

ASTM	LE FER			COMPOSITION CHIMIQUE														PROPRIÉTÉS MÉCANIQUES				
	Code ASTM	Qualité	Condition	Carbone C% Max.	Silicium Si% Max.	Manganèse Mn% Max.	Nickel Ni%	Chrome Cr%	Molybdène Mo%	Phosphore P% Max.	Soufre S% Max.	Copper Cu%	Vanadium V%	Magnésium Mg%	Niobium (Columbium) Nb%	Le fer Fe%	Alliage Total - Sans fer	Charpy "V" Encoches lb pi.	Résistance à la traction K.S.I.	Résistance au rendement K.S.I.	Elong%	Brinell Dureté #
Fers Gris	A48	Class 20	As cast	3.50 to 3.60	2.50 to 2.60	0.30 to 0.50	0.00 to 0.50	0.00 to 0.10	0.00 to 0.10	0.02 to 0.03	0.06 to 0.12	0.00 to 0.50	0.00 to 0.05			92.76	7.24		20			143-187
	A48	Class 25	As cast	3.40 to 3.50	2.40 to 2.50	0.30 to 0.70	0.00 to 0.50	0.00 to 0.10	0.00 to 0.10	0.02 to 0.03	0.06 to 0.12	0.00 to 0.50	0.00 to 0.05			92.86	7.14		25			159-223
	A48	Class 30	As cast	3.30 to 3.40	2.30 to 2.40	0.60 to 0.80	0.00 to 0.50	0.00 to 0.15	0.00 to 0.20	0.02 to 0.25	0.06 to 0.12	0.00 to 0.50	0.00 to 0.05			92.68	7.33		30			179-229
	A48	Class 35	As cast	3.15 to 3.25	2.10 to 2.25	0.70 to 0.90	0.00 to 0.75	0.00 to 0.15	0.00 to 0.30	0.02 to 0.20	0.06 to 0.12	0.00 to 0.75	0.00 to 0.10			92.60	7.40		35			187-241
	A48	Class 40	As cast	3.05 to 3.15	1.80 to 1.95	0.70 to 0.90	0.00 to 1.00	0.00 to 0.15	0.00 to 0.30	0.02 to 0.10	0.06 to 0.12	0.00 to 1.00	0.00 to 0.10			92.80	7.20		40			197-255
	A48	Class 45	As cast	2.95 to 3.05	1.70 to 1.85	0.80 to 1.00	0.00 to 1.00	0.00 to 0.20	0.00 to 0.30	0.02 to 0.10	0.06 to 0.10	0.00 to 1.00	0.00 to 0.10			92.89	7.12		45			207-269
Fers à haute résistance à l'abrasion	A48	Class 50	As cast	2.90 to 3.00	1.65 to 1.80	0.80 to 1.00	0.00 to 1.00	0.00 to 0.20	0.00 to 0.50	0.02 to 0.08	0.06 to 0.10	0.00 to 1.00	0.00 to 0.10			92.90	7.11		50			217-269
	A532	CLI-A (NiHard-1)	As Cast	2.80 to 3.60	0.80	2.00	3.30 to 5.00	1.40 to 4.00	1.00	0.30	0.15					85.70	14.30					530-550
	A532	CLI-A (NiHard-1)	SR Harden	2.80 to 3.60	0.80	2.00	3.30 to 5.00	1.40 to 4.00	1.00	0.30	0.15					85.70	14.30					600 Min
	A532	CLI-B (NiHard-2)	As Cast	2.40 to 3.00	0.80	2.00	3.30 to 5.00	1.40 to 4.00	1.00	0.30	0.15					86.20	13.80					530-550
	A532	CLI-B (NiHard-2)	SR Harden	2.40 to 3.00	0.80	2.00	3.30 to 5.00	1.40 to 4.00	1.00	0.30	0.15					86.20	13.80					600 Min
	A532	CLI-C (NiHard-3)	As Cast	2.50 to 3.70	0.80	2.00	4.00 to 4.00	1.00 to 2.50	1.00	0.30	0.15					86.90	13.10					530-550
	A532	CLI-C (NiHard-3)	SR Harden	2.50 to 3.70	0.80	2.00	4.00 to 4.00	1.00 to 2.50	1.00	0.30	0.15					86.90	13.10					600 Min
	A532	CLI-D (NiHard-4)	As Cast	2.50 to 3.60	2.00	2.00	4.50 to 7.00	7.00 to 11.00	1.50	0.10	0.15					76.45	23.55					480-510
	A532	CLI-D (NiHard-4)	SR Harden	2.50 to 3.60	2.00	2.00	4.50 to 7.00	7.00 to 11.00	1.50	0.10	0.15					76.45	23.55					600 Min
	A532	CLII-B (15% Chrome)	Anneal	2.00 to 3.30	1.50	2.00	2.50 Max.	14.00 to 18.00	3.00	0.10	0.06	1.20				70.99	29.01					400 Max
	A532	CLII-B (15% Chrome)	Harden	2.00 to 3.30	1.50	2.00	2.50 Max.	14.00 to 18.00	3.00	0.10	0.06	1.20				70.99	29.01					600 Min
	A532	CLII-D (20% Chrome)	Anneal	2.00 to 3.30	1.00 to 2.20	2.00	2.50 Max.	18.00 to 23.00	3.00	0.10	0.06	1.20				66.39	33.61					400 Max
	A532	CLII-D (20% Chrome)	Harden	2.00 to 3.30	1.00 to 2.20	2.00	2.50 Max.	18.00 to 23.00	3.00	0.10	0.06	1.20				66.39	33.61					600 Min
	A532	CLIII-A (25% Chrome)	Anneal	2.00 to 3.30	1.50	2.00	2.50	23.00 to 30.00	3.00	0.10	0.06	1.20				61.74	38.26					400 Max
	A532	CLIII-A (25% Chrome)	Harden	2.00 to 3.30	1.50	2.00	2.50	23.00 to 30.00	3.00	0.10	0.06	1.20				61.74	38.26					600 Min
Acier Ductile Acier Haute Résistance	A439	NIRESIST-D2		3.00	1.50 to 3.00	0.70 to 1.25	18.00 to 22.00	1.75 to 2.75		0.08						71.45	28.56		58	30	8	139-202
	A439	NIRESIST-D2B		3.00	1.50 to 3.00	0.70 to 1.25	18.00 to 22.00	2.75 to 4.00		0.08						70.32	29.68		58	30	7	148-211
Austénitique	A571	NIRESIST-D2W		3.00	3.00	1.50	18.00 to 22.00	1.75 to 2.25						0.10		70.40	29.60		58	30	8	140-210

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SYMBOLES	Al	Aluminium	Fe	Le fer	S	Soufre	Zn	Zinc
	As	Arsenic	Mg	Magnésium	Sb	Antimoine		
	B	Bore	Mn	Manganèse	Se	Sélénium		
	C	Carbone	Mo	Molybdène	Si	Silicium		
	Cb	Columbium (Niobium)	N	Azote	Sn	Étain		
	Ce	Cérium	Nb	Niobium (maintenant Columbium)	Ta	Tantale		
	Co	Cobalt	Ni	Nickel	Ti	Titane		
	Cr	Chrome	P	Phosphore	V	Vanadium		
	Cu	Cuivre	Pb	Conduire	W	Tungstène		