In-depth Research on China LOW-E Glass Market, 2013-2017

(Sample)

Huidian Research

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4. Development Status of China’s LOW-E Glass Industry

4.1 Industry Development Status

With the strengthening of people’s energy saving and environmental protection awareness and the continuous introduction of related polices, the energy saving requirements to the building glass is increasingly high. Shenzhen CSG, Guangzhou Zhongshan, and Shanghai Yaohua Pilkington have introduced LOW-E coated glass production lines from foreign countries in succession, and presented China’s LOW-E coated glass production scale. The production of LOW-E coated glass has become the core and goal of glass deep processing enterprises.

China began to know LOW-E glass since the mid-1990s. In 1997, CSG Holding Co., Ltd. introduced super-huge vacuum magnetron sputtering coated glass production line from the United State which can produce LOW-E glass, and began to research the development of LOW-E glass. At the same time, some high class buildings applied LOW-E glass through import. And then, Grandglass Industrial Co., Ltd., Luoyang Jingrun Coated Glass Co., ltd., Shanghai New Billy Curtain Wall Co., Ltd. and several other enterprises began to produce offline LOW-E glass products through equipment and technology introduction.

As of 2012, LOW-E glass output in China was 108 million square meters; China owns more than 60 off-line LOW-E coating production lines with the production capacity of about 66 million square meters, and about 20 coating lines are under construction or planned to be constructed; of which, more than 10 enterprises make use of CVD method or PCVD method to conduct LOW-E coated glass online production. However, the current utilization rate of LOW-E glass in China is only 8%, which is far less than this rate in the occidental developed countries.

<table>
<thead>
<tr>
<th>Serial number</th>
<th>Enterprises Name</th>
<th>Product type</th>
<th>Manufacturing technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shanghai Yaohua Pilkington Yangguang Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>2</td>
<td>Suzhou Huadong Coated Glass Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>3</td>
<td>Changshu Yaohua Pilkington Co., Ltd.</td>
<td>Low-E glass</td>
<td>Online, online float low-E glass mass production</td>
</tr>
<tr>
<td>4</td>
<td>Shenzhen CSG Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>5</td>
<td>Qingdao Jinjing Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline (U.S. PPG technology)</td>
</tr>
<tr>
<td>No.</td>
<td>Company Name</td>
<td>Glass Type</td>
<td>Status</td>
</tr>
<tr>
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</tr>
<tr>
<td>6</td>
<td>Zhongshan Grandglass Industrial Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>7</td>
<td>Tungtay Group</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>8</td>
<td>Yaohua Glass Group</td>
<td>Low-E glass, Sun-E glass</td>
<td>Introduced online float Low-E glass production</td>
</tr>
<tr>
<td>9</td>
<td>TG Chengdu Glass Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>10</td>
<td>Shenzhen Xinyi Group</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>11</td>
<td>Jiangxi Anyuan Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline</td>
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<tr>
<td>12</td>
<td>Chengdu Guodong Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>13</td>
<td>Shandong Bluestar Glass Group Co., Ltd.</td>
<td>Low-E glass</td>
<td>Online float Low-E glass (independent) production</td>
</tr>
<tr>
<td>14</td>
<td>Luoyang Glass Company Limited</td>
<td>Low-E glass</td>
<td>Offline</td>
</tr>
<tr>
<td>15</td>
<td>Hebei Yingxin Glass Group Co., Ltd.</td>
<td>Low-E glass</td>
<td>Introduced online float Low-E glass production</td>
</tr>
<tr>
<td>16</td>
<td>Dalian Float Glass Co., Ltd.</td>
<td>Low-E glass</td>
<td>Online float low-E glass mass production (Glavcrbel technology)</td>
</tr>
<tr>
<td>17</td>
<td>Kibing Group (Xiamen) Glass Co., Ltd.</td>
<td>Low-E glass</td>
<td>Introduced online float Low-E glass production</td>
</tr>
<tr>
<td>18</td>
<td>Hainan AVIC Glass Co., Ltd.</td>
<td>Low-E glass</td>
<td>Online float low-E glass production (PPG technology); put into operation in 2011</td>
</tr>
<tr>
<td>19</td>
<td>Shiming Glass Co., Ltd.</td>
<td>700t/d online low-E coated glass production line</td>
<td>Online float low-E glass production; put into production at the end of 2010</td>
</tr>
<tr>
<td>20</td>
<td>Northglass Technology Co., Ltd. (owns proprietary intellectual property rights)</td>
<td>Low-E glass coating equipment</td>
<td>Domestic offline large-scale coating equipments which can produce tempering Low-E glass</td>
</tr>
<tr>
<td>21</td>
<td>Shandong Bluestar Glass Group Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline Low-E coated glass</td>
</tr>
<tr>
<td>22</td>
<td>Shandong Jinjing Co., Ltd.</td>
<td>Low-E glass</td>
<td>Offline large-scale coating equipments which can produce tempering Low-E glass</td>
</tr>
<tr>
<td>23</td>
<td>Hebei Yujia Energy Saving Glass Co., Ltd.</td>
<td>Low-E glass production line</td>
<td>Online Low-E glass</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>No.</th>
<th>Company Name</th>
<th>Glass Type</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Suzhou Dongtai China Glass Special Glass Co., Ltd.</td>
<td>Two 600t/d online low-E coated glass production lines</td>
<td>Offline dual-silver tempering Low-E glass production line (U.S. PPG technology)</td>
<td>Huidian Research</td>
</tr>
<tr>
<td>25</td>
<td>Qingdao Glorious Future Energy Saving Glass Co., Ltd.</td>
<td>Low-E glass production line</td>
<td>Introduced online float Low-E glass production</td>
<td></td>
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<tr>
<td>26</td>
<td>Zhongli Holding Group</td>
<td>Low-E glass production line</td>
<td>Introduced online float Low-E glass production</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Hebei Haisheng Industry Group</td>
<td>Low-E glass production line</td>
<td>Introduced online float Low-E glass production</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Hebei Xinli Glass Co., Ltd.</td>
<td>Low-E glass production line</td>
<td>Introduce Technology from the United States to conduct Low-E glass production</td>
<td></td>
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</tbody>
</table>

In recent years, China’s Low-E glass output has been increasing year by year. At present, the Low-E production lines which are under construction usually own the design capacity of 3 million square meters and most of them put into operation in 2012 or 2013. The Low-E glass production lines are mainly concentrated in CSG, Xinyi, Yaohua, and Yaohua Pilkington, most of them adopt offline technology and have expansion plan. CSG mainly produces Low-E glass, and it owns production bases in Dongguan, Tianjin, Chengdu and Wujiang; the Low-E glass project with the annual production capacity of 4.2 million square meters which is under construction in Hubei will be put into operation in H2 of 2013.

**Fig. 10 LOW-E Glass Output in China, 2008-2012**

Unit: 10,000 square meters

<table>
<thead>
<tr>
<th>Year</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>2810</td>
</tr>
<tr>
<td>2009</td>
<td>4235</td>
</tr>
<tr>
<td>2010</td>
<td>6350</td>
</tr>
<tr>
<td>2011</td>
<td>8700</td>
</tr>
<tr>
<td>2012</td>
<td>10790</td>
</tr>
</tbody>
</table>

Source: Huidian Research
Table of Contents

1. Development Overview of LOW-E Glass Industry
   1.1 Industry Definition and Classification
      1.1.1 Definition
      1.1.2 Characteristics
   1.2 Industry China

2. Development Overview of Global LOW-E Glass Industry
   2.1 Development History
   2.2 Development Status
      2.2.1 Technology and Process
      2.2.2 Market Status
   2.3 Technology Trend

3. Environment of China’s LOW-E Glass Industry
   3.1 Economic Development Environment
   3.2 Related Policies, Standards, Laws and Regulations
   3.3 Technological Analysis
      3.3.1 Technological Comparison between China’s and Foreign Float Glass Technology
      3.3.2 Preparation Technology

4. Development Status of China’s LOW-E Glass Industry
   4.1 Industry Development Status
   4.2 Demand Status and Trend

5. Competitive Situation in China’s LOW-E Glass Industry
   5.1 Competitiveness Analysis
      5.1.1 The Bargaining Power of Heavy Oil Suppliers is Relatively Strong
      5.1.2 The Bargaining Power of Consumers is in Cyclical Fluctuation
      5.1.3 The Threat of Potential Entrants is Relatively Weak
      5.1.4 Competitions within the Industry
      5.1.5 The Threat of Substitutes is Relatively Weak
   5.2 Competitive Landscape

6. Upstream and Downstream of China’s LOW-E Glass Industry
   6.1 Upstream Raw Material Industries
      6.1.1 Soda Ash
      6.1.2 Natural Gas
   6.2 Downstream Application Fields
      6.2.1 Glass Curtain Wall
      6.2.2 Real Estate Industry
7. Import and Export Data of LOW-E Glass Products
7.1 Import and Export (70051000), 2010-2012
7.1.1 Import and Export Statistics, 2010-2012
7.1.2 Sources of Import and Destinations of Export, 2012
7.2 Import and Export (70053000), 2012012
7.2.1 Import and Export Statistics, 2010-2012
7.2.2 Sources of Import and Destinations of Export, 2012

8. Main Enterprises in China’s LOW-E Glass Industry
8.1 CSG Holding Co., Ltd.
8.1.1 Company Profile
8.1.2 Main Business
8.1.3 Competitive Advantages
8.1.4 Business Performance
8.1.5 Future Development Strategy
8.2 AVIC Sanxin Co., Ltd.
8.2.1 Company Profile
8.2.2 Main Business
8.2.3 Competitive Advantages
8.2.4 Business Performance
8.2.5 Future Development Strategy
8.3 Shanghai Yaohua Pilkington Glass Co., Ltd.
8.3.1 Company Profile
8.3.2 Main Business
8.3.3 Competitive Advantages
8.3.4 Business Performance
8.3.5 Future Development Strategy
8.4 Luoyang Glass Company Limited
8.4.1 Company Profile
8.4.2 Main Business
8.4.3 Competitive Advantages
8.4.4 Business Performance
8.4.5 Future Development Strategy
8.5 Zhuzhou Kibing Group Co., Ltd.
8.5.1 Company Profile
8.5.2 Main Business
8.5.3 Competitive Advantages
8.5.4 Business Performance
8.5.5 Future Development Strategy

9. Investment and Development Trend of LOW-E Glass Industry
9.1 Investment Opportunity
9.1.1 Security Housing Provides Opportunities for Architectural Glass
9.1.2 State Policy is Favorable to the Development of LOW-E Glass Industry
9.1.3 The Development of Mining Machinery Brings Opportunities to LOW-E Glass
9.2 Investment Risk
9.2.1 Macro-environment Risk
9.2.2 Raw Material Price Fluctuation and Other Uncertain Factors
9.2.3 Impact of International Market
9.3 Barriers to Entry
9.3.1 Technical Barrier
9.3.2 Capital Barrier
9.3.3 Policy Barrier
9.3.4 Exist Barrier
9.4 Development Trend of China’s LOW-E Glass Industry
9.4.1 Technology Trend
9.4.2 Price Trend
9.4.3 Demand Forecast