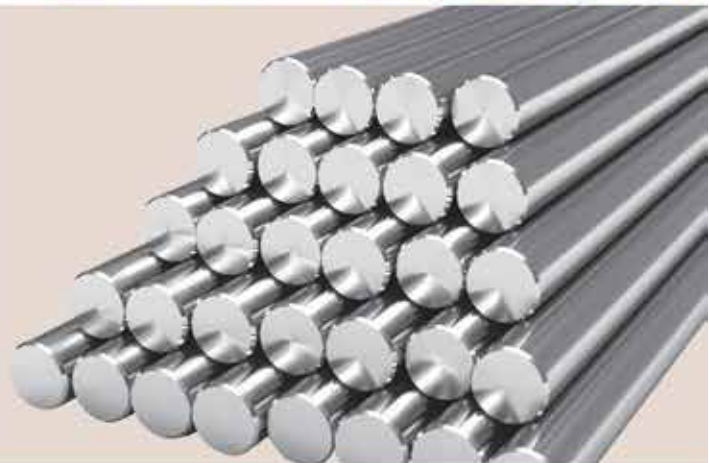
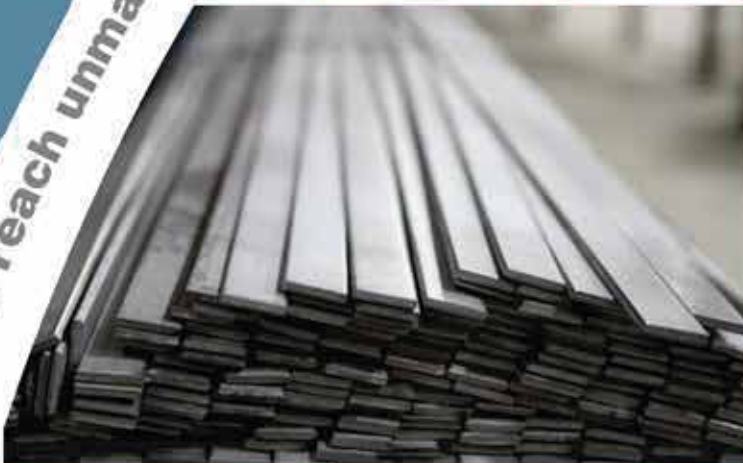




BIS Approved  
NABL Accredited Chem & Mech Labs.  
ISO 9001 & IATF16949 Certified by UL DQS  
ISO 14001 & OHSAS 18001 Certified by TUV Nord  
AD 2000 Merkblatt WO /PED Certified by TUV Nord

To reach unmatched quality standards, one has to go through fire.



# About

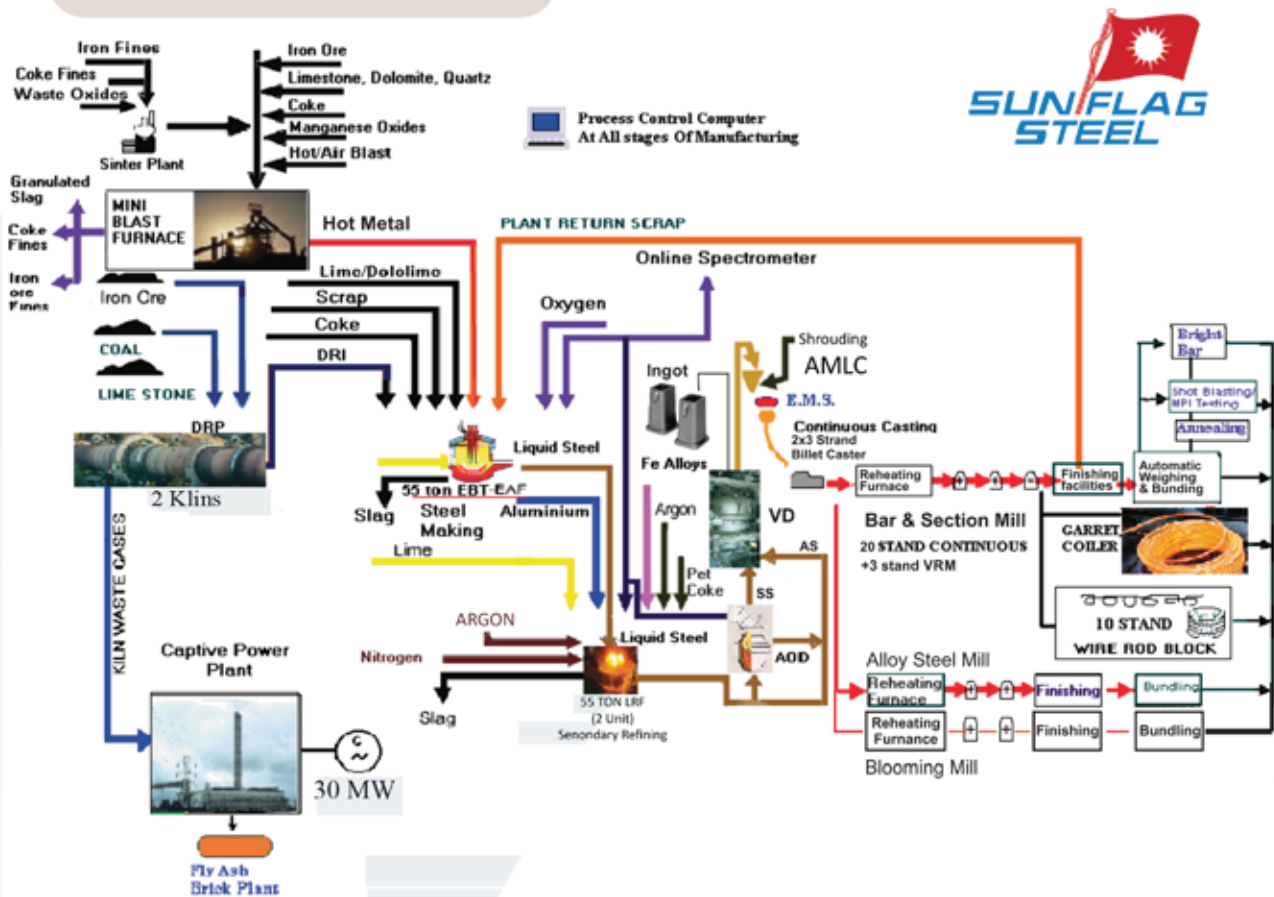
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A mission and commitment to add qualitative value for enhanced customer satisfaction has been the guiding philosophy at the Sunflag Group which has a major presence in Kenya, Nigeria, Tanzania, Cameroon, Thailand, U.K., Canada & India. The well diversified group has interests in Steel, Synthetic Yarn, Fabric, Garments & Non-woven Textiles. With setting up of the one of most advanced composite steel plant in the world, Sunflag has revolutionized the steel industry in India. This plant has a capacity of producing 5,00,000 tones per annum of high quality rolled products of a varied product mix, including a wide range of Carbon Steels, Alloy Steels, Free Cutting Steels, Spring Steels, Stainless Steels, Bearing Steels, Cold Forging Steels, Engine Valve Steels, Microalloyed Steels & Value Added Steels. Sunflag's clientele includes original equipment manufactures in Automobiles, Railways, Defence, Forging and Bright Bar Industries.





## Process Route



DRP : Direct Reduction Plant  
DRI : Direct Reduced Iron  
EAF : Electric Arc Furnace  
EBT : Eccentric Bottom Tapping

LRF : Ladle Refining Furnace  
AOD : Argon Oxygen Decarburisation  
VD : Vacuum Degassing  
EMS : Electro Magnetic Stirrer

AMLC : Auto Mould Level Controller  
VRM : Variable Reduction Mill  
AS : Alloy Steel  
SS : Stainless Steel

For downstream processing of hot rolled bars/coils, the following facilities are available

- Pickling / Phosphating • Normalising • Spheroidize Annealing • Hardening Tempering • Solution Annealing
- Bright Bar manufacturing by peeling, drawing & centreless grinding • Wire drawing

## Sunflag Product Range

Ingot size & WT.	Billet/Bloom size	Rolled Product		Bright Bar	
		Shape	Size Range	Type	Size Range
540 x 700 x 1700 - 5T	130 x 130 mm	Straight length rounds	15-350mm dia	Peeled & ground bars	5-100 mm dia
480 x 637 x 1700 - 4.2T	160 x 160 mm	Straight length Hexagons	15.5-42mm A/F		
402 x 500 x 1700 - 3T	210 x 232 mm	Wire rod rounds	5.5-38mm	Drawn & ground bars	6-34mm dia
323 x 412 x 1700 - 2.7T	240 x 280 mm	Wire rod hexagon	13.5-25.5 A/F		
290 x 445 x 1700 - 1.8T	280 x 320 mm	Round corner squares	40-350mm	Drawn/ SAPPD wires	5 to 30mm
		Flat (Width/Thickness)	50-150/5-34 mm		

## Research & Development :

R & D division of Sunflag Iron Steel Co. Ltd plays a pivotal role in retaining and consolidating Sunflags' leadership position in automobile industry.

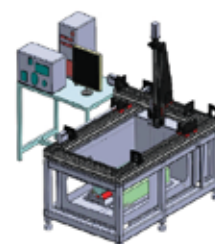
R & D focus on development of new steel grades, process improvement, continuous up-gradation of Quality, Customer Satisfaction through customized products matching with their specific requirement.

**Sunflag R&D lab is equipped with following state of the art equipment:-**

- Scanning Electron Microscope with Energy Dispersive X-Ray Spectroscopy (SEM-EDS) of Make - JOEL
- Immersion Ultrasonic Testing Facility of Make- Olympus/Blue Star
- Optical Microscope with Automatic Multiaxis Stage Movement and Image Analysis software
- Micro-hardness tester
- Ferritometer



SEM - EDS



Immersion UT

## Online Inspection Facility :

### • Phased Array Auto Ultrasonic Testing

Ultrasonic testing unit for round bars (15 to 120 mm size) based on phased array technology. It has great detection sensitivity with high detection repeatability of unique Olympus floating head concept that provides capability to detect defects smaller than SDH 0.5mm



Phased Array Auto UT

### • Magnetic Flux Leakage Testing (MFLT)

MFLT (make-Novaflux) is an automated flux leakage inspection system for ferromagnetic round bars (15 to 120mm size) to find longitudinal surface flaws using high energy alternating current magnetic leak fields.

### • Eddy Current Testing (ECT)

Eddy current testing is a non destructive testing technique making use of electromagnetic induction to detect and characterize surface and subsurface flaws for bright bars.



MFLT

## Product Acceptance :

- GM, Volvo, Ford, Daimler, Tata Motors, Mahindra & Mahindra, Ashok Layland, Eicher Volvo, Force Motor, JCB
- Honda, Nissan, Maruti Suzuki, Hyundai, Fiat, Toyota, Lamborghini
- Bajaj Auto, TVS, HMT, Yamaha, Hero, Suzuki, Royal Enfield
- Escorts, John Deere, TAFE, Sonalika, New Holland
- Bosch, Sona Koyo, GKN, JTEKT, NHK, Meritor, TRW, Schaeffler, NBC, NTN, Sonic ZF, Nexteer, GNA, Graziano
- Oerlikon, Carraro, Sona BLW, Sundram Fasteners, Musashi, Stumpp Schuele, Dana Copr., Denso
- BHEL, L&T, NTPC
- Indian Railways
- Defence (Ordnance Factory)



## Competitive Advantage of Sunflag Products

### FACILITIES

- 1 Inhouse manufacturing facility for DRI and Pig Iron
- 2 100% virgin material in charge mix
- 3 Steel making through Process control computers
- 4 Vacuum Degassing
- 5 Equipped with Mould Electromagnetic stirrer (EMS)
- 6 100% close casting facility from ladle to tundish and tundish to mould
- 7 Automatic mould level controller
- 8 Auto mould powder feeder
- 9 Foot EMS
- 10 Ingot Casting Facility
- 11 Duplex/Triplex process for stainless steel
- 12 Computer control heating and furnace Oxygen atmosphere in walking beam reheating furnace
- 13 Sophisticated PLC controlled 20 stand continuous mill with water quenching facility
- 14 Danieli make 3 stand VRM
- 15 Danieli make 10 stand block mill facility
- 16 Cooling bed fully covered for controlled cooling of rolled product
- 17 Rake type cooling bed
- 18 Cold shear equipped with mechanical gauge control
- 19 Cut length optimization through cooling bed computers
- 20 Marketing offices & stock yard are connected with plant by SAP
- 21 Sunflag online posting order on website and app

### PRODUCT STRENGTH

Reliable and dependable supplier  
 Consistency in input material quality  
 Products with very low tramp elements and free from radioactive contamination  
 Close chemistry range with high repeatability  
 Reduction in gas level & improved cleanliness of steel  
 Improved cleanliness  
 Free from central segregation, piping, central porosity and minimum columnar structure, Enhanced mechanical properties  
 Controlled Hardenability Band  
 Cleaner steel due to absence of reoxidation

Ensure high integrity of chill zone in the cast billet / bloom assuring high degree of surface and subsurface soundness  
 Improved surface quality of billet  
 Reduction in carbide segregation in bearing steel  
 To produce high alloy steel & rolled product with high reduction ratio  
 Very low gas levels in stainless steel  
 Uniform temperature in billet, minimum decarburisation in rolled product  
 Good size control for defect free rolling by controlling inter stand tension  
 VRM ensures close dimensional tolerance of 1/4 th of standard DIN 1013 or 60% IS 3739 .Assurance of minimum size variation along the length of bar.As per customer's urgency , size changing flexibility helps in minimising changeover time.  
 Good size control and effective temperature control in finish product and uniform control cooling  
 Controlled 'As rolled hardness' and controlled grain size of rolled products  
 Assured straightness of rolled products  
 Fixed length product  
 Minimisation of short length generation  
 Effective monitoring of progress on order execution

Customer can track order status at any time on app.

## QMS Certification and Approvals

The guiding Philosophy in Sunflag Steel is enhancing customer satisfaction through continual improvement. To continuously achieve higher level of performance in these areas sunflag had adopted and effectively implemented various Quality Management system.

QMS Standards Certified	Standard Scope	Certification Body
ISO 9001	Quality Management Systems	UL DQS , Germany
IATF 16949	Global Automotive Quality Management Systems	UL DQS , Germany
ISO 14001	Environment Management Systems	TUV Nord, Germany
OHSAS 18001	Occupational Health & Safety Management Systems	TUV Nord, Germany
AD 2000 - Merkblatt WO / PED	QA System for Material Manufacturer as per Pressure Equipment Directives 97/23/EC & AD 2000 - Merkblatt WO	TUV Nord, Germany
NABL (National Accreditation Board for Testing & Calibration Laboratories)	Sunflag Chemical & Mechanical Laboratories certified by NABL.	NABL India



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