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China Low-E Glass Industry Report, 2009

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2.3 A Great Development Period of China Low-E Glass

2.3.1 Short Supply of Low-E Glass

Construction energy saving is a complex system project, including outer wall subsystem, roof subsystem, heating and refrigeration subsystem, door, window & curtain walls subsystem. Of which, door, window & curtain walls subsystem has close relation with construction energy saving. Door, window & curtain walls subsystem has several taches, of which, glass accounts for 80 percent area, so glass has a great impact on the energy saving of door, window & curtain walls.

As the best energy saving glass, China's output of Low-E glass was only 5.9 million square meters in 2005, and the figure rose to 50 million square meters in 2009. It is forecasted that along with the construction of Low-E glass production lines of enterprises, the capacity will reach 80 million square meters. However, the demand for Low-E glass is also large. In 2009, the demand is 75 million square meters, and will be 100 million square meters in 2010. The supply is still far behind the demand.

According to overseas experience, government's policy is the major impetus to the construction of energy saving building and the application of energy saving building materials. For example, in 1991, some European countries announced to adopt Low-E insulating glass compulsively by 1995, then market share of Low-E insulating glass rocketed, surpassing 50 percent in 1995, and nearly 100 percent in 1998. The use increased from less than 2 million square meters earlier to 36 million square meters in 2004, and by 2009, it would reach 120 million square meters in West Europe.

Utilization Ratio of Low-E Glass in Foreign Countries

Country	Utilization Ratio of Low-E Glass
Germany	92%
Austria	90%
Poland	75%
USA	nearly 100%

2.3.2 Huge Applications Space of Low-E Glass

Energy saving in buildings mainly include wall thermal insulation, door & window thermal insulation, heat supply system and renewable energy etc. External door & window and glass curtain wall are the most active part in heat exchange and thermal diffusion. This part also causes thermal loss easily, almost six times than that of concrete walls and accounting for 40-50 percent of the total thermal loss of the building’s heating system. The use of energy saving door & window is one fundamental aspect for the whole building to save energy. China central and local governments have brought forward requirements for heat transference. In frozen areas the heat transfer coefficient is given as $K \leq 2.8W/square\ meters \cdot K$, which providing legal support for the application of Low-E glass.

The above mentioned requirement is higher than requirements in China in the past though, yet it still has some distance to match with that of the developed countries. For example, the north USA, central-to-north USA and central-to-south USA, where the climate distract is the same as China, the heat transfer coefficient is given as $K \leq 2.3W/square\ meters \cdot K$ in USA. Let’s see more examples, heat transfer coefficients given in Germany, Denmark, and Poland are $1.5W/square\ meters \cdot K$, $1.8W/square\ meters \cdot K$ and $2.6W/square\ meters \cdot K$ respectively. In Britain, K value for metal is $2.2W/square\ meters \cdot K$ and non-metal $2.0W/square\ meters \cdot K$, and in Norway $K=1.6W/square\ meters \cdot K$. Therefore, China market still has great development space for Low-E glass application.

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5.2 Shanghai Yaohua Pilkington Glass Co., Ltd.

5.2.1 Profile

Shanghai Yaohua Pilkington Glass Co., Ltd. (abbreviated as "SYP"), which was established in 1983, was the largest Sino-British joint venture in China at that time, and became a listed company in 1993. SYP was listed in Shanghai Stock Exchange in Jan. 1994. SYP has municipal-level enterprise technical centre and state first level testing centre, with its major businesses covering float glass, architectural processing glass and auto glass businesses. By the end of 2008, its total assets exceeded RMB 6.2 billion, with the sales revenue surpassing RMB 2.5 billion.

Profile of Shanghai Yaohua Pilkington Glass Co., Ltd

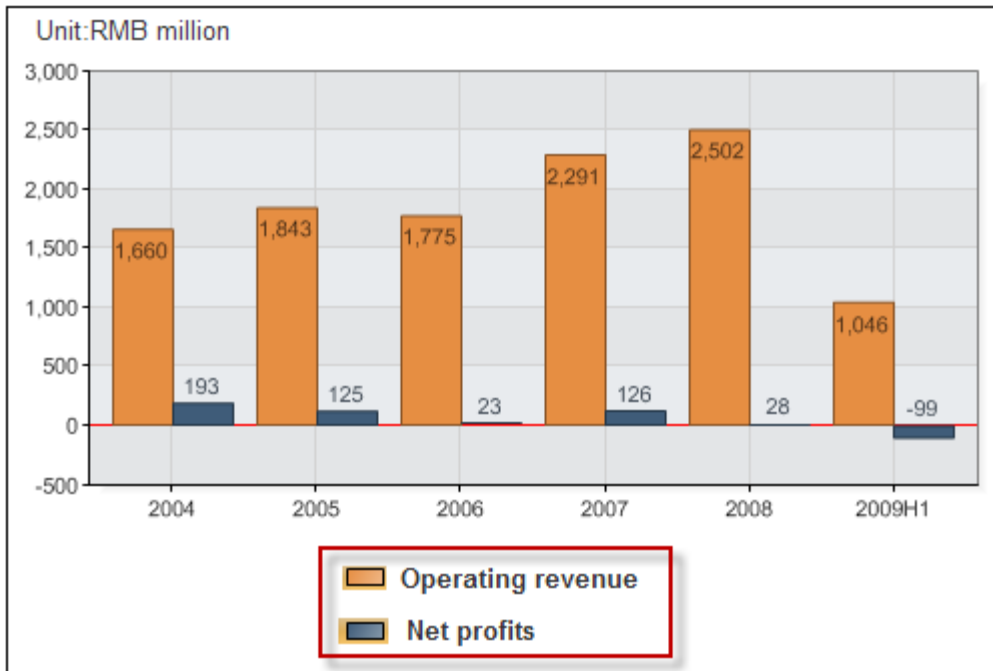
Abbreviated name	SYP
Stock code	SHA:600819
Name	Shanghai Yaohua Pilkington Glass Co., Ltd
Date of establishment	1993-11-23
Registered capital	RMB 7312.5 billion
Tel	021-61633599
Website	http://www.sypglass.com

Source: Shanghai Yaohua Pilkington Glass Co., Ltd., ResearchInChina

5.2.2 Performance and Operating Revenue

In the first half year of 2009, the fierce competition in China glass industry remained. Affected by the financial crisis, the overseas market of architectural processing glass, especially USA and Hong Kong, shrank greatly, and domestic market competition aggravated. However, pushed by the 2010 Shanghai World Expo construction, the sales of processing glass products increased. In addition, in the first half year of 2009, SYP obtained orders of Frankfurt Airport, Kuwait Joint Building, the west Terminal of Hongqiao Airport, Italy Pavilion for the 2010 Shanghai World Expo, and Shanghai Kerry Center projects.

Operating Revenue and Net Profits of Shanghai Yaohua Pilkington Glass Co., Ltd., 2004-H1 2009

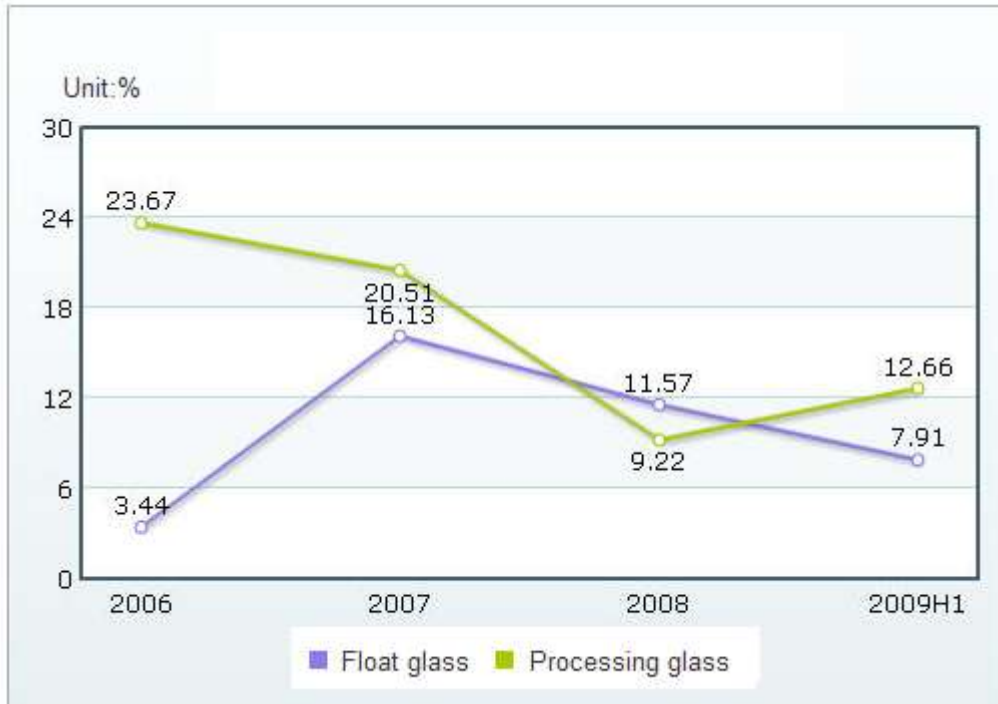


Source: Shanghai Yaohua Pilkington Glass Co., Ltd., ResearchInChina

In 2009, the largest capacity of processing glass is 8 million m²/year, among which 90% is low-e glass capacity. It is expected that the Jiangmen Base with capacity of 5 million m²/year, will be put into operation in the first half year of 2009, and the total capacity will be 13 million m²/year.

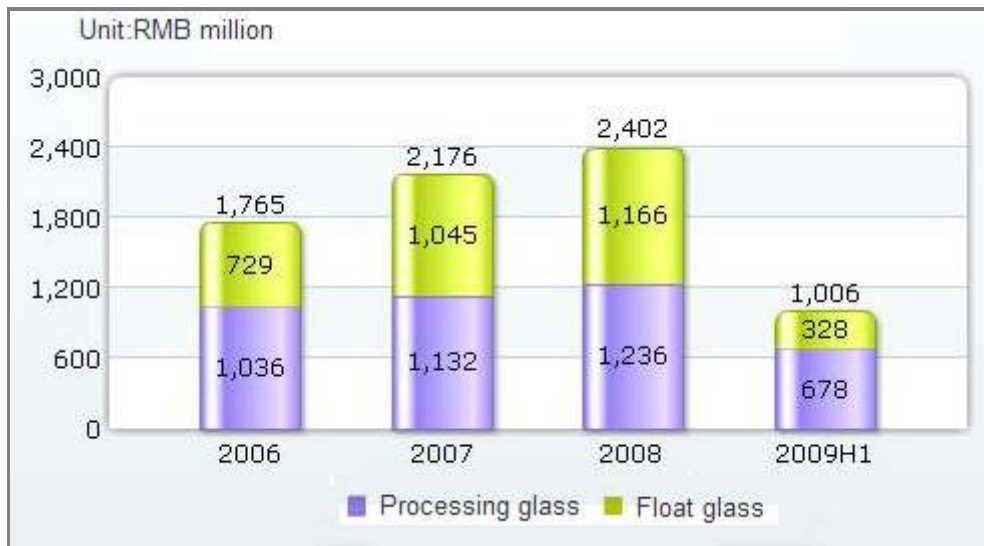
The processing glass of SYP is oriented to be high-end products, and the capacity in 2008 was fully utilized. In Jan. -Feb. 2009, SYP took good orders, but following orders were insufficient. The gross profit margin of processing glass in the first half year of 2009 was 12.66%.

Gross Profit Margin by Product of Shanghai Yaohua Pilkington Glass Co., Ltd., 2006-H1 2009



Source: Shanghai Yaohua Pilkington Glass Co., Ltd., ResearchInChina

Operating Revenue by Product of Shanghai Yaohua Pilkington Glass Co., Ltd., 2006-H1 2009



Source: Shanghai Yaohua Pilkington Glass Co., Ltd., ResearchInChina

5.2.3 Low-E Glass Investment

The online Low-E glass production line jointly built by Yaopi Glass and Pilkington will be put into operation in Jiangsu Changshu in Oct. 2009. The first product will be the best-sellers in North-America--Energy Advantage™ Low-E glass. In future, the main products will include Pilkington online Low-E glass, which mostly apply for architectural glass and household appliance glass. After operation, SYP will become the only glass manufacturer in China who own both offline Low-E products and online Low-E products.

Invested Projects of SYP (Unit: RMB10,000)

Project name	Amount	Project proceeding	Benefit
Online coated Low-E glass project in Jiangsu Changshu	34,089	Equipment installation and debug	
Yaopi building glass project in Jiangmen	36,000	Construction finished, and equipment installation begins	
Stage I of processing glass project in Tianjin	30,935	100%	631.93

Source: Shanghai Yaohua Pilkington Glass Co., Ltd., ResearchInChina

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