



Tenova PYROMET
Tenova Pyromet (Pty) Ltd
10 Sherborne Road
Parktown, Johannesburg
PO Box 61582, Marshalltown,
2107 South Africa
Phone +27 11 480 2000
Fax +27 11 482 1942
pyromet@za.tenovagroup.com

Tenova METAL MAKING
Tenova S.p.A.
Via Monte Rosa, 93
20149 Milan
Italy
Phone +39 02 4384 7945
Fax +39 02 4384 7695
metalmaking@it.tenovagroup.com

Tenova CORE
Tenova Core
Cherrington Corporate Center
100 Corporate Center Drive
Coraopolis, PA 15108-3185
USA
Phone +1 412 262 2240
Fax +1 412 262 2055
info@tenovacore.com

Tenova TIMEC
Timec Co. Ltd.
Huashan Road 666
Tianjin Tanggu Marine High-Tech Development Area
300459 Tianjin
China
Phone +86 22 59830100
Fax +86 22 59830101
timec@tenovagroup.com

Tenova TITB
Techint Industrial Technologies (Beijing) Co. Ltd.
1700 Air China Plaza
36 Xiaoyun Lu
100027 Beijing
China
Phone +86 10-8447 5656
Fax +86 10-8447 5858
titb@tenovagroup.com

Tenova
Techint Representative Office for C.I.S
Voznesenskij per., dom 20, Stroenie 3
125009 Moscow
Russia
Phone + 7 495 726 59 43/44
Fax +7 495 937 77 12
temos@ru.tenovagroup.com



Xstrata Lion Project

SUCCESSFUL START-UP OF FURNACES

During September and November 2006, both 63MVA furnaces were successfully switched in to conclude the single largest expansion project of its kind in the world in terms of capital outlay and increased production to the Xstrata group. By bringing Xstrata Lion online, production of charge ferrochrome increased by 330 000 tonnes per year.

The project was a great success, characterised by excellent relations between Pyromet and our client, and by a strong desire from all parties to complete the project despite continuous delays due to excessive rainfall patterns during the civil and structural phases of the project.

Xstrata chose Pyromet as the technology and equipment supplier for the two 63 MVA furnaces including the electrodes, feed system, cooling systems and off gas handling systems.

ELECTRODE EQUIPMENT

The furnace uses the Pyromet patented electrode column system. This system has achieved remarkable results in operation on other furnaces, including on furnaces 1 and 2 at ASA Metals, with a high availability demonstrated in over four years of service. The electrodes are 1,550mm in diameter, and a new system to measure electrode tip positions and to detect electrode breakages has been installed. The electrode smoke seal is designed with a water-cooled copper base to increase the life of the rope seal, and also features remote adjustment of the clamping force as the rope material wears in services.



PLANT FEATURES

At full production, the plant is the lowest cost producer of charge Ferrochrome employing the Patented Primus technology.

Using the latest in automation technology and monitoring equipment the entire plant can be managed from a single control room. The plant is almost completely automated, thereby improving efficiency of the plant as a whole.

Preheated reduced pellets are fed into the furnace, thus reducing power consumption and increasing throughput of the furnaces.

Using Pyromets double venturi based scrubbing systems, the scrubbed off gas from the furnaces is used on the plant primarily to fire the two 1200 ton rotary kilns.

With a zero emissions policy, extensive use is made of scrubbing systems and bag houses to minimize the environmental impact that such a large plant has.

PROJECT AND CONSTRUCTION MANAGEMENT

The challenges associated with such large and technologically advanced systems was met by rigorous attention to the management and scheduling of project activities, and by fostering good relationships, commitment and cooperation between the project team, the client and the various sub-contractors. Pyromet worked closely with other contractors to ensure seamless progress during erection of the furnace building. Sub-contractors for this project included Domento Mechanical Services for equipment supply and erection, Oiltech for Hydraulic systems supply and installation, Voest Alpine for main scrubber venturi design and clean gas ignition systems and JCH for transportation of all supplied equipment.



PROJECT INFORMATION

Project name:	Xstrata Lion Project
Client:	Xstrata South Africa PTY (Ltd)
Site:	Steelpoort, Mpumalunga
Project description:	Design, supply and installation of 2 off furnace equipment including furnace roof, hearth cooling, complete feed system, fugitive gas system, furnace electrodes, hydraulic power packs, bustube assemblies, main and emergency off gas systems, taphole fume extraction system, feed bin fume extraction system and main venturi off gas scrubbing system
Disciplines included:	Mechanical, electrical, instrumentation and control
Produces:	Charge chrome (ferrochrome)
Furnace capacity:	63 MVA each
Production capacity:	333,000 tpy charge chrome
Project duration:	26 months
Project start:	October 2004
Commissioned:	September 2006 (Furnace B) November 2006 (Furnace A)

PROJECT STATISTICS (OVERALL)

Concrete:	15,000 m ³
Steel structures:	8000 tons
Piping:	20'000 m (furnace A & B)
Total Man Hours:	>5 million Hours
Pyromet project team:	8 persons
Project site team:	200 persons (at peak)

