

Table 21 — Mechanical properties for alloy steels (18)

Steel	Condition (2)	Size (1) (diameter across flats, or thickness) mm	R <sub>m</sub> N/mm <sup>2</sup>	R <sub>e</sub> min. N/mm <sup>2</sup>	A min. on 5.65 √S <sub>0</sub> %	Impact <sup>a</sup>		R <sub>p0.2</sub> (3) min. N/mm <sup>2</sup>	HB (13)
						Izod min. J	KCV min. min.		
722M24	Hardened and tempered + turned or ground	T > 150 ≤ 250	850 to 1 000	650	13	40	35	635	248 to 302
		T ≥ 6 ≤ 150 U ≥ 6 ≤ 150	850 to 1 000 925 to 1 075	680 755	13 12	54 47	50 42	665 740	248 to 302 269 to 331
722M24	Hardened and tempered + cold drawn or hardened and tempered + cold drawn + ground	T ≥ 6 ≤ 150	850 to 1 000	700	9	54	—	680	248 to 302
		U ≥ 6 ≤ 150	925 to 1 075	770	9	47	—	755	269 to 331
817M40	Turned, ground or cold drawn and finally softened								269 max.
817M40	Hardened and tempered + turned or ground	T > 150 ≤ 250	850 to 1 000	650	13	40	35	635	248 to 302
		T > 63 ≤ 150 U > 29 ≤ 100 V > 13 ≤ 63 W ≥ 6 ≤ 29 (1)(6) (1)(6) (1)(6)	850 to 1 000 925 to 1 075 1 000 to 1 150 1 075 to 1 225 1 150 to 1 300 1 550 min.	680 755 850 940 1 020 1 235	13 12 12 11 10 5	54 47 47 40 34 10	50 42 42 35 28 9	665 740 835 925 1 005 1 125	248 to 302 248 to 302 269 to 331 293 to 352 311 to 375 341 to 401 444 min.
817M40	Hardened and tempered + cold drawn or hardened and tempered + cold drawn + ground	T > 63 ≤ 150 U > 29 ≤ 100 V > 13 ≤ 63 W ≥ 6 ≤ 29 (4)(6)(7) (4)(6)(7) (4)(6)(7)	850 to 1 000 925 to 1 075 1 000 to 1 150 1 075 to 1 225 1 150 to 1 300 1 550 min.	700 770 865 955 1 035 1 250	9 9 9 8 7 3	54 47 47 40 34 11	— — — — — —	680 755 850 940 1 020 1 235	248 to 302 269 to 331 293 to 352 311 to 375 341 to 401 444 min.
		Turned, ground or cold drawn and finally softened							

<sup>a</sup> See also option A.3.

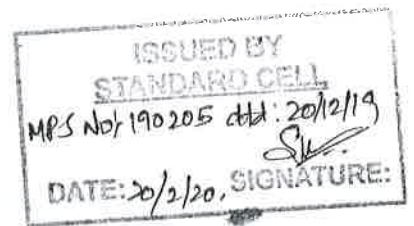


Table 16 — Chemical composition: alloy direct hardening steels

Steel	C	Si	Mn	P	S	S	Cr	Mo	Ni
550N140	0.36 to 0.44	0.10 to 0.40	0.60 to 0.90	0.035 max.	0.040 max.	0.90 to 1.20	—	0.22 to 0.32	—
605N136	0.32 to 0.40	0.10 to 0.40	1.30 to 1.70	0.035 max.	0.040 max.	—	—	0.22 to 0.32	—
606N136	0.32 to 0.40	0.10 to 0.40	1.30 to 1.70	0.035 max.	0.15 to 0.25	—	—	0.22 to 0.32	—
705N140	0.36 to 0.44	0.10 to 0.40	0.70 to 1.00	0.035 max.	0.040 max.	0.90 to 1.20	1.00 to 1.20	0.15 to 0.25	—
709N140	0.36 to 0.44	0.10 to 0.40	0.70 to 1.00	0.035 max.	0.040 max.	0.90 to 1.20	1.00 to 1.20	0.15 to 0.25	—
722N124	0.20 to 0.28	0.10 to 0.40	0.45 to 0.70	0.035 max.	0.040 max.	3.00 to 3.50	0.45 to 0.65	0.20 to 0.35	—
S17N140	0.36 to 0.44	0.10 to 0.40	0.45 to 0.70	0.035 max.	0.040 max.	1.00 to 1.40	0.45 to 0.65	0.20 to 0.35	—
S26N131	0.27 to 0.35	0.10 to 0.40	0.45 to 0.70	0.035 max.	0.040 max.	0.50 to 0.80	0.45 to 0.65	0.45 to 0.65	1.30 to 1.70
S26N140	0.36 to 0.44	0.10 to 0.40	0.45 to 0.70	0.035 max.	0.040 max.	0.50 to 0.80	0.45 to 0.65	0.45 to 0.65	2.30 to 2.80
945N138	0.34 to 0.42	0.10 to 0.40	1.20 to 1.60	0.035 max.	0.040 max.	0.40 to 0.60	0.15 to 0.25	0.15 to 0.25	2.30 to 2.80

NOTE See also 3.3 (c), 3.3 (v) and options A.2 and A.5.

Table 17 — Chemical composition: ferritic and martensitic stainless and heat resisting steels

Steel	Chemical composition (maximum unless range stated)									
	C	Si	Mn	P	S	Cr	Mo	Ni	Se	
<i>Ferritic steels</i>										
403S17	0.05	1.0	1.0	0.040	0.030	12.0 to 14.0	—	0.50	—	—
430S17	0.08	1.0	1.0	0.040	0.030	16.0 to 18.0	—	0.50	—	—
<i>Martensitic steels</i>										
410S21	0.09 to 0.15	1.0	1.0	0.040	0.030	11.5 to 13.5	—	1.00	—	—
416S21	0.09 to 0.15	1.0	1.5	0.060	0.15 to 0.35	11.5 to 13.5	0.60	1.00	—	—
416S29	0.14 to 0.20	1.0	1.5	0.060	0.15 to 0.35	11.5 to 13.5	0.60	1.00	—	—
416S37	0.20 to 0.28	1.0	1.5	0.060	0.15 to 0.35	12.0 to 14.0	0.60	1.00	—	—
416S41	0.09 to 0.15	1.0	1.5	0.060	0.060	11.5 to 13.5	0.60	1.00	0.15 to 0.35	—
420S29	0.14 to 0.20	1.0	1.0	0.040	0.030	11.5 to 13.5	—	1.00	—	—
420S37	0.20 to 0.28	1.0	1.0	0.040	0.030	12.0 to 14.0	—	1.00	—	—
431S29	0.12 to 0.20	1.0	1.0	0.040	0.030	15.0 to 18.0	—	2.0 to 3.0	—	—