GOLDEN CASTINGS & ISPAT LIMITED

PROJECT SYNOPSIS

Name of the company	:	**GOLDEN CASTINGS & ISPAT LIMITED**
Registered Office	:	51, Nalini Seth Road, 2nd Floor, Kolkata – 700007. Phone & Fax : 0343- 2554509 Emai: srinivas.kalbhatta@rediffmail.com
The Project	:	1. Sponge Iron – 2 x 100 TPD 2. Billet Casting- 2 x 25 MT Induction furnace with Billet caster. 3. Captive Power Plant –10 MW 4. Blast Furnace – 2 x 65 CUM Blast Furnace 5. Ferro Alloy Plant – 1 x 9 MVA Submerged Arc Furnace 6. Rolling Mil - 200 Mt / Day
Project with Installed Capacity	:	1. **For Sponge Iron** No. of Kilns 2 (Two) Productivity 100 Tons/Kiln/Day Production/Day 100 Tons Working days in a year 300 No. of shifts 3 shifts Installed Capacity per year 60,000 MT
		2. **For Billet Caster** Induction furnaces 2 nos Melting capacity of each furnace 25 Ton No. of heat per day 8 No. of working days in a year 300 No. of shifts 3 shifts Yield from charge to liquid steel 86% Installed capacity per year 96,000MT
		3. **For Power Plant** Turbo Generator set to be installed 10.00 MW Considering station load (10%) 1.00 MW Total power available 9.00 MW, Net power available (90% Capacity utilization), 8.10 MW
		4. **For Ferro Alloy** Sub- Merged Arc furnaces 1 nos., Melting capacity of furnace 9 MVA, No. of working days in a year 300 No. of shifts 3 shifts Installed capacity per year 20,000MT.
		5. **For Pig Iron** Mini Blast furnaces 2 nos. Melting capacity of furnace, 65 CUM No. of working days in a year 300

		No. of shifts 3 shifts Installed capacity per year 78,000MT
		6. **For Rolling Mill** Re- heating Furnace 1 nos. Capacity of furnace 12 MT/ Hr No. of working days in a year 300 No. of shifts 2 shifts of 8 hours, Installed capacity per year 60,000MT
Promoters	:	The main promoter directors are Mr Ghanshyam Prasad and Mr Ramshyam Prasad
Background of the Promoters		**Sri Ghanashyam Prasad** son of Sri Jawala Prasad aged about 38 years is a BSC. graduate and a MBA from Patna University. He is origin of Patna and presently residing at Durgapur with the objection of promoting their family business and to take initiatives for establishing new business. Sri Ghanshyam Prasad is one of the Directors of M/S Jolla Steels Pvt. Ltd., which was taken over by them in the year of 2000 and since than the Company is running successfully & today the turnover is more than achieving the turnover of more than 30 Crores. **Sri Ramshyam Prasad,** aged around 28 years is a graduate, presently residing at Durgapur. He is looking after the business of M/s. Golden Poly Products & Jolla Steel Pvt. Ltd.
Existing Activities		**<u>Golden Poly Products Ltd</u>** Existing set up : ERW Steel Pipe with an installed capacity of 20000Mt/P.A along with a strip mill for captive consumption. The existing set up is located at Durgapur, West Bengal. Golden Poly Products Ltd a company has set up an ERW Steel Pipe unit at degale avenue, Durgapur 713210, this unit is manufacturing strips & ERW pipes. The unit is one its kind in West Bengal as it makes the strip & ERW pipe in the same complex. They have pioneer in making the lancing pipe. The company has made an expansion in this unit by setting up a PVC pipe unit. The company is supported by the West Bengal Industrial Development Corporation which has sanctioned the unit a term loan. **<u>Jolla Steels Private Limited</u>** Existing set up :1) 3 x 8 MT Induction furnace for steel ingot with an installed capacity of 60000Mt/P.A

		2) Re- Rolling Mill with a capacity of 54000 Mt/p.a The existing set up is located at Durgapur, West Bengal. The promoters are origin of Bihar and involve in their steel business since 12 to 14 years. But due to acute power crisis, extortions and law and order problems in Bihar the promoters decided to shift their business. As such they takeover M/s Jolla Steels Pvt. Ltd., manufacturing unit of M. S. Ingot in the year of 2000. At the time of takeover Jolla Steel was running with one furnace & was manufacturing M.S. Ingot. Sri Ghanshyam Prasad has expanded the unit by installing a second furnace. The same was financed by WBFC. In the year 2005 they are further expanding their unit by adding one more furnace along with concast for manufacturing Billet & Ingot. Billet concast unit is being installed by taking all the furnace. The expansion work is in progress & the expected to be commissioned by the end of this year.
Product & Market		***Sponge Iron*** With the domestic steel industry picking up during the last year and prices moving up in leaps and bounds, India, for the first time, has emerged as the world's largest producer of sponge iron for the year 2002, accounting for around 12 per cent of the global output. During FY 2003, the total sponge iron production in India was about 6.6 million tones. This was over 17 per cent higher than the production in FY 2002. The entire production was domestically consumed. Production growth in FY 2002 was a nominal 2 per cent. During the first three months of FY2004, the total production of sponge iron was 1.6 million tones. This was 8.6 per cent higher than the figure for the corresponding period in the previous year. Growth in demand for sponge iron is due to growth in demand for steel coupled with shortage of scrap for making steel through the secondary route. Firming of demand for sponge iron has also been accompanied by firming of market prices. Improved off take of sponge iron, coupled with firming up of prices, has resulted in good performance by the sponge iron manufacturers. ***Billets*** India is the tenth largest producer of steel in the world, but per capita consumption here is one of the lowest. In India, a major part of steel is consumed in engineering applications, followed by automobiles

		and construction. The growth of steel, as is well known, is dependent upon the growth of the economy, industrial production, and infrastructure sector. The year 2002 was a better year as far as demand is concerned. Of late, there has been revival in the automobile sector which is continuing in the year 2003. The demand for two-wheelers, passenger cars, and HCVs are witnessing a recovery. This recovery in the automobile sector is expected to benefit the steel industry. The government is also talking about pump priming the economy. Any step up in government expenditure on infrastructure projects will benefit the steel sector. ***Pig Iron*** Pig Iron is the Principal material for Iron Foundries & Steel Melting shop. The foundry industry caters to a wide spectrum of demands from vital sectors like Engineering Industries, Agricultural, Defence, Railways, P & T and Shipping. The Pig Iron is also vastly used in making Steel Ingots / Billets through electric arc furnaces & induction furnaces. ***Ferro-alloys*** Ferro-alloys are essential ingredients for production of various types of carbon and alloy steel as well as alloy iron. The basic element of a ferro-alloy when added to steel tends to improve the physical properties, e.g. change in elasticity, ultimate tensile strength, hardness, etc. Sometimes addition of some elements in the form of ferro-alloys is done deliberately to liquid steel and other alloys for developing abrasion resistance, wear resistance and corrosion resistance properties. The production/ consumption of steel in any country may be directly related to the growth and increase in per capital income of the country. As such, for development & growth, steel is an essential commodity and therefore need of ferro-alloys has also become significant since the production of steel and ferro-alloys are interdependent. Apart from using ferro-alloys like for alloying the steel, they are also widely used for deoxidation, desulphurisation & refining of steel. ***Rolling Products*** The end consumption of constructional steel in this country has lately increased by a very great magnitude due to the government's policies for infrastructure development. The major consumers being the government dept., power unit and the expansion programme of the steel plants. In addition to this other normal growth oriented construction

		programme like Housing Complex, P.W.D. construction, Industrial Complex, Bridges etc. This large-scale consumption rate has created a big gap in the total supply & availability of rolled products.
Manufacturing Process		**SPONGE IRON** Direct reduced iron process based on use of rotary kiln is well established in the country. The materials handling system accepts incoming raw materials (Lump ore, coal and limestone or dolomite) from road transportation and conveys the material to stock piles. The ore is screened to remove fines and a portion of the coal crushed to a size suitable for pneumatic injection. The raw materials are extracted from the day bins via volumetric feeders and are fed in controlled quantities to the feed end of the kiln. The kiln rotates slowly, causing the ore and the coal to progress towards the discharge end of the kiln while being heated and reduced. The kiln is refractory lined and equipped with refractory dams at the feed end and discharge end in order to maximize residence time. The coal provides the heat for the endothermic reductions that produce DRI. By using a technique of injection of crushed coal at the discharge end of the kiln, the process may be operated successfully without the necessity for any hydrocarbon fuel, such as natural gas or oil, material bed temperatures of up to 1,075 decree C. can be easily sustained. On discharge from the kiln the DRI has a metallization of more than 90%. Depending on the coal, the sulphur content of the DRI can be controlled. Once the product passes out of the kiln, it is cooled in rotary cooler, it is then transferred to a product handling building for separation of the residual char, ash and spent limestone waste products, and for classification of the DRI into size fractions. **BILLET CASTING** Raw material mix mainly Sponge Iron and Pig Iron are charged into the furnace. Extra carbon in the form of free carbon or excess carbon present in the product mix is also added depending upon the quantum of sponge iron in the charge. As soon as the charge is completely melted, necessary Ferro Alloys and deoxiders are added. The temperature of liquid metal is allowed to rise in the Furnace till the correct pouring temperature is achieved which is checked with the help of Immersion Pyrometer. The hot metal is poured with the hydraulic system in the pre-heated ladle after adding certain fluxes so that the

		temperature is maintained at about 1700 degree centigrade. Ladle is then carried by EOT crane to the concast machine and kept above the tundish of the concast machine. The bottom of the ladle is opened by hydraulic system and hot metal starts pouring out into the concast machine. Through tundish, it passes through copper moulds. Copper moulds give the particular desired shape. To initiate casting, a dummy bar is inserted into the bottom end of the mould, which the other end of the dummy bar is held by withdrawal / straightening rolls when the molten steel at the correct temperature reaches the stipulated level inside the mould, the withdrawal rolls and mould reciprocating unit are operated. The cooling water circulation through the mould (primary cooling) and in the secondary circuit started a few minutes before the actual casting operation. The cooling water circulating around the mould carries away enough heat from the liquid steel to produce a solid outer skin of sufficient strength to safely envelope the liquid portion at the interior that to will be solidify by the secondary cooling, which consist of spraying of water jets on the body of the billet. **Power Plant** The WHRB shall be sized and designed to extract maximum densible heat energy contained in the waste gases emanating from the Direct Reduction kiln. **Pig Iron** A blast furnace is a type of furnace for smelting iron ore. The combustion material and ore are supplied from the top while an air flow is supplied from the bottom of the chamber, so that the chemical reaction takes place throughout the ore, not only at the surface. Solid iron ore are charged from top of specially designed vertical furnace along with coke as main fuel and fluxes. Fluxes are charged in the furnace to fluidize the slag and refining of metal produced, the hot air blast is blown through tuyeres located at upper part of hearth bottom. The oxygen from pre-heated blast air, combines with carbon of coke to generate heat and carbon monoxide. The gas contains mainly nitrogen and carbon monoxide of ore to form iron. Heat generated due to oxidation of carbon not only heats the burden, but also heats the metal and slag formed in hot condition. The slag and metal gets collected in liquid condition in the furnace hearth, which are taped out time to time through tap hole and slag notch hole. Red hot coke (heated by up

		going hot gases) reacts with oxygen of the blast to form carbon dioxide, then immediately reacts with carbon monoxide. **Ferro Alloy** The production process using electrolytic process involves five main steps namely – ➢ Raw material preparation plant ➢ Stock house ➢ Blending of inputs as per receipt ➢ Electric arc melting & production of the chrome arc with breeze. ➢ Sizing of the alloys The raw material preparation plant consists of crushers and screen through with the sized ore required for process is prepared. The stock house comprises of four charging bins one each for Manganese ore coke breeze quartzite dolomite. The raw materials are lifted to the charging plant form of the furnace with the help of electric hoist. As per predetermined charge mix, materials are fed into the furnace. The ferro alloy making process consists mainly of melting manganese ore and reduction smelting of the ore with coal / coke. The molten alloy is poured into mould with the help of ladle. The mould is cooled by circulation of cold water with the help of cooling tower. **Rolling Mill** Billets are charged from one end to a reheating furnace by a pusher and discharged at the other end by an ejector after heating and soaking to desired rolling temperature. The heated billets shall be allowed to drop on to a roughing mill approach roller table. The discharged temperature shall be maintained at 1250^0C. Since most of the product shall be produced from billet for better hearth utilization, double row type, two-zone pusher type furnace has been considered for the proposed mill. The heated belt shall be conveyed over roller table to bottom pass of roughing mill stand. From the bottom pass, the material shall be collected on the roller table through Y-table located behind the mill stand. The stock is then allowed to pass to the top pass of the same stand using the Y-table and the bar shall be collected on the mill approach roller table located in front of mill stand. The material is then conveyed over roller table to single stand. Single pass is generally followed in this stand. The material is then transferred to mill stand over roller table. In this stand a single pass rolling shall be used and the

		material is then transferred to continuous mill train. In continuous mill single pass in each stand shall be followed and bed over roller table. Rake type cooling bed has been considered and one bar after another shall be shifted automatically. The moving rakes will transfer the bar to run-out table where it is conveyed to shearing area. A cold shear suitable for cutting profit section shall be used. Bars of commercial length shall be sheared, collected & transferred to storage area. After inspection, the material if necessary shall be passed through a set of profile rolls to get desired straightness of the bar. The finished material will be then stored and kept ready for dispatch.
Plant Location , Infrastructure Facility & Utility		LOCATIONAL ADVANTAGE Basic considerations in deciding the location of plant site are listed below in order of its significance; 1. Nearness to source of main raw materials viz. iron ore and coal. 2. Location of Consumers. 3. Availability of sufficient of land with relatively flat terrain. 4. Convenient Rail & Road Links. 5. Perennial & Adequate sources of water supply. 6. Availability of adequate power supply <u>Water</u> Water system for the integrated steel complex shall comprise the following: • Makeup water • Re-circulating water system • Once through system • Emergency water system • Drinking water system • Fire water system • Dust suppression system <u>Power</u> : The unit shall require a total of 25 MVA in the for running the Sponge Iron, Billet Caster & Rolling mill & for meeting the auxiliary power requirements. The company has already held discussions with DVC and it has agreed in principle to provide power. The detailed quotation for line drawing charges will be submitted by the power utility and the work order shall be issued accordingly. However The captive power plant will be exclusively for running the Ferro

		Alloy plant as the Ferro Alloy Plant is a power intensive unit. The company is planning to expand the power plant in the next phase. Fuel Oil System : The fuel oil system is for the power plant , Rolling Mill & Sponge Iron. The company has taken care of the same in the project. Compressed Air System : The compressed air system will be provided as per the requirement. Air Conditioning And Ventilation Systems: The Air Conditioning And Ventilation Systems will be provided as per the requirement.
ENVIROMENTAL ASPECTS		**For Sponge Iron -** From the description of the proposed plant and facilities for the kiln, the entire DR plant is divided into several sub-areas of major production units/activities as follows: 1. Raw material handling section (RMHS) 2. Director reduction (DR) unit complete with stock house, rotary kilns and cooler 3. Finished product-handling section (FPHS). 4. Sponge iron storage and loading. AIR POLLUTION, PREVENTION AND CONTROL MEASURES The air pollution, prevention and control measures are described below. Raw material handling system (RMHS): The fugitive dust emission due to iron ore fines, coal fines and dolomite fines from the stockpile of raw materials and fines dump in the open are will be controlled by dust suppression (OS) system by routine water sprinkling. The other fugitive dust emission sources such as material transfer points, etc. will be equipped with dust extraction (DE) systems of adequate capacity. DE systems comprise bag filter units complete with ducts, extraction fans and stack of appropriate height. DRI unit: DRI unit is equipped with integral pollution systems. The reaction gases leaving the kiln at a temperature of around 900°C contaminated with dust particulate, carbon monoxide, sulphur dioxide and thermal Nox will be passed through a series of pollution control

		equipment, which are as follows: • Dust settling chamber : coarse dust particles settles. • Post combustion chamber : Balance carbon monoxide is burnt out so that the gas is free of CO. • Waste heat recovery boiler (WHRB) : Heat from the waste gases is extracted in the boiler thus cooling the gases up to 200-250°C and dust particulate also settles. • Electrostatic precipitator (ESP) : Dust particulate load is further brought down to meet the permissible limit of 100 mgm/Nm3 and the clean gas is led into the atmosphere by means of an 10 fan through a stack. Finished product handling section: This will be a compact unit comprising screens and magnetic separators for separating out the sponge iron from the non-metallised portion. This unit will have indoor operation; fugitive dust emission will be controlled by localized dust extraction system so as to keep the work zone dust emission within the permissible limit. <u>Sponge iron storage and cooling:</u> This will be comparatively a clean area handling sponge iron of plus 3-mm size. Sponge iron will be stored in silos or in covered shed. Work environment pollution will be practically negligible here. Dust extraction ducts will be provided at suitable junctions for controlling the dust emission. **<u>For Power Plant -</u>** <u>SOURCES OF POLLUTION</u>**:** The major sources of pollution from the power plant are as follows: i) Pollutants in the exit gases from the stack. ii) Acidic effluents from chemical water treatment plant. <u>POLLUTION CONTROL MEASURES</u> The various measures proposed to mitigate the impact of the above pollution sources are described below: <u>Stack Emissions</u> The exit gases from the kiln, after recovery of the sensible heat in WHRB, will be passed through an ESP to control the dust emissions in to the ambient. Provisions of a stack of adequate height, and multi-field ESP for dust extraction in the exit gases before

		entry into the stack will ensure that particulate levels are within the acceptable / limits. <u>Plant Effluents</u> In the chemical water treatment plant, acidic and alkaline effluents are generated during the generation of cation/anion and the mixed bed exchangers. The effluents from the chemical water treatment plant will be laid to a properly sized impervious, neutralization pit. Normally these effluents are self neutralizing but provision will be made for dosing lime into the neutralizing pit to ensure the sufficiently high pH value before these effluents are disposed. The plant sanitary sewage from ablution blocks etc. will be segregated from industrial waste and routed to the sewage treatment plant through sewage network. The treated effluents will be used for green belt development. The aim of pollution control measures will be to ensure zero discharge such that no effluent is discharged outside plant boundary. **<u>For Billet-</u>** Pollutants expected to be generated are: i) Dust laden fumes from induction furnaces and ladle refining furnaces. ii) Scale & Oil from CCM. iii)Solid slag from induction furnaces. <u>Pollution Control Devices Description</u> Requirement of pollution control for this project is removal of dust particles from the fumes before releasing the same to the atmosphere. The types of control equipment available in the market are: • Momentum Separator • Air Filters, i.e., Dedusting System with Bag House In this case the most practicable system considered is Dedusting with Bag House. This system is required in order to meet the SPM specification laid down the State Pollution Control Board. A swiveling hood fume extraction system will be provided for air pollution control. Swiveling hood will be provided on the top of the furnace without disturbing the furnace loading and periodic poking operations. The dust and fumes generated together with sufficient quantities of atmospheric air is extracted by the fume extraction system. Stack height will be apx. 30 meters. <u>Scale and Oil from CCM</u> Scale is separated from cooling water in Scale

		Setting Tanks. Scale is sued as a charge to EAFs, filling of low lying areas and dumping in the used mines. During external cooling in CCM, water comes in contact with grease and lubricating oils. Therefore, quantity of oil & grease is also to be removed from the water before it can be re-circulated. This is done by removing greases and oil from top of the water surface in oil catcher tanks. Hard water requires soften. Softening plant has to be regenerated after every cycle. This process generates some quantity of saline water and backwash. Backwash is proposed to be treated by adding alum and other coagulants in a ground tank and then released to low lying areas inside the plant boundary. The plant sanitary sewage from ablution blocks etc. will be segregated from industrial waste and routed to the sewage treatment plant through sewage network. The treated effluents will be used for green belt development. The aim of pollution control measures will be to ensure zero discharge such that no effluent is discharged outside plant boundary. <u>PREVENTION AND CONTROL OF WATER POLLUTION</u> The prevention and control of water pollution aims at conserving the make-up water by recycling around 90% of the wastes. The balance will be directly consumed by the process operation, sanitary and drinking use. <u>NOISE POLLUTION PREVENTION AND CONTROL</u> The major noise prose equipment's are product screening through magnetic separators, compressors etc. The noise control will be done in four ways, namely 1. by selecting low noise prone equipment which would have leq level below 85 dB(A) at 1 meter distance; 2. by dampening the vibrations; 3. by isolating the noise prone unit from the working personnel's continuous exposure; and 4. by administrative control, the administrative control would have a major role to monitor the noise, take remedial measures and ensure that no plant personnel is over exposed to noise. **<u>For Pig Iron -</u>** <u>Raw material handling system</u> The raw material handling system would be provided with dust extraction system of alternatively dust suppression (DS) by water sprinkling at the

		stockyard and multiple dust extraction (DE) systems for the dust generation points at the screen, conveyor transfer point and gas scaling devices to arrest the dust emissions to the atmosphere. Mini Blast Furnace The gas coming out from the blast furnace at a temperature of around 250 degree c would be cleaned by first taking it through a dust catcher to sattle the coarse particulate. It would be then passed through a saturator and a double venturi system to separate the fine particulate matter from the waste gas before a part of it is taken in the BF stoves for heating of air blast. The surplus gas after meeting the other process requirement shall be supplied to gas fired boilers for power generation. **For Ferro Alloy -** FUME EXTRACTION/POLLUTION CONTROL SYSTEM The system as proposed by which fumes are to be sucked through suction hoods and the hood is required to be located immediately above the fume-generating zone. In the proposed plant, fume shall be generated in the submerged arc furnace so long as smelting process runs. Fumes generated shall be sucked through a hood/canopy suitably located just above the min furnace mouth and shall be carried away by means of blower through ducting system and bag filter to the chimney for discharging it to the atmosphere. The system shall comprise. i) Hood/Canopy ii) Duct iii) Exhaust Blower, Bag Filter iv) Chimney & other accessories **FOR ROLLING MILL -** As furnace oil is used in the re heating furnace the quantity of emission is very less. As a bag filter unit will be there to suck the air from the furnace & a 30 M height chimney is provided to discharge the hot flue gas generated in billet reheating furnace to open air after allowing the gas to pass through recuperator and chimney.
OTHER MEANS OF ENVIRONMENT MANAGEMENT		Green belt development: It is proposed to have at least 33% of the total area will be green belt all around the plant site by planting suitable species of evergreen and broad leaves type. Plantation is also envisaged on both sides of the plant road. Where tree plantations will not be feasible, the unpaved land shall be covered with

		grass and small height bushes in order to avoid soil erosion. Pollution monitoring Necessary provisions would be made for routine monitoring of stack emissions, quality noise level, water gravity as required by the regulations and for monitoring environment management as implemented. ENVIRONMENTAL MONITORING: The emission levels from the stack and the ambient air quality around the power plant will be periodically monitored. Further, the effluent quality and noise levels will also be regularly monitored. PLANT SAFETY AND INDUSTRIAL HYGIENE MEASURES The two aspects need to be given due attention at the time of detailed engineering, meeting al the prevalent regulations of Factory Act and recommendations made by the regulating authority. Fire protection systems by means of providing fire hydrants, fire extinguisher at vulnerable points within the plant boundary have been envisaged. All the necessary safety kits like hand gloves, gumboots, aprons, helmets etc. need to be provided. Proper sanitation facilities, rest room, adequate plant lighting is also envisaged for the proposed project.
RAW MATERIAL		**FOR SPONGE IRON** IRON ORE The iron ore to be used for making sponge iron should have high iron contents (64%) Fe, low gangue and phosphorous contents (below 0.040%) and good reducibility of the ore allowing the kiln operation at a relatively lower temperature thereby reducing the instances of ring formation and improving the availability of the kiln with better output rate. The ideal size of iron ore for making sponge iron is 5 mm to 20 mm. For producing one ton of sponge iron, approx. 1.8 ton of iron ore is required. The major raw materials required for blast furnace are BF-grade Iron Ore,metallurgical coke,limestone, dolomite nd quartzite. Both Iron Ore and Coke will indergo some losses during handling and screening i.e. apprx. 2.00%. Considering all such losses, the estimated gross requirements of raw materials to be procured annually are presented in Table below: NON-COKING COAL The ash contents in the coal should be low. Also the moisture content should be low. In addition to these, care should be taken in selecting the source of supply, the distance as well as continuous availability

		and transportation problem. For processing one tone of sponge iron, approx. 1.3 ton of non-cooking coal is required and the suitable size is 0 mm to 20 mm. DOLOMITE The desirable dolomite for producing sponge iron should have high available base. The suitable size required for sponge iron production is 1 mm to 4 mm and the requirement is about 50 kg per ton of sponge iron. **FOR PIG IRON -** The major raw materials required for blast furnace are BF-grade Iron Ore, metallurgical coke, limestone, dolomite and quartzite. Both Iron Ore and Coke will undergo some losses during handling and screening i.e. apprx. 2.00%. The estimated size requirements of raw materials to be procured are : Iron Ore - 10 to 40mm , Metallurgical Coke – 40 to100mm, Limestone – 10 to 40mm , Dolomite – 10 to 40mm, Quartzite – 10 to 40mm **FOR FERRO ALLOY -** The main raw material and their specifications required for the proposed Ferro Alloy plant are Manganese Oreis available at Orissa , Jharkhand, Coke is available in Jharkhand , West Bengal and Orissa. Dolomite shall be outsourced locally.It needs to be mentioned, however, that the requirement will vary with the quality of the Raw material used. **FOR BILLET -** For billet the Raw material is Sponge Iron & Pig Iron which will be produced captively. Ferro Alloy will be used for making the Billet which will be produced captively. **FOR ROLLING MILL -** The raw material for the rolling mill is Billets which will be produced captive.
Cost of Project	:	Rs Lacs Land & Site Development Expenses 580.00 Civil works 2528.00 Plant & Machinery 9380.00 Miscellaneous Fixed Assets 1835.00 Pre-operative & Preliminary Exp 1452.00 Contigencies 685.00 Margin for Working Capital 1114.00 **Total : 17574.00**
Means of Finance	:	Rs Lacs Promoters' Equity 7304.00 Term Loan from Bank / FI 10270.00 **Total : 17574.00**

GOLDEN CASTINGS & ISPAT LIMITED

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PROJECT PROFILE FOR

INTEGRATED STEEL COMPLEX

AT

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