

SMC Powder Metallurgy, Inc.

P/M Material Specifications for Structural Parts (Stainless) High Temperature Sintered

Grade	Material	Composition %	Typical Values					Recommendations	Equivalent Specifications
			Tensile Strength PSI	Yield Strength PSI	Elongation % in 1"	Density g/cc	Apparent Hardness		
SS-303	Stainless Steel	Fe, Cr, Ni, S, Si	55,000	42,000	5	6.4-6.6	HRB 63-68	Austenitic machining grade, preferred for parts requiring extensive machining, non-magnetic high strength and hardness. Good corrosion resistance	MPIF: SS-303N2-35 ASTM: B 783-90
SS-304	Stainless Steel	Fe, Cr, Ni, Si	57,000	40,000	10	6.4-6.6	HRB 63-68	General purpose austenitic grade, has good strength and corrosion resistance. Non-magnetic and non-machinable. Weak magnetic property.	MPIF: SS-304N2-33 ASTM: B 783-90
SS-316	Stainless Steel	Fe, Cr, Ni, Mo, Si	60,000	39,000	10	6.4-6.6	HRB 63-70	Corrosion resistance is better than SS-303. First choice for general purpose applications. Non-magnetic.	MPIF: SS-316N2-33 ASTM: B 783-90 DIN: SINT-C40
SS-410	Stainless Steel	Fe, Cr, Si	105,000	105,000	<0.5	6.4-6.8	HRC 20	Used in applications requiring hardness and wear resistance. Carbon is added for increased heat-treatment response. It has fair corrosion resistance and poor machinability.	MPIF: SS-410-90HT ASTM: B 783-90 DIN: SINT-C43