



Properties of Steel

(Tabulated in accordance with the Unified Numbering System for Metals and Alloys (UNS), Society of Automotive Engineers, Warrendale, Pa., 1975. This reference contains the cross reference numbers for AISI, ASTM, FED, MIL SPEC, and SAE specifications. The values shown for hot-rolled (HR) and cold drawn (CD) steels are estimated minimum values which can usually be expected in the size range of 3/4 to 1-1/4 in. A minimum value is roughly several standard deviations below the arithmetic mean. The values shown for heat-treated steels are so-called typical values. A typical value is neither the mean nor the minimum. It can be obtained by careful control of the purchase specifications and the heat-treatment, together with continuous inspection and testing. The properties shown in this table are from a variety of sources and are believed to be representative. There are so many variables which affect these properties, however, that their approximate nature must be clearly recognized. Multiply strength in kpsi by 6.89 to get strength in MPa.)

UNS Number	Processing	Yield Strength kpsi	Tensile Strength kpsi	Elongation In 2 in %	Reduction In area %	Brinell Hardness H_b
G10100	HR	26	47	28	50	95
G10100	CD	44	53	20	40	105
G10150	HR	27	50	28	50	101
G10150	CD	47	56	18	40	111
G10180	HR	32	58	25	50	116
G10180	CD	54	64	15	40	126
G10350	HR	39	72	18	40	143
G10350	CD	67	80	12	35	163
G10350	Drawn 800 F	81	110	18	51	220
G10350	Drawn 1000 F	72	103	23	59	201
G10350	Drawn 1200 F	62	91	27	66	180
G10400	HR	42	76	18	40	149
G10400	CD	71	85	12	35	170
G10400	Drawn 1000 F	86	113	23	62	235
G10500	HR	49	90	15	35	179
G10500	CD	84	100	10	30	197
G10500	Drawn 600 F	180	220	10	30	450
G10500	Drawn 900 F	130	155	18	55	310
G10500	Drawn 1200 F	80	105	28	65	210
G15216*	HR#	81	100	25	57	192
G41300	HR#	60	90	30	45	183

G41300	CD#	87	98	21	52	201
G41300	Drawn 1000 F	133	146	17	60	293
G41400	HR#	63	90	27	58	187
G41400	CD#	90	102	18	50	223
G41400	Drawn 1000 F	131	153	16	45	302
G43400	HR#	69	101	21	45	207
G43400	CD#	99	111	16	42	223
G43400	Drawn 600 F	234	260	12	43	498
G43400	Drawn 1000 F	162	182	15	40	363
G46200	Core+	89	120	22	55	248
G46200	Drawn 800 F	94	130	23	66	256
G61500	HR#	58	91	22	53	183
G61500	Drawn 1000 F	132	155	15	44	302
G87400	HR#	64	95	25	55	190
G87400	CD#	96	107	17	48	223
G87400	Drawn 1000 F	129	152	15	44	302
G92550	HR#	78	115	22	45	223
G92550	Drawn 1000 F	160	180	15	32	352

* Same as AISI 52100; # Annealed; + Case hardened, core properties