

ФИЗИКО-ХИМИЧЕСКИЕ ХАРАКТЕРИСТИКИ МАТЕРИАЛОВ

CHEMICAL REQUIREMENTS	SPECIFICATION ACCORDING TO ASTM VOLUME 01.01 AND 01.05		CARBON STEEL	LOW TEMPERATURE STEEL AS PER ASTM		MARTENSITIC STEEL	AUSTENITIC STAINLESS STEEL AS PER ASTM A182				ASTM A182	17-4-PH
			A 105	A350-LF2	A350-LF3	A276-420	F316	F316L	F321	F44	F51	A564-630
CARBON	C	% max	*0.22	*0.22	0.20	OVER 0.15	0.08	0.035	0.08	0.020	0.030	0.07
MANGANESE	Mn	% max	0.60-1.05	0.60-1.35	0.90	1.00	2.00	2.00	2.00	1.00	2.00	1.00
PHOSPHORUS	P	% max	0.040	0.035	0.035	0.040	0.040	0.040	0.040	0.030	0.030	0.040
SULFUR	S	% max	0.050	0.040	0.040	0.030	0.030	0.030	0.030	0.010	0.020	0.030
SILICON	Si	% max	0.35	0.15-0.30	0.20-0.35	1.00	1.00	1.00	1.00	0.80	1.00	1.00
NICKEL	Ni	% max	0.40	0.40	3.3-3.7	-	10.0-14.0	10.0-15.0	9.0-12.0	17.5-18.5	4.5-6.5	3.00-5.00
CHROMIUM	Cr	% max	0.30	0.30	0.30	12.00-14.00	16.0-18.0	16.0-18.0	17min.	19.5-20.5	21.0-23.0	15.0-17.5
MOLYBDENUM	Mo	% max	0.12	0.12	0.12	-	2.00-3.00	2.00-3.00	-	6.0-6.5	2.5-3.5	-
VANADIUM	V	% max	0.03	0.03	0.03	-	-	-	-	-	-	-
NIOBIO/COLUMBIUM	Nb	% max	0.02	0.02	0.02	-	-	-	-	-	-	-
COPPER	Cu	% max	0.40	0.40	0.40	-	-	-	-	0.50-1.00	-	3.00-5.00
TITANIUM	Ti	% max	-	-	-	-	-	-	0.70	-	-	-

MECHANICAL REQUIREMENTS AT ROOM TEMPERATURE												
	TENSILE STRENGTH	n.s.i. min		70	70-95	70-95		75	70	75	94	90
MPa min			485	485-655	485-655		515	485	515	650	620	1310
YIELD STRENGTH	K.s.i. min		36	36	37.5		30	25	30	44	65	170
	MPa min		250	250	260		205	170	205	300	450	1170
ELONGATION IN 2	% min		22	22	22		30	30	30	35	25	10
REDUCION OF AREA	% min		30	30	30		50	50	50	50	45	40
BRINELL HARDNESS			137-187									388
CORRESPONDANCE TO EN 10088 PART. 3						1.4021	1.4401	1.4404	1.4541	1.4547	1.4462	1.4542