# Advantages emerge from economic recession

**BETH SHIRLEY** | FEATURES REPORTER

Smelter technology equipment manufacturer Metix marketing director **Pat Davies** says that although the implications of the global economic crisis on ferrochrome production are serious for the company, the reduction of steel, copper and other input costs is good for the financial return on furnace projects.

"Some ferrochrome producers have cut back production by as much as 70%. However, there are advantages and positives that have arisen from the economic recession for Metix," says Davies.

What do you call a woman between two goalposts: Annette

He explains that advantages can be found in the closure of existing furnace operations. This means that the furnace plant can be upgraded while it is not producing significant amounts of output.

"When the economic climate turns for the better, which I am certain it will, and the plant is switched back on, output will be improved, owing to a refurbished furnace," asserts Davies.

Metix has postioned itself in the furnace refurbishment and upgrading process.

## Stainless Steel

Metix is one of the largest technology and process suppliers to the ferrochrome industry, and in turn, the stainless steel sector in South Africa.

"Stainless steel achieves between 4% and 7% in growth rate every year. Because ferrochrome is a significant component of stainless steel, Metix as a company has grown in turn," explains Davies.

Stainless steel has anticorrosion properties and has proved useful in many applications.

Davies explains that there is a reduction in the amount of stainless steel consumption currently, but believes that the growth in the product will resume.

However, he says that aluminium is also corrosion resistant and, in some aspects, competes with stainless steel.

**PAT DAVIES**
Lower input costs are good news for furnace projects

## Technologically in Tune

Metix uses Outotec sintering technology in its furnace projects. Chrome ore first undergoes sintering and is followed by preheating. It then goes through a furnace, resulting in specific grades of ferrochrome.

Using a closed furnace is better

**ROOF PANELS**
Additions to smelter operations prove efficient and environmentally sound

than using an open furnace operation, owing to the environmental benefits of doing so. It is also more cost effective than using an open furnace.

## Copper Furnace Roofs

In other news, Metix has taken delivery of two furnace roofs with forged solid copper centre section panels. The company designed and commissioned these for ferrochrome producer Hernic Ferrochrome's furnaces.

Metix technology equipment director **Jacques Venter** says that the roofs are currently on site and will be erected while the furnaces are down.

Venter explains that traditional roof-centre section designs have a thick layer of refractory material. "This portion of the roof is usually made of stainless steel, but this material tends to show fatigue once the refractory lining is worn away. Copper does not need refractory lining, even in an extreme environment," he says.

Venter reports that copper has a lifespan of at least ten years and conducts heat better than stainless steel.

"The copper section of the roof will result in a great reduction in down time. Typically, stainless steel furnace roof centre sections encounter problems from the first year of installation," says Venter.

Steel roofs are not expected to last more than five years and because closed ferrochrome furnaces are significantly hotter than traditional furnaces, the steel is less efficient.

Because the centre of a furnace needs to be made of nonmagnetic material, stainless steel is usually the material of choice. "It only has 4% of the thermal conductivity of copper, and cannot survive without the refractory. Copper absorbs heat, which is transferred to water that runs through it," says Venter.

He notes that the copper panels are forged and not cast, resulting in their being lighter. Forged panels are reliable, maintaining high conductivity. Venter explains that the copper roof life expectancy should be equal to that of the furnace itself and should only need replacing when the furnace is rebuilt entirely.

"This type of roof centre section has not been used on ferrochrome furnaces before and has been developed by Metix," adds Venter.

Hernic produces significant amounts of ferrochrome every year. To facilitate the installation of the new furnace roofs, Hernic shut down two furnaces. The operation is aimed for completion in the second quarter of 2009.

In other news, Metix is delivering two sets of pressure rings to ferroalloy smelter and refinery company Rand Carbide, in March. This is the third set that Rand Carbide has ordered from Metix.

Metix is also busy with chrome producers Samancor Chrome's Middelburg, and ASA Metals' chrome ore sinter plants.

Metix started these projects in late 2007 and early 2008 and intends to begin hot commissioning for the second quarter of this year.

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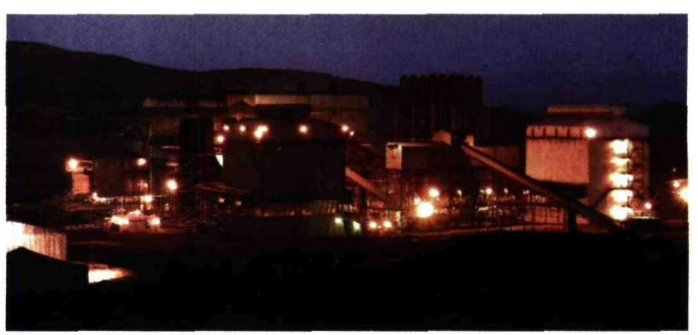

**SINTER PLANT**
The plant produces significant amounts of chrome ore each year