

GLOBAL ADHESIVE GROWTH

Roger J. Lohman
Vice President

The ChemQuest Group, Inc.
Cincinnati, Ohio

Adhesives and Sealants Industry (ASI) –
“Strategic Solutions” – Pgs. 18-20

April - 2008

Global usage of adhesives is estimated at 33 billion pounds in 2007. Potentially, if all countries would optimize their usage as compared to western industrialized nations, that number would escalate to nearly 190 billion pounds. The disparity between these numbers can be easily understood from the table below estimating the adhesive usage per capita to various regions of the world.

REGION	DEMAND MM Lbs.	Lbs/person
North America	9720	28.6
Latin America	1641	3.0
Western Europe	7613	19.0
Eastern Europe	1747	5.0
China	5277	3.9
Japan	1893	14.7
Other Asia	4518	1.8
Rest of the World	559	0.6

North America has not only the largest demand at just under ten billion pounds but also the largest per capita usage estimated at 28.6 pounds per person. As noted, Western Europe has an estimated 19 pounds per person and Japan at 14.7 pounds per person. The reasons for the lower per capita usage within these latter two countries are 1) United States utilizes more adhesives in their residential construction as opposed to these two latter regions. Additionally, 2) the number of cars per capita is higher in North America and 3) carpet manufacturing which uses adhesives in its manufacturing is far more prevalent in the United States; whereas, rugs are utilized elsewhere .

The over riding trends that occurred in United States and Western Europe are expected to re-play themselves in other developing countries but over a shorter time period. All of this means that high growth for adhesives will continue to play out for many years.

Adhesive usage in any developing country generally starts with the use of natural adhesives, such as animal glue, casein etc. But with industrialization, more synthetic adhesives find usage starting with polyvinyl adhesive types. And, as



industrialization continues with greater optimization of the production and packaging techniques, there is a corresponding optimization in the adhesive type and its application.

Two common examples of applications in the US are the use of hot melt in packaging and case closing, plus the newer modified starches that allow for faster corrugating speeds.

With all this development occurring, there has been a natural awareness of the benefits of adhesives and thus, causes greater use for new applications. This is why adhesive growth has always outpaced GDP. It is interesting to note here that it generally has taken approximately 18 years for a new adhesive application to be used in about 90% of the product being produced. Many examples of this are evident in the auto industry. For instance, the first time hem flange bonding was used on car door manufacturing - until 90% of all car doors being manufactured with adhesives - was about 18 years. Of course, much of this was to prove its reliability, but also the planning and capitulation of other cars to utilize this procedure as well.

Another factor has also caused the continued growth for adhesives are the blurring of adhesives and sealants into one product – adhesive/sealant. Again, there have been numerous examples of this with the car window shield adhesive/sealant being the most prominent. But others include the floor bed pan in auto and light truck industry as well as the construction industry.

Now these same overriding trends that have occurred in both North America and Western Europe are and will continue to happen in other developing countries. All of these developing countries currently have an inordinate high usage of more naturally occurring adhesives as compared to other industrialized nations.

Often the first step for these developing nations is to use a less costly synthetic adhesive since speed is not as major a factor due to their lower labor costs. This is expected to gradually change to higher adhesive optimization as labor



costs rise and a higher growth of middle class occur in these countries.

The globalization of the auto industry as well as electronics has already spurred adhesive industry to other nations. But again, the lower labor cost in developing countries still often tend to use manual application techniques due to lower labor cost, but both the application and the adhesive itself will change over time with increasing optimization of the adhesive.

Perhaps the industry with the greatest dissimilarities among countries will be construction adhesives due in part to the individualized construction techniques, the materials available as well as individualized building standards.

In conclusion, the adhesive industry is expected to continue to enjoy healthy growth globally for many years to come. Additionally, it is believed that there are undiscovered adhesive opportunities in the construction industry, but this will require adhesive manufacturers themselves to develop these new opportunities.



About The Author



Roger J. Lohman

Vice President
The ChemQuest Group, Inc.,
an international strategic management
consulting firm specializing in the
Adhesives, Sealants and Coatings
industries, with headquarters in
Cincinnati, OH.

Roger joined The ChemQuest Group at its inception where he served as Senior Analyst. Prior to ChemQuest, he held senior technical positions including Technical Director for a unit of Ashland Chemical and Technical Director for Buckeye Products. As the manager of the ChemQuest databases and information services, clients constantly rely on Roger to answer difficult market and application questions. He holds a B. S. degree from Xavier University.

Contact Roger at (513) 469-7555 or RLohman@chemquest.com

Questions or request for additional copies of this paper may be directed to the author at:

The ChemQuest Group, Inc.
8150 Corporate Park Drive
Suite 250
Cincinnati, OH 45242

(513) 469-7555
(513) 469-7779 – FAX

www.chemquest.com

