Specialty Adhesives

US Industry Study with Forecasts for 2013 & 2018

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US demand to expand 4.4% annually through 2013

US demand for specialty adhesives is projected to expand 4.4 percent annually to $3.0 billion in 2013, with volume reaching 705 million pounds. Overall demand will benefit from real (inflation-adjusted) growth in durable goods output following a period of decline between 1998 and 2008. In terms of market volume, specialty adhesives are a small component of the overall adhesive industry, representing about five percent of US adhesive demand in 2008. However, higher-priced specialty adhesives are more significant with respect to market value, accounting for 28 percent of overall adhesive demand.

Medical, automotive uses to pace manufacturing/assembly market

Manufacturing and assembly operations represent the largest major market for specialty adhesives, accounting for four-fifths of demand in 2008. Advances will be fueled by continued strong growth in the medical product market, where specialty adhesives find use in the manufacture of medical devices, transdermal patches and medical tape. The automotive market will also drive gains as motor vehicle output rebounds from the significant declines of the 2003-2008 period. Further promoting advances will be the continued displacement of mechanical fasteners with structural adhesives. The packaging and converting market will also achieve healthy gains based on the use of specialty adhesives in the growing flexible packaging segment.

On-site construction, other markets to lead gains

The on-site construction market is forecast to increase rapidly through 2013, supported by accelerating construction activity. Specialty adhesives are used in both building and nonbuilding construction applications. Growth will be fueled by new housing activity, which is forecast to achieve double-digit annual gains as it rebounds from the significant declines of the 2003-2008 period. Further promoting advances will be the continued displacement of mechanical fasteners with structural adhesives. Demand for specialty adhesives in other markets is expected to advance at an above-average rate through 2013. The repair and remodeling segment will expand at a healthy rate, aided by an acceleration in home improvement and repair activity. Among miscellaneous uses, advances will be led by tissue adhesives, which will benefit from greater use in place of traditional wound closure methods.
Demand for radiation-cured acrylic adhesives is forecast to expand at a rapid 6.5 percent annual pace through 2013 to over $95 million, with market volume totaling ten million pounds. Although these adhesives have relatively low market volume terms, these high value-adding products in the specialty adhesives market will be among the fastest-growing products through 2013. Advances will be promoted by the growing popularity of these adhesives in manufacturing and assembly markets where their ability to cure rapidly is highly valued. The resultant reduced processing time, combined with low energy requirements and low emissions levels, will continue to support demand as manufacturers look to limit their environmental impact while also increasing production efficiency. Further technological advances in this segment, including improvements in substrate adhesion, will also aid growth. Additionally, the ability to bond opaque or non-translucent substrates, (achieved primarily through the use of secondary curing mechanisms) would provide opportunities in numerous applications throughout the major durable goods industries.

Radiation-cured acrylic adhesives offer a number of benefits, including little to no emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs), a nearly instantaneous cure (enabling high production rates), and excellent resistance to heat, moisture and chemicals. Primarily used in the manufacturing and assembly market, radiation-cured acrylic adhesives find use in flexible packaging, as well as the manufacture of various durable goods, most notably laminated glass, motor vehicles and medical devices.

Large adhesives companies, including HB Fuller and Henkel, are among the major suppliers of radiation-cured acrylic adhesives. ITW Devcon also offers UV-cure acrylic adhesives under the TRUE-BOND brand name. The remainder of suppliers consist of smaller, niche-oriented producers, including ACTEGA Radcure and Dymax.
Sample Profile, Table & Forecast

COMPANY PROFILES

Royal Adhesives & Sealants LLC
2001 West Washington Street
South Bend, IN 46628
574-246-5000
http://www.royaladhesives.com

Annual Sales: $45 million (estimated)
Employment: 200 (estimated)

Key Products: urethane, polyisobutylene, epoxy and silicone adhesives

Royal Adhesives & Sealants is a privately held manufacturer of adhesives, sealants, and potting compounds used in a wide range of industrial applications. The Company maintains laboratory and manufacturing facilities in South Bend, Indiana; Belleville, New Jersey; and Wilmington, California.

The Company manufactures a wide range of adhesives, including specialty solvent- and water-based, and structural types. Solvent-based adhesives from Royal Adhesives & Sealants are marketed under the SILAPRENE brand name and include polyurethane and polyisobutylene varieties. For example, SILAPRENE SOLID SEAL is a one-component polyurethane system that provides enhanced adhesion for such bonding tasks as adhering trim pieces and bonding plywood, steel and aluminum frames and walls. The Company’s SILAPRENE DC 12092 series is based on polyisobutylene and is free of hazardous air pollutants. Royal Adhesives & Sealants’ water-based adhesives include HYDRA FAST-EN products, which are based on urethanes and other polymers. These adhesives can be sprayed, coated or brushed, and can be used in the foam and furniture fabrication, flexible packaging and converting, recreational vehicle and marine, and transportation industries.

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TABLE V-7
PACKAGING & CONVERTING MARKET FOR SPECIALTY ADHESIVES BY PRODUCT & SEGMENT
(million dollars)

<table>
<thead>
<tr>
<th>Item</th>
<th>1998</th>
<th>2003</th>
<th>2008</th>
<th>2013</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Converted Flexible Packaging (bil $)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.2</td>
</tr>
<tr>
<td>$ adhesives/000$ packaging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>Packaging &amp; Converting Market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>288</td>
</tr>
<tr>
<td>By Product:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyurethane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>88</td>
</tr>
<tr>
<td>Other Specialty Adhesives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>88</td>
</tr>
<tr>
<td>By Segment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper Packaging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>70</td>
</tr>
<tr>
<td>Other Packaging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>$/lb</td>
<td>2.66</td>
<td>2.92</td>
<td>3.52</td>
<td>3.77</td>
<td>4.13</td>
</tr>
<tr>
<td>Packaging &amp; Converting (mil lbs)</td>
<td>56</td>
<td>64</td>
<td>71</td>
<td>82</td>
<td>94</td>
</tr>
</tbody>
</table>

“Demand for specialty adhesives in the packaging and converting market is expected to rise 4.3 percent per annum to nearly $310 million in 2013. The packaging industry is relatively stable, and will continue to provide solid gains in specialty adhesive demand through 2013 and beyond. In this market, specialty adhesives primarily find use in ...”

--Section V, pg. 98
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World Wound Management Products
This study analyzes the global market for wound management products. It presents historical demand data (1998, 2003, 2008) and forecasts for 2013 and 2018 by type (e.g., adhesive, non-adherent bandages, dressings, surgical closures, tissue sealants), world region (e.g., Asia/Pacific, North America, Western Europe) and for 13 major countries. The study also considers market environment factors, details advances in wound management technologies, evaluates company market share and profiles worldwide producers.
#2578 .................. 12/2009 .................. $4800

Soy Chemicals
US soy chemical demand will grow 7.8% annually through 2013, driven by the continued penetration of biodiesel, and by the adoption of alternatives to traditional, petrochemical-based materials in manufacturing. Soy oil derivatives such as methyl soyate, polyols, soy-based foamed plastics, waxes and fatty acids hold particularly good prospects. This study analyzes the $1.9 billion US soy chemical industry, with forecasts for 2013 and 2018 by product and market. It also evaluates market share and profiles industry players.
#2538 .................. 09/2009 .................. $4700

Industrial Fasteners in China
Demand for industrial fasteners in China will rise 10.7% yearly through 2013, driven mainly by rapid growth in the production of industrial machinery and motor vehicles. Externally threaded fasteners will remain dominant and lead gains among standard types, while aerospace-grade fasteners grow the fastest overall from a small base. This study analyzes the 44.7 billion yuan industrial fastener industry in China, with forecasts for 2013 and 2018 by product and market. It also details market share and profiles industry participants.
#2531 .................. 09/2009 .................. $5200

Waxes
Demand for waxes in the US is forecast to reach $2.5 billion in 2013. Value gains will be based on a shift to more expensive types. Volume growth will be driven by use of waxes in building boards, coatings, adhesives, plastics and rubber. Petroleum waxes will stay the largest market but will lose share to faster growing synthetic and natural types. This study analyzes the 2.3 billion pound US wax industry, with forecasts for 2013 and 2018 by product and market. It also evaluates market share and profiles industry players.
#2456 .................. 04/2009 .................. $4600

Sealants & Caulks
US sealants and caulks demand will rise at an improved rate of 2.9% yearly through 2012. Gains will be driven by recoveries in the residential building and nonbuilding construction markets, and improved prospects for motor vehicles and aircraft. High performance materials such as silicones and polyurethanes will lead gains. This study analyzes the $3.2 billion US sealants and caulks industry, with forecasts for 2012 and 2017 by material, type and market. It also evaluates market share and profiles major players.
#2393 .................. 09/2008 .................. $4600

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