

## INTERNATIONAL FERRO METALS SMELTER

<b>CLIENT:</b>	International Ferro Metals
<b>LOCATION:</b>	South Africa
<b>CONTRACT TYPE:</b>	LSTK
<b>PRODUCES:</b>	Ferrcochrome
<b>FURNACE CAPACITY:</b>	2 x 66 MVA
<b>PROJECT DURATION:</b>	16 months
<b>COMMISSIONED:</b>	2007



In 2002 Tenova Pyromet were commissioned to perform a Bankable Feasibility Study for the International Ferro Metals project. In October 2005 International Ferro Metals listed on the London Stock Exchange and the project commenced. Tenova Pyromet were appointed to design, construct, commission and guarantee the smelter on a turnkey fixed price basis.

The Tenova Pyromet supply included the Ore Beneficiation Plant and Smelter. The Ore Beneficiation Plant processes run-of-mine ore, received direct from the mining operations, into metallurgical concentrate, foundry grade concentrate and lumpy ore. The Smelter includes two closed submerged

arc furnaces, raw material handling, screening, dust extraction, storage and batching, furnace off-gas scrubbing, electrical, AutoFurn™ furnace automation and tapping equipment.

### SUCCESSFUL STARTUP OF FURNACES

The first of the two furnaces was started-up five weeks ahead of schedule and the second furnace seven weeks ahead of schedule. The project duration from the date that Tenova Pyromet received the green light to proceed was 15 months for the first furnace and 16 months for the second



**Tenova Pyromet** - Leaders in design and supply of high capacity AC and DC furnaces and complete smelting plants, as well as of equipment for material handling and pre-treatment, alloy conversion and refining, granulation of metal, matte and slag, furnace off-gas fume collection and treatment, and treatment of hazardous dusts and waste. More information is available at [www.tenova.com](http://www.tenova.com).

# PROJECT SHEET

furnace. This project duration is an exceptional feat by Tenova Pyromet bearing in mind that this was a greenfield project with the scope of work implemented to a high standard of quality, technology and attention to detail. The early start-up is a testament to Tenova Pyromet's extensive experience in large greenfield Turnkey projects and the good working relationship between Tenova Pyromet and its clients.

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## SCOPE

Tenova Pyromet's scope of work included civils and structural works, ROM ore upgrading, raw materials handling, storage and blending, HV, MV and LV electrical reticulation, plant automation, furnace off-gas cleaning, furnaces auxiliary equipment and related technology.

All Technology was custom designed by Tenova Pyromet, and includes proprietary and patented equipment developed by Tenova Pyromet. 95% of the equipment and services for the Tenova Pyromet portion of the project was South African supply.

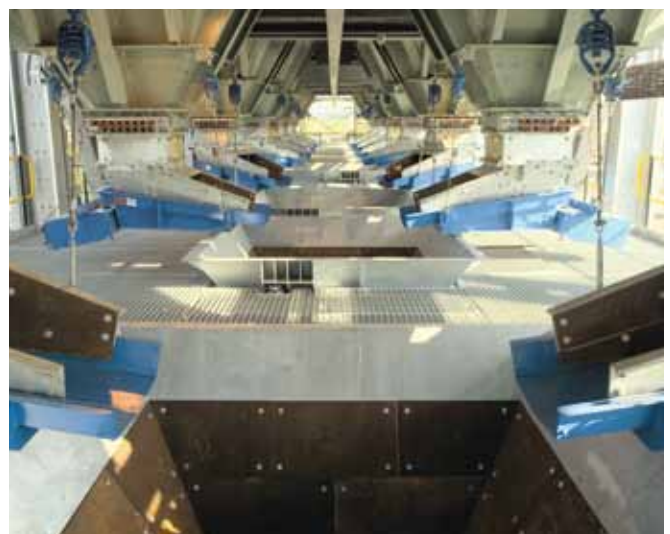
Tenova Pyromet provided guarantees for completion, furnace power, production capacity and product grade, all which was met shortly after the plant was commissioned.

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## TECHNOLOGY

The smelter incorporates the following technology:

- Tenova Pyromet submerged arc closed furnace technology.
- Tenova Pyromet patented electrode columns. Complete plant automation system designed by Tenova Pyromet.
- Tenova Pyromet proprietary furnace off-gas scrubbers, two per furnace (1 running, 1 standby). Fully integrated and automated raw material handling system from the mine through the ore beneficiation plant to the furnaces.
- Provision to allow for the retrofitting of Tenova Pyromet multiple preheaters.



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TENOVA is a worldwide supplier of advanced technologies, products and engineering services for the metals and mining industries.

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