Asphalt in China

Industry Study with Forecasts to 2010 & 2015

Study #2167 | March 2007 | $4900 | 205 pages

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Asphalt demand to reach ¥34.6 billion in 2010

Demand for asphalt in China is forecast to rise 6.0 percent annually through 2010 to 16.4 million metric tons. Measured in yuan, asphalt demand is expected to climb 8.2 percent annually to ¥34.6 billion. The Chinese asphalt market will experience the fastest growth among the major economies of the world, driven by strong gains in road and building construction. Asphalt imports into China are expected to climb to 6.6 million metric tons in 2010, 40 percent of total demand.

Asphalt paving applications to outperform roofing

Asphalt demand in paving applications will outperform roofing, rising 7.1 percent annually to 12.6 million metric tons in 2010, and accounting for more than three-quarters of domestic demand. Strong increases in road construction activity will drive market gains. Beginning with its first highway, completed in 1988, China increased its highway system to 41,000 kilometers in 2005, second only to the US. China’s national highway development plan will expand China’s highway system to 85,000 kilometers during the next three decades.

Shift in roofing types to favor shingles, membranes

Roofing-related asphalt demand will moderate in the coming years, averaging annual growth of 2.7 percent to 3.7 million metric tons in 2010, despite a strong building construction market. Although asphaltic roofing products, such as asphalt shingles and modified bitumen membranes, will continue their inroads into the Chinese roofing market, demand for asphalt built-up (BUR) and roll roofing will continue to lose market share. While BUR and roll roofing have historically dominated low-slope roof construction in China, steep-slope roofing applications are increasingly favored in new residential construction, thereby diminishing demand for BUR and asphalt roll roofing. In addition, under China’s Flat to Slope Conversion Project, existing flat roofs within the residential market will continue to be replaced with steep-slope roofs, thus reducing existing BUR and roll roofing stocks. Such declines will negatively impact future BUR and roll roofing maintenance and repair expenditures. Conversely, the Conversion Project will serve to boost demand for asphalt shingles, which are the fastest growing roofing materials used in sloped-roof applications.

Northwest, Southwest to see fastest regional gains

Among China’s regional markets, the Northwest and Southwest will see the strongest advances in asphalt demand. Stronger upward trends in population, economic growth and construction activity will support asphalt demand gains in both paving and roofing.

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Modified Bitumen Roofing

Demand for asphalt used in modified bitumen roofing is projected to reach 525,000 metric tons in 2010, on annual growth of 9.9 percent, with continued inroads made against built-up and asphalt roll roofing. Modified bitumen roofing is used in low-slope roofing, which is found on both residential and nonresidential buildings. These roofs are manufactured from rubber (as elastomeric materials) and built-up roofing modified bitumen. Due to the availability of these materials, a premium is placed on modified bitumen developments that would reduce installed cost or improve product performance. Innovations in application methods for modified bitumen roofing, such as heat-welded seaming, self-adhesive attachment, and various ambient-applied methods, will boost demand.

Modified bitumen roofing systems essentially represent a hybrid between single-ply flexible membranes and built-up roofing. As with other flexible membranes, such as elastomeric and thermoplastic membranes, modified bitumen membranes are manufactured from engineered materials. Factory construction of the membrane allows for uniform thickness and physical characteristics throughout the product. The materials that make up modified bitumen roofing, however, are similar to those used in a built-up roof. Furthermore, some roofing applications of modified bitumen membranes involve the assembly of multiple layers, as in built-up roofing.

Individual modified bitumen membranes consist of one or more fiber mats (generally fiberglass, non-woven polyester or a combination of the two materials) that reinforce layers of bituminous material (coal tar, asphalt or a nonasphaltic petroleum-derived substance). The bituminous material is modified by the addition of a rubber or plastic for flow-resistance at high temperatures and extra flexibility to withstand building movement and thermal shock. The reinforcement may be laminated to

TABLE V-8

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<td>Res Bldg Constr Expend (bil 2000 ¥)</td>
<td>177</td>
<td>342</td>
<td>739</td>
<td>1140</td>
<td>1660</td>
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<td>m tons asphalt/mil ¥ construct</td>
<td>2.5</td>
<td>1.6</td>
<td>0.9</td>
<td>0.7</td>
<td>0.6</td>
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<td>Res Building Constr Asphalt Demand</td>
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<td>730</td>
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<td>By Product:</td>
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<td>Roofing</td>
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<td>Built-Up &amp; Roll Roofing</td>
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<td>Modified Bitumen Roofing</td>
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<td>% residential building</td>
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<td>Total Asphalt Demand</td>
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<td></td>
<td>377</td>
<td>7190</td>
<td>12250</td>
<td>16400</td>
<td>21150</td>
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</table>

"New -- Demand for asphalt used in the construction of new housing is forecast to rise 3.9 percent per annum through 2010 to 580,000 metric tons. Healthy advances in residential construction and continuing use of built-up roofing and asphalt roll roofing in China will spur market growth. However, steep-slope roofing is increasingly favored in new residential construction applications, limiting growth potential for built-up and roll roofing."

--Section V, pg. 104
Panjin Northern Asphalt Company Limited
Xingong Street, Xinglingtai District
Panjin, Liaoning 124022 CHINA
86-42-7285-1971
http://www.northernasphalt.com.cn

Employment: 1,500 (2005)
Key Products: standard, high-performance, specialty and polymer-modified paving-grade asphalt
International Contact: Mr. Lianjun Yue, General Manager

Panjin Northern Asphalt Company Limited is the sixth largest asphalt producer in China, with a 4.4 percent share of the national market in 2005. The company manufactures and markets paving-grade asphalt, heating oil, tar, pitch and other petroleum products. Panjin Northern Asphalt is a joint venture between Huajian Transportation Economic Development Center, Panjing Asphalt Plant, Liaoning Provincial Communications Department, Jilin Provincial Communications Department, Heilongjiang Provincial Communications Department and Jinzhou Railway Bureau.

The Company is active in the Chinese asphalt industry through production and sale of paving-grade asphalt. Types of asphalt made by Panjin Northern Asphalt include A-100 and A-140 standard; AH-70, AH-90 and AH-110 high-performance; and specialty grades. Standard A-100 and A-140 paving-grade asphalts are used in the construction of residential roads, paved public areas and highways with low and moderate traffic levels. These asphalt formulations have consistent flow and protective properties in extreme low- and high-temperature conditions.

### TABLE IV-2

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<tr>
<td>Road/Other Transport Constr (bil 2000 ¥)</td>
<td>206</td>
<td>580</td>
<td>880</td>
<td>1120</td>
<td>1206</td>
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<td>Asphalt Demand in Paving Products (mil ¥/m tons asphalt/mil ¥ construction)</td>
<td>3.8</td>
<td>5.0</td>
<td>5.2</td>
<td>4.7</td>
<td>4.0</td>
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<td>Asphalt Cement</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>500</td>
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<td>Asphalt Emulsions</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
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<td>Cutback Asphalt</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
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<td>Other Asphalt Paving Products (mil ¥)</td>
<td>40</td>
<td>70</td>
<td>100</td>
<td>120</td>
<td>140</td>
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<tr>
<td>¥/metric ton</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Asphalt Demand in Paving Products (bil ¥)</td>
<td>1.8</td>
<td>4.4</td>
<td>8.9</td>
<td>12.6</td>
<td>17.1</td>
</tr>
<tr>
<td>% paving</td>
<td>45.5</td>
<td>62.7</td>
<td>73.4</td>
<td>76.9</td>
<td>79.1</td>
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<tr>
<td>Total Asphalt Demand (bil ¥)</td>
<td>5.5</td>
<td>11.8</td>
<td>23.3</td>
<td>34.6</td>
<td>50.2</td>
</tr>
</tbody>
</table>

**Source:** Panjin Northern Asphalt Company Limited

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