



CARBON COLD FINISH STEEL BARS - ASTM A108

Chemistry							
Grade:	Carbon:	Iron, Fe:	Lead, PB:	Manganese:	Phosphorus (max.):	Sulphur (max.):	Silicon (max.):
1018	0.15/0.20			0.60/0.90	0.040	0.050	
1045	0.43/0.50			0.60/0.90	0.040	0.050	
1117	0.14/0.20			1.00/1.30	0.040	0.08/0.13	
11L17	0.14/0.20	Remainder	0.15/0.36	1.00/1.30	0.040	0.08/0.13	
1141	0.37/0.45			1.35/1.65	0.040	0.08/0.13	
11L41	0.37/0.45		0.15/0.35	1.35/1.65	0.040	0.08/0.13	
1144	0.40/0.48			1.35/1.65	0.040	0.24/0.33	
12L14	0.150 (max.)		0.15/0.35	0.85/1.15	0.04/0.09	0.26/0.35	
1215	0.090 (max.)			0.75/1.05	0.04/0.09	0.26/0.35	
1144 A311/Stressproof ®	0.40/0.48			1.35/1.65	0.040	0.24/0.33	0.15/0.35
*Fatigueproof ®	0.40/0.48			1.35/1.65	0.040	0.24/0.33	0.15/0.35

*Open hearth or basic oxygen products AISI 1144 heats to be used for Fatigueproof ® are usually nitrogen treated, and contain nitrogen in quantities.

Mechanical Properties (typical)							
Grade:	Yield Strength (psi):	Tensile Strength (psi):	Elongation in 2":	Reduction of Area:	Brinell Hardness:	Rockwell C Hardness (min.):	Machining Characteristics:
1018	54,000	64,000	15%	40%	126		
1045	77,000	91,000	12%	35%	179		
1045 TG&P	45,000	82,000	12%	35%	163		
1117	58,000	69,000	15%	40%	137		
11L17	58,000	69,000	15%	40%	137		
1141	88,000	100,000	10%	30%	212		
11L41	90,000	100,000	10%	30%	197		
1144	90,000	108,000	10%	30%	217		
12L14	60,000	78,000	15%	35%	163		
1215	60,000	78,000	10%	35%	167		
1144 A311/Stressproof ®	100,000	115,000	83% of 1212	8% min. (7% min. above 3 in.)	25% of min. (20% min. above 2 in.)		
*Fatigueproof ®	125,000 (.2% offset)	*140,000	5%	15%	*280 (min.)	*30	80% of 1212

*In the event of disagreement between hardness and tensile strength, the tensile strength will govern.

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