Global Polyimide Applications

Polyimide film is consumed in a broad range of markets due to its unique physical properties and ability to satisfy the demanding needs in each market. Flexible Printed Circuits (FPC) is by far the largest market and has sustainable growth rates of 20-30% per year. The Specialty Fabricated Products (SFP) market is growing at an annual rate of around 10% per year, followed by the Pressure Sensitive Tape (PST) growing at 5% per year. The Wire and Cable (W&C) and Motor/Generator (M/G) markets are relatively flat with annual growths on the order of 2% year.

Global Polyimide Supply and Demand

Over the past six to eight months there has been a steady, unforecasted, increase in demand for polyimide films in all applications resulting in significant shortages. These shortages occurred more rapidly than anticipated due to plant operation problems at two major polyimide manufacturers, an increase in oil prices and therefore more drilling activity, use of polyimide film as a barrier blanket in commercial aircraft, and a strong economy generating record sales of computers, computer peripherals, cell phones, and automobiles.

What Can Be Done Until New Capacity Is Available?

In all of the defined polyimide markets it is difficult to convert to not-in-kind technologies. Specifications and performance needs are very rigid and require years and, many times, significant amounts of money to not only convert to alternate technologies, but even to move from one supplier of polyimide film to another.

The softening economy and the ability of some polyimide users to convert to not-in-kind technologies has helped minimize the impact of the shortage.

However, until new capacity is brought on line there will continue to be shortages of polyimide film. Manufacturers of the film as well as users will have to manage through this period of tight supply and the issues associated with it.

Polyimide purchasers should communicate continually with their supplier and give accurate forecasts with sufficient lead times so that manufacturers can plan optimal production schedules.

At the same time, polyimide film manufacturers must optimize their processes in order to maximize production on existing lines. KHM is currently studying their operations and has identified some efficiencies that could increase their production volumes by 10-20% over the next two months. They are also in close contact with their customers in order to plan more efficient production runs to meet their customers’ needs.