

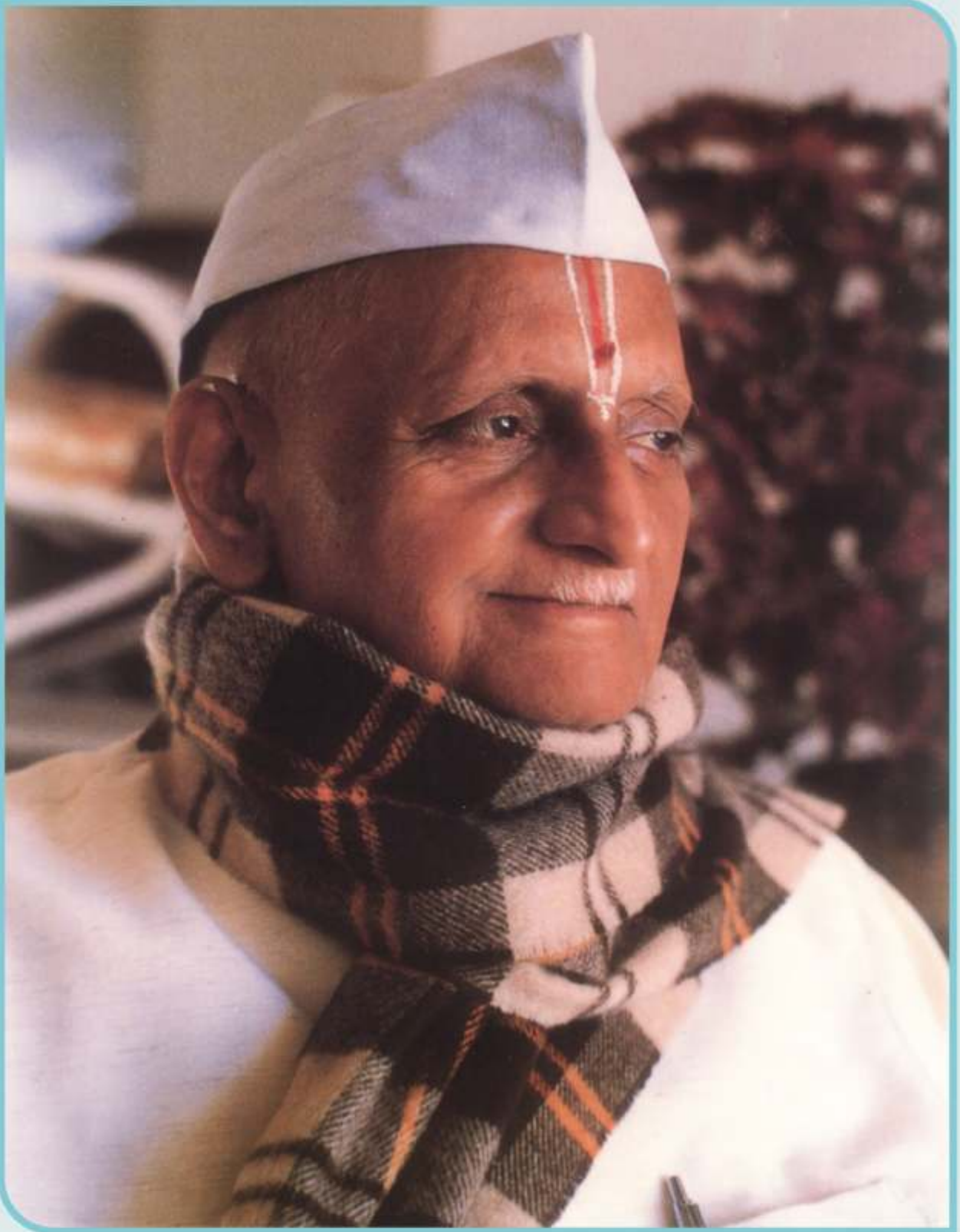


FACOR

STEEL

Accomplishing the
Mission Impossible...

OUR FOUNDER



LATE SHRI DURGAPRASADJI SARAF
(1911 - 1988)

OUR MENTOR



LATE SHRI UMASHANKARJI AGRAWAL
(1933 - 2007)

CORPORATE PROFILE

The FACOR Group

Incorporated in 1955, FACOR is one of India's largest producers and exporters of Ferro Alloys. It also produces high quality steel. It exports to several countries like Korea, Japan, Italy, Netherlands, USA, Turkey, China and Taiwan.

Ferro Alloys Corporation Limited

FACOR has the capacity to produce 65,000 TPA of Charge Chrome and 2,50,000 TPA of Chrome Ore at its Plant in Orissa. It has also established a mining complex at Bhadrak in Orissa for the mining of Chrome Ore, the main raw material for the production of Charge Chrome/Ferro Chrome. Stringent quality control for both raw materials and finished product is maintained. FACOR has been accredited with ISO 9001 : 2000 standard, which coupled with other control measures adopted by the Company, enables it to maintain its worldwide status as a producer of quality products.

Along with strengthening its industrial activities, which include marketing, production and technology development, FACOR continuously strives towards creating new products of high technology. Known for its positive attitude, every FACOR venture is a milestone in itself.

Facor Alloys Limited

Incorporated in the year 2004. Facor Alloys Limited has its manufacturing unit at Shreeramnagar, Andhra Pradesh. The unit has the capacity to produce 72,000 TPA of High Carbon Ferro Chrome. There are 6 furnaces which have produced a whole range of products over the past 5 decades which consist of High Carbon Ferro Chrome, Low Carbon Ferro Chrome, Silico Chrome, Silico Manganese & Magnesium Ferro Silico, Ferro Manganese, etc. Presently, the unit produces 72,000 TPA of High Carbon Ferro Chrome. Stringent quality controls for both products and raw materials are being maintained as per the standards and are supported by a full-fledged Inspection and Quality Control Department. The quality management systems have been approved by the IRQS in accordance with the ISO 9001 : 2000 standard and accredited with the certification.

Facor Steels Limited

Incorporated in May, 2004. Facor Steels Limited is a leading Carbon, Alloy, Stainless and Special Steel manufacturer in Central India with varied and broad product range, having the most modern state-of-the-art steel processing and quality assurance technologies. It has established updated and modernized manufacturing facilities for achieving consistency of product quality to ensure full customer satisfaction both in domestic and international markets. Its products are well accepted all over the globe and always looking for the implementation of new technique whether it is technical or work environment. The Stainless Steel and other specialty critical grade products cater to the most stringent requirements of automobiles, railways, defence and engineering sectors in India as well as the global markets in developed countries.

Facor Power Limited

Facor Power Limited is the new entrant in the FACOR Group and has been incorporated with the objective of generation of electricity for captive consumption by its Charge Chrome Plant at Randia. A 50 MW Power Plant is being established in the first phase with a plan to augment its capacity by another 50 MW in the second phase. This would reduce Group's dependence on external sources of power, besides reducing the cost of power involved in the production of Charge Chrome considerably.

Facor Realty and Infrastructure Limited

Facor Realty and Infrastructure Limited marks the Group's foray in the real estate sector for development of real estate in National Capital Region, Bhubaneswar and Nagpur. Plans are afoot for development of projects valued in excess of Rs. 100 crores in the aforesaid cities. The Company is moving with its business development plans as scheduled.

MISSION : To be the best among equals

To achieve this, a team of qualified and dedicated engineers is striving hard to meet and exceed the stated and implied needs of the customers.

The mission ahead is to become a leader in manufacture of critical special steel grades, internationally through an ever upgrading technology.

"Vision"

"Our vision is to be the undisputed number one in our range of products, with success based on operational excellence, We help our customers to gain competitive advantage by enhancing their performance"

FACOR

FACOR STEELS LIMITED

NAGPUR.

QUALITY POLICY

FACOR Steels Limited, Nagpur, is one of the leading Producers of Carbon / Alloy Steel, Stainless and Special steel; meant for critical industrial application.

At FACOR, we are committed to,

Fulfillment of customers' needs and expectations,

Achievements of Objectives leading to excellence and growth,

Continual improvement with compliance to requirement,

Oriented Human Resource to prevent process and product defect,

Reduced Variation & Waste,

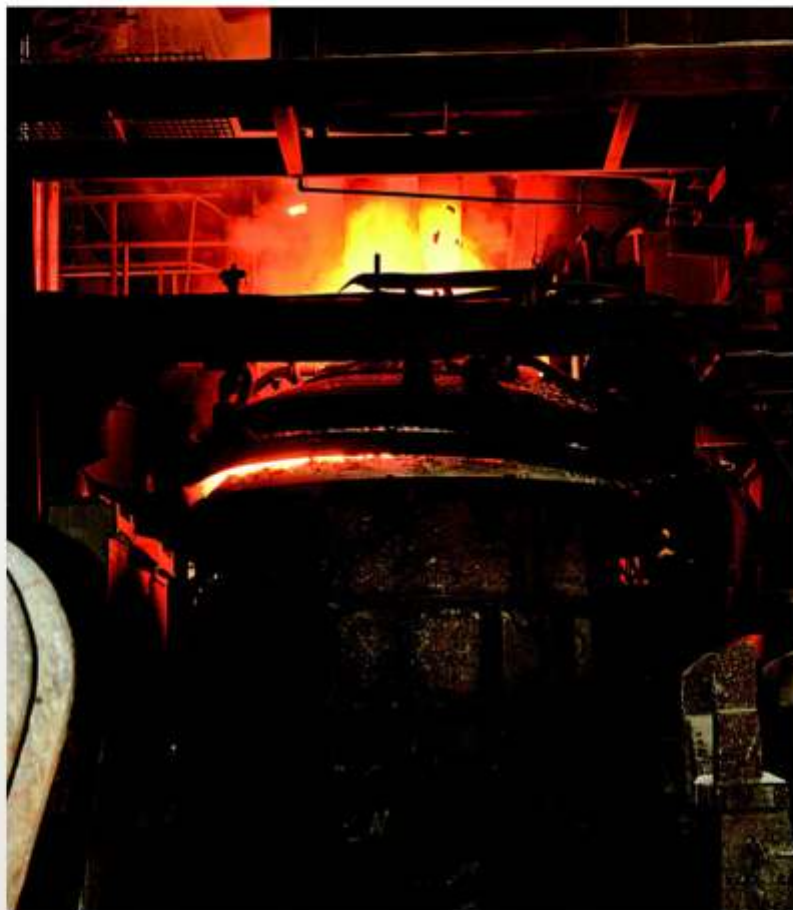


MANAGING DIRECTOR



ELECTRIC ARC FURNACE

Process	Equipment Specification	Capacity
<ul style="list-style-type: none">■ Rapid melting with oxygen lancing.■ Oxidation of Impurities■ Dephosphorisation with foamy slag.■ Slag free tapping.	<ul style="list-style-type: none">■ SSKD 340 Model.■ Asea Brown Boveri Make (M/s.ABB).■ Water Cooled Roof.■ DRI Feeding System.■ Scrap stored in fully covered shed.	<ul style="list-style-type: none">■ 20-24 MT Liquid Metal.■ Transformer Rating 12 MVA.■ 350mm electrode diameter.



LADLE REFINING FURNACE

Process	Equipment Specification	Capacity
<ul style="list-style-type: none">■ Chemical and Thermal Homogenisation.■ Alloy addition to achieve close chemistry range.■ Slag making for desulphurisation & refining with synthetic slag.■ Bottom purging by Argon through refractory purging block.	<ul style="list-style-type: none">■ Asea Brown Boveri Make SSKD 340 Model.	<ul style="list-style-type: none">■ 20-24 MT Liquid Metal.■ Transformer Rating 4/5 MVA.■ 250mm electrode diameter.■ Heating Rate 3-4°C/min.



VACUUM DEGASSING UNIT

	Process	Equipment Specification	Capacity
V.D	<ul style="list-style-type: none">■ Control of Hydrogen upto 2ppm max.■ Substantial reduction in Oxygen and Nitrogen levels.■ Total slag metal interaction for ensuring cleanliness.■ Can maintain vacuum at lower than 1mili bar.	<ul style="list-style-type: none">■ M/s.Technometal GmbH, Duisberg, Germany.■ Watering pumps and steam ejectors for achieving desired vacuum level.■ Water Cooled Top lance.	<ul style="list-style-type: none">■ 20/24 MT.



CORED WIRE INJECTION

Process	Equipment Specification	Capacity	Product advantage
<ul style="list-style-type: none">■ Floating of free alumina by formation of calcinated aluminium oxysulphides.■ Improvement in fluidity of steel while casting.■ Reduction in Aluminium loss during casting.	<ul style="list-style-type: none">■ M/s.J.B. Advani and Company.■ Feeding of 9mm - 13mm Cored Wires.■ Two roller type machine with flipping type spools.	<p>Feeding rate 20-100 Mtr/min.</p>	<ul style="list-style-type: none">■ Fine Adjustment of tramp elements.■ In SS grades, Cored Wire Injection is done to modify morphology of inclusions to make less abrasive. <p>For improved machinability percentage "S" is maintained above 0.25% in Sulphur bearing grade.</p> <p>In non Sulphur grades, controls are employed to maintain percentage "S" between 0.02 & 0.03. Uniform distribution of "B" & "Ti".</p>



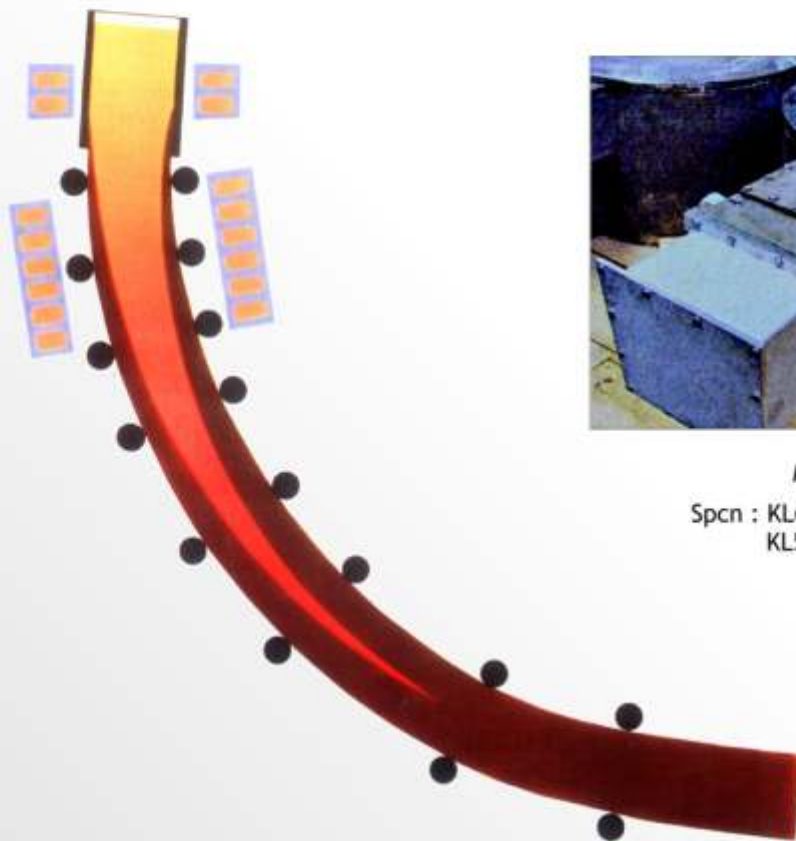
ARGON OXYGEN DECARBURISATION FOR STAINLESS STEEL

Process	Equipment Specification	Capacity
<ul style="list-style-type: none">■ Decarburisation through side/bottom blowing tuyers.■ Control of gas levels and chemical composition.	<ul style="list-style-type: none">■ Bottom blown Converter.	<ul style="list-style-type: none">■ 20/24 MT Liquid Metal.



CONTINUOUS CASTING

Process	Equipment Specification	Capacity
<ul style="list-style-type: none">■ Ladle-tundish stream shrouding.■ Tundish mould-stream shrouding.■ Synthetic mould slag.■ Soft secondary cooling.■ Controlled casting speed. Large metallurgical length.	<ul style="list-style-type: none">■ S-Type Curved Mould Two Strand Machine.■ 8.5 Meter Radius.■ Supplied by ISPL Mannesmann Demag, India.	<ul style="list-style-type: none">■ For Casting blooms in following sizes: 120x120mm 140x140mm 160x160mm 200x200mm 225x225mm Slab Casting (295x127)



MOULD EMS

Spcn : KL695/2T05H2/4Amp
KL549/3 To 8 H2/4Amp

ELECTROMAGNETIC STIRRER & AUTO MOULD LEVEL CONTROLLER

Process	Equipment Specification	Capacity
<ul style="list-style-type: none">■ Minimising columnar dendritic zone and Central segregation.■ Higher equiaxed zone to improve internal soundness.■ Improved Internal soundness.■ Improved chemical homogenisation in cast condition.■ Improved surface quality■ Close control on liquid steel meniscus in mould	<ul style="list-style-type: none">■ Rotary Type Electromagnetic (S-EMS) Mould Type■ Supplied by M/s.AEG Elotherm, Ramschid, Germany.	<ul style="list-style-type: none">■ MEMS length- 600mm length

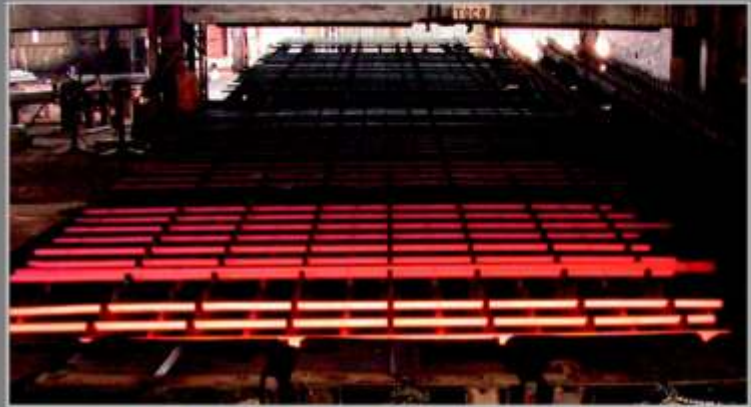


INGOT CASTING Facility



SPECIFICATION : 1 TON TO 14 TON

INGOT TYPE	Weight	Dimension
▪ M1 Square Ingot	(1T)	320x390x1000
▪ M2 Square Ingot	(2T)	406x508x1230
▪ M3 Square Ingot	(3T)	570x450x1570 mm
▪ M4.2 Square Ingot	(4.2T)	610x490x1850 mm
▪ M6 Polygonal Ingot	(6T)	790x660x1576 mm
▪ M7 Square Ingot	(7T)	732x580x2013 mm
▪ M7.7 Polygonal Ingot	(7.7T)	1025x865x1450 mm
▪ M8.2 Polygonal Ingot	(8.2T)	1025x865x1450 mm
▪ M9 Polygonal Ingot	(9T)	970x804x1860 mm
▪ M14 Polygonal Ingot	(14T)	1245x1005x1740 mm



24" ROLLING MILL

Process	Equipment Specification	Capacity
<ul style="list-style-type: none"> ■ Proper soaking of material before rolling. ■ Mechanised handling during rolling. ■ Close control on dimensional and other physical aspects like bend, twist, etc. ■ Inline cutting and mechanised handling of bars. 	<ul style="list-style-type: none"> ■ S.S.S. Engineering Company Ltd.(India). ■ 600mm Diameter, 3-Hi Stands-3 Nos. ■ Finishing Stands with roller bearings. ■ Pusher type Re-heating Furnace (3 Mtr. Wide and 21 Mtr. Long). ■ Hydraulic tilting tables. ■ Hot saw cutting machine. ■ 9 mtr. Wide and 21 mtr. Long turnover cooling bed. 	<ul style="list-style-type: none"> ■ Rounds-From 25mm diameter to 125mm diameter. ■ Round Corner Square-From 45mm to 130mm. ■ Re-heating Furnace Capacity 15-18 Tons/hour.



16" ROLLING MILL

Process	Equipment Specification	Capacity
<ul style="list-style-type: none">■ Proper soaking of material before rolling.■ Mechanised handling during rolling.■ Close control on dimensional and other physical aspects like bend, twist, etc.■ Inline cutting of bars.	<ul style="list-style-type: none">■ S.S.S. Engineering Company Ltd.(India).■ 450mm Diameter, 3-Hi 1 Stand, 2-Hi 1 Stand.■ P.P. Engineering Works Ltd■ 420mm Diameter, 3-Hi 2 Stands.■ Finishing Stands with roller bearings.■ Pusher type Re-heating Furnace (2.5 Mtr. Wide and 10 Mtr. Long).■ Hydraulic tilting table.■ Hot saw cutting machine.■ Flying shear.	<ul style="list-style-type: none">■ Rounds-14mm dia diameter to 32mm diameter.■ Hexagons-18.5 A/F, 20.5 A/F, 23.5 A/F to 38A/F■ Angles- 35 to 52 mm legwidth 3 to 5 mm thickness & from 60 to 77mm legwidth with 4.5 to 6.5 mm thickness.■ Re-heating Furnace Capacity 4-5 Tons/hour.



Centreless Grinding Machine



Cincinnati CG Machine



Kieserling Peeling Machine



Draw Bench

BRIGHT BAR SHOP FACILITIES

Equipment

PEELING MACHINES (4 NOS.):

CENTRELESS GRINDING MACHINES (8 NOS.)

FLAT POLISHING MACHINES (1 NOS.)

BAR POINTING MACHINE (2 NOS.)

ROUND, HEX & SQUARE BAR DRAWING MACHINE (1 NO.).

ROUND STRAIGHTENING MACHINES (8NOS.):

- Round Bar Straightening Machines (6 Nos.).

- Sectional Straightening Machine (2 Nos.)

BAND SAW CUTTING MACHINE (4 NOS.):

- Horizontal Bandsaw (3 Nos.).

- Double Column Bandsaw (2 No.).

ABRASIVE CUTTING MACHINES (2 NOS.)

BRIGHT BAR

(1) PROCESS ROUTE FOR PEELED & GROUND BARS



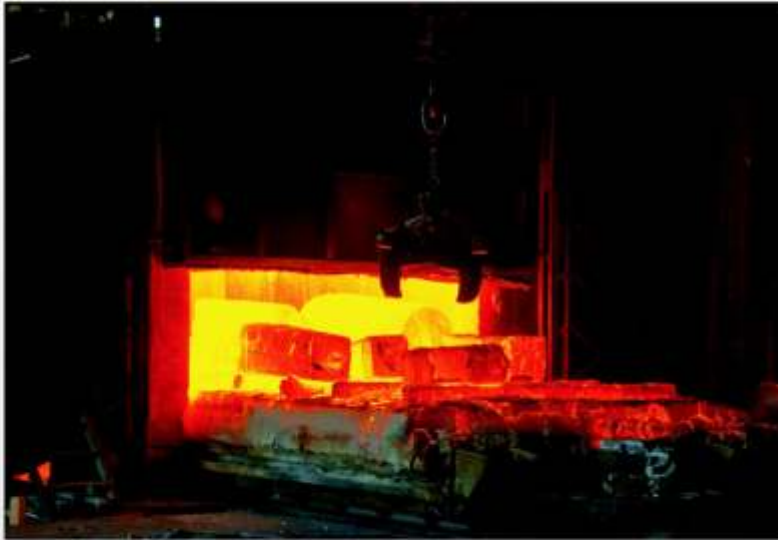
(2) PROCESS ROUTE FOR DRAWN AND CENTRELESS GROUND BARS



OPEN DIE FORGE SHOP FACILITIES







HEATING FURNACE SPECIFICATION :
3000mm X 6000mm long



GLAMA MAKE -
RAIL BOUND MANIPULATOR
WITH INTEGRATED PRESS



PLC CONTROL SYSTEM

SPECIFICATION :

Davy Make 4 column, 2000 Ton Open Die
Hot Forging Hydraulic Press integrated with Glama
Make Rail Bound Manipulator with Oil Gear
USA Hydraulic System based on Allori Bradley
5561 series PLC & Scada with full Automation



DAVY MAKE - 2000 TON FOUR COLUMN HYDRAULIC PRESS



BAND SAW MACHINE
(A) SPM 650 model capacity
upto 650mm dia
(B) AUTOWIN MAKE- capacity
upto 1500mm dia

FSL - GENERAL PRODUCT PROFILE (2000 T PRESS)

STRAIGHT SHAFT

CAPACITY

ØD MAX. = 800 MM
L MAX. = 11000 MM
W MAX. = 11000 KG



STEP SHAFT BACK UP ROLL

CAPACITY

ØD MAX. = 800 MM
L MAX. = 11000 MM
W MAX. = 11000 KG



HYDRO TURBINE SHAFT

CAPACITY

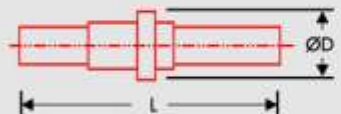
ØD MAX. = 850 MM
L MAX. = 10000 MM
W MAX. = 10000 KG



FAN SHAFT

CAPACITY

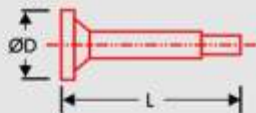
ØD MAX. = 900 MM
L MAX. = 11000 MM
W MAX. = 10000 KG



WIND MILL SHAFT

CAPACITY

ØD MAX. = 1000 MM
L MAX. = 5000 MM
W MAX. = 7000 KG



SQUARE

CAPACITY

MAX THK = 650 MM
W Max = 10000



RECTANGULAR FLATS

CAPACITY

Width = 1200 mm max
Thick = 100 mm Min
Length = 3000
Wt Max = 10000 Kg



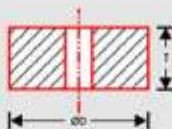
DISC & TUBE SHEET

CAPACITY

ØD MAX. = 1500 MM
W MAX. = 7000 KG
TMIN - 100 MM



GEAR & PINION



CAPACITY

ØD MAX. = 1500MM
W MAX. = 7000 KG
TMIN - 100 MM

RING



CAPACITY

ØD MAX. = 1500 MM
W MAX. = 7000 KG
TMIN - 100 MM

BUSH & SHELL



CAPACITY

ØD MAX. = 1500 MM
T MIN. = 300 MM
L MAX. = 2500 MM
Wt = 6000 KG

Market Segments of open Die Forged Products

- Mechanical Power transmission - Gear Blanks & Pinion Shaft
- Industrial axial Flow Fan-Stepped Shaft & Hub.
- Steel Plant Equipment Manufacturer
- Heat Exchanger, Pressure vessel & Reactor.
- Pump & Valve - Hollow forgings, Nozzles, Shaft
- Hydro turbine, Wind turbine & Steam turbine - Shaft with Coller, Stepped Shaft
- Nuclear Power Equipment-
- Oil & Gas - BOP, Block, Shaft, Blank
- Miscellaneous - Material handling, Defence, Tools Industry, Turbine Blades etc.





HEAT TREATMENT FACILITIES

No.	Equipment	Specification and Make
1	■ 20 T Capacity Electrically Heated Tempering/ Annealing Furnaces.	■ 5 Nos. - One furnace with capacity to anneal 11 meter bars.
2	■ Hardening and Solution Annealing Elect. Furnace.	■ 1 No.
3	■ Quenching Tank	■ 2 Nos. a) Oil Quenching b) Water Quenching
4	■ Hot transfer Annealing Furnace	■ 1 Nos with Electrical elements in Hood



Optical Emission Spectrometer



Magnetic Particle Testing Equipment



Optical Microscope

QUALITY ASSURANCE FACILITIES

No.	Quality Assurance Equipment	Specification and Make
1	Optical Emission Spectrometer (30Channel New) (Additional channel of Oxygen, Nitrogen & Soluble Aluminium).	<ul style="list-style-type: none"> Spectro, Germany.
2	Oxygen, Nitrogen, Hydrogen Analyser.	<ul style="list-style-type: none"> LECO Germany
3	Magnetic Particle testing equipment for full length bars.	<ul style="list-style-type: none"> Automag, Pune, India.
4	Optical Microscopes for metallurgical tests with image analyser.	<ul style="list-style-type: none"> C.Z. Jenavert EP1 Type2 Instruments India Ltd.
5	40 T Capacity Universal Testing Machine.	<ul style="list-style-type: none"> FIE, Ichalkaranji.
6	Hardness Testing Machines.	<ul style="list-style-type: none"> FIE, Ichalkaranji.
7	Power Hack Saw and Band Saw Machines.	<ul style="list-style-type: none"> S.P.M. Tools, India.
8	Mobile Spectrometer.	<ul style="list-style-type: none"> Spectro, Germany
9	Ultrasonic Testing Machine (2 Nos.)	<ul style="list-style-type: none"> EFC, Mumbai
10	Impact Testing Machine.	<ul style="list-style-type: none"> FIE, Ichalkaranji.
11	Eddy Current Sorter Metascope.	<ul style="list-style-type: none"> Technofour, Pune
12	IGC Testing	<ul style="list-style-type: none"> Borosil Glass Apparatus



Straightening Machine



Signode Strapping

FINISHING FACILITIES

No.	Finishing Facilities	Capacity
1	■ Modern Pickling facilities with Fume exhaust system.	■ 15-20 Tons Capacity.
2	■ Processing Billets pickling.	■ 15-20 Tons Capacity.
3	■ Hydraulic Presses for straighting	■ 14mm dia to 160mm dia.
4	■ Straightening machines.	■ 14mm to 100mm dia.
5	■ Signode Strapping.	■ 0.500 Tons to 4 Tons. Bundle weight.
6	■ Bandsaw machine.	■ 20mm to 180mm dia/rcs.
7	■ Swing frame grinder	■ 400x63 grinding wheel



Air Pollution Control Equipment



Effluent Treatment Plant

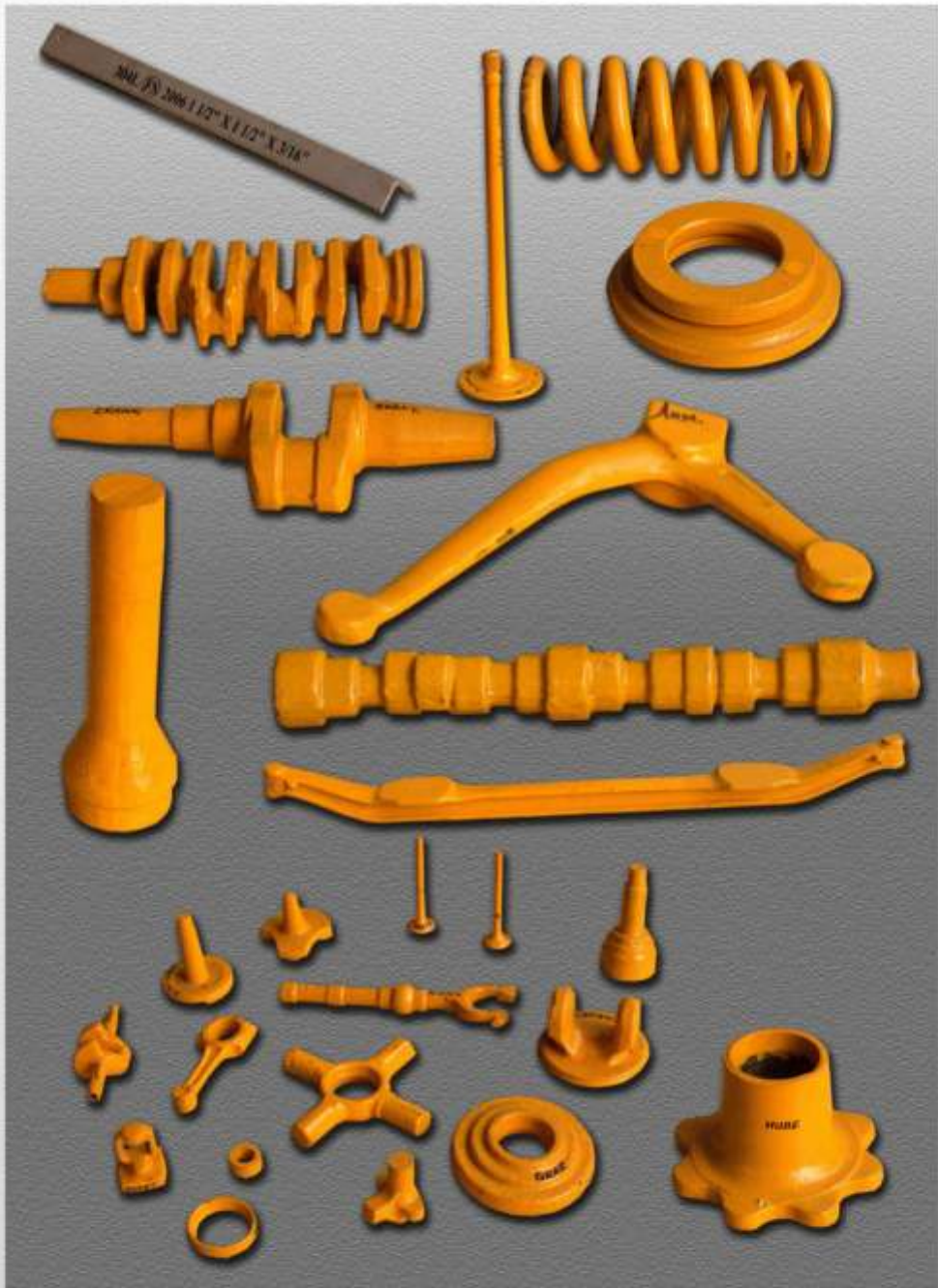


Pickling treatment scrubber system

ENVIRONMENTAL MANAGEMENT SYSTEM

1. Air Pollution Control Equipment for Keeping environmental friendly atmosphere.
2. Effluent Treatment Plant for treatment of acidic effluent generating from pickling process.
3. Controlled Acid pickling treatment scrubber system

**SOME CRITICAL COMPONENTS MANUFACTURED
OUT OF OUR SPECIAL STEELS**





PRESENT TECHNICAL CAPABILITY (EXPORT)

Grade

Valve Steel	Martensitic/Ferritic/Duplex/Heat Resisting/Precipitation Hardening Steel/Austenitic & Austenitic (Electrode quality) Steel
SUH-1EN52 SUH-3, SUH-11 214N(being developed)	AISI-409Cb, AISI-403, AISI-410, AISI-420, AISI-420B, AISI-420C, AISI-416, AISI-431, AISI-430F, AISI-301, AISI-302, AISI-303, AISI-304, AISI-304HN, AISI-304L, AISI-304(CHQ), AISI-321, AISI316, AISI316L, AISI316Ti, AISI308, AISI308L, 17-4PH and equivalent grades. 1.4122, 1.4713, 1.4821, 1.4828, 1.4742, 1.4923, 1.4034, (AISI-440C, 1.4462, 1.4841, 17-7PH, 15-5PH 420HC, TPR2, 1.4028, 1.4034, 1.4362
Any new grade of above category can be developed on enquiry.	
Stainless Steel Angles	: Hot rolled, Annealed and Pickled.
Stainless Steel Hexagons	: Cold drawn, Hot Rolled, Annealed and Pickled.
Stainless Steel Bars	: Rough Peeled/Turned as DIN 1013/ASTM A484 Tab 2 Tolerance Peeled and reeled h 11 Tolerance, Peeled and Centreless Ground to h9 Tolerance, (h7 tolerance under development), Drawn and centreless Ground

MARKETS CATERED

FACOR steel produces and sells high quality stainless steels and speciality steels that meet a variety of demands.

We design our product mix to cater to almost all leading automobile and engineering industries. Our products withstand the extreme environments in which they are used. Our people are attentive to customers' needs in an increasingly complex business environment. Industries being catered to by FACOR today are

- Forging industry
- Auto component industry
- Fasteners industry
- Railway Springs
- Bright bar industry
- Chemical and Corrosion Control Industry
- Surgical Equipment Industry
- Oil and gas
- Power plants
- Cement plants
- Gear Industry
- Tool & die steel market
- Valve Industry
- Boilers

Through state of the art technology, heightened customer sensitivity and awareness of global condition, FACOR Steel is meeting these challenges.



MARKET SHARE

Through innovative technologies FACOR Steel meets customer requirements both in terms of quality and deliveries which has helped us to improve share of Auto industry. Our customers number more than 150 reputed manufacturers throughout the length and breadth of the country.

STRENGTHS

Our inherent strengths lie in meeting the requirements of critical grades, even in smaller quantities of say 1 to 1.5 MT, in our wide product range in shortest possible time i.e. 4 to 6 weeks. Can adapt to rapid changes in domestic as well as global market by careful adjustment in product mix. This helps us to develop new and critical grades and product profiles very soon.

HELP US TO SERVE YOU BETTER

Our Minimum Order Acceptance Quantity per grade is 20.0 MT (per size 5 MT minimum preferably).

We welcome enquiries having all the following details enabling us to quote competitively, promptly and comprehensively-

- Aim chemistry (especially aim Cr, Ni, Mo and C percentage).
- Dimensions and tolerances required.
- Length requirement and tolerance on length
- Condition of supply As -rolled/annealed/spheroidiseannealed, solution annealed, hardened & tempered, peeled, centreless ground, and drawn)
- Hardness, mechanical properties and other metallurgical requirements.
- Quantity required (future potential)
- Shipment period (ex-Nagpur/Ex-Indian port)
- Identification and packaging instructions
- Test certificate standard.
- End application.
- Critical technical aspects which need specific attention must be highlighted.



FACOR STEELS LTD.

