



U.S. Market for Engineered Plastics - Overview

Engineered plastics demand in the US is expected to increase 4.1 percent per year to 5.5 billion pounds in 2008, valued at \$10.1 billion. Advances will result from the need for cost-effective, higher performance, reduced maintenance materials in electrical and electronic, industrial, motor vehicle and other markets. Further growth will be constrained by market maturity in many sectors and competition from less costly upgraded forms of commodity resins such as polypropylene. Acrylonitrile-butadiene-styrene (ABS), polycarbonate and nylon together will account for 73 percent of all engineered polymers volume demand and half of value demand in 2008.

Polycarbonate will present the best opportunities, with demand forecast to grow 4.7 percent per annum to 1.3 billion pounds in 2008, based on the resin's optical clarity, durability and its ability to be cost effectively blended with other polymers. Opportunities are anticipated in CDs and DVDs, particularly recordable and rewriteable versions, as well as electronic product housings. Nylon demand will advance at a near average pace, fueled by the resin's high strength, rigidity, and chemical and abrasion resistance, particularly in motor vehicle uses. Demand for ABS, the leading engineered plastic, is expected to grow 1.8 percent per annum to 1.4 billion pounds in 2008. Slow growth is anticipated as a result of maturing applications and competition from less costly upgraded resins such as polypropylene. Subdued ABS advances will also slow projected growth for overall engineered plastics. Excluding ABS, demand for engineered plastics is forecast to increase 4.9 percent per year.

Among the smaller volume resins, polysulfones and polyphenylene sulfide will exhibit the fastest growth due to heightened demand in electrical and electronic applications, particularly high temperature connectors and sockets. These resins are typically used to fill specialized performance needs where their higher cost can be economically justified.

Electrical and electronic equipment and motor vehicle markets together accounted for 58 percent of engineered plastics demand in 2003. Through 2008, best growth is anticipated for electrical and electronic applications. Motor vehicle markets will grow at a near average pace, driven by fuel efficiency requirements (engineered plastics are often lighter and stronger than competing materials) and reduced maintenance, especially in engine and mechanical systems. Other markets include consumer/institutional, construction and industrial equipment.

Foreign trade is a critical component of the engineered plastics industry, with exports accounting for 40 percent of production and imports representing 23 percent of demand in 2003. Through 2008, import growth will outpace export growth, with price the primary driver. Export growth will be constrained by increased offshore production, frequently by US firms such as Dow Chemical which find it more cost effective to establish foreign production facilities to meet local requirements.

The engineered plastics industry is highly concentrated, reflecting the significant financial commitment required to develop proprietary technologies. GE Plastics (General Electric), DuPont, Bayer, Dow Chemical and Ticona (Celanese) together accounted for 83 percent of US engineered plastics capacity in 2003. ABS and polycarbonate capacity is controlled nearly entirely by GE Plastics, Bayer and Dow Chemical. DuPont is the largest nylon producer and a leader in the production of other resins such as polyacetal, PBT, PET and LCPs. Engineered plastic firms have typically focused on internal sources of growth and new product development. Nonetheless, acquisitions may be driven by efforts to expand existing operations, to diversify into more promising geographic markets or products, or to globalize operations.

