



## AUFHAUSER Ni-P

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**AUFHAUSER Ni-P** is an eutectic nickel brazing alloy, with a low melting point, useful for applications requiring high joint strength and oxidation resistance.

### COMPOSITION (wt %)

Nickel	Remainder
Phosphorus	11.0 ± 1.0
Carbon	0.06 max
Sulfur	0.02 max
Aluminum	0.05 max
Titanium	0.05 max
Zirconium	0.05 max
Cobalt	0.10 max
Selenium	0.005 max
Other Elements, Total	0.50 max

### SPECIFICATION

BNi-6

Conforms to: Unified Numbering System (UNS) N99700

American Welding Society (AWS) A5.8/A5.8M BNi-6

Garrett Engine Division EMS 54752-XI

### PHYSICAL PROPERTIES

Color	Iron Gray
Solidus	1610°F (877°C)
Liquidus	1610°F (877°C)
Recommended Brazing Temperature	1660-1710°F (904-932°C)
Density	0.29 lbs/in <sup>3</sup> (8.12 g/cm <sup>3</sup> )
Electrical Conductivity (%IACS)	N/A
Electrical Resistivity (Microhm-cm)	N/A

### BRAZING CHARACTERISTICS

**Aufhauser Ni-P**, an eutectic nickel brazing alloy, produces joints with high strength, even at elevated temperatures, and good oxidation resistance. Ideal for brazing nickel, super alloys and assemblies, Ni-P contains no boron and is therefore suitable for use in nuclear applications. Like all eutectic alloys, Ni-P exhibits excellent flow characteristics when joints are narrow or deep.

To wet base metals which contain higher Al or Ti content, nickel-plate the base metal and braze in an inert or dry reducing atmosphere. To join thin, less ductile assemblies, braze at the lower end of the brazing range, while heating and cooling quickly to minimize distortion.

As in all brazing, the properties of the resulting joint depend on the base metal, the joint design and the brazing technique. To braze nickel-based alloys in a normal atmosphere, make sure that the radial joint clearance is less than 0.001".

### FORMS AVAILABLE

Foil, powder, tape and preforms, per your specifications.