

## IBC Advanced Alloys 41C Beryllium Nickel Casting Alloy

Category : Metal , Nonferrous Metal , Beryllium Alloy , Nickel Alloy

### Material Notes:

Beryllium nickel casting alloys are characterized by their steel-like high strength, toughness, and hardness properties. However, unlike the steel alloys, the beryllium nickel alloy system offers these properties with the additional benefit of superior thermal conductivity. Beryllium nickel casting alloys are notable for their high resistance to wear, thermal shock, and corrosion even at elevated temperatures in the range of 1000°F (540°C). The 40 series BeNiCr Casting Alloys have historically been utilized for high definition precision cast jewelry and commemorative rings, as well as, dental component applications. Information provided by IBC Advanced Alloys.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_IBC-Advanced-Alloys-41C-Beryllium-Nickel-Casting-Alloy.php](http://www.lookpolymers.com/polymer_IBC-Advanced-Alloys-41C-Beryllium-Nickel-Casting-Alloy.php)

Physical Properties	Metric	English	Comments
Density	8.25 g/cc	0.298 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	95 - 100	95 - 100	Annealed
Hardness, Rockwell C	46 - 52	46 - 52	Annealed and Aged

Thermal Properties	Metric	English	Comments
CTE, linear	14.4 µm/m-°C	8.00 µin/in-°F	
Melting Point	1150 - 1260 °C	2100 - 2300 °F	
Solidus	1150 °C	2100 °F	
Liquidus	1260 °C	2300 °F	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	2.5 - 2.85 %	2.5 - 2.85 %	
Carbon, C	1.0 - 2.0 %	1.0 - 2.0 %	
Chromium, Cr	0.45 - 0.80 %	0.45 - 0.80 %	
Nickel, Ni	94.35 - 96.05 %	94.35 - 96.05 %	As Balance

Processing Properties	Metric	English	Comments
Casting Temperature	1260 - 1370 °C	2300 - 2500 °F	Pouring Range

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