

## SMC Powder Metallurgy, Inc.

### P/M Material Specifications for Structural Parts (Non-Ferrous)

Grade	Material	Composition %	Typical Values					Apparent Hardness	Recommendations	Equivalent Specifications
			Tensile Strength PSI	Yield Strength PSI	Elongation % in 1"	Density g/cc				
A-20	Aluminum Alloy	Al:91.5 min Cu:3.5 - 5.0 Mg:0.2-8 Si: 0.5-1.2	20,000 to 46,000	14,000 to 45,000	2.0 to 3.5	2.30 - 2.60	T1 RE 60-75 T4 RE 70-80 T6 RE 80-90	Most important inherent property of Aluminum is its light weight. It has excellent corrosion resistance. Aluminum has high thermal and electrical conductivity with good formability and workability.	ASTM: B - 595 -84 Grade, 3	
GB-9L	Brass	Cu:77 - 80 Pb: 1-2 Zn: Balance Other: 2.0 max	23,000	13,500	12.0	7.6-8.0	HRH 75-80	Gives classic yellow "brass" color and improved strength for structural and hardware components. Machinable grade. Good toughness and elongation.	MPIF:CZP- 2002-11 ASTM:B 282 - 83a type II	
GB-10	Brass	Cu:88-91 Zn: Balance Other: 2.0 max	20,000	11,000	10.5	7.6 - 8.0	HRH 70-75	Gives reddish bronze color and is commonly used for mechanical components and hardware applications.	MPIF: CZ-1000-10	
GB-9	Brass	Cu:79-81 Zn: Balance Other:2.0.max	30,000	13,500	16	7.6-8.0	HRH 75-80	Classic Yellow "brass" color, high Strength and hardware components	MPIF: CZ -2000-12	
G-101	Copper	Cu: 100	26,000		20.0	8.4 min	HRH 20-25	Used for electrical parts	NONE	