

## Material: SAE AMS 4590

### Standard Specification for Extrusions, Nickel-Aluminum Bronze Alloy

**Group:** Non-Ferrous Copper Alloy

**Sub Group:** SAE AMS Extrusions, Nickel-Aluminum Bronze Alloy

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries Grade

**Belongs to the Industry:** Casting

Chemical Composition			Heat Treatment	
Aluminium	Al %	10.000 - 11.000	Hardening and Tempering	
Cobalt	Co %	0.200 max.		
Chromium	Cr %	0.050 max.		
Iron	Fe %	4.000 - 5.500		
Manganese	Mn %	1.500 max.		
Ni + Co	Ni% + Co%	4.200 - 6.000		
Lead	Pb %	0.030 max.		
Tin	Sn %	0.250 max.		
Zinc	Zn %	0.300 max.		
Copper	Cu %	Balance		
-	-	-	<b>Mechanical Properties</b> Tensile Strength in Mpa 896 - 931 Yield Strength in Mpa 621 - 689 Elongation in % 6 min. Reduction of Area in % - Hardness in HRB 26 min. Impact in Joule -	
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Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
C63020	UNS	USA	Rod, Bar, Tube and Shapes
B150 C63020	ASTM	USA	Rod, Bar and Shape
SB-150 C63020	ASME	USA	Rod, Bar and Shape
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