

1.6587 CASE HARDENING STEEL

1.6587 is a 1.8% Chromium – Nickel – Molybdenum high hardenability, case hardening steel, generally supplied in the annealed condition with hardness around 225 Bhn. As with EN36A, 1.6587 has high core strength and toughness with case hardening capability up to 62 HRC.

Typical uses include: Large gears, heavy duty bushing, bearings, cam followers, extractors, shafts, wear pins, pump shafts, sprockets etc.

Stocked Sizes - Rounds 33 mm – 610 mm Ø

Finishes - Peeled/Rough Machined

Related Specifications

Australia	AS1444-1996-X4317
Germany	W. Nr 1.6587 DIN 17CrNiMo6/18CrNiMo7-6
United Kingdom	BS970 Part 3 1991 – 820M17/822M17 BS 970 1955 – EN354/EN355
USA	SAE 4317

Chemical Composition

	Min. %	Max %
Carbon	0.15	0.21
Silicon		0.40
Manganese	0.50	0.90
Nickel	1.40	1.70
Chromium	1.50	1.80
Molybdenum	0.25	0.35
Phosphorous		0.035
Sulphur		0.035

Typical Mechanical Properties in the Annealed Condition

Mechanical Property Designation

Tensile Strength Mpa	Approx.	700
0.20% Proof Stress (Yield) Mpa	Approx.	520
Elongation on %	Approx.	23
Hardness Brinell HB	Approx.	200 (Max. 230 BHN)

Annealing

Heat to 830-850 Deg C. Hold until temperature is uniform throughout the section and allow to cool in furnace.

8620 CASE HARDENING STEEL

8620 is a low nickel – chromium – molybdenum case hardening steel. 8620 is generally supplied in the as rolled condition and is primarily carburised with surface hardness up to 62 HRC.

Used for light to medium stressed components where surface hardness and wear resistance is required, uses include: Arbors, bearings, bushings, cam shafts, pinions, gears, guide pins, splined shafts, ratchets sleeves etc.

Stocked Sizes - Rounds 14 mm – 230 mm Ø

Finishes - Hot Rolled, Peeled

Related Specifications

Australia	AS1444-1996-8620/8620H
Germany	W. Nr 1.6523 – DIN 21NiCrMo2
United Kingdom	BS970 Part 3 1991 - 805M20 BS 970 1955 – EN362
Japan	JIS G4052 SNCM 220H
USA	SAE/AISI 8620 ASTM A29/A29M 1991 8620 UNS G86200

Chemical Composition

	Min. %	Max %
Carbon	0.17	0.23
Silicon	0.10	0.35
Manganese	0.60	0.95
Nickel	0.35	0.75
Chromium	0.35	0.65
Molybdenum	0.15	0.25
Phosphorous		0.04
Sulphur		0.04

Typical Mechanical Properties in the As Rolled Condition

Mechanical Property Designation		
Tensile Strength Mpa	Approx.	820
0.20% Proof Stress (Yield) Mpa	Approx.	590
Elongation on %	Approx.	22
Hardness Brinell HB	Approx.	240

Annealing

Heat to 820-850 Deg C. Hold until temperature is uniform throughout the section and allow to cool in furnace.

EN36A CASE HARDENING STEEL

EN36A is a 3.2% Nickel – chromium high hardenability case hardening steel, generally supplied in the annealed condition. Exhibiting high core strength and toughness whilst having the ability to be case hardened up to 62 HRC, typical uses include: Gears, heavy duty bushing, collets, conveyor pins, sprockets, shafts etc.

Stocked Sizes - Rounds 14 mm – 260 mm Ø

Finishes - Peeled

Related Specifications

Australia	AS1444-1996-X3312/X3312H
Germany	W. Nr 1.5752 – DIN 14NiCr14
United Kingdom	BS970 Part 3 1991 – 655M13 BS 970 1955 – EN36A
USA	SAE 3310 9310 UNS G33106/G93106

Chemical Composition

	Min. %	Max %
Carbon	0.10	0.16
Silicon	0.10	0.40
Manganese	0.35	0.60
Nickel	3.00	3.75
Chromium	0.70	1.00
Molybdenum		0.20
Phosphorous		0.04 (Ultraclean – Max. 0.01)
Sulphur		0.04 (Ultraclean – Max. 0.01)

Typical Mechanical Properties in the Annealed Condition

Mechanical Property Designation		
Tensile Strength Mpa	Approx.	700/770
0.20% Proof Stress (Yield) Mpa	Approx.	540
Elongation on %	Approx.	25
Hardness Brinell HB	Approx.	220 (Max. 255 BHN)

Annealing

Heat to 830-850 Deg C. Hold until temperature is uniform throughout the section and allow to cool in furnace.