

## Nickel Alloys

## AMS 5663 (Alloy 718) Bar

Datasheet Updated  
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### SPECIFICATIONS

Commercial	Alloy 718
Aerospace	AMS 5663

A precipitation-hardenable nickel chromium grade with extremely high strength.

### CHEMICAL COMPOSITION

Element	% Present
Nickel (Ni)	50.00 - 55.00
Chromium (Cr)	17.00 - 21.00
Molybdenum (Mo)	2.80 - 3.30
Niobium (Columbium) (Nb)	4.75 - 5.50
Copper (Cu)	0.00 - 0.30
Aluminium (Al)	0.20 - 0.80
Carbon (C)	0.00 - 0.08
Cobalt (Co)	0.00 - 1.00
Manganese (Mn)	0.00 - 0.35
Nickel + Cobalt (Ni+Co)	50.00 - 55.00
Phosphorous (P)	0.00 - 0.15
Silicon (Si)	0.00 - 0.35
Sulphur (S)	0.00 - 0.15
Titanium (Ti)	0.65 - 1.15
Boron (B)	0.00 - 0.06
Columbium + Tantalum (Cb+Ta)	4.75 - 5.50
Iron (Fe)	Balance

### SUPPLIED FORMS

- Bar

### CHARACTERISTICS

- Aged to final heat treat condition
- Good mechanical properties: tensile, fatigue and creep-rupture
- Weldable
- Oxidation resistant throughout its useful temperature range
- Durability and high strength in extreme temperature conditions

### MECHANICAL PROPERTIES

#### Typical

Property	Value
Proof Stress	70 MPa
Tensile Strength	135 MPa
Elongation A50 mm	45 %
Hardness Rockwell B	100 HRB

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