

KALYANI CARPENTER



KALYANI

DRIVING INNOVATION

www.kalyanincarpenter.com
www.kalyanigroup.com



PHILOSOPHY

“ To use our specialized skills and innovative technology to contribute to the welfare of the society. It is our intention to grow along with our employees and to aid and encourage them to participate in our goals in order that they realize their full potential.

Our prosperity is linked to the prosperity of our customers.”

B. N. Kalyani
Group Chairman



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THE KALYANI GROUP - AN OVERVIEW

The Kalyani Group is one of the leading industrial houses in India, with a sharp focus on primarily four sectors, viz. Engineering Steel, Automotive & Non-Automotive Components, Renewable Energy & Infrastructure and Specialty Chemicals. The Group's Annual Turnover is over USD 2.5 billion and has joint ventures with some of the world leaders such as ArvinMeritor, USA, Carpenter Technology Corporation, USA, Hayes Lemmerz, USA, FAW Corporation, China, Alstom, NTPC, etc. Bharat Forge Limited, the flagship company of the group is a global forging conglomerate. With a global capacity of over 750,000 TPA spread across 11 locations and 5 countries - four in India, three in Germany, one each in Sweden, USA and two in China, Bharat Forge has the capability to meet the global demands of its customers with seamless engineering and design support. BFL manufactures a wide range of safety and critical components for the automotive, power, rail & marine, energy, oil & gas, mining & construction equipment and several other industrial sectors. Apart from Bharat Forge Ltd., the other major companies in the group are Kalyani Steels, Kalyani Carpenter Special Steels, Kalyani Lemmerz, Automotive Axles, Kalyani Thermal Systems, BF Utilities, Hikal Limited, BF Investment, Kalyani Investment, Kalyani Global, Epicenter and Synise Technologies.

The Kalyani Group's vertical integration, with upstream steel making and downstream machining coupled with international competitiveness at every step, benefits our customers in terms of :

World Class - • Technology • High Quality • Partnership

Kalyani Group

Key companies in the group	India	China	Europe	USA
Engineering Steel	Kalyani Steels			
	Kalyani Carpenter Special Steels			
Automotive & Non Automotive Components	Bharat Forge	FAW Bharat Forge	CDP Bharat Forge GmbH, Germany	BF America
	Kalyani Thermal		Bharat Forge Daun GmbH, Germany	
	Automotive Axles		Bharat Forge Kilsta AB, Sweden	
	Kalyani Lemmerz			
Renewable Energy & Infrastructure	BFUL		Kenersys GmbH, Germany	
	NICE			
	Kenersys			
Specialty Chemicals	Khed SEZ		Marsing, Denmark	
	Kalyani Global			
	Hikal Limited			

Kalyani Group : Business highlights

Group Turnover	Over USD 2.5 billion	Employee Strength	Over 10,000
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Market Leader

"Group Companies are positioned No.1 or No.2 in all main businesses in the Domestic and International Market "

- #1 in Forging & Machined components
- #1 in Axle Aggregates in India
- #1 in Wheels in India
- #1 in Alloy Steel

Founded as Kalyani Steels in 1973, Kalyani Carpenter Special Steels started as backward integration of Bharat Forge, the largest forging company in the world and flagship company of KALYANI GROUP. Over the last 3 decades, we have expanded our customer base to include most of the OEMs globally.

In 1999, Kalyani Group and Carpenter Technology Corporation of USA joined hands to form a joint venture (74:26) - A trusted name among global steel consumers, we are recognized as a leading manufacturer of special and alloy steels. We have manufacturing facilities at Pune and at Ranjangaon.

Current capacity 200,000 t/ annum at Mundhawa (Steel Plant) and 4800t/annum at Ranjangaon (Bright Bars Unit).

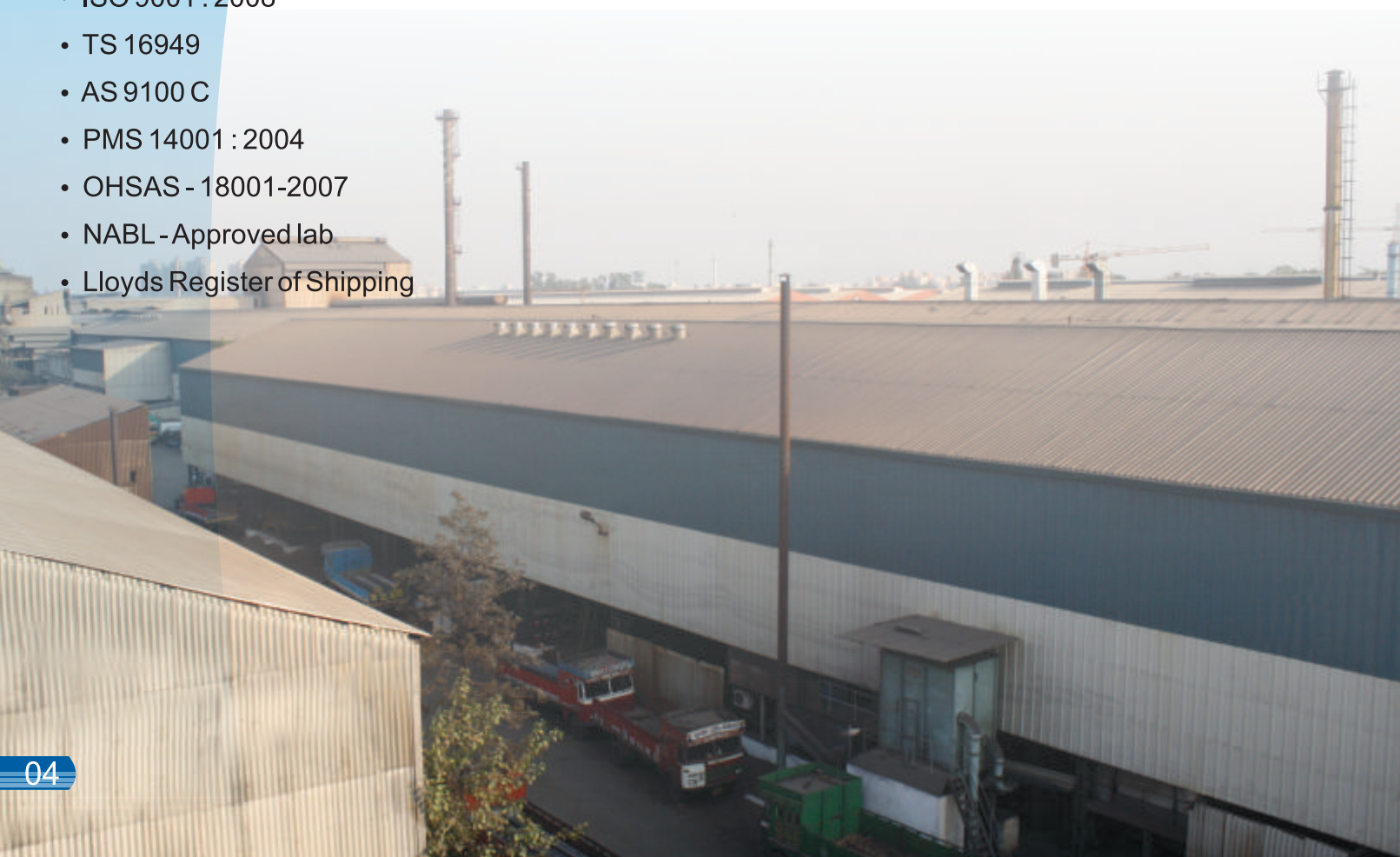
WE ARE THE LARGEST PRODUCERS OF ESR QUALITY.

The Clientele

Thanks to our advanced manufacturing and quality systems, we have consistently met and exceeded many a stringent requirements of our customers across the world. We cater to industry specifications including IS, BS, AISI/SAE, DIN, JIS, GOST specifications or as per customer's specific requirements. We take pride in our association with world leaders as our valued clients. Their delight is our inspiration.

Certifications/Accreditations

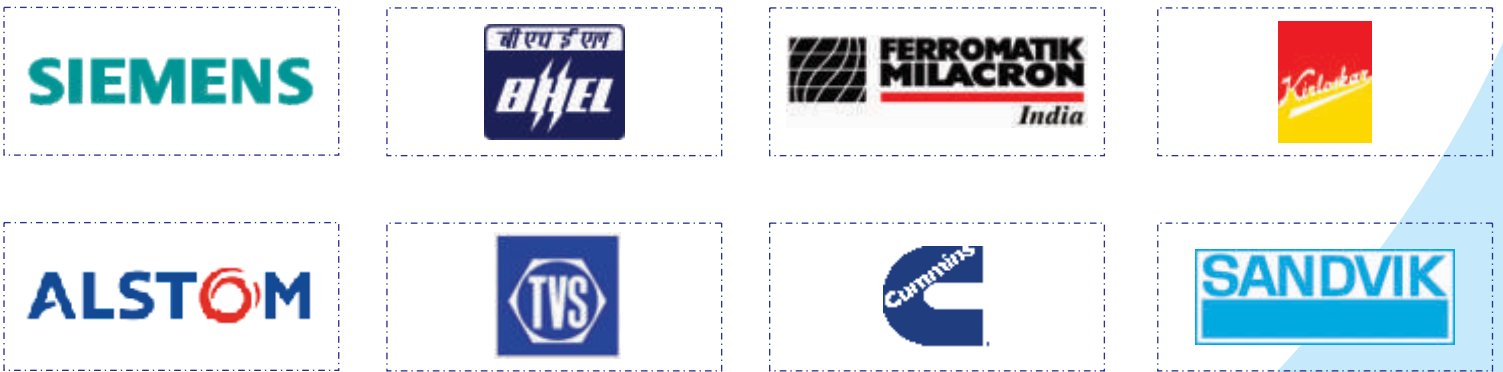
- ISO 9001 : 2008
- TS 16949
- AS 9100 C
- PMS 14001 : 2004
- OHSAS - 18001-2007
- NABL - Approved lab
- Lloyds Register of Shipping



Auto Sector



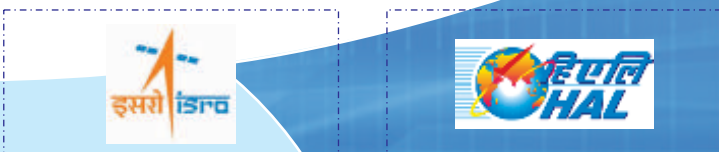
Engineering Sector



Oil & Gas Sector



Aerospace Sector



TYPICAL LIST OF CUSTOMERS

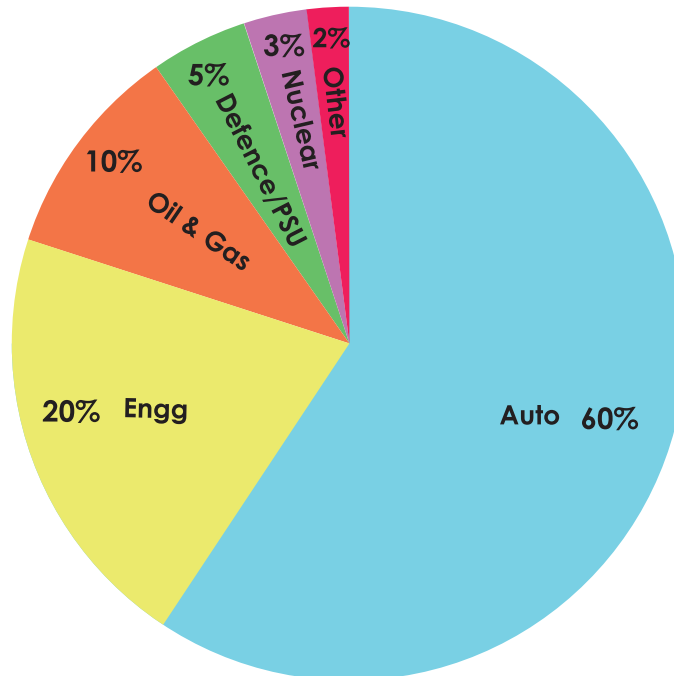
Defence Sector

- Heavy Vehicle Factory - Avadi
- Ordnance Factory - Trichy
- Ordnance Factory - Ambajhari
- Ordnance Factory - Kanpur
- Advance System Laboratory

Nuclear Sector

- Nuclear Power Corp of India Ltd.
- Nuclear Fuel Complex
- Bhabha Atomic Research Centre
- L&T Ltd.

Segment-wise Sales Mix



Product Range

Products

Alloy, Special, Tool & Die & Stainless Steel for Auto/Engg/Aerospace/Energy/Nuclear & Defence Application; ESR quality steels; Heat treated (QT/Sol. Ann/Sph. Ann/Norm/Ann) & Peeled/machined bars

Size Range

- Rolled Products - 60-200 mm Rounds, 80-330 mm RCS, Rectangular Flats 125-600mm width, 55-300mm Thickness
- As cast INGOTS (3-70 ton)
- As cast Bloom 160 x 160 mm to 320 x 400 mm



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Electric Arc Furnace

- 35 MT Capacity, ABB Make
- Transformer Capacity – 20/22 MVA
- Slide Gate Assembly for Slag Free Tapping
- Virtual Lance Burner (VLB.)
- Celox – for measurement of Oxygen in Molten Metal

Ladle Furnace/V. D/V. O. D.

- 35 MT Capacity, 2 Nos
- VD/VOD (MAN GHG – Germany)
- Vacuum less than 1 Millibar
- Automatic Ferro Alloy Addition System
- Continuous Argon Purging
- Vacuum Oxygen Decarburisation Capability
- Wire Feeding Capability
- Tank Degassing Type with 6 Ejectors and 3 Boilers

Bloom Caster

- Con-cast Technology / CLECIM Make & Automation by L&T
- C Type Twin Strand Caster
- Casting Radius 12 / 18 mtr
- S.E.N. Casting
- Mould Electro Magnetic Stirrer – Con-cast Switzerland
- Automatic Mould Level Controller (+/- 3.0 mm) – Con-cast Switzerland
- PLC Controlled Secondary Cooling

Bloom Sizes : C1-160x160, C2-210x230, C3-240x280, C4-320x400 mm

Ingot Casting Facilities

- Cast Iron and Spheroidal Graphite Iron Moulds
- Bottom Pouring and Uphill Teeming
- Wide End Up Moulds
- Ingot Weight 3 MT to 70 MT (**One of the largest in India**)
- Load Cell to monitor Rate of Liquid Metal Flow
- Argon / Nitrogen Shrouding with failure Alarm System
- Facilities to cast ingots under vacuum

Electro Slag Remelting - ESR

- Supplied by INTECO, Austria
- Fixed Collar Copper Mould with retractable base plate
- Single Column, Automatic Electrode Change
- Transformer Capacity 1.5 MVA
- Mould Sizes: 335 mm Sq, 420 mm, 640 mm and 810 mm Dia
- Maximum Ingot Length 4.5 Meters
- Argon / Nitrogen shrouding
- Pre Fused Slag (Extra low Hydrogen Type)
- Continuous Aluminum Deoxidation

Ingot Weights : 3 to 17MT

Rolling Mill

1. Blooming Mill

- 925mm 2 High Reversible Mill, Morgardshamer (MH, Sweden)
- Soaking Pit for Heating Ingots upto 5MT
- Continuous Oxygen monitoring system in the reheating furnaces

2. 22" Mill

- 550 mm DIA 3 High Twin stand Rolling Mill
- Continuous Oxygen monitoring system in reheating furnace

Size Range : 80 mm to 200 mm Rounds ; 80mm to 340mm RCS

Rectangular flats : 125-600mm width, 55-300mm Thickness

Heat Treatment

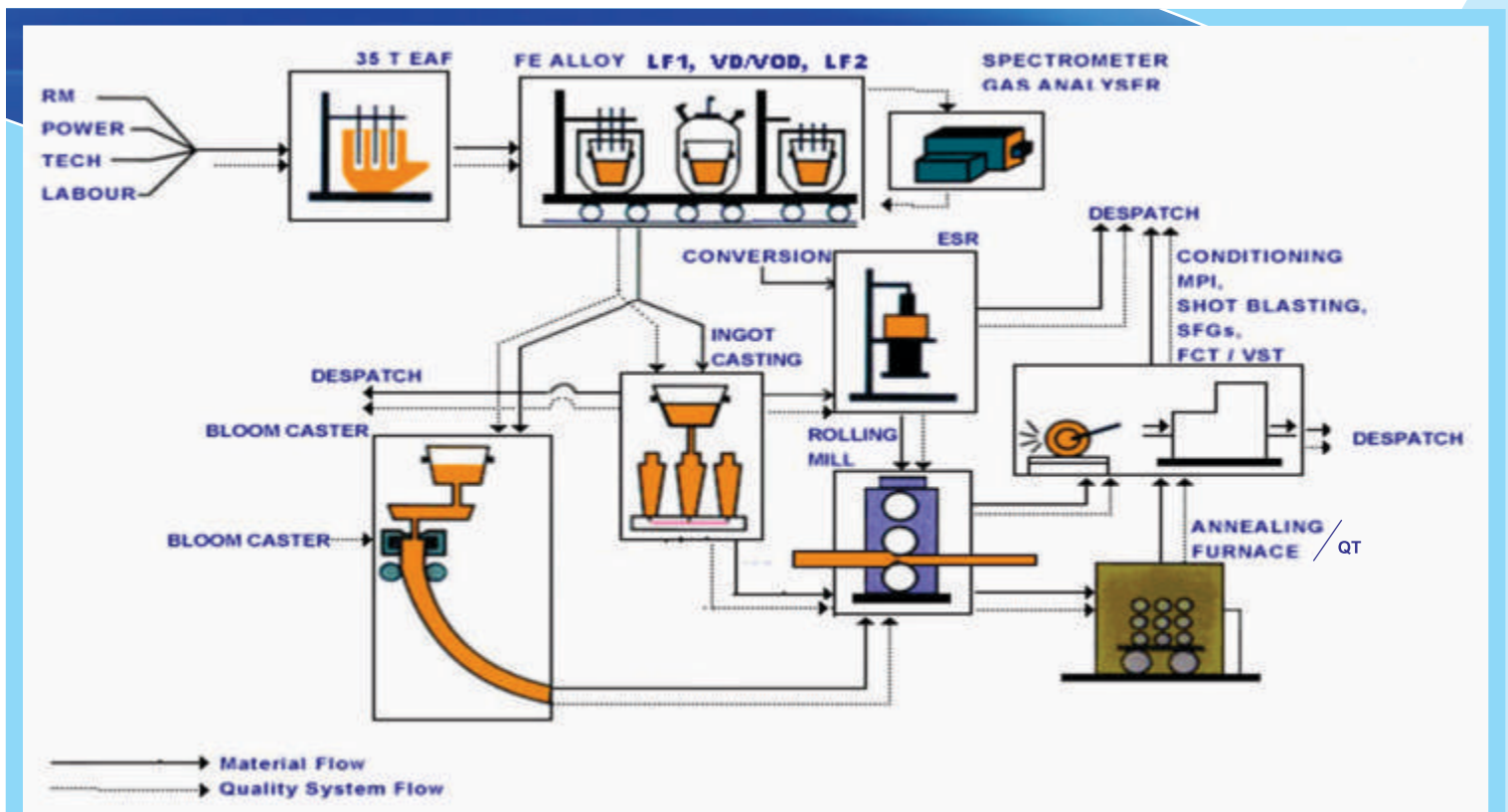
- Gas fired furnace with batch size 3.5MT and max length 6mtr (for Q&T and Solution Annealing 300 T/M capacity)
- Bogie hearth oil fired annealing Furnaces
 - 1 no - 15 MT batch size
 - 1 no - 30 MT batch size
- Bogie hearth Electric Annealing Furnaces
 - 1 no - 15 MT batch size



Quality Assurance Facilities

- Direct reading emission spectrometers (48 channels) 02 nos
- Mobile Spectrometers 03 nos LECO Carbon & Sulphur Determinator LECO Hydrogen Analyzer & Nitrogen/Oxygen Analyzer Struers Metallographic Polishing machines
- Metallurgical microscopes with photography capabilities
- Carl Zeiss microscope (HD-100) with image projection facilities
- Ultrasonic portable flaw detectors
- Online Ultrasonic Testing machine for 40-150 mm dia size range
- Universal Tensile testing machine (UTM - 40 T)
- Impact at subzero temperature
- Jominy end quench equipment
- Electric muffle furnaces for heat treatment
- Rockwell, Brinell and Vickers hardness testing machines
- ARL make X-Ray fluorescence Spectroscopy for raw material analysis

Process Flow (Mundhwa-Steel Plant)



Ranjangaon Bright Bar Plant

- Coil Annealing Furnaces With Inert Atmosphere
- Coil to Coil Line
- Coil to Bar Line (5 lines)

Finished Product : 5.3mm To 16.5 mm Dia

- Center Less Grinders
- Eddy Current Testing



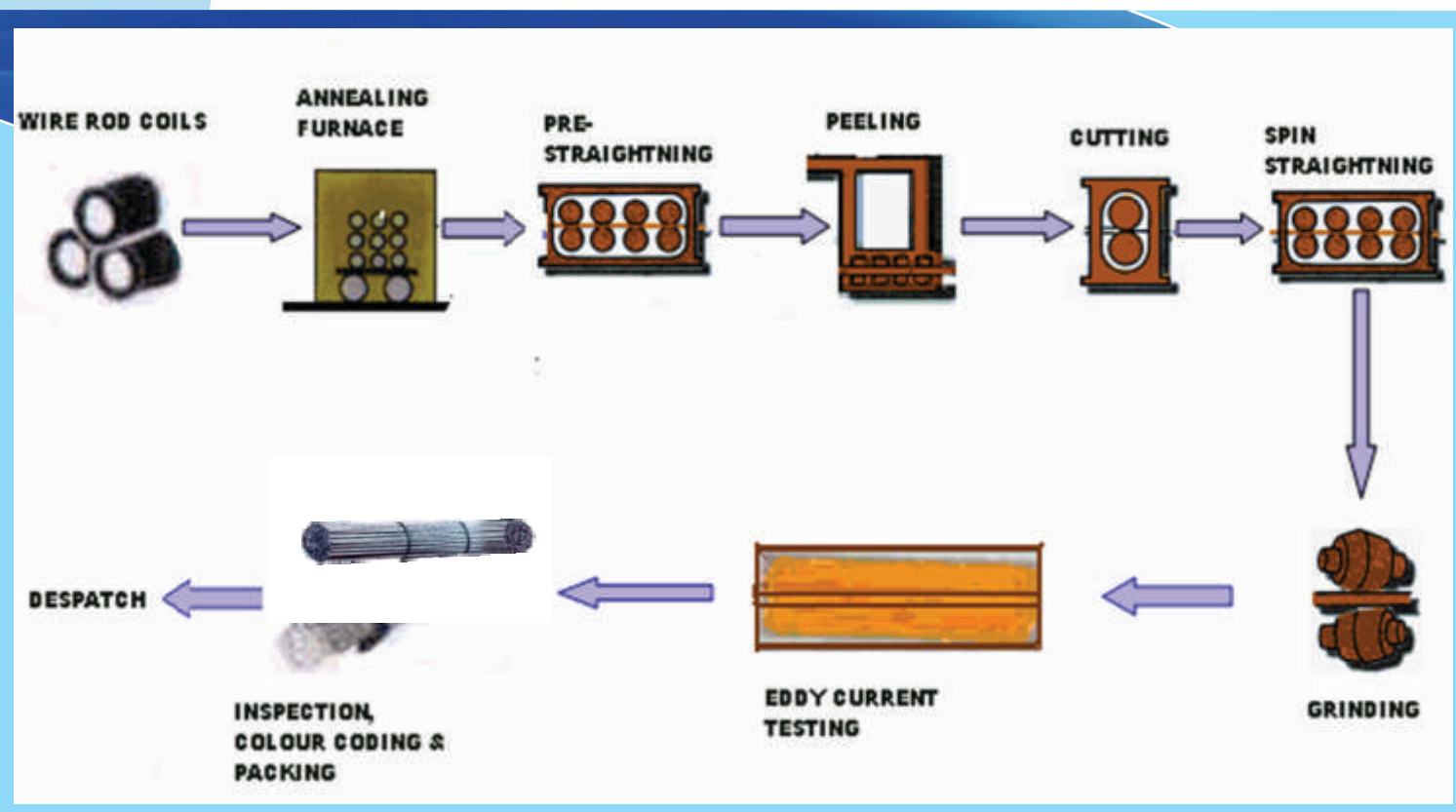
Ranjangaon Bright Bar Plant

Specialized Facilities for Production of Valve Steel (EN52/SUH11/SUH3/21-4N)

Capacity : 400 T/month

Major Customers : Rane Group, Shriram Pistons, Eaton, Durovalve

Process Flow chart (Ranjangaon-Bright Bar Unit)





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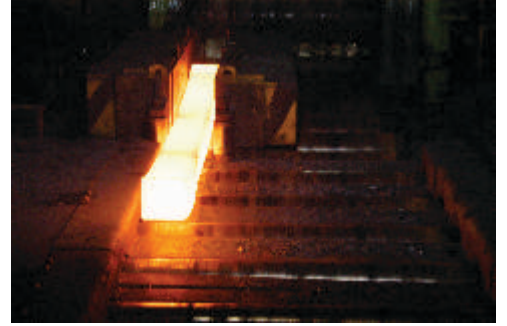
GLIMPSES OF MANUFACTURING FACILITIES



▲ Electric Arc Furnace



▲ Billet Caster



▲ Rolling Mill



▲ ESR



▲ Metallurgical Laboratory



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