

HIGH TENSILE STEEL SUMMARY OF GRADES

Grade AISI/AST M A276	CHEMICAL COMPOSITION									MECHANICAL PROPERTIES	
	C%	Si%	Mn%	P%	S%	Cr%	Mo%	Ni%	N	Ultimate Tensile Strength <small>*Limiting ruling section applies on diameter</small>	Hardness

4140	0.38	0.10	0.75	-	-	0.80	0.15	-	-	850-1000 Mpa	248-302 Bhn
	0.43	0.35	1.00	0.04	0.04	1.10	0.25	-	0.10		

TYPICAL APPLICATIONS

General purpose high tensile construction steel. Used for shafts, axles, studs and bolts, large gears and light duty form rolls.

4340	0.38	0.10	0.60	-	-	0.70	0.20	1.65	-	930-1080 Mpa	269-331 Bhn
	0.43	0.35	0.80	0.04	0.04	0.90	0.30	2.00	0.10		

TYPICAL APPLICATIONS

Similar applications to 4140 but has the advantage of higher tensile strength, particularly in the heavy sections above 150mm.

EN25	0.27	0.10	0.45	-	-	0.50	0.45	2.30	-	930-1080 Mpa	269-321 Bhn
	0.35	0.35	0.70	0.04	0.04	0.80	0.65	2.80	0.10		

TYPICAL APPLICATIONS

Suitable for high tensile applications where freedom from temper brittleness is necessary. Heavy drive shafts axles and gears.

EN26	0.36	0.10	0.45	-	-	0.50	0.45	2.30	-	1080-1230 Mpa	311-375 Bhn
	0.44	0.35	0.70	0.04	0.04	0.80	0.65	2.80	0.10		

TYPICAL APPLICATIONS

Similar to X9931, however, has higher carbon content. Suitable where high surface pressure exists. Gears axles and pinions.

DESCRIPTION

Alloy high tensile steels are primarily stocked in the hardened and tempered condition. The steels listed are in approximate order of increasing tensile strength in the sizes stocked. When selecting a high tensile steel, care must be given to the relevant ruling section for each grade. The tensile strength of each grade is generally reduced as diameter increases and lower tensiles are normal beyond quoted maximum ruling sections.