

Adhesives and Sealants

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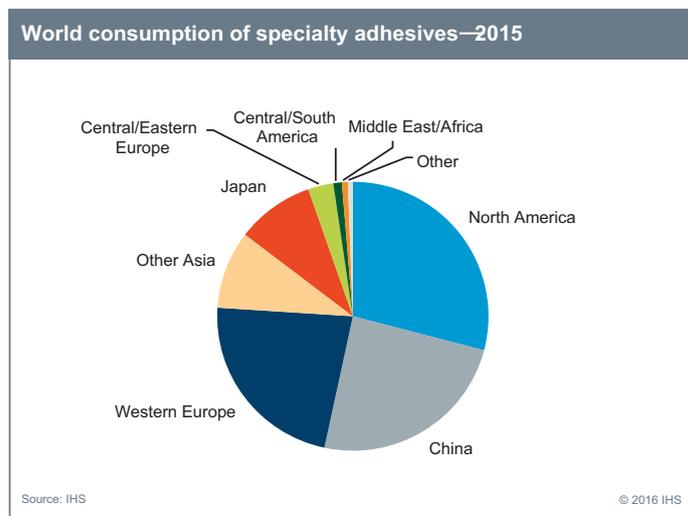
Abstract

This report focuses on the supply/demand and business aspects of the higher-performance and higher-valued adhesives and sealants. However, the overall aspects of the adhesives and sealants business are also covered, as major adhesive and sealant producers usually produce a full range of both specialty and general-purpose products. Producers command a premium for highly specialized products, such as adhesives and sealants for the aircraft and electronics industries. However, producers of specialized products like silicone sealants and cyanoacrylate adhesives often brand their products for sale to consumer markets.

Specialty adhesives are characterized by cross-linking after application, which establishes very strong bonds that exhibit good solvent, water, and temperature resistance. Competitive adhesive technologies include waterborne emulsions, hot-melts, solvent-borne, and natural polymers that usually display lower performance than reactive-type adhesives and are usually less expensive.

Specialty sealants are characterized by their ability to accommodate relatively large amounts of joint compression or tension with good recovery and are suitable for use in commercial building and construction for exterior siding. Other, less expensive sealants include butyl, plastisols, acrylic and polyvinyl acetate latex, and oil base and solvent caulks.

The following pie charts show world consumption of adhesives and sealants on a value basis.



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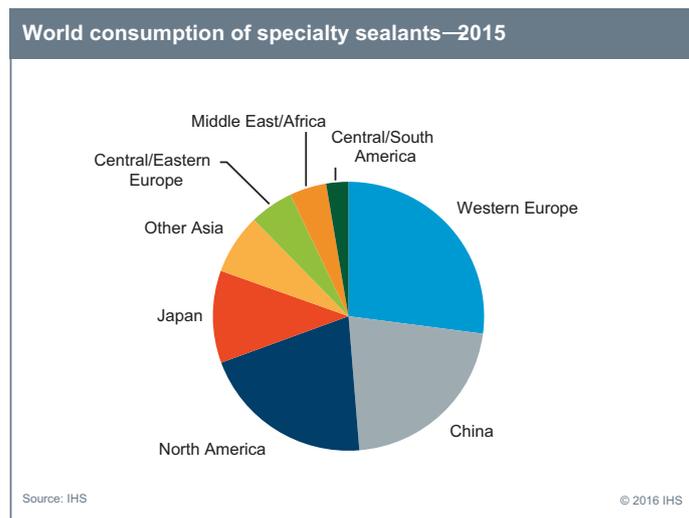
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Specialty adhesives account for about 10% of the global market for all adhesives on a volume basis, while specialty sealants account for about 80% of the global market for all sealants on a volume basis.

The adhesives and sealants industry is very fragmented. Of the 2015 global market, the top 15 companies, all multinational, account for about 50% of sales. Henkel is by far the leader, with nearly 20% of the market. Over 2,000 companies account for the balance. A number of producers are in China, many small and domestic. However, there are also multinational producers that supply high-quality product to the export-oriented market.

The adhesives and sealants business is not capital intensive but tends to require a considerable amount of customer and technical service. Technical expertise is required to develop the right product to meet the particular customer need at a competitive price. Most companies specialize in particular markets and try to develop unique technologies or offer specialized services that command higher prices.

Manufacturers often turn to adhesives when they switch from traditional materials to plastic. Many industrial users have learned to use adhesives and have come to appreciate their benefits—including vibration damping, reduced weight, improved surface appearance, and sealing properties—which helps to encourage their use in new designs. These factors keep the volume growth of adhesives at rates above GDP in most regions.

One of the major uses for specialty adhesives is in product assembly, where they compete with mechanical fasteners. Demand for specialty adhesives is expected to rise in the automotive and aircraft industries as manufacturers switch to plastics, composites, and nonferrous materials of construction to reduce vehicle weight to lower fuel consumption.

Environmental regulations continue to increase as more volatile organic compound (VOC) emission sources are targeted for reduction or elimination. One of the biggest transitions currently is the switch from solvent-based adhesives to waterborne formulations for shoe manufacturing in China and other Asian countries. In Europe, sales of sealants are expected to rise as EU regulations for building insulation are imposed.

As with many other products, consumption of adhesives and sealants tends to be mature in North America, Western Europe, and Japan (with average annual growth of 1–3% forecast for 2015–20), but growing in China (at an average annual rate of 6%) and other developing countries.

Contents

Summary	6
Introduction	9
Overview of the adhesives and sealants industry	14
World consumption of adhesives and sealants	14
Structure of the industry	16
Company profiles	25
Henkel	25
Bostik	29
H.B. Fuller	31
3M	35
Konishi Co., Ltd.	37
Operating characteristics	38
Research and development	38
Manufacturing and technology	39
Sales and marketing	40
Pricing and profitability	42
Government regulations	44
United States	44
Western Europe	47
Japan	48
China	50
Trends and opportunities	50
Greater use of dissimilar materials of construction in automotive	51
Greater use of composites in aircraft	51
Growth of alternative energy	52
Growth of green technologies	53
Biorenewable raw materials	54
Consolidation	55
Globalization	56
Electronic commerce	56
Critical factors for success	56
Product performance and reliability	57
Technical and market expertise	57
Technical service	58
Customer relationships	58
Value proposition	59
Partnerships	59
Specialization	59
Marketing and sales organization	59
Branding	60
Product types	61
Reactive adhesives	61
Polyurethane adhesives	61
General description	61

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Consumption and markets	63
Consumption by market	63
Consumption by region	66
Market participants	72
North America	72
Central and South America	75
Western Europe	77
Asia	79
Prices	83
Future trends and strategic issues	83
Epoxy adhesives	84
General description	84
Consumption and markets	86
Consumption by market	86
Consumption by region	89
Market participants	93
North America	93
Central and South America	95
Western Europe	95
Middle East and Africa	97
Asia	97
Prices	100
Future trends and strategic issues	101
Radiation-curable adhesives	102
General description	102
Consumption and markets	103
North America and Europe	105
Asia	106
Market participants	107
North America	107
Western Europe	108
Asia	109
Prices	111
Future trends and strategic issues	112
Cyanoacrylate adhesives	113
General description	113
Consumption and markets	113
North America	115
Western Europe	115
Asia	116
Market participants	117
North America	117
Brazil	118
Western Europe	118
Asia	120
Prices	121
Future trends and strategic issues	121
Modified acrylic adhesives	122
General description	122
Consumption and markets	123
Market participants	126
North America	126
Western Europe	126
Asia	127

Prices	128
Future trends and strategic issues	128
Anaerobic adhesives	128
General description	128
Consumption and markets	130
Market participants	131
Prices	133
High-performance sealants	134
General description	134
Consumption and markets	135
North America	135
Western Europe	136
Central and Eastern Europe	137
Middle East and Africa	138
Japan and Other Asia	138
Silicone sealants	140
General description	140
Consumption and markets	141
North America	142
Western Europe	143
Central and Eastern Europe	144
Middle East and Africa	144
Asia	144
Market participants	145
North America	145
Western Europe	145
Central and Eastern Europe	147
Middle East and Africa	148
Asia	148
Prices	149
Future trends and strategic issues	150
Polyurethane sealants	150
General description	150
Consumption and markets	151
North America	153
Western Europe	153
Central and Eastern Europe	154
Middle East and Africa	155
Asia	155
Market participants	155
North America	155
South America	156
Western Europe	157
Central and Eastern Europe	158
Middle East and Africa	159
Asia	159
Prices	160
Silyl-modified polyether and other polymer sealants (modified silicone)	161
Consumption and markets	161
North America	162
Western Europe	163
Central and Eastern Europe	163
Middle East and Africa	163
Asia	163

Market participants	164
Prices	166
Polysulfide sealants	166
Consumption and markets	167
North America	168
Western Europe	169
Central and Eastern Europe	169
Middle East and Africa	169
Japan	169
Other Asia and China	170
Market participants	170
North America	170
Europe	171
Asia	172
Prices	173

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