

**File Name****PM60 – (01/12)****Release Date: February 2012****Version 2 - Approved****RAUTOMEAD CONTINUOUS CASTING BRINGS CONTINUOUS SUCCESS IN CHINA**

Continuous casting technology specialist Rautomead Limited of Dundee, Scotland has delivered two model RMJ/H025 continuous casting machines to Shandong Zhaojin Group Co. Ltd. of Zhaoyuan City, China. The machines will be used to manufacture strip in fine gold and silver respectively. Shandong Zhaojin are one of the largest gold refiners in China processing in excess of 100 tonnes of gold per year. Investment in the Rautomead technology will help to modernise the manufacturing capability for the finished and semi-finished products produced by Shandong Zhaojin . The “turnkey” contract supplied by Rautomead included closed circuit primary cooling water systems installed inside the factory adjacent to the casting equipment. *(Photo 1)*.

**CASTING AN EYE EASTWARDS**

This order followed three other recent significant orders from the Far East for continuous casting machines to produce fine gold and silver strip for the manufacture of investment coins and bars. The Shanghai and Shenyang Mints in China and the Royal Thai Mint in Thailand. The Shanghai Mint now have four and the Royal Thai Mint two Rautomead continuous casting machines. The Shanghai Mint installed the first of its four Rautomead machines in 1991. That RMJ/H025 machine remains in full production today, twenty years later.

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Shandong Zhaojin is a new customer for Rautomead. Chairman Sir Michael Nairn explains: ' There is no doubt in my mind that the well-established and respected reputation of Rautomead and its technology in the precious metals industry in China and around the world were instrumental in bringing this new customer to us. While repeat business is always testament to a job well done, approaches by new customers such as Shandong Zhaojin are particularly satisfying in providing clear evidence of the level of trust the company has achieved in a particular market'. *(Photo 2)*.

### **MAKING A MINT FOR INVESTORS**

For Rautomead, the proliferation of orders from the Far East and USA, suggests that global demand for investment in precious metals will continue to boom during uncertain times where investors looking for less risky alternatives to stocks and shares.

*(Photos 3, 4 & 5)*.

### **THE CRUCIAL CRUCIBLE**

The Rautomead casting process is based on the use of a graphite crucible surrounded by electric resistance heating elements to provide the power to melt and hold the metal charge. Heating is by thermal radiation and heat convection. The interior of the machine is protected in an inert gas atmosphere to protect the hot-working graphite components.

The use of a graphite crucible has specific benefits for processing silver and silver alloys. Silver, in the molten state, has a propensity to absorb oxygen. In the Rautomead system, the molten metal is in contact only with the carbon surfaces of the graphite crucible and liners. Oxygen in the metal will react with and removed by the reducing reaction of the carbon.

### **ROBUST, RELIABLE AND SAFE**

Many features of the Rautomead process have evolved, been developed and refined over the years. The control systems, data recording capability, tooling designs, furnace insulations and withdrawal units are completely different from those supplied twenty years ago. The core technology (graphite crucible and graphite heating) however, remains the same. The machines have proved robust, reliable and safe to operate with many of the early machines still in daily use today.

## **CASTING FAR AND WIDE**

In all, Rautomead has supplied over 125 continuous casting machines for the processing of gold and silver alloys for coinage strip, jewellery, electronics and dental alloy applications. The special features of these machines, along with over thirty years' experience in graphite furnace technology, have cast Rautomead Limited as the number one choice for mints all over the world.

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### **Photos:**

1. Rautomead RMJ/H025
2. Sir Michael Nairn & Mr Zhang Mian Hui (General Manager) Shandong Zhaojin
3. Gold Coin: Shanghai Mint
4. Gold coin: Royal Thai Mint
5. Gold coin blanks