

Optical Fiber & Cable News

Desotech Steps Up Technical Service in 2003

In our ongoing effort to serve you better, DSM Desotech has made technical service one of our top priorities in 2003. That means we're taking a closer look at this important program and targeting ways to make it even more valuable for our customers. We think you'll like the way things are shaping up—as Desotech Tech Service becomes more pro-active in focus and more global in operation, with dedicated regional teams that are better positioned than ever before to meet your problem-solving needs.

Dedicated Teams

Changing market conditions over the past two years have led many in our industry to restructure their organizations for maximum efficiency. At DSM Desotech, this has meant transitioning from multiple customer-based teams to a more functional team approach.

In addition to fostering a more comprehensive knowledge base in each functional area, the new structure also allows individual teams greater flexibility to assign time and resources as needed to important projects.

For Technical Service, this is a clear advantage. "Our previous team structure sometimes limited the amount of tech service that could be provided," says Regional Sales Director Jim Reese. "Pulling the team together to focus on a particular problem meant temporarily halting other efforts. The formation of dedicated regional Tech Service teams now allows activities such as development to continue uninterrupted while the group goes to work on the problem."

Global Network

Three dedicated Desotech Tech Service teams will operate from the U.S., Europe and Asia. Though independent in their day-to-day activities, the three will now operate as one global network for technical information—and a powerful resource for customers in any region.

"In the past, customer teams operated more or less independently of one another," says Reese. "Our new regional Tech Service teams will instead rely heavily on the sharing of information in order to better target the root causes of a problem. That means less duplication of effort, as

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Desotech Welcomes New VP of Fiber Optic Materials



On April 1, DSM Desotech welcomed Patrick Niels as new VP Fiber Optic Materials. Previously Business Manager Polyesters for DSM Coating Resins in Zwolle, the Netherlands, Mr. Niels first joined DSM in 1998, when DSM acquired Gist-Brocades. Prior to this, he held several sales/marketing positions with Gist-Brocades since 1991.

Patrick holds a BBA degree from Nijenrode, the Netherlands School of Business, and an MBA from Emory University in Atlanta, GA. He succeeds former VP of Marketing, Steve Hartig, who has since been appointed DSM Desotech President.

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Q & A...

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well as a broader accumulation of knowledge over a shorter period of time.”

It will also mean a more globalized approach to Desotech's customer concern system, which is closely tied to our tech service effort. Instead of problem-solving by region, one common database will soon be used to log and track technical problems across all regions—helping the service teams better identify and resolve common issues.

Proactive Focus

Finally, Desotech recognizes that the best kind of tech service is proactive—preventing problems before they start. That's why we will soon be making technical “audits” available for customers who wish to participate.

An audit will consist of periodic visits to your facility from a veteran Tech Service associate who will observe your operation and provide specific improvement suggestions in areas such as product handling, process conditions, on-line quality testing and product storage.

“Our goal is to ensure that our customers are well-informed, operating efficiently and receiving the maximum benefit from our materials,” says Reese.

DSM Desotech is committed to providing the best possible technical service to our customers around the world. To learn more about scheduling a technical audit, or other ways our Tech Service Teams can be of help, contact your Desotech Account Representative today.

Q: What is causing particles to appear in my matrix material and how can they be eliminated?

A: Because Cablelite matrix materials are finely filtered prior to filling, most reports of particles turn out to actually be tiny bubbles in the resin. On-line tests utilizing Desotech's ribboning machine have shown that bubbles can be introduced during processing if air is not adequately purged from the coating lines and dies prior to start-up. We recommend a careful purge of both to solve the problem.

Q: Does the quality of my coating tube affect curing?

Yes, the quartz tube affects the amount of UV light that is transmitted to the coating. There are several types of quartz, and one should be chosen to transmit as much UV light as possible. Quartz suppliers have the transmission curves for their products. Select the one with the highest UV transmission. Never use glass. While glass is cheaper than quartz, it is not transparent to the UV wavelengths required for cure. For best results, stick with 100% quartz tubes with high UV transmission.

Q: I'm using nitrogen to provide an inert atmosphere when curing. Can I also use it to pressurize my lines and containers?

A: Not advisable. Just as nitrogen enhances cure by replacing oxygen, it will also enhance cure in lines and containers. This will decrease the stability of the ink or coating and can cause gelation

problems. UV cured materials are usually filled in containers with a small percentage of headspace to make sure they remain stable. By replacing this air with pressurized nitrogen, you can cause premature curing.

Q: How does exhaust affect my coating or coloring operation?

A: It is important to balance the nitrogen input and exhaust in order to maximize surface cure. If the exhaust is too high, it removes too much nitrogen and allows oxygen inhibition at the surface. The end result is ink or coating that has through-cure, but is still tacky or wet on the surface.

For a 1000 meter/min. line speed, Desotech recommends 40 liters per minute of nitrogen input and 10 liters per minute exhaust. This 4 to 1 ratio can be used no matter what the line speed. Surface cure can be checked using solvent rubs. We recommend 200 double MEK rubs to check for adequate surface cure.

Got a question you'd like answered? Contact your nearest Desotech sales office or drop us a line at: info.desotech@dsm.com. Our Technical Service teams are ready to help.

To review other Frequently Asked Questions about fiber optic materials, visit the Desotech website (Our Products/Fiber Optics) at: www.dsmdesotech.com.

Draw Tower Simulator: the “Ultimate” Tool for Coatings Development at Desotech

Despite global slowdown of the optical fiber market, DSM Desotech's efforts in product development are still going strong. Of particular focus is meeting the ongoing challenge for improved performance, which translates into lower costs for our customers. One indispensable tool for this kind of application research and development is Desotech's draw tower simulator (DTS).

“Most coating developers know that correlating the on-fiber performance properties of coatings with flat film testing can sometimes be an elusive goal,” says Desotech Applications Engineer Keqi Gan. “Multiple variables—such as fiber size and geometry, UV intensity, line speed and temperature—all have a contributing and sometimes co-dependent impact. This is especially true as application conditions and performance properties become increasingly demanding. That's where the DTS really adds value.”

Custom designed and constructed, the DTS was installed in Desotech's Elgin laboratory in December 2001. Its construction was based on detailed examinations of actual draw tower components, so as to simulate the closest approximation of the real application process.

The DTS employs five Fusion lamps—two for the upper stage coating station and 3 for the lower. One lamp from each stage can be rotated to different angles, allowing for a more detailed study of the curing profile using the new technique of on-fiber NMR imaging developed at DSM Research in the Netherlands.¹

Using a 125m metal wire as a substrate, both primary and secondary coatings are applied at high speed in either a wet-on-dry or wet-on-wet process. The cured specimens can then be used for DMA, %RAU, in-situ modulus, and other analytical testing to evaluate the whole spectrum of coating performance on fiber.

Besides high speed coating of metal wire, the DTS can also be used for many other optical fiber experiments, such as high-speed tight buffer coating up to 900m in either single stage or two-stage applications. It can also be used for high-speed ink application, and the overcoating of fiber for microbend modeling studies.

“The draw tower simulator, often used in combination with our production scale coloring and ribboning equipment, really provides the ultimate tool for fiber optic coating development,” says Keqi. “With the DTS, we are able to do most coatings evaluation on the spot. This not only shortens the product development cycle, but it also allows us to continue broadening our developmental understanding in order to give the best possible products to our customers.”

It also provides a valuable tool for technical service. When trouble-shooting, the DTS allows Desotech to closely simulate customers' specific running conditions in order to conduct a more thorough study. The coating die table can be modified to run various die designs, saving time and cost. “What if” scenarios, as well as some non-standard operating procedures, can also be generated or verified.



Nearly six meters tall, Desotech's draw tower simulator is capable of line speeds up to 2100 meters/minute (35m/sec) with normal 9.25 inch (23.5 cm) spools. It has two laser diameter gauges and one thermocouple to measure coating thickness at each stage, as well as temperature between stages.

The use of the DTS has allowed Desotech to increase its understanding of on-fiber coating performance, as well as new coatings parameters. In fundamental studies, it is able to provide confirmation for verification of important theoretical concepts and models developed by both Desotech and DSM Research. Ultimately, the knowledge gained continues to help us develop the best, most advanced, new materials for our customers.

¹ V. M. Litvinov, A. A. Dias, “Characterization of Coating Systems on Optical Glass Fibers as a Whole by Solid State NMR”, Proceedings of the 50th IWCS, Lake Buena Vista, FL, USA. 2001, pp.267 - 273

New Account Manager Appointed in Hoek van Holland



DSM Desotech is pleased to announce the recent appointment of Account Manager **Yvette Go** to our Hoek van Holland sales office.

Yvette has held previous positions with Shell International Chemicals and, most recently, with DSM Purchasing Services in Urmond, the Netherlands. She holds a M.S. in Chemical Engineering.

Yvette is serving DSM Desotech customers throughout southern Europe.

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