

## HP Alloys Alloy C-276, 30% Cold Worked

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

### Material Notes:

30% Cold Worked applies to tensile and/or hardness; other properties are typical of this alloy. Data provided by High Performance Alloys, Inc., Allvac, Inco Alloys International, and Haynes International.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_HP-Alloys-Alloy-C-276-30-Cold-Worked.php](http://www.lookpolymers.com/polymer_HP-Alloys-Alloy-C-276-30-Cold-Worked.php)

Physical Properties	Metric	English	Comments
Density	8.90 g/cc	0.322 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	1171 MPa	169800 psi	
Tensile Strength, Yield	1083 MPa	157100 psi	
Elongation at Break	15 %	15 %	
Modulus of Elasticity	205 GPa	29700 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	11.7 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	6.50 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	
	@Temperature 20.0 - 100 $^\circ\text{C}$	@Temperature 68.0 - 212 $^\circ\text{F}$	
	12.0 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	6.67 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	
	@Temperature 24.0 - 204 $^\circ\text{C}$	@Temperature 75.2 - 399 $^\circ\text{F}$	
	12.8 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	7.11 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	
	@Temperature 23.9 - 316 $^\circ\text{C}$	@Temperature 75.0 - 600 $^\circ\text{F}$	
Specific Heat Capacity	13.2 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	7.33 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	
	@Temperature 23.9 - 427 $^\circ\text{C}$	@Temperature 75.0 - 800 $^\circ\text{F}$	
Thermal Conductivity	13.4 $\mu\text{m}/\text{m}\cdot\text{C}^\circ$	7.44 $\mu\text{in}/\text{in}\cdot\text{F}^\circ$	
	@Temperature 24.0 - 538 $^\circ\text{C}$	@Temperature 75.2 - 1000 $^\circ\text{F}$	
Specific Heat Capacity	0.427 J/g- $^\circ\text{C}$	0.102 BTU/lb- $^\circ\text{F}$	
Thermal Conductivity	10.5 W/m-K	72.9 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	

Melting Point Thermal Properties	1325 - 1370 °C Metric	2417 - 2500 °F English	Comments
Solidus	1325 °C	2417 °F	
Liquidus	1370 °C	2500 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.010 %	<= 0.010 %	
Chromium, Cr	14.5 - 16.5 %	14.5 - 16.5 %	
Cobalt, Co	<= 2.5 %	<= 2.5 %	
Iron, Fe	4.0 - 7.0 %	4.0 - 7.0 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Molybdenum, Mo	15 - 17 %	15 - 17 %	
Nickel, Ni	57 %	57 %	
Phosphorous, P	<= 0.025 %	<= 0.025 %	
Silicon, Si	<= 0.080 %	<= 0.080 %	
Sulfur, S	<= 0.010 %	<= 0.010 %	
Tungsten, W	3.0 - 4.5 %	3.0 - 4.5 %	
Vanadium, V	<= 0.35 %	<= 0.35 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000130 ohm-cm	0.000130 ohm-cm	
Magnetic Permeability	1.0002	1.0002	at 200 oersted (15.9 kA/m)

## Contact Songhan Plastic Technology Co.,Ltd.

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