

MATERIAL	DENSITY g/cm ³	TRANSVERSE RUPTURE STRENGTH psi (A)	YIELD STRENGTH psi(A)	ULTIMATE TENSILE STRENGTH H psi(A)	ELONGATION % (A,B)	IMPACT STRENGTH FT-lbs (A,E)	APPARENT HARDNESS ROCKWELL (F)	YOUNG'S MODULUS 10 ⁶ psi (A)	EQUIVALENT MPIF SPECIFICATION	ASCO DESIGNATION	APPLICATIONS
IRON	7.0	72000	22000	32000	5	15	HRB 70	21.0	F-0000-17		Soft magnetic applications.
CARBON STEEL	6.9	76000	28000	38000	1.5	5	HRB 55	19.5	F-0005-25		Moderate strength and machinability
	7.0	140000	80000	80000	<0.5	4	HRC 25	20.5	F-0005-70 HT		High strength
	7.0	100000	40000	57000	1	5	HRB 70	20.5	F-0008-35		Good strength
	7.1	145000	90000	95000	< 0.5	5	HRC 35	21.5	F-0008-85 HT		Highest strength and wear
COPPER STEEL	6.7	95000	45000	50000	< 1.0	5	HRB 60	17.5	FC-0205--40		Medium strength structural parts
	6.8	120000	86000	90000	< 0.5	4.5	HRC 31	18.5	FC-0205-80HT		Heat treatment for wear and strength
	6.7	125000	55000	60000	< 1.0	5	HRB 73	17.5	FC-0208-50		
	6.8	130000	91000	90000	< 0.5	4.5	HRC 35	18.5	FC-0208-80HT		
NICKEL STEEL	6.9	100000	30000	50000	2.5	12	HRB 59	19.5	FN-0205-25		Heat treatable nickel steel provides high strength, wear and impact.
	6.9	160000	110000	120000	< 0.5	4.5	HRC 29	19.5	FN-0205-105HT		
	6.9	105000	40000	55000	1.5	8	HRB 71	19.5	FN-0208-35		
	6.9	150000	124000	120000	< 0.5	4.5	HR 31	19.5	FN-0208-105HT		
	7.0	120000	40000	60000	3	14.5	HRB 71	20.5	FN-0405-35		
	7.0	200000	103000	135000	< 0.5	6.5	HRC 31	20.5	FN-0405-130HT		
HYBRID LOW ALLOY STEEL	7.1	230000	140000	150000	< 1.0	9	HRC 36	21	FLN-4205-140HT		Heat treated low alloy steel provides high strength and wear
	7.1	260000	145000	170000	<0.5	10	HRC 38	21	FLN2-4405-160HT		
	7.2	280000	160000	190000	<0.5	10	HRC 40	22.5	FLN2-4405	ASCO-180HT-UTS	
	7.0	175000	110000	120000	1.5	11	HRB 90	N/A	FLN4C-4005	ASCO-110 Yield strength	As-sintered low alloy steel
	7.2	182000	125000	135000	1.6	16	HRB 96	N/A	FLN4C-4005	ASCO-125 Yield strength	provides high impact strength
SINTER HARDENING	6.9	280000	100000	140000	<0.5	10	HRC 33	N/A	FLNC-4408 (MOD)		Cost effective low alloy steel provides high strength and wear
	7.0	190000	N/A	100000	< 1.0	9	HRC 31	20.5	FLC-4608-90 HT		
	7.0	260000	135000	140000	<0.5	10	HRC 30	N/A	FL-5305	ASCO-130HT-UTS	
	7.2	280000	150000	160000	<0.5	11	HRC 33	N/A	FL-5305	ASCO-160HT-UTS	

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INFILTRATED STEEL	7.3	166000	60000	87000	3	10	HRB 89	23.5	FX-1008-50		Copper infiltration provides machinability and toughness
	7.3	189000	115000	120000	< 0.5	6.5	HRC 43	23.5	FX-1008-110HT		
	7.3	156000	70000	80000	1	7	HRB 90	21	FX-2008-60		As heat treated it provides wear resistance and toughness
	7.3	159000	74000	100000	< 0.5	5	HRC 36	21	FX-2008-90HT		

HI-PERFORMANCE ALLOYS	7.0	300000	110000	150000	1.75	20	HRC 33	N/A		ASCO Hi-Strength 1	High strength & good ductility
	6.9	300000	110000	152000	1.5	15	HRC38	N/A		ASCO Hi-Strength 2	High strength, impact, & hardness
	7.5	N/A	113000	155000	1.5	16	HRC38	N/A		ASCO Hi-Impac 1	High strength, impact, & hardness
	7.5	N/A	95000	130000	3.5	34	HRC20	N/A		ASCO Hi-Impac 2	Very high impact. High Strength
	7.5	N/A	65000	90000	7.5	110	HRB85	N/A		ASCO Hi-Impac 3	Best impact resistant PM Material

MATERIAL	DENSITY g/cm ³	TRANSVERSE RSE RUPTURE psi (A)	YIELD STRENGTH psi(A)	ULTIMATE TENSILE STRENGTH H psi(A)	ELONGATI ON % (A,B)	IMPACT STRENGTH H FT-lbs (A,E)	APPARENT HARDNESS ROCKWELL (F)	YOUNG'S MODULUS 10 ⁶ psi (A)	EQUIVALENT MPIF SPECIFICATION	ASCO DESIGNATION	APPLICATIONS
STAINLESS STEEL 300 SERIES	6.4	108000	34000	41000	0.5	5	HRB 59	15.5	SS-316N1-25		Good strength and corrosion properties
	6.4	86000	32000	39000	0.5	3.5	HRB 62	15.5	SS-303N1-25		
	6.9	N/A	46000	68000	10	35	HRB 70	20	SS-303N1-38		Best machinability for stainless good corrosion resistance
	6.9	N/A	24000	48000	20	55	HRB 35	20	SS-303L-15		
	6.9	N/A	45000	70000	13	48	HRB 65	20	SS-316N2-38		High corrosion resistance and good mechanical properties
	6.9	N/A	30000	57000	21	65	HRB 45	20	SS 316L-22		

STAINLESS STEEL 400 SERIES	6.5	113000	93000	105000	< 0.5	2.5	HRC 23	18	SS-410-90HT		Hardenable and magnetic Less corrosion resistance
	7	N/A	30000	50000	15	65	HRB 50	24	SS-434L-24		

MONEL	8.7	N/A	34000	79000	48	N/A	HRB 60	26	ASTM B164		Extremely ductile/Highly corrosion resistant
COPPER	8.3	N/A	10000	28000	25	45	HRH 30	13.5	C-0000-7		Contacts and heat sinks
BRASS	7.6	57000	15000	27000	14	12	HRH 80	12	CZP-3002-13		Structural and appearance
	7.6	52000	13500	23000	9	27	HRH 73	12.5	CZP-2002-11		
	8.0	71000	16500	31500	16	25	HRH 88	13.5	CZP-3002-14		
	8.0	70000	17000	35000	18	45	HRH 82	14.5	CZP-2002-12		
NICKEL SILVER	7.9	50000	18000	26000	10	22	HRH 86	13.5	CNXP-1816		Cosmetic and structural

SOFT-MAGNETIC	7.0	72000	22000	32000	5	15	HRB 70	21.0	F-0000-17		Magnetically responsive used for armatures, pole pieces and rotors
	7.0	N/A	32000	45000	10	N/A	HRB 45	20.5	FY-4500		
	7.5	N/A	25000	40000	15	68	HRB 40	16	FN-5000		

FULL DENSITY STAINLESS 440 C	7.6	N/A	N/A	N/A	N/A	N/A	HRC 35-60	N/A	SS-440 C	ASCO-HD-440 C	High density for food processing and medical applications