World Silicones

Industry Study with Forecasts for 2017 & 2022

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World Silicone Demand, 2017 ($18.9 billion)

Asia/Pacific
North America
Western Europe
Other Regions

Demand will benefit in part from the rising use of high value silicones in emerging applications, particularly in the newly industrialized nations where the use of silicones is not yet mature.

World demand to rise 5.9 percent annually

World demand for silicones is expected to rise 5.9 percent per year to $18.9 billion in 2017. Gains will represent an acceleration from recent historical trends, fueled by an improved outlook for global manufacturing and construction activity from the recession-plagued 2007-2012 period, particularly in North America and Western Europe. Increases in silicone demand will also benefit from the rising use of high value materials in emerging applications, particularly in the newly industrialized nations of the world where the use of silicones is not yet mature. Advances will be limited, however, by the high cost of silicones relative to competitive materials in many uses.

Asia/Pacific region to remain fastest growing

The Asia/Pacific region has risen to become the leading market for silicones, accounting for nearly 40 percent of global demand in 2012. While slowing to some extent through 2017, silicone demand growth in the Asia/Pacific region will remain the world’s fastest. Gains will be driven by continued strong growth in China, the emergence of India as a significant silicone market, and a favorable economic outlook for the higher income countries in the region. Above average growth is also forecast for South America, Eastern Europe, and the Africa/Mideast region, areas in which silicone demand per capita is currently among the lowest in the world.

While silicone demand in the more mature markets of North America and Western Europe will rise at a pace below the global average through 2017, advances will be a marked improvement over the performance of the 2007-2012 period. In North America, demand for silicone will benefit from a strong rebound in construction spending as the large US market continues to recover from a housing slump. Demand in Western Europe will be fueled by a turnaround in manufacturing and construction activity. As silicones become increasingly well established in these regions, technological advancements and product innovation will become essential to expand the application base for long term market growth.

Construction to be fastest growing silicone market

Electrical and electronics was the leading outlet for silicones in 2012. Gains in this market will be bolstered by demand in high growth new applications such as components for LEDs and solar energy products. The most rapid increases, however, will be in the construction market, driven in large part by a recovery in the silicone-intensive construction sectors of the US and Western Europe. More moderate gains are expected in other outlets such as paper production, textiles, and plastic additives, restrained by slow-growing markets and limited new applications for silicones.

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ASIA/PACIFIC

China: Markets & Products

Silicone demand in China is forecast to advance almost 11 percent per year to $4.2 billion in 2017. The pace of silicone demand growth has been tremendous, rising more than fivefold for nearly 20 years in value terms in 2012. Although growth will decelerate significantly from this stellar pace, China will remain the world’s fastest-growing market for silicones through 2017 and will surpass the United States as the largest in the world. Gains will be fueled by continued robust economic growth in China, including in silicone-consuming industries such as building construction, health and personal care products, electronic components, and motor vehicles. Additionally, the use of silicones is not yet mature in the Chinese market, particularly for manufactured goods intended for domestic sales. A large share of silicones which are used tend to be more basic, lower-value types, which presents further opportunities for value growth in the already large and rapidly advancing Chinese market.

Electrical and electronic products were the leading market for silicones in China in 2012, accounting for nearly 30 percent of demand. China’s electronics output rose at a tremendous pace during the 2000s and early 2010s, driving demand for silicones in applications such as encapsulants, elastomeric components, process solvents, and optical materials. China is also the world’s largest producer of electrical power transmission and distribution equipment, which uses silicones in transformer fluids, rubber components, sealants, and coatings, among others. Continued growth in both of these market segments will fuel gains in electrical and electronic silicone demand through 2017.

Construction is also a particularly prominent market for silicones in China. In construction, silicones are primarily used as adhesives, sealants, with room temperature vulcanizing (RTV) sealants, and specialized protective coatings, which are widely used type in the Chinese market. Specialized protective coatings represent further growth opportunities for silicone producers in the future.
Sample Profile, Table & Forecast

COMPANY PROFILES

CSL Silicones Incorporated
144 Woodlawn Road West
Guelph, Ontario N1H 1B5
Canada
519-836-9044
http://www.cslsilicones.com

Annual Sales:  US$15 million (estimated)
Employment:  70 (estimated)
Key Products:  room temperature vulcanizing (RTV) silicone products

CSL Silicones is a producer of room temperature vulcanizing (RTV) silicone products. The privately held company’s operations are in Guelph, Ontario, Canada.

The Company competes in the world silicone industry through the manufacture of RTV silicone products, which are formulated to withstand extreme temperatures, seal aggressive fluids, and perform predictably in mechanical, chemical, thermal, and electrical applications. Examples of CSL Silicones’ RTV silicone products are coatings and sealants marketed under the SI-COAT and CSL brand names, respectively.

CSL Silicones’ SI-COAT line includes anti-graffiti protective coatings featuring hydrophobicity properties that allow graffiti-tagging to be easily removed without the need for chemicals; anti-corrosion protective coatings formulated to protect against corrosion; and high voltage insulator coatings designed to provide extended-term flashover protection in adverse conditions in order to prevent power outages. In October 2012, SI-COAT 529 anti-graffiti protective coatings were chosen for use in Montreal, Ontario, Canada for use in the Rue do Fort

“Gains will represent a strong acceleration from the relatively sluggish advances experienced during the 2007-2012 period, which was hampered by declining demand in both the North American and West European markets. Going forward, however, a recovery in construction spending in these regions is expected to fuel a healthy rebound in silicone demand. In North America, for example, construction silicone demand will rise over ...”
--Section III, pg. 43

TABLE III-4
WORLD CONSTRUCTION MARKETS FOR SILICONES
(million dollars)

<table>
<thead>
<tr>
<th>Item</th>
<th>2002</th>
<th>2007</th>
<th>2012</th>
<th>2017</th>
<th>2022</th>
</tr>
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<tr>
<td>World Construction Expend (bil 2011$)</td>
<td>$6962</td>
<td>$9172</td>
<td>$10610</td>
<td>$14000</td>
<td>$17670</td>
</tr>
<tr>
<td>$ silicone/mil $ construction</td>
<td>$206</td>
<td>$223</td>
<td>$215</td>
<td>$233</td>
<td>$244</td>
</tr>
<tr>
<td>Construction Silicone Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>By Region:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>473</td>
<td>635</td>
<td>520</td>
<td>815</td>
<td>1080</td>
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<td>Western Europe</td>
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<tr>
<td>Asia/Pacific</td>
<td>368</td>
<td>582</td>
<td>944</td>
<td>1400</td>
<td>1985</td>
</tr>
<tr>
<td>Other Regions</td>
<td>105</td>
<td>184</td>
<td>236</td>
<td>330</td>
<td>435</td>
</tr>
<tr>
<td>By Segment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adhesives &amp; Sealants</td>
<td>1255</td>
<td>1755</td>
<td>1975</td>
<td>2770</td>
<td>3605</td>
</tr>
<tr>
<td>Coatings &amp; Other Segments</td>
<td>180</td>
<td>288</td>
<td>309</td>
<td>490</td>
<td>715</td>
</tr>
</tbody>
</table>

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