### Lean Manufacturing Reduces Cost and Promotes Quality

Para Tech is well aware of the challenges our customers face in releasing their assemblies for work outside the normal production loop as it impacts lead times, work-in-process, and inventory costs. The operations group at Para Tech focuses on streamlining work-in-process at each of our facilities, with the goal of achieving the lowest total cost of service. The ultimate benefit is a reduction in a customer’s work-in-process inventory.

Every production order at Para Tech receives “just in time” emphasis. Each step in the process is monitored continuously to identify and eliminate even the smallest bottlenecks. This includes pre-staging, with pro-active setup steps taken in advance across the production stream so work can flow without delay.

Establishing and monitoring key performance indicators allows Para Tech to run lean at every production stage, thereby eliminating waste and delay and maximizing the value added to coated assemblies. The challenge of lean manufacturing is to balance the velocity of parts through the system against the requirement to accomplish the best possible work. With FIFO (First In, First Out) scheduling in a Parylene batch process, we work to achieve the highest part yields and on time delivery to fully satisfy customer requirements.

The long established tradition of streamlining work-in-process at Para Tech allows us to offer optional expedited coating services, with incremental production and shipping to match customer requirements. With ongoing just-in-time delivery, the cost to expedite coating can be less than the expense of production delays. Our goal is to help customers establish the most cost-effective workflow alternative for each order.

Para Tech continues to meet and advance lean manufacturing standards year over year. With nearly 50 years’ experience, Para Tech has become an established leader in refined coating production that balances the critical need for rapid turnaround with uncompromised quality and optimal yield. Contact Para Tech sales at (800) 999-4942 or sales@parylene.com for more information.

### Para Tech Opens Midwest Coating Center

Para Tech expands its capabilities with the opening of a new, fully equipped and staffed coating facility in Neenah, Wisconsin, to provide the best in timely service for Midwest customers. This state-of-the-art coating center incorporates the full range of Parylene production capabilities including process engineering, cleaning, masking, static and tumble coating vapor deposition, and final inspection.

The new center operates to the same AS9100 quality management standard as Para Tech’s long-standing California and Connecticut coating facilities, with full documented certification expected to be completed in October 2015. With the latest technology and broad industry experience, the Wisconsin center further expands Para Tech capabilities as an industry leader serving EMS providers in aviation, aerospace, high reliability circuitry, military, industrial, automotive and medical operations.

Site manager Ron Jagla explains that close proximity to customers in the region will reduce coating service turnaround, cut shipping costs, and enhance Para Tech’s ability to respond even quicker to evolving customer coating requirements. “This investment strongly supports our intent to partner closely with current and future customers in the region in order to optimize quality, reduce operating costs and shorten critical lead times,” Jagla said.

Para Tech’s professional team leverages the latest technology and long industry experience to consistently deliver high quality products, service, and support. As a result, the company is widely recognized as a trusted supplier across the full range of Parylene applications.

Click here for more information on Para Tech’s commitment to cost-effective Parylene service leadership.
Where is the Solvent?

Parylene film differs from liquid encapsulants such as silicones, urethanes, acrylics, and epoxies in many ways. It provides absolute conformance to underlying surfaces, exceptional encapsulation and dielectric performance in very thin layers, and the complete absence of cure force and thermal stress.

Another important Parylene distinctive is its lack of solvents, catalysts or a conventional cure phase. Instead, this transparent film is applied in a vacuum chamber by means of gas phase polymerization. It begins with a powdered raw material that is converted by heat to a gas, which is then deposited on substrates in a vacuum chamber at room temperature, growing as a uniform and conformal film.

Since no solvents or other chemicals are required in the process, Parylene presents no environmental or health threats. The Parylene coating process is straightforward and hazard-free, to the benefit of both worker safety and production efficiency.

Click here for more information on the Parylene vacuum deposition process.

Parylene Boosts Customer Productivity

Thin Parylene film can seal elastomer surfaces without compromising critical elasticity or durometer properties. For this reason, it is often used to coat and protect parts such as rubber keypads, seals, grommets and similar components from dirt, moisture and solvents. Parylene's elongation and adhesion properties greatly exceed those of alternate, liquid based coatings, which are dimensional, rigid and generally unsuitable for elastomers.

Customers report another benefit related to Parylene coating of elastomers - the elimination of part clumping that can jam and slow the vibratory feeders that are often used in automated manufacturing. The natural static friction properties of elastomers can cause parts to stick together, but when coated with just 1 or 2 microns of Parylene, the surface coefficient of friction is dramatically reduced, and parts can flow smoothly through production. At a value of 0.25 to 0.33, Parylene's static and dynamic coefficients of friction are comparable to PTFE.

Since Parylene is applied to elastomer components at room temperature using a tumble process that requires no fixturing, encapsulation is complete, consistent and efficient, and presents no risk of part damage. Furthermore, the process is also very cost effective. Contact Para Tech to learn more.

Think Ahead and Design for Savings

Spend more to save more. This seeming contradiction can be a reality in the case of specifying parts for assemblies that are to be Parylene coated. For example, a simple, low-cost connector on a circuit board may be fully functional over the life of the assembly, but be very difficult to mask before Parylene is applied. The time required to mask, not to mention the risk of unintended Parylene coverage and subsequent part malfunction, can add substantially to total assembly cost.

A more expensive sealed connector, which is much easier to mask, may ultimately be a more economical choice. While it might cost $6.00 to mask a $1.00 connector, a more sophisticated $3.00 device might be masked for just $1.00, for a net savings. Further, the potential for unwanted coating to reach conductive elements within a superior connector is greatly reduced.

Para Tech engineers have long experience with coating issues such as this, and are available to make part selection and board layout recommendations to maximize Parylene coating effectiveness, reduce production costs and enhance yields.

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