



***FORGING
QUALITY STEELS***

clean steel

State of the Art Process Technology

Forging Quality Steels are widely used in automobile, defence, railways and various manufacturing industries. Automobile industry is the single largest user of forgings. Components produced through forging are generally used in the transmission systems of an automobile where large forces get transferred between different parts, hence they are of vital importance.

FORGING QUALITY STEELS

Quality requirements for Forging Quality Steels

- Close control on chemistry
- Freedom from harmful internal & surface defects
- Dimensional tolerance IS 3739 grade 1
- High degree of cleanliness
- Fine and Uniform Grain Size

These steels are widely used in automobile, defence, railways and various manufacturing industries.

Gears | Axles | Crankshaft | Camshaft | Connecting Rod | Pinions | Crown Wheels

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SIZES AND CONDITION OF SUPPLY

Supply Condition	Shapes	Sizes
Hot rolled, Hot rolled annealed, Peeled & ground, Peeled & reeled, Drawn	Round Bars	15 to 350mm
	Round Corner Square Bars	50 to 350mm

Dimensional Tolerance as per IS 3739 specification

CERTIFICATION

Standard Fetures

- Chemistry
- Internal Soundness (Macro Quality)
- Cleanliness Levels (Inclusion)
- Grain Size
- Hardness
- Magna-flux
- Microstructure
- Anti Mix-up Test In Addition to the standard features, following additional tests can be performed and certified as per customer's requirement
- Ultrasonic Test
- Step Down Test
- Blue fracture Test
- Jominy Hardenability
- Mechanical Properties - Tensile, Elongation, Reduction in Area, Hardness (on heat treated sample..
- Impact Test (at desired temperatures (-80°C to Room Temperature)
- Any other special test as per end application of the product



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TYPICAL FORGING QUALITY STEEL GRADES

Classification	IS	EN	DIN	AISI / SAE	JIS
Plain Carbon	15C8, 35C8 45C8	EN-8, EN-9 EN-32 B	CK-15, CK-30 CK-45, C35 Pb K C15 Pb K, CK-35 CK-60	1015, 1026 1030, 1135, 1040 1045, 1050 1055, 1060, 1080	S43C, S45C S48C, S55C, S35C, S53C
Carbon Manganese	47Mn6, 37Mn6, 37Mn2, 37C15, 20Mn2	EN-14A, EN-14B EN-15, EN-15B	40Mn4, 28Mn6, 27Mn2	1524, 1526, 1541, 1041F	SMn420H, SMn430H SMn433H, SMn435H SMn 443H
Plain Chrome	40Cr1, 50Cr4	EN-18 EN-207	34Cr4, 37Cr4 41Cr4	5120, 5140 5145, 5150 5160	SCr 420H, SCr415
Chrome Manganese	16Mn5Cr4 20Mn5Cr5	-	16MnCr5, 20Mn5Cr5	-	-
Chrome Moly	40Cr1Mo28	EN-19	42CrMo4	4118, 4130, 4135, 4140, 4145, 4150 A182 F12 C1 II	SCM 415, SCM 420H SCM 435H, SCM 440H
Chrome Nickel	40CrNi6 16Ni3Cr2	EN-36A EN-36B	15CrNi6, 16CrNi4 18CrNi8, 20CrNi4	- -	-
Chrome Nickel Moly	20NiCr2Mo2	EN-353, EN-354, EN-355, EN-36C EN-24, 845H17, 822H17	17CrNiMo6 30CrNiMo3 34CrNiMo6	4340, 8620 8640, 8627 8615, 8617	SNCM220H SNCM420H
Moly-Manganese	35Mn6Mo3 35Mn6Mo4	EN-16 EN-17	-	4027H 4037H	-
Ball Bearing	103Cr2	EN-31	100Cr6	SAE52100	SUJ2
Micro Alloyed	38MnSiV55	-	-	-	-



BIS Approved
NABL Accredited Chem & Mech Labs.
ISO 9001 & IATF 16949 Certified by UL DQS
ISO 14001 & ISO 45001 Certified by TUV Nord
AD 2000 Merkblatt WO /PED Certified by TUV Nord

SUNFLAG IRON & STEEL CO. LTD.

Head Office : 33, Mount Road, Sadar, Nagpur 440001, Maharashtra (India)

☎ 0712 2524661 / 2520356, (Direct) 0712 2520042 🌐 www.sunflagsteel.com



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