
INDUSTRY OVERVIEW

We have derived certain facts and other statistics in this prospectus relating to the global steel industry, the PRC economy, the PRC steel industry and the PRC steel flow control products industry in the continuous casting process from various government publications or various organisations, including World Steel Association, National Bureau of Statistics of China and ACRI, that we believe to be reliable. We have no reason to believe that such information is false or misleading or that any fact had been omitted that would render such information false or misleading. While our Directors have taken reasonable care in the reproduction of the information, such information has not been prepared or independently verified by us, the Sole Sponsor, the Joint Lead Managers, the Underwriters or any of our or their respective affiliates or advisers and, therefore, we make no representation as to the accuracy of such facts and statistics included in this section, which may not be consistent with other information compiled within or outside the PRC. Due to possibly flawed or ineffective collection methods or discrepancies between published information and market practice and other problems, the statistics herein may be inaccurate or may not be comparable to official statistics produced for other economies and you should not place undue reliance on them.

Further, we cannot assure you that they are stated or compiled on the same basis or with the same degree of accuracy as similar statistics presented elsewhere. In all cases, you should consider carefully how much weight or importance you should attach to or place on such facts or statistics.

In this section, information regarding the relevant industries has been recited or extracted from certain articles, reports or publications, and their preparations were not commissioned or funded by us or the Sole Sponsor.

INTRODUCTION

We are engaged in the manufacture of advanced steel flow control products which are used in the continuous casting process to protect, control and regulate the flow of molten steel. The steel manufacturing industry imposes direct impact on our Group. Relevant information and data in relation to each of the global and national crude steel and continuous cast steel industries are set out below.

CONTINUOUS CASTING PROCESS AND STEEL FLOW CONTROL PRODUCTS

Continuous casting process has been widely used since 1960s. Steel products produced from this process has accounted for more than 90% of the total production of crude steel globally and domestically in the PRC today. It is a process which transforms molten metal into solid form on a continuous basis. Such casting method includes a variety of important commercial processes. These processes are the most efficient way to solidify large volume of metal into simple shapes for subsequent processing.

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Continuous casting is distinguished from other solidification processes by its steady state nature. In addition, relative to ingot casting process, continuous casting generally has a lower capital and operating cost and is a more cost-and-energy-efficient method to produce semi-finished metal products with consistent quality in a variety of sizes and shapes.

The use of steel flow control products in the continuous casting process and its advantages

In the continuous casting process, molten steel flows from a ladle, through a tundish into moulds. The tundish holds enough metal to provide a continuous flow to the moulds, even during an exchange of ladles, which are supplied periodically from the steel making process. To produce higher quality product, molten steel must be protected from exposure to air by a slag cover over the liquid surface in each vessel and by using ceramic nozzles between vessels. Otherwise, oxygen in the air will react to form detrimental oxide inclusions in the steel.

Hence, as molten steel flows from the ladle into the mould via the tundish, it is crucial that the rate and timing of flow of molten steel must be carefully controlled and clinically precise throughout the entire continuous casting process in order for the quality of the steel produced to meet the required standards of its end use. Correspondingly, the steel flow control products (such as stoppers, ladle shrouds, and nozzles), which essentially protect and determine the rate and timing of the molten steel flow, play a crucial role in the continuous casting process in ensuring that the quality of the steel being manufactured satisfies the stringent requirements of its end uses.

If the steel flow control products fail to adequately control the rate and timing of steel flow or sufficiently protect the steel from contamination such as exposure to oxygen, the entire batch of steel will be rendered unfit for sale resulting in significant delays and monetary losses to the steel manufacturing companies. Hence, a typical ladle shroud, stopper, subentry nozzle and tundish nozzle can be used for only a few hours depending on the practice of the individual steel plants and the design of their respective steel ladle and tundish. Technological or manufacturing defects in the steel control products may also cause industrial accidents resulting in losses of life and damage to the affected plants and equipments.

Therefore, steel manufacturing companies generally place a high level of emphasis on the quality and reliability of the steel flow control products used in their production plants, which are normally ascertained by examining the track records of the steel flow control products manufacturers, and through a stringent selection and testing of the products of the potential suppliers.

Thin strip casting process

Thin strip casting process is currently the latest continuous casting process carried out by steel manufacturing companies whereby molten steel is directly cast into strip, which requires components such as, advanced steel flow control products including ladle shrouds and stoppers, monolithic materials, steel flow distributors, and side dams. This process requires two tundishes and thus more advanced steel flow control products are required. The steel cast through this process is called ultra thin cast steel. It has better mechanical properties than traditional hot coils and is very close to the properties of cold rolled steel. When compared to conventional continuous casting and thin slab casting processes, thin strip casting has smaller production scale and can be used to produce specific types of products, with lower investment, operation cost, energy consumption and carbon dioxide emission.

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However, ultra thin cast steel currently can only be applied in the manufacturing of a limited range of products that requires thin steel sheets such as frames and racks, while the conventional continuous cast billets and slabs can be applied in the manufacturing of steel products used in various industries, such as building construction, machinery and automobile. Therefore, thin strip casting process is not expected to replace conventional continuous casting process in the near future. It is currently only adopted by certain steel manufacturing companies as a niche production process producing ultra thin steels to complement their existing product mix, which can include steel billets, slabs, or ingots.

The concept of thin strip casting was developed by Sir Henry Bessemer approximately 150 years ago. However, it is only in the past decade that the thin strip casting has become a commercially viable technology due to advancements in high speed computing, advanced materials and industrial casting know-how.¹ According to ACRI, there are already a few small scale thin strip casting production lines in China, but they are limited in production type and scale.

Reference:

- ¹ The CASTRIP Process – An Update on Process Development at Nucor Steel’s First Commercial Strip Casting Facility, by M. Schueren, P. Campbell from Nucor Steel Indiana and W. Blejde, R. Mahapatra from Castrip LLC

GLOBAL CRUDE STEEL MANUFACTURING INDUSTRY

Global crude steel production

According to the Steel Statistical Yearbook 2009 and the most updated World Crude Steel Production issued by the World Steel Association, the global crude steel production volume increased constantly from 2000 to 2007, with drops in 2008 and 2009. The global crude steel production in 2000 and 2007 amounted to approximately 849 Mt and 1,346 Mt respectively. The global crude steel production decreased to approximately 1,329 Mt in 2008 and 1,220 Mt in 2009.

The following chart sets out the amount of the global crude steel production from 2000 to 2009:

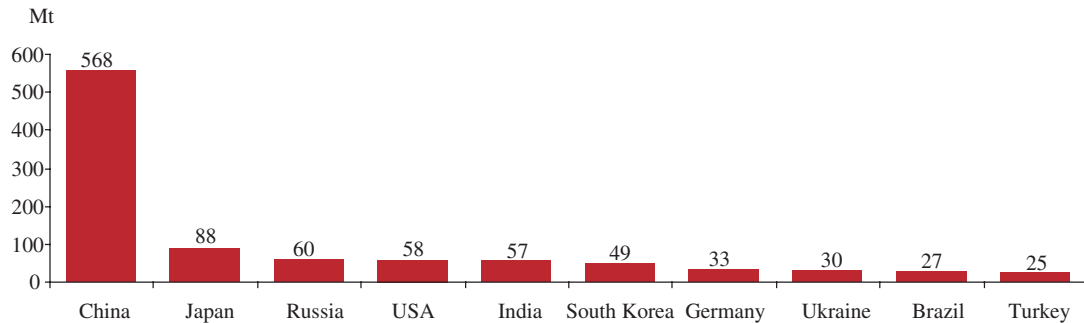


Source: World Steel Association

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China has been the world's leading producer of crude steel since 1996. In 2007, 2008, and 2009, China's annual production of crude steel amounted to approximately 489 Mt, 500 Mt, and 568 Mt respectively, representing about 36.3%, 37.6% and 46.6% of the world's total production of crude steel. As illustrated in the chart below, China, Japan and Russia had the highest crude steel production amount around the world in 2009. The other countries with large crude steel production volume include the USA, India and South Korea.

Top 10 crude steel production countries in 2009



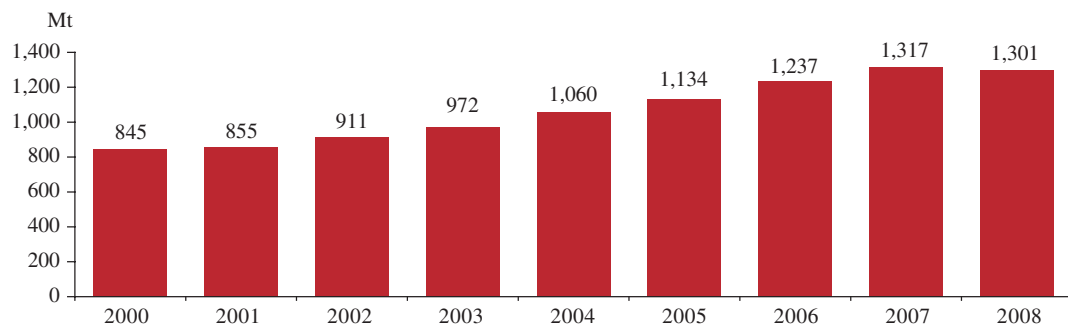
Source: World Steel Association

Global crude steel consumption

In line with the trend of the global crude steel production, the global consumption of crude steel also increased constantly from 2000 to 2007, with a slight decrease in 2008. The global crude steel consumption amounted to approximately 845 Mt and 1,317 Mt in 2000 and 2007 respectively, while such consumption dropped to approximately 1,301 Mt in 2008.

The following chart illustrates the amount of the global consumption of crude steel from 2000 to 2008:

Global crude steel consumption from 2000 to 2008



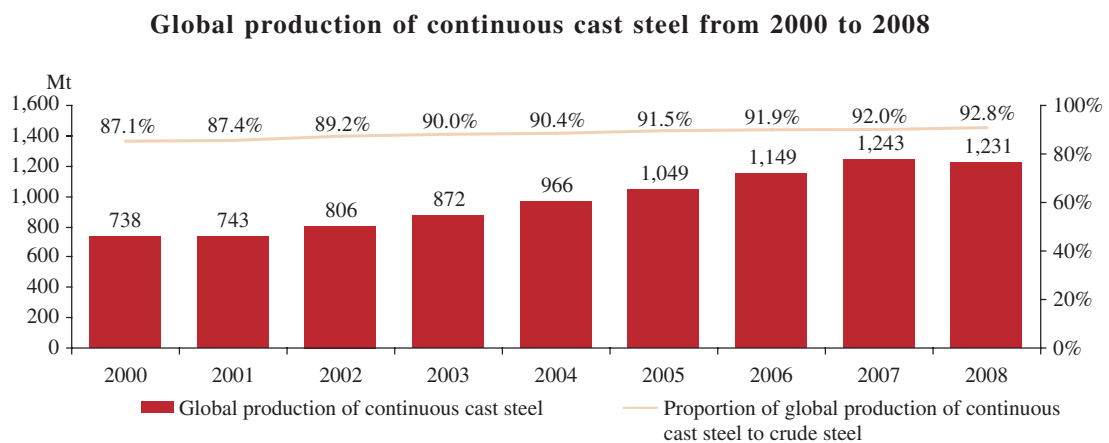
Source: World Steel Association

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Global continuous cast steel production

According to the Steel Statistical Yearbook 2009 issued by the World Steel Association, the global production of continuous cast steel increased constantly from 2000 to 2007, with a slight decrease in 2008. The global production of continuous cast steel increased from approximately 738 Mt in 2000 to approximately 1,243 Mt in 2007 and decreased slightly to approximately 1,231 Mt in 2008. From 2003 to 2008, production of continuous cast steel accounted for approximately 90% or more of the total production of crude steel globally.

The following chart illustrates the trend of the global production of continuous cast steel from 2000 to 2008 and the proportion of global production of continuous cast steel to crude steel:



Source: World Steel Association

PRC STEEL MANUFACTURING INDUSTRY

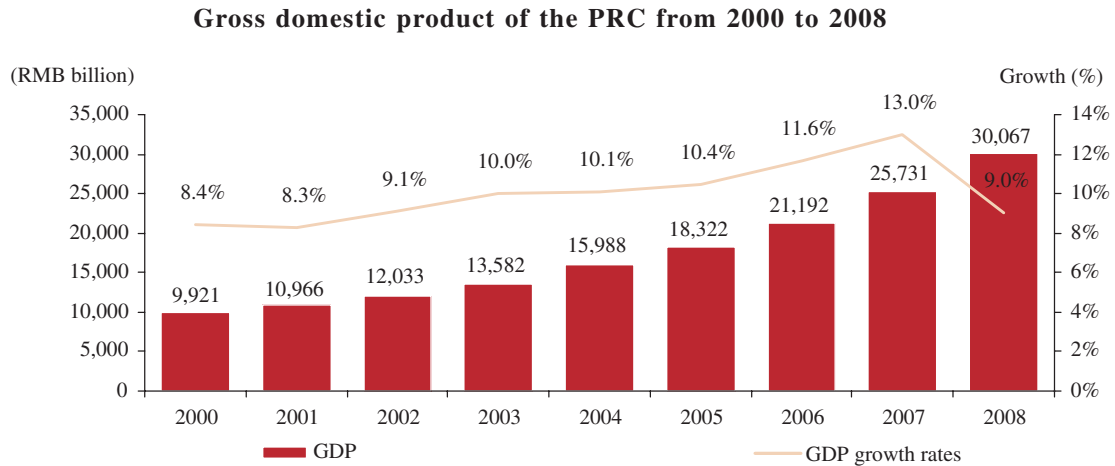
PRC economy

Gross domestic product

China is one of the world's fastest growing economies over the past decade. According to the National Bureau of Statistics of China, the gross domestic product of the PRC grew from approximately RMB9,921 billion in 2000 to approximately RMB30,067 billion in 2008, with the per capita gross domestic product increased from approximately RMB7,858 to approximately RMB22,698 during the same period.

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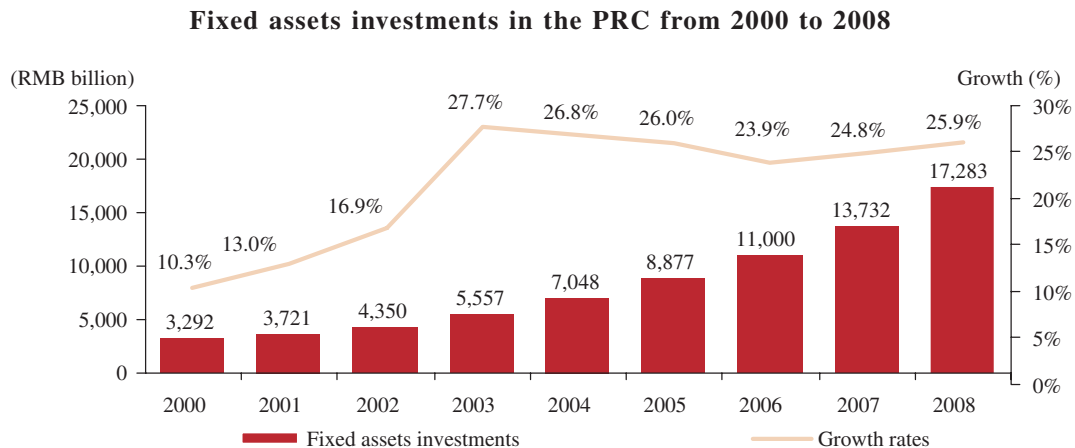
The following chart sets out the gross domestic product of the PRC from 2000 to 2008 and the growth rates:



Source: National Bureau of Statistics of China

Fixed asset investments

As indicated in the National Bureau of Statistics of China, the total amount of fixed assets investments in China increased from approximately RMB3,292 billion in 2000 to approximately RMB17,283 billion in 2008. From 2003 to 2008, the growth rate of the fixed assets investment in the PRC maintained at a relatively steady pace. The following chart sets out the total amount of fixed assets investments in China from 2000 to 2008 and the growth rates thereof:



Source: National Bureau of Statistics of China

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Investment in Construction

According to the National Bureau of Statistics of China, the total investment in construction in China increased from approximately RMB10,213 billion in 2000 to approximately RMB49,844 billion in 2008. The growth rate of the investment in construction in the PRC was more than 20% throughout 2003 to 2008. The following chart sets out the total investment amount of construction in China from 2000 to 2008 and the growth rates:

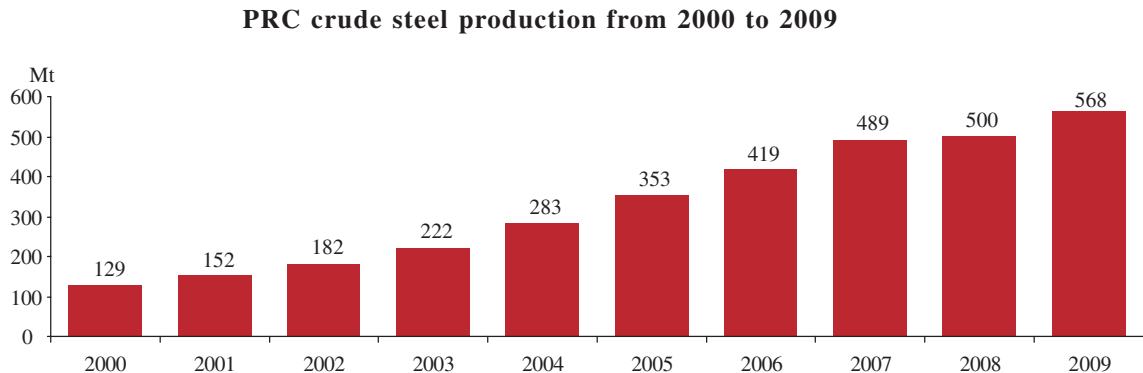


Source: National Bureau of Statistics of China

PRC crude steel production

Based on the Steel Statistical Yearbook 2009 and the most updated World Crude Steel Production issued by the World Steel Association, the production volume of crude steel in the PRC increased constantly from 2000 to 2009; with the production of crude steel in the PRC increased from approximately 129 Mt in 2000 to approximately 568 Mt in 2009. Among the crude steel products produced in China in 2007 and 2008, approximately 474 Mt and 484 Mt, representing over 96.9% and 96.6% respectively, were continuously cast slabs and billets.

The following chart sets out the total amount of the PRC crude steel production from 2000 to 2009:



Source: World Steel Association

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Based on the information of the World Steel Association, major steel producers in the PRC include Baosteel Group, Hebei Steel Group and Wuhan Steel Group, all of which possess an annual production capacity of over 25 Mt and rank among the top ten steel manufacturing groups in the PRC.

The following table sets out the production volume for the major steel manufacturing groups in China in 2008:

Major steel manufacturing groups in the PRC in 2008 in terms of annual production volume

Company name	Mt
Baosteel Group	35.4
Hebei Steel Group	33.3
Wuhan Steel Group	27.7
Jiangsu Shagang Group	23.3
Shandong Steel Group	21.8
Anshan Steel	16.0
Maanshan Steel	15.0
Shougang Group	12.2
Hunan Valin Group	11.3
Baotou Steel	9.8

Note: Other than Jiangsu Shagang Group, Anshan Steel and Shougang Group, members of the other major steel manufacturing groups in the PRC mentioned above were our customers as at the Latest Practicable Date.

Source: World Steel Association

PRC crude steel consumption

According to the World Steel Association, the PRC consumption of crude steel increased constantly from 2000 to 2008. The consumption of crude steel in China amounted to approximately 138 Mt in 2000 and increased to approximately 453 Mt in 2008. The following chart sets out the total amount of the PRC consumption of crude steel from 2000 to 2008:



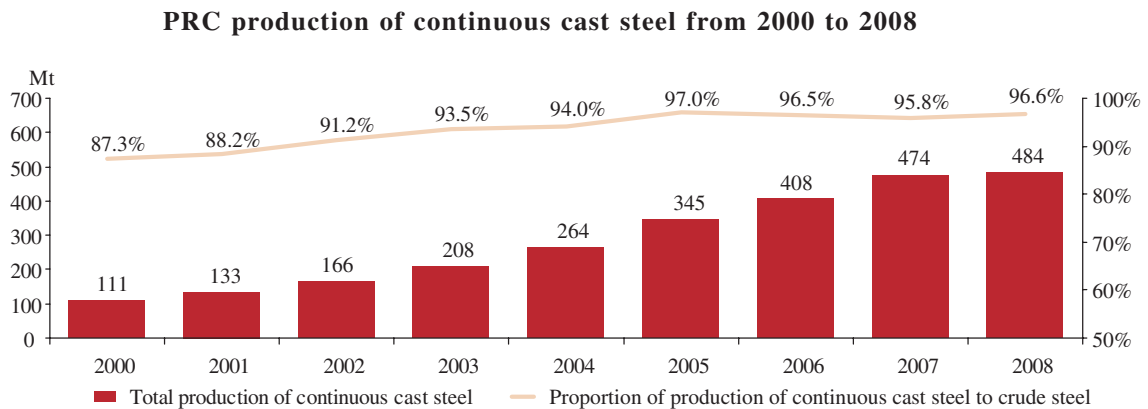
Source: World Steel Association

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PRC continuous cast steel production

According to the Steel Statistical Yearbook 2009, the PRC production of continuous cast steel increased constantly from 2000 to 2008. The production of continuous cast steel increased from approximately 111 Mt in 2000 to approximately 484 Mt in 2008. Since 2002, the production of continuous cast steel has accounted for more than 90% of the total production of crude steel in China.

The following chart sets out the trend of the PRC production of continuous cast steel from 2000 to 2008 and the proportion of production of continuous cast steel to crude steel:



Source: World Steel Association

PRODUCERS OF STEEL FLOW CONTROL PRODUCTS

Global producers of steel flow control products

In respect of the consumption of steel flow control products, the ACRI Report focuses on various regions around the world, including China, Europe (including Germany, Italy, Spain and the United Kingdom), North America (including the United States, Canada and Mexico), India, Korea and Taiwan. The following table shows the consumption of steel flow control products in these regions from 2006 to 2008:

Region	2006 (tonnes)	2007 (tonnes)	2008 (tonnes)
China	43,600	50,720	51,870
Europe	19,700	19,800	19,000
North America	18,100	18,300	17,200
India	4,900	5,300	5,500
Korea and Taiwan	9,630	9,930	10,300

Source: ACRI Report

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According to the ACRI Report, the global leading producers of steel flow control products currently include Vesuvius Group, RHI AG, Krosaki Harima Corporation, Shinagawa Refractories Co., Ltd. and Chosun Refractories Chemical Industry Co., Ltd.

PRC producers of high-end steel flow control products

As compared with other countries, China has a high consumption volume of steel flow control products. According to the ACRI Report, the leading producers of steel flow control products in the PRC currently include Vesuvius Advanced Ceramics (Suzhou) Co., Ltd. (“Vesuvius Suzhou”) and our Group.

Information related to the leading producers of high-end steel flow control products in the PRC are set out below:

Producer	Year of commencement of production	Annual production capacity (tonnes)	Market share in the “high-end” steel flow products market in the PRC ⁷
Vesuvius (China) ¹	1998	12,000	50% to 55%
Our Group	2006	8,200	19%
Wuxi Krosaki Sujia Refractories Co. Ltd. ²	2003	3,000	4% to 5%
Shinagawa Rongyuan Continuous Casting Refractories Co., Ltd. ³	2005	2,000	4% to 5%
RHI Refractories (Dalian) Co.,Ltd. ⁴	2006	4,000	3%
Puyang Refractories Group Co., Ltd. ⁵	2002	5,000	5%
Wuhan Chosun Refractories Co., Ltd. ⁶	2006	3,000	2%

Source: ACRI Report

Notes:

1. Vesuvius (China) includes Vesuvius Suzhou and other members of Cookson Group Plc operated in the PRC. Vesuvius Suzhou is the subsidiary of Vesuvius Group which is a member of the Cookson Group Plc group of companies. Cookson Group Plc is based in the United Kingdom and operates on a worldwide basis in ceramics, electronics and precious metals markets.
2. Wuxi Krosaki Sujia Refractories Co., Ltd. is a member of the Krosaki Harima Corporation group of companies. Krosaki Harima Corporation is based in Japan and is engaged in manufacturing and marketing of refractory products, fine ceramics and life space ceramics.
3. Shinagawa Rongyuan Continuous Casting Refractories Co., Ltd. is a member of the Shinagawa Refractories Co., Ltd. group of companies. Shinagawa Refractories Co., Ltd. is based in Japan and is engaged in manufacturing of refractory materials for steel, non-ferrous metal, ceramic, gas and electric power industries.

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4. RHI Refractories (Dalian) Co. Ltd. is a member of the RHI AG group of companies. RHI AG is based in Austria and is engaged in manufacturing of high-grade ceramic refractory materials which are used for high-temperature processes.
5. Puyang Refractories Group Co., Ltd. is based in the PRC and is engaged in production of refractory products for steel, non-ferrous metal and electricity industries.
6. Wuhan Chosun Refractories Co., Ltd. is a member of the Chosun Refractories Co. Ltd. group of companies. Chosun Refractories Co., Ltd. is based in Korea and is engaged in manufacturing of refractory products including special alumina bricks, monolithic materials and other related refractory products for the steel industry.
7. Based on the sales volume of the producer to the consumption of steel flow control products in the PRC in 2009.

According to the ACRI Report, steel flow control products for the continuous casting process can be broadly grouped into “high-end” and “average” products. Quantitative parameters used by ACRI in determining whether a steel flow control product is “high-end” are:

Product	Specifications
Ladle shrouds	: Bore size of 80 mm or above with alumina content of 60% or above
Stoppers	: Length of 1,100 mm or above with alumina content of 59% or above
Tundish nozzles	: Ratio of outside diameter in the seat end over the outside diameter in the opposite end should be less than 1, and with a sliding plate with modulus of rupture of not less than 10 MPa with alumina content of not less than 80%
Subentry nozzles	: The end closest to the tundish bottom should have an outside diameter of not less than 150mm and the zirconia and hafnia content of the slagline should not be less than 80%

“High-end” steel flow control products are those generally larger in size and of complicated shapes. They also have the characteristics of high erosion resistance and high stability and they usually have a longer life cycle when compared to the “average” products. Products which do not fall into the “high-end” category can be grouped as “average” products.

“High-end” steel flow control products are mainly used by steel manufacturing companies for slab casters while “average” steel flow control products are mainly used for billet casters. Slab casters require steel flow control products which are larger in size and more complicated in designs as higher molten steel flow rate is involved and more modern tube changer systems are adopted. On the other hand, billet casters typically require steel flow control products which are smaller in size, simpler in designs, and are relatively easier to be manufactured. Our products are within the category of “high-end” steel flow control products and are mainly used by our customers for their slab casters. According to the ACRI Report, the classification of “high-end” and “average” steel flow control products is widely accepted and recognised in the PRC industry. However, there is currently no national standard or requirement which is applicable to such classification.

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The following table sets out the consumption of steel flow control products in China by “high-end” and “average” products for years 2007 to 2009 and our Group’s market share in “high-end” products and steel flow control products during the period.

	2007	2008	2009
	<i>(tonnes)</i>	<i>(tonnes)</i>	<i>(tonnes)</i>
Steel flow control products			
“High-end” products	18,080	18,440	22,940
“Average” products	32,640	33,430	36,120
	50,720	51,870	59,060
Our Group’s annual production volume	1,080	1,690	4,250
Our Group’s market share in			
“high-end” products	6%	9%	19%
Our Group’s market share in steel			
flow control products	2%	3%	7%

Source: ACRI Report

Our Group’s market share in “high-end” products was approximately 6%, 9% and 19% for 2007, 2008 and 2009 respectively according to the actual annual production volume of our Group and ACRI.

INDUSTRY RELATED REGULATIONS

On 26 September 2009, the State Council of the PRC (國務院) issued the State Council No.38 Circular. Certain major principles were put forward, namely, restricting additional capacity and optimising existing capacity, growing emerging industries and upgrading traditional industries, adopting market orientation and macro controls. The State Council No.38 Circular also required a restriction on the overall production capacity and constrained surplus production capacity, encouraged the development of new industries and products that are high-tech, high value-added, low consumption and low emission, enhanced merger and corporate restructuring as well as industry consolidation, expedited the retirement of technologically laggard plants, emphasised technology advancement, improved existing capacity, adjusted product mix and pursued an efficient, quality and sustainable industrial development.

The principles set out in the State Council No.38 Circular aimed at consolidating the resources of steel manufacturing companies by merging and reorganising the small-medium companies and eliminating old and outdated production facilities so as to maintain the sustainable development of the steel manufacturing industry. These principles required the steel manufacturing companies to refine their product structure and aimed to eliminate the outdated products and production facilities.

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Based on the latest data extracted from Bloomberg, the table below shows the monthly production volume of several major PRC steel manufacturing groups which are our customers as at the Latest Practicable Date. Notwithstanding the issuance of the State Council No.38 Circular, monthly production volume of our customers as shown in the table below maintained a steady trend after September 2009. Hebei Steel Group even experienced an increase in monthly production in October 2009, December 2009, and January 2010 as compared to their monthly production in September 2009.

Monthly production volume of the major steel manufacturing groups in the PRC

For the month ended	Hebei Steel Group (Mt)	Baosteel Group (Mt)	Wuhan Steel Group (Mt)	Shandong Steel Group (Mt)	Maanshan Steel (Mt)	Hunan Valin Group (Mt)
28 February 2010	3.5	3.4	2.8	1.8	1.2	1.0
31 January 2010	3.8	3.8	2.7	1.9	1.2	1.1
31 December 2009	3.8	3.7	2.8	2.0	1.3	1.0
30 November 2009	3.4	3.6	2.6	1.9	1.3	1.0
31 October 2009	3.6	3.6	3.0	2.0	1.3	1.1
30 September 2009	3.5	3.5	2.9	1.9	1.3	1.0
31 August 2009	3.7	3.6	2.7	2.0	1.4	1.0
31 July 2009	3.5	3.5	2.5	1.8	1.3	1.1
30 June 2009	3.2	3.3	2.4	1.7	1.2	1.0
31 May 2009	3.1	3.1	2.4	1.8	1.2	1.0
30 April 2009	2.7	2.7	2.3	1.6	1.2	0.9
31 March 2009	2.8	3.1	2.3	1.6	1.2	0.9
28 February 2009	2.6	2.4	2.2	1.5	1.1	0.9
31 January 2009	2.8	2.3	2.3	1.6	1.1	0.9

Source: Bloomberg

As the demand for our products depends on the production volume of the steel manufacturing companies, and most of our customers were members of major steel manufacturing groups in the PRC which would unlikely to be adversely affected by the State Council No.38 Circular, our Directors believe the issuance of the State Council No.38 Circular has limited immediate impact on our business.