Automotive Coatings, Adhesives & Sealants

US Industry Study with Forecasts to 2010 & 2015

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# Table of Contents

**INTRODUCTION**

**EXECUTIVE SUMMARY**

**MARKET ENVIRONMENT**
General ................................................. 4
Macroeconomic Overview ...................... 5
Population Trends ................................... 7
Personal Consumption Spending .......... 9
Motor Vehicle Industry Overview ........ 11
Motor Vehicle Park ............................... 13
Motor Vehicle Production & Sales ... 14
Motor Vehicle Suppliers ..................... 17
Motor Vehicle Industry R&D Trends .... 20
Collision/Accident Trends .................... 22
Competitive Technologies .................... 22
Joining Technologies ........................... 23
Coating Technologies .......................... 25
Gasket Technologies ............................ 27
Historical Market Trends ..................... 29
Pricing Trends ..................................... 31
Environmental/Regulatory Considerations 33
The Environmental Protection Agency ... 33
The Occupational Safety and Health Administration ... 35
International Activity .......................... 36
World Motor Vehicle Overview ............ 37
World Automotive Coatings, Adhesives & Sealants ... 38
Demand by Region ......................... 38
Demand by Market ............................... 40
Global Suppliers ............................... 42

**OVERVIEW**
General ................................................. 45
Demand by Product ............................... 46

**AUTOMOTIVE COATINGS**
General ................................................. 49
Demand by Formulation & Substrate ........ 52
Solvent-Based ..................................... 54
Water-Based ....................................... 55
Other ................................................. 58
Powder Coatings .................................. 58
Electrodeposition Coatings ................ 59
Radiation-Cured Coatings .................... 61
Demand by Polymer ............................. 62
Urethane ............................................ 63
Acrylic .............................................. 65
Epoxy ............................................... 67
Alkyd ............................................... 70
Other Polymers ................................. 72
Demand by Market & Application ........ 74
OEM .................................................. 76
Exterior OEM Applications .................. 80
Other OEM Applications ..................... 84
OEM Light Vehicles ............................ 85
OEM Medium/Heavy-Duty Trucks & Buses ... 87
Aftermarket ....................................... 88
Light Vehicle Aftermarket .................... 91
Medium/Heavy Vehicle Aftermarket ...... 92
Suppliers of Automotive Coatings .......... 94
Suppliers of OEM Auto Coatings ......... 97
Suppliers of Aftermarket Auto Coatings 99

**AUTOMOTIVE SEALANTS**
General ................................................. 143
Demand by Formulation ....................... 145
Water-Based ....................................... 147
Solvent-Based ..................................... 148
Other Formulations ......................... 148
Demand by Polymer ............................. 149
Silicone ............................................. 150
Urethane ............................................ 152
Synthetic Elastomers .......................... 154
Bituminous ........................................ 156
Other Polymers ................................... 158
Demand by Market & Application ........ 160
OEM .................................................. 162
Light Vehicles .................................... 165
Medium/Heavy Vehicles .................... 166
Aftermarket ....................................... 168
Light Vehicles .................................... 170
Medium/Heavy Vehicle Aftermarket ...... 171
Suppliers of Automotive Sealants ......... 172
Suppliers of OEM Automotive Sealants 175
Suppliers of Aftermarket Auto Sealants 178

**APPLICATIONS**
General ................................................. 180
Exterior ............................................. 182
Coating Applications ........................... 184
Adhesive & Sealant Applications ........ 185
Under the Hood ................................... 187
Interior ............................................. 189
Under Body ......................................... 191

**MARKETS**
General ................................................. 192
OEM Demand ....................................... 194
OEM Light Vehicle Markets ................ 197
OEM Passenger Cars ......................... 200
OEM Light Trucks & Vans ................... 201
OEM Medium/Heavy Trucks & Buses .... 202
Aftermarket Demand ........................... 204
Light Vehicle Aftermarket ................... 207
Medium/Heavy Trucks & Buses Aftermarket 208

**INDUSTRY STRUCTURE**
General ................................................. 210
Market Share ....................................... 211
Competitive Strategies ....................... 217
Acquisitions, Divestitures & Industry Restructuring 220
Joint Ventures & Other Cooperative Agreements 223
Marketing .......................................... 224
Distribution ....................................... 226
Manufacturing .................................... 228
Research & Development .................... 229

**COMPANY PROFILES**
(see page 6)
Automotive Coatings, Adhesives & Sealants
US Industry Study with Forecasts to 2010 & 2015

List of Tables & Charts

EXECUTIVE SUMMARY
1 Summary Table .................................. 3

MARKET ENVIRONMENT
1 Macroeconomic Indicators ...................... 7
2 Resident Population & Households ............ 9
3 Personal Consumption Expenditures .......... 11
4 Motor Vehicles & Parts Shipments .......... 12
5 Motor Vehicle Park ............................. 14
6 Motor Vehicle Production & Sales .......... 16
7 Automotive Coatings, Adhesives & Sealants Market, 1995-2005 .... 30
Cht US Market, 1995-2005 ...................... 31
8 Pricing for Automotive Coatings, Adhesives & Sealants .......... 32
9 Selected VOC Content Standards for Automotive Refinish Coatings .. 35

OVERVIEW
1 Automotive Coatings, Adhesives & Sealants Demand by Product ........... 48

AUTOMOTIVE COATINGS
1 Automotive Coatings Demand .......... 52
2 Demand by Formulation & Substrate . 54
3 Demand by Polymer ......................... 63
4 Urethane Auto Coatings Demand by Market & Application .......... 65
5 Acrylic Auto Coatings Demand by Market & Application .......... 67
6 Epoxy Auto Coatings Demand by Market & Application .......... 69
7 Alkyd Auto Coatings Demand by Market & Application .......... 71
8 Other Polymer Auto Coatings Demand by Market & Application .... 74
9 Auto Coatings Demand by Market & Application .......... 76
10 Auto OEM Coatings Demand by Polymer, Application & Vehicle .. 79
11 Light Vehicle OEM Coatings Demand by Polymer, Application & Vehicle .. 86
12 Medium/Heavy Vehicle OEM Coatings Demand by Polymer & Application . 88
13 Auto Aftermarket Coatings Demand by Polymer, Application & Vehicle .. 90
14 Light Vehicle Aftermarket Coatings Demand by Polymer & Application . 92
15 Medium/Heavy Vehicle Aftermarket Coatings Demand by Polymer & Application ... 93
Cht US Market Share, 2005 ...................... 96

AUTOMOTIVE ADHESIVES
1 Automotive Adhesives Demand ......... 106
2 Demand by Formulation ............... 107
3 Demand by Polymer .............. 113
4 Acrylic Auto Adhesives Demand by Market & Application ........ 114
5 Urethane Auto Adhesive Demand by Market & Application .......... 116
6 Vinyl Auto Adhesives Demand by Market & Application .......... 118
7 Epoxy Auto Adhesives Demand by Market & Application .......... 120
8 Rubber Auto Adhesives Demand by Market & Application .......... 122
9 Other Auto Adhesives Demand by Market & Application .......... 124
10 Auto Adhesives Demand by Market & Application .......... 126
11 Auto OEM Adhesives Demand by Polymer, Application & Vehicle 129
12 Light Vehicle OEM Adhesives Demand by Polymer, Application & Vehicle 131
13 Medium/Heavy Vehicle OEM Adhesives Demand by Polymer & Application 132
14 Auto Aftermarket Adhesives Demand by Polymer, Application & Vehicle 135
15 Light Vehicle Aftermarket Adhesives Demand by Polymer & Application 137
16 Medium/Heavy Vehicle Aftermarket Adhesives Demand by Application 138
Cht US Market Share, 2005 ...................... 141

AUTOMOTIVE SEALANTS
1 Automotive Sealants Demand ........ 145
2 Demand by Formulation ........... 147
3 Demand by Polymer ........ 150
4 Silicone Auto Sealants Demand by Market & Application ........ 152
5 Urethane Auto Sealants Demand by Market & Application .......... 154
6 Synthetic Elastomer Auto Sealants Demand by Market & Application .... 156
7 Bituminous Auto Sealants Demand by Market & Application .......... 157
8 Other Polymer Auto Sealants Demand by Market & Application .... 160
9 Auto Sealants Demand by Market & Application ........ 162
10 Auto OEM Sealants Demand by Polymer, Application & Vehicle 164
11 Light Vehicle OEM Sealants Demand by Polymer, Application & Vehicle 166
12 Medium/Heavy Duty Vehicle OEM Sealants Demand by Polymer & Application ........ 167

APPLICATIONS
1 Auto Coatings, Adhesives & Sealants Demand by Application ........ 182
2 Exterior Applications for Auto Coatings, Adhesives & Sealants ... 183
3 Under the Hood Applications for Auto Coatings, Adhesives & Sealants ... 189
4 Interior Applications for Auto Coatings, Adhesives & Sealants ... 190
5 Under Body Applications for Auto Coatings, Adhesives & Sealants ... 191

MARKETS
1 Auto Coatings, Adhesives & Sealants Demand by Market & Vehicle ...... 194
2 OEM Demand for Auto Coatings, Adhesives & Sealants by Product, Vehicle & Application .... 197
3 OEM Light Vehicle Demand for Auto Coatings, Adhesives & Sealants by Vehicle, Product & Application .... 199
4 OEM Passenger Car Demand for Coatings, Adhesives & Sealants by Product .......... 200
5 OEM Light Trucks & Vans Demand for Coatings, Adhesives & Sealants by Product ................. 202
6 OEM Heavy Truck & Bus Demand for Coatings, Adhesives & Sealants by Product & Application ........ 204
7 Aftermarket Demand for Auto Coatings, Adhesives & Sealants by Product, Vehicle, Outlet & Application ..... 206
8 Light Vehicle Aftermarket Demand for Auto Coatings, Adhesives & Sealants by Product, Vehicle & Application 208
9 Heavy Truck & Bus Aftermarket Demand for Coatings, Adhesives & Sealants by Product & Application ........ 209

INDUSTRY STRUCTURE
1 US Automotive Coatings, Adhesives & Sealants Sales by Company, 2005 212
Cht US Market Share by Company, 2005, 214
2 Selected Acquisitions & Divestitures 221
3 Selected Cooperative Agreements .... 224

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**US automotive coating, adhesive & sealant demand to grow 4.1% annually through 2010**

Demand for automotive coatings, adhesives and sealants in the United States is forecast to rise 4.1 percent per year to over $7 billion in 2010. Growth in OEM demand will be supported by US motor vehicle production, which will rebound from declines posted during the 2000-2005 period. However, these gains will be mostly linked to passenger cars, which consume less coatings, adhesives and sealants on a per vehicle basis than larger vehicles. Aftermarket demand will continue to benefit from a change in the product mix over the last decade favoring larger light vehicles, as well as from gains in the number of vehicles in use.

**Vehicle manufacturing trends to favor structural adhesives, sealants**

In addition to growth in vehicle production and vehicles in use, demand for coatings, adhesives and sealants will benefit from other factors which will increase utilization rates of these materials. For example, although consumer tastes have tended to favor larger, heavier vehicles over the last decade, automotive designers continue to stress weight reduction and improved fuel efficiency, while focusing on safety, aesthetics and durability. Taken together, these efforts are promoting greater use of structural adhesives such as epoxies and polyurethanes at the expense of mechanical fasteners, both to reduce weight and to eliminate potential corrosion problems. Similarly, sealant demand has directly benefitted from efforts to make car cabins quieter and better insulated.

**Environmental regulations to continue pushing move away from low-solids solvent-based formulations**

Environmental regulations are a major factor in the industry, with the primary drive in reformulation efforts being the reduction of volatile organic compound and hazardous air pollutant emissions from automotive assembly and repair operations. In all segments, these trends have prompted a move away from low-solids solvent-based formulations. Replacement materials include high-solids solvent-based products (including a shift away from hydrocarbon solvents) and water-based emulsions. Powder and radiation-cured coatings are also seeing strong gains, while in the adhesives and sealants segments steady gains are forecast for hot melts and radiation-curable materials. The automotive refinish coatings market was one of the last bastions of low-solids solvent-based coatings, but relatively recent federal regulations in this sector significantly tightened emission allowances from repair shops. Suppliers initially responded with higher-solids versions of solvent-based paints, but new generations of water-based automotive refinish paints are also expected to emerge as major product lines.
Sample Text, Table & Chart

AUTOMOTIVE ADHESIVES

Urethane

Demand for urethane automotive adhesives is forecast to expand at a 5.4 percent per year growth rate to $215 million in 2010. These adhesives are compatible with the wide array of substrates and materials, including plastics, metal, composites and glass. Nevertheless, urethane adhesives are facing increased competition from acrylics and epoxies in various applications, potentially limiting gains. In 2010, urethane adhesives are expected to account for 22 percent of total automotive adhesives demand.

Urethane adhesives are able to bond several types of substrates, including plastics, metal, composites and glass. Urethane adhesives are finding greater use in the structural bonding of plastic components. Plastic components and parts commonly bonded with urethane adhesives include bumpers, head and rear light housings, heating and ventilation systems, instrument panels and trim.

Urethane adhesives are also used to bond metal substrates, such as in the case of anti-flutter bonding, where urethane adhesives are used in the assembly of hoods, trunks and roofs. Dow Automotive is among the suppliers of urethane adhesives for metal substrates. The company offers polyurethane adhesives under the BETAMATE tradename, including one-part, moisture-curing polyurethane trim adhesives that are formulated to provide adhesion to electrogalvanized steel, phosphate steel, E-coated steel, and trim materials used in headliner systems.

In addition, urethane adhesives, such as ADCO Global’s TITAN adhesives and Dow Automotive’s BETASEAL adhesives, can be used to bond windshields and back windows directly into the car body which is commonly called direct glazing. Bonding windows into a car body

TABLE IV-11
LIGHT VEHICLE OEM COATINGS DEMAND BY POLYMER, APPLICATION & VEHICLE (million dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Light Vehicle Production (000 units)</td>
<td>11615</td>
<td>12345</td>
<td>11500</td>
<td>12000</td>
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<tr>
<td>$ OEM coatings/vehicle</td>
<td>107</td>
<td>133</td>
<td>175</td>
<td>199</td>
<td>222</td>
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<tr>
<td>Light Vehicle OEM Coatings Demand</td>
<td>1243</td>
<td>1636</td>
<td>2007</td>
<td>2388</td>
<td>2781</td>
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<td>By Polymer:</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Urethane</td>
<td>560</td>
<td>894</td>
<td>1169</td>
<td>1371</td>
<td>1607</td>
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<tr>
<td>Acrylic</td>
<td>336</td>
<td>392</td>
<td>450</td>
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<td>Other</td>
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<td>548</td>
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<td>By Application:</td>
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<td>1263</td>
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<td>Other</td>
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<td>964</td>
<td>1125</td>
<td>1299</td>
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<td>By Vehicle:</td>
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<tr>
<td>Passenger Cars</td>
<td>580</td>
<td>530</td>
<td>440</td>
<td>500</td>
<td>560</td>
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<tr>
<td>Light Trucks, Vans &amp; SUVs</td>
<td>663</td>
<td>1106</td>
<td>1567</td>
<td>1888</td>
<td>2221</td>
</tr>
<tr>
<td>% light vehicle</td>
<td>89.6</td>
<td>89.2</td>
<td>87.9</td>
<td>86.6</td>
<td>85.6</td>
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<td>2284</td>
<td>2756</td>
<td>3250</td>
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Red Spot Paint & Varnish Company Incorporated  
1107 East Louisiana Street  
Evansville, IN 47711  
812-428-9100  
http://www.redspot.com  

Annual Sales: $120 million (company would not verify, 1/06)  
Employment: 600 (company would not verify, 1/06)  

Key Products: waterborne and solventborne interior automotive coatings;  
automotive exterior primers, adhesion promoters, one- and two-component basecoats, and two-component clearcoats;  
and ultraviolet-curable and antimicrobial coatings.

Red Spot Paint & Varnish manufactures paints, varnishes and special coatings for automotive and industrial applications. The Company is privately held.

The Company’s products, which are primarily sold under the RED SPOT brand name, include interior and exterior automotive coatings. For interior automotive applications, Red Spot Paint & Varnish produces a variety of waterborne and solventborne coatings that are designed to provide chemical and mar resistance. These interior automotive coatings are suitable for use on consoles, dashboards, instrument panels, door panels and other interior components.

For exterior automotive applications, the Company makes primers, adhesion promoters, one- and two-component basecoats, and two component clearcoats. The Company’s primers are intended for use on exterior automotive components made from thermoplastic elastomer polyolefins. Basecoats made by the Company feature durability and color consistency, and can be used on flexible or rigid automotive components such as spoilers, side moldings and wheel trim. Red Spot Paint & Varnish’s two component clearcoats are formulated to offer weather and chemical resistance.
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