

TABLE 1-9
Mechanical properties of standard steels

Designation		Tensile strength, σ_{st}		Yield stress, σ_{sy}		Elongation in 50 mm (gauge length $5.65 \sqrt{a^2}$)
New	Old	MPa	kpsi	MPa	kpsi	
Fe 290	(St 30)	290	42.0	170	24.7	27
Fe E 220	—	290	42.0	220	32.0	27
Fe 310	(St 32)	310	45.0	180	26.1	26
Fe E 230	—	310	45.0	230	33.4	26
Fe 330	(St 34)	330	47.9	200	29.0	26
Fe F 250	—	330	47.9	250	36.3	26
Fe 360	(St 37)	360	52.2	220	32.0	25
Fe F 270	—	360	52.2	270	39.2	25
Fe 410	(St 42)	410	59.5	250	36.3	23
Fe E 310	—	410	59.5	310	50.0	23
Fe 490	(St 50)	490	71.1	290	42.0	21
Fe E 370	—	490	71.1	370	53.7	21
Fe 540	(St 55)	540	78.3	320	46.4	20
Fe E 400	—	540	78.3	400	58.0	20
Fe 620	(St 63)	620	90.0	380	55.1	15
Fe E 460	—	620	90.0	460	66.7	15
Fe 690	(St 70)	690	100.0	410	59.5	12
Fe E 520	—	690	100.0	520	75.4	12
Fe 770	(St 78)	770	111.7	460	66.7	10
Fe E 580	—	770	111.7	580	84.1	10
Fe 870	(St 88)	870	126.2	520	75.4	8
Fe E 650	—	870	126.2	650	94.3	8

Note: a^2 area of cross-section of test specimen.
Source: IS 1570, 1978.