

VISASTEEL

Shaping the Future with Minerals & Metals



AMCOKE

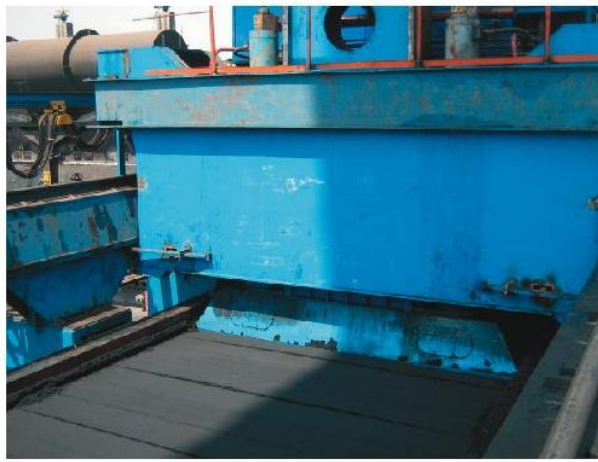
Low Ash Metallurgical Coke plant in Orissa

VISA Steel Limited, a part of the Rs 4,000 crore VISA Group, is setting up a 1.5 million TPA Integrated Special & Stainless Steel Plant at Kalinganagar Industrial Complex in Orissa. Amongst other facilities, VISA Steel has already established a 400,000 MTPA Low Ash Metallurgical Coke Oven Plant in 2006. The plant is equipped with 8 batteries of 11 ovens each and is ideally located near the deep-draft Paradip Port allowing import of Australian coking coal in supramax and panamax vessels.

This LAM Coke plant is equipped with highly advanced Chinese technology with stamp charging facility. This technology is best suited for getting uniform granulometry in the coke with consistent physical and thermal properties in the finished product which is extremely important for the end consumers for better operation of their blast furnaces/sub-merged arc furnaces/foundries.

This advanced technology also provides for heat recovery from flue gases for generation of clean power. Under full capacity utilisation this plant will generate about 25 MW of power using the waste heat generated during the coking process.

About 35% of the production is allocated for VISA Steel's captive consumption at the 250 cbm blast furnace located inside the same complex, and balance quantity is sold to various consumers for use in their blast furnaces, foundries and ferro alloy units.



Stamping of coal



Pusher car

Advantages of LAM Coke from VISA Steel

1 Blast Furnaces

- Superior quality of coke produced in our plant results in lower coke rate and higher productivity of the Blast Furnace, thereby reducing overall production cost of Hot Metal
- Consistent quality of coal allows us to produce coke of consistent quality which improves the productivity of the Blast Furnace
- Stamp charging technology gives better CSR and CRI characteristics in the Coke
- Better granulometry of the Coke enhances the performance of the blast furnace
- Low percentage of undersize compared to Imported Coke improves the cost economics with better gross coke rate achieved in the blast furnace

2 Foundries

- The high Calorific Value of VISA Coke allows higher temperature and better carbon pick up, resulting in high quality castings
- Low Sulphur and Phosphorus in the coke improves the quality of castings

3 Ferro Alloys

- The high Fixed Carbon of coke reduces specific consumption and gives better product quality
- Better granulometry results in lower generation of fines

LAM Coke



Movement of coking coal by rakes

Raw materials

The entire coking coal requirement for the coke ovens is met through imports under long term agreements with reputed suppliers from Australia, through Paradip Port, India. The coking coal blend is formulated by the highly experienced technical team of the Coke Oven Plant to produce premium quality Low Ash Metallurgical Coke.

Technological strengths

- Fully mechanised stamping, pushing and quenching operations
- Environment friendly coke oven operations with zero emissions
- Flexibility to use wide range of coking coals
- Computerised blending of coking coals
- Optimum carbonisation achieved for production of superior quality of coke
- Mechanised sizing and screening of coke as per customer requirement



Combustion of coal



Quenching of coke



Vessel berthing

Low Ash Metallurgical Coke

Properties	Typical	Guaranteed Limits	Absolute Max/Min Limits
MOISTURE% MAX	–	5% max	–
ASH DB%	11–12%	12.5% max	13.5% max
V M DB% MAX	0.7–0.8%	1.0% max	1.5% max
S DB% MAX	0.40–0.50%	0.50% max	0.70% max
P DB% MAX	0.04–0.05%	0.05% max	0.06% max
FC DB% MIN	86–88%	By difference	–
M40 MIN	86–90	82 min	80 min
M10 MAX	5–6	7 max	9 max
CRI MAX	22–25	26 max	28 max
CSR MIN	64–68	62 min	60 min

Sizing as per customers requirement and application

For Foundry

Size 80–200mm	95%	90% min	–
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For Blast Furnaces

Size 30–90mm	95%	90% min	–
Size 25–80mm	95%	90% min	–
Size 25–60mm	95%	90% min	–

For Ferro Alloy Units

Size 10–25mm	95%	90% min	–
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For Steel, Cement and other Industries

Size –10mm	95%	90% min	–
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NB For fraction below 25mm ash% may be marginally higher



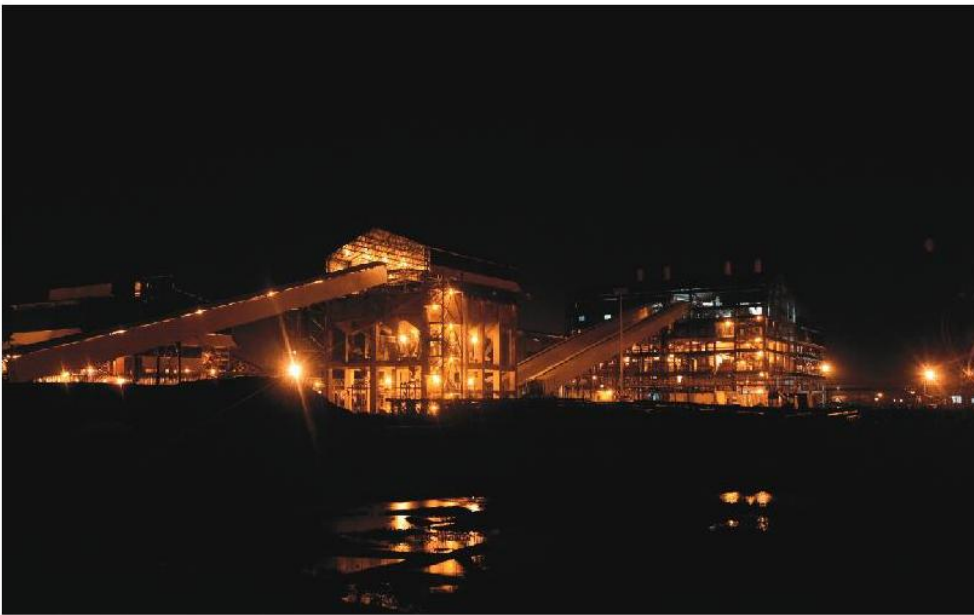
Unloading of coal



New pusher car



Loading of coke



Night view of the upcoming steel plant



Bird's eye view of coke oven plant

Environment

The Technology used in the VISA Steel's Coke Oven is very environment friendly. The Ovens operate under negative pressure and at very high temperatures when most pollutants are broken down into combustible compounds.

The waste heat recovered from this oven alongwith blast furnace gas is used to produce clean electrical energy through 25 MW power plant.

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