112.5 μohm-cm
	1200°F	45.7 μohm-in	600°C	115.1 μohm-cm
	1400°F	46.6 μohm-in	700°C	117.2 μohm-cm
	1600°F	47.3 μohm-in	800°C	119.0 μohm-cm
	1800°F	48.0 μohm-in	900°C	120.7 μohm-cm
	2000°F	48.6 μohm-in	1000°C	122.3 μohm-cm
	-	-	1100°C	123.7 μohm-cm
Thermal Diffusivity	RT	4.5 x 10 ⁻³ in ² /s	RT	28.7 x 10 ⁻³ cm ² /s
	200°F	4.8 x 10 ⁻³ in ² /s	100°C	31.2 x 10 ⁻³ cm ² /s
	400°F	5.3 x 10 ⁻³ in ² /s	200°C	34.2 x 10 ⁻³ cm ² /s
	600°F	5.8 x 10 ⁻³ in ² /s	300°C	37.0 x 10 ⁻³ cm ² /s
	800°F	6.3 x 10 ⁻³ in ² /s	400°C	39.7 x 10 ⁻³ cm ² /s
	1000°F	6.7 x 10 ⁻³ in ² /s	500°C	42.3 x 10 ⁻³ cm ² /s
	1200°F	7.1 x 10 ⁻³ in ² /s	600°C	44.8 x 10 ⁻³ cm ² /s
	1400°F	7.5 x 10 ⁻³ in ² /s	700°C	47.0 x 10 ⁻³ cm ² /s
	1600°F	7.7 x 10 ⁻³ in ² /s	800°C	48.8 x 10 ⁻³ cm ² /s
	1800°F	8.0 x 10 ⁻³ in ² /s	900°C	50.3 x 10 ⁻³ cm ² /s
	2000°F	8.2 x 10 ⁻³ in ² /s	1000°C	51.6 x 10 ⁻³ cm ² /s
	-	-	1100°C	52.8 x 10 ⁻³ cm ² /s
Thermal Conductivity	RT	77 Btu-in/ft ² -hr-°F	RT	11.1 W/m-°C
	200°F	90 Btu-in/ft ² -hr-°F	100°C	13.1 W/m-°C
	400°F	107 Btu-in/ft ² -hr-°F	200°C	15.4 W/m-°C
	600°F	122 Btu-in/ft ² -hr-°F	300°C	17.3 W/m-°C
	800°F	135 Btu-in/ft ² -hr-°F	400°C	19.0 W/m-°C
	1000°F	148 Btu-in/ft ² -hr-°F	500°C	20.8 W/m-°C
	1200°F	160 Btu-in/ft ² -hr-°F	600°C	22.4 W/m-°C
	1400°F	173 Btu-in/ft ² -hr-°F	700°C	24.0 W/m-°C
	1600°F	185 Btu-in/ft ² -hr-°F	800°C	25.5 W/m-°C
	1800°F	197 Btu-in/ft ² -hr-°F	900°C	27.2 W/m-°C
	2000°F	210 Btu-in/ft ² -hr-°F	1000°C	28.9 W/m-°C
	-	-	1100°C	30.4 W/m-°C

Specific Heat	RT	0.111 Btu/lb-°F	RT	464 J/kg·°C
	200°F	0.113 Btu/lb-°F	100°C	475 J/kg·°C
	400°F	0.118 Btu/lb-°F	200°C	493 J/kg·°C
	600°F	0.122 Btu/lb-°F	300°C	508 J/kg·°C
	800°F	0.126 Btu/lb-°F	400°C	523 J/kg·°C
	1000°F	0.130 Btu/lb-°F	500°C	538 J/kg·°C
	1200°F	0.133 Btu/lb-°F	600°C	552 J/kg·°C
	1400°F	0.135 Btu/lb-°F	700°C	561 J/kg·°C
	1600°F	0.140 Btu/lb-°F	800°C	570 J/kg·°C
	1800°F	0.147 Btu/lb-°F	900°C	595 J/kg·°C
	2000°F	0.152 Btu/lb-°F	1000°C	618 J/kg·°C
	-	-	1100°C	638 J/kg·°C
Mean Coefficient of Thermal Expansion	70-200°F	8.1 $\mu\text{in/in } ^\circ\text{F}$	25-100°C	$14.7 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-400°F	8.2 $\mu\text{in/in } ^\circ\text{F}$	25-200°C	$14.9 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-600°F	8.4 $\mu\text{in/in } ^\circ\text{F}$	25-300°C	$15.1 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-800°F	8.6 $\mu\text{in/in } ^\circ\text{F}$	25-400°C	$15.4 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-1000°F	8.8 $\mu\text{in/in } ^\circ\text{F}$	25-500°C	$15.7 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-1200°F	9.0 $\mu\text{in/in } ^\circ\text{F}$	25-600°C	$16.1 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-1400°F	9.2 $\mu\text{in/in } ^\circ\text{F}$	25-700°C	$16.4 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-1600°F	9.4 $\mu\text{in/in } ^\circ\text{F}$	25-800°C	$16.7 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-1800°F	9.5 $\mu\text{in/in } ^\circ\text{F}$	25-900°C	$17.0 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	70-2000°F	9.6 $\mu\text{in/in } ^\circ\text{F}$	25-1000°C	$17.1 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	-	-	25-1100°C	$17.1 \times 10^{-6} \text{m/m}\cdot^\circ\text{C}$
	Dynamic Modulus of Elasticity	RT	$29.7 \times 10^6 \text{ psi}$	RT
200°F		$29.1 \times 10^6 \text{ psi}$	100°C	200 GPa
400°F		$28.2 \times 10^6 \text{ psi}$	200°C	195 GPa
600°F		$26.9 \times 10^6 \text{ psi}$	300°C	187 GPa
800°F		$25.6 \times 10^6 \text{ psi}$	400°C	179 GPa
1000°F		$24.4 \times 10^6 \text{ psi}$	500°C	172 GPa
1200°F		$23.1 \times 10^6 \text{ psi}$	600°C	164 GPa
1400°F		$21.8 \times 10^6 \text{ psi}$	700°C	155 GPa
1600°F		$20.9 \times 10^6 \text{ psi}$	800°C	148 Gpa
1800°F		$20.1 \times 10^6 \text{ psi}$	900°C	143 Gpa
-		-	1000°C	138 Gpa

RT= Room Temperature