

JB INNOVATIVE PLATFORM: VIRTUAL REALITY PIG IRON PLANT

A modern and innovative platform using advanced visualization representing an industrial green pig ironmaking plant with JB technology. In this virtual reality model you can see in details a 3D charcoal mini blast furnace with 200m³ of working volume and you can walk inside each local of the industrial plant (raw materials yard, burden preparation and charging system, secondary reactor, MBF reactor, refractories project, MBF top equipment, hot metal tapping, cold blast air system, blast air preheater, gas cleaning system, effluent treatment system, wheel type pig iron cast machine, etc) with capacity to produce approximately 180 kton of green hot metal per year. This technological tour brings a unique experience allowing discussions on engineering and process details of efficient and flexible hot metal production. This modern tool is one way to improve information handling, communication and understanding in construction projects of ironmaking plants. Then JB company can offers the best solution and robust engineering project



to your ironmaking plant. Besides this platform can be used as innovative educational system for the development of technical and operational teams (operators, supervisors, engineers, etc) of your industrial plant in diverse levels and different subjects.

JB mini blast furnace Brazilian technology

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Brazilian technology

The Best Brazilian Industrial Solution for your ironmaking plant to product green hot metal with low cost, exceptional operational flexibility and stability, low capex, low environmental impact, very good technical suport and innovative system of technological education. Know more about us and our clients.

The JB MINI BLAST FURNACE TECHNOLOGY (JB/MBF) is a very efficient thecnological solution to produce pig iron considering the range os production up to approximately 350 kton of hot metal per year. Four main types of size of mini charcoal blast furnaces using JB Technology have been considered.

The principal JB modules are: BF163m³VV; BF200m³VV; BF250m³VV and BF350m³ VV:

- **PRODUCTIVITY INDEX:** 2,20 a 2,75 t.m³VV/24h (it depends of the intrinsic quality of the iron burden will be charged into MBF like lump ore, sinter and pellet or mix of them).
- **CARBON CONSUMPTION:** 410kg a 440kg per ton of hot metal.
- **SLAG VOLUME:** 120 a 180kg per ton of hot metal using charcoal MBF (it depends os the intrinsic quality of the iron burden will be charged into MBF like lump ore, sinter and pellet or mix of them).
- **PCI (fines charcoal injection):** 50kg a 120kg per ton of hot metal.
- **BLAST TEMPERATURE:** 780-820°C (the blast air is heated using specific metallic preheater denoted glendon).
- **TOTAL WEIGHT OF THE PLANT** (all metallic components) = 1200 a 1400tons



TESTIMONIALS ABOUT JB TECHNOLOGICAL SOLUTION

Romero Machado

Board member/VETORIAL GROUP
He is a famous business man in Brazil. He graduated in Metallurgical Engineering from Ouro Preto School of Mines (1961) and he's an expert in all topics about pig iron production. Everybody in Brazil knows his trajectory full of success and his knowledge and enthusiasm concerning green ironmaking. According to his technical opinion "JB Technology is the best solution in Brazil to produce green pig iron by charcoal mini blast furnaces".

Ronaldo Santos Sampaio

Consultant and Researcher in Metallurgy
He is illustrious metallurgical engineer graduated from UFMG (1977). He completed his Master of Metallurgical Engineering from UFMG (1981) and his Ph.D from Carnegie Mellon University (USA) in 1990. Dr. Ronaldo is a famous researcher in Brazil and he is a author of several technical papers presented and published in various magazines and conferences. He's one the best consultant in Brazil (VMB, VSB, USIMINAS, SAMARCO, etc) concerning ironmaking and steelmaking areas. According Dr. Ronaldo "JB mini blast furnace is the best technological option for several technological routes in different industrial green ironmaking and steelmaking plants. It can be used in different countries". Know more about his technical paper: "Hot Metal Strategies for the EAF Industry".

Know more about the main projects and products offered by JB Consortium

JB Technological Solutions includes intelligent layout, efficient equipments and facilities with low costs, effective control system, optimized engineering projects, technical development and high-quality operational practices.

Projects and products offered by JB:

- Engineering projects regarding equipments to pig iron plants (MBF);
- Sales of all equipments and facilities on the topic of pig iron plant (MBF) including supervision during assembly;
- Turn key project concerning green pig iron plant using MBF;
- Secondary reactor project (anti decrepitation system);
- Pre-treatment of hot metal;
- Technical and economical feasibility studies with reference green hot metal plant;
- Methodology of charging of charcoal into MBF based on fixed carbon weight;
- Recycling of residues: technological development;
- Mini sintering and mini pelletizing (mini technologies) of itabiritic ores: technological characterization of the materials and diagnostic;
- Feasibility studies for minimill and micromill plants integrated with MBF (hot metal strategies for the EAF industry);
- Residues and iron ore materials technological characterization (pellet feed, sinter feed, lump and agglomerated iron ores);
- Geometallurgical studies and applied research;
- "Taylor made" technical training for operational people;
- Technical assistance;
- Sales of industrial plants.

Some of our clients throughout Brazil:

1. SIDERÚRGICA IBIRAÇU LTDA (IBIRAÇU/ES)
2. PAUL WURT DO BRASIL (BELO HORIZONTE/MG)
3. GERDAU AÇOS LONGOS (BARÃO DE COCAIS/MG)
4. GUSA NORDESTE S.A (AÇAILÂNDIA, MA)
5. SIDERÚRGICA UNIAO S.A (DIVINÓPOLIS/MG)
6. SIDERPAR (MARABÁ, PA)
7. MINERAÇÃO CORUMBAENSE S.A
8. GERDAU AÇOS LONGOS (DIVINÓPOLIS/MG)
9. HUBNER FUNDIÇÃO LTDA (PONTA GROSSA, PR)
10. BAHIA MINERAÇÃO LTDA (CAITITE, BA)
11. SIDERÚRGICA UNIÃO LTDA (DIVINÓPOLIS/MG)
12. CIA SIDERÚRGICA VALE DO PINDARÉ (AÇAILÂNDIA/MA)
13. CALSETE SIDERURGIA (SETE LAGOAS/MG)
14. RGH SIDERURGIA (SETE LAGOAS/MG)
15. CBF (JOÃO NEIVA/ES)
16. CBF (VIANA/ES)
17. ST ENGENHARIA (DIVINÓPOLIS/MG)
18. VDL SIDERURGIA LTDA (ITABIRITO/MG)
19. SIMARA SIDERÚRGICA DO MARABÁ S.A (MARABÁ/MA)
20. CALSETE (SETE LAGOAS/MG)
21. FERROESTE INDUSTRIAL LTDA (DIVINÓPOLIS/MG)
22. KOBLITZ LTDA (RECIFE/PE)
23. MARANHÃO GUSA S.A (BACABEIRA/MA)
24. GERDAU S.A (ARAÇARIGUAMA/SP)
25. SI SIDERÚRGICA IBIRAÇU (IBIRAÇU/ES)
26. FUNDAÇÃO GORCEIX (OURO PRETO/MG)
27. VETORIAL SIDERURGIA (RIBAS DE RIO PARDO/MS)
28. VALLOUREC SUMITOMO TUBES (JECEABA/MG)
29. SIDERNORTE SIDERURGIA LTDA (MARABÁ/PA)
30. COSIMATE - SIDERÚRGICA MATOZINHOS LTDA (MATOZINHOS/MG)
31. REDEGUSA INDÚSTRIA E COMÉRCIO LTDA (SETE LAGOAS/MG)
32. SIDERBRÁS SIDERÚRGICA BRASILEIRA LTDA (CONCEIÇÃO DO PARÁ/MG)