

Technical Specifications

MATERIAL	SPECIFICATIONS ASTM	CHEMICAL COMPOSITION									PROPERTIES		
		%C	%SI	%Mn	%Cu	%Cr	%NI	%Mo	%S	%P	T.S. Mpa	Y.S. Mpa	HBN
CARBON AND LOW ALLOY STEELS	A915-93 SC 1020	0.18-0.23	0.40-0.60	0.50-0.70	0.15 MAX	0.40 MAX	0.30 MAX	0.10 MAX	0.05 MAX	0.04 MAX	483 MIN	248 MIN	140-187
	A915-93 SC 1030	0.28-0.34	0.40-0.60	0.50-0.70	0.15 MAX	0.40 MAX	0.30 MAX	0.10 MAX	0.05 MAX	0.04 MAX	483 MIN	276 MIN	160-201
	A148 GR 80-50	0.20-0.30	0.30-0.70	1.00-1.66	0.30 MAX	0.40 MAX	0.30 MAX	0.10 MAX	0.05 MAX	0.035 MAX	550 MIN	366 MIN	160-200
	A216 GR WCC	0.25 MAX	0.60 MAX	1.20 MAX	0.30 MAX	0.50 MAX	0.50 MAX	0.20 MAX	0.045 MAX	0.04 MAX	485 to 655	275 MIN	150-180
	A915-93 SC 1045	0.43-0.50	0.40-0.60	0.50-0.70	0.15 MAX	0.40 MAX	0.30 MAX	0.10 MAX	0.05 MAX	0.04 MAX			175-225
TYPICAL APPLICATIONS	Sprockets, pinion gears, warping heads, railroad couplers, pitmans, trunions												
AUSTENITIC MANGANESE STEELS	A128(A)	1.05-1.35	1.00 MAX	11.0-13.0		0.80 MAX			0.05 MAX	0.07 MAX	723 MIN		190-230
	A128(C)	1.05-1.35	1.00 MAX	11.5-14.0		1.50-2.50			0.05 MAX	0.07 MAX	792 MIN		200-240
	A128(E1)	0.70-1.40	1.00 MAX	11.5-14.0				0.90-1.20	0.05 MAX	0.07 MAX	695 MIN		179-240
TYPICAL APPLICATIONS	Hammers, bowl liners, mill liners, jaw crusher plates, crawler pads, mantles												
HEAT RESISTENT STEELS	A297 GR HH	0.35-0.50	2.00 MAX	1.00-2.00		24.0-26.0	11.0-13.0	0.30 MAX	0.04 MAX	0.04 MAX	515 MIN	240 MIN	156-192
	A297 GR HK	0.40-0.60	2.00 MAX	1.00-2.00		24.0-26.0	18.0-20.0	0.30 MAX	0.04 MAX	0.04 MAX	450 MIN	240 MIN	149-179
	A297 GR HL	0.20-0.60	2.00 MAX	2.00 MAX		28.0-32.0	18.0-22.0	0.50 MAX	0.04 MAX	0.04 MAX	450 MIN	240 MIN	149-179
	A297 GR HF	0.20-0.40	2.00 MAX	2.00 MAX		18.0-23.0	8.00-12.0	0.50 MAX	0.04 MAX	0.04 MAX	485 MIN	240 MIN	165-200
	A297 GR HC	0.50 MAX	0.50-0.80	1.00 MAX	0.30 MAX	26.0-29.0	0.30 MAX	0.10 MAX	0.04 MAX	0.04 MAX	380 MIN		
	A297 GR HD	0.50 MAX	2.00 MAX	1.50 MAX		26.0-30.0	4.00-7.00	0.50 MAX	0.04 MAX	0.04 MAX	515 MIN	240 MIN	180-200
TYPICAL APPLICATIONS	Cooler grates, grate bars, nose ring brick anchors, burner nozzles, cooler side plates												
CORROSION RESISTING STEELS	A743-CF 20	0.08 MAX	1.00 MAX	1.00 MAX		16.0-18.0	10.0-14.0		0.03 MAX	0.04 MAX	483 MIN	194 MIN	130-180
	A743-CG 8M	0.08 MAX	1.00 MAX	1.00 MAX		18.0-20.0	10.0-12.0	2.00-3.00	0.03 MAX	0.04 MAX	483 MIN	207 MIN	130-180
	A743-CA 6MN	0.08 MAX	1.00 MAX	1.00 MAX		11.5-14.0	3.50-4.50	0.40-1.00	0.04 MAX	0.04 MAX	755 MIN	550 MIN	285-360
TYPICAL APPLICATIONS	Propellers, pelton wheels, pump diffuser bowls, mounting plates												
CHROMIUM MOLYBDENUM STEELS		0.26-0.30	1.50-1.70	0.60-0.80		1.90-2.10	0.50-0.60	0.40-0.50	0.03 MAX	0.03 MAX	1200		450-480
	SAE 4140	0.38-0.43	0.40-0.60	0.75-1.00	0.15 MAX	0.80-1.10	0.10 MAX	0.15-0.30	0.04 MAX	0.04 MAX	620 MIN	415 MIN	280-320
	A148 GR 105-85	0.60-0.90	0.30-0.50	0.50-1.00	0.30 MAX	0.25-0.60	0.30 MAX	0.05-0.10	0.05 MAX	0.06 MAX	725 MIN	585 MIN	155-350
	A148 GR 135-125	0.50-0.60	0.40-0.60	0.60-0.70	0.30 MAX	0.25-0.60	0.30 MAX	0.05-0.10	0.05 MAX	0.05 MAX	930 MIN	860 MIN	320-390
	A148 GR 165-150	0.60-0.90	0.30-0.60	1.00-1.60	0.30 MAX	2.00-2.60	0.30 MAX	0.25-0.45	0.05 MAX	0.05 MAX	1140 MIN	1035 MIN	390-470
TYPICAL APPLICATIONS	Jaw crusher plates, wheels, hammers, wear plates, mill liners												
GREY IRON	A48 CL20	3.40-3.60	2.00-2.60	0.40-0.60					0.10 MAX	0.15 MAX	138 MIN	100-172
	A48 CL30	3.30-3.50	1.90-2.30	0.60-0.80					0.10 MAX	0.15 MAX	172 MIN	179-229
	A48 CL35	3.25-3.40	1.80-2.00	0.60-0.80	0.50-0.80	0.20-0.30	0.25 MAX		0.10 MAX	0.12 MAX	241 MIN	200-240
	A48 CL40	3.10-3.30	1.80-2.00	0.70-0.90	0.80-1.00	0.30-0.45	0.25 MAX		0.10 MAX	0.12 MAX	310 MIN	207-278
TYPICAL APPLICATIONS	Pulleys, brake drums, clutch plates, oil pump bodies, ingot molds, metal melting pots												
DUCTILE IRON	A536 GR 65/45/12	3.70-3.90	3.20-3.30	0.30 MAX	TRAZAS	TRAZAS	TRAZAS	TRAZAS	0.03 MAX	0.03 MAX	448 MIN	310 MIN	197-229
	A536 GR 80/55/06	3.70-3.90	2.05-2.60	0.30 MAX	0.40-0.60	TRAZAS	0.20-0.25	TRAZAS	0.03 MAX	0.03 MAX	552 MIN	379 MIN	217-248
	A536 GR 100/70/03	3.70-3.80	2.60-2.80	0.30 MAX	1.50-1.80	TRAZAS	0.90-1.20	TRAZAS	0.03 MAX	0.03 MAX	689 MIN	483 MIN	285-363
TYPICAL APPLICATIONS	Pipe fittings, valves, connecting rods, ingot molds, brake shoes, couplings, grate bars												
ABRASION RESISTANT CAST IRON	ASTM A 532 IA	2.80-3.6	0.8 MAX	2.00 MAX		1.40-4.00	3.30-5.00	1.00 MAX	0.10 MAX	0.10 MAX			550-650
	ASTM A 532 IIB	2.00-3.30	0.20-1.00	0.60-1.50	0.60-1.20	14.0-18.0	2.5 MAX	0.50-1.40	0.50-1.40	0.10 MAX			600-700
TYPICAL APPLICATIONS	Wear tips, Blades, liner plates, pumps, impellers, chute liners, ball mill liners												