

for our service bureaus...

## New Co-Marketing Opportunities with Somos!

DSM Somos appreciates the many service bureaus worldwide who use Somos resins. As we strive to be your preferred supplier, we are pleased to offer several new co-marketing opportunities that can help increase your company's publicity as you work with Somos materials.

### Reprints of Application Stories.

Somos often partners with our service bureaus to share success stories of how our resins are used to meet customer needs. These "application stories" are promoted in newsletters and press releases, bringing valuable industry attention to everyone's efforts. Now, when your application story appears in a Somos newsletter, you can request 500 customized color reprints of that story for your distribution. You'll also receive an electronic version of the reprint for easy emailing.

**Website Referral.** Did you know that all service bureaus exclusively using Somos resins are featured on the DSM Somos website? Your company's placement on our Service Bureau Map (see homepage) includes a link

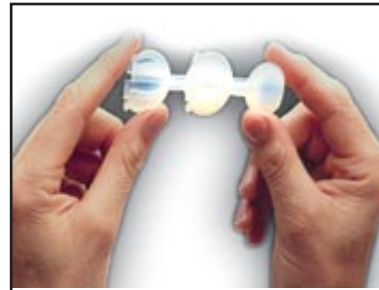
to your website, along with a "snapshot" of the resins you run.

### Email Notification of Press Release Hits.

When your service bureau is featured in a Somos press releases, it means free publicity for everyone involved. Now, you will receive email notification of those publications who have picked up the release, (agreed to run it) so you can let your customers know where you'll be featured next.

**Somos Material Selector Kits.** By year end, Somos will begin providing service bureaus with a Somos Materials Selector Kit, including a printed resin selector guide, an "SL resin vs. thermoplastics" property comparison chart, and a set of new Somos resin tile samples. The kit will make it easier to discuss all resin options with your customers, as well as select the particular Somos material that is right for your prototyping need.

Somos is dedicated to becoming your preferred resin supplier. Are there additional co-marketing opportunities that you would like to see us offer? Please let us know!



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Editor

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DSM Somos®

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# The Part We Play

Quarter 4, 2005

## Expanding the Rapid Prototyping Market through Material Innovation: Somos ULM™ 17220

DSM Somos is dedicated to the development of innovative SL resins that expand the use of stereolithography by opening up exciting new markets for rapid prototyping applications. Somos' highly elastomeric ULM™ 17220 resin is one new material doing just that—in both the consumer products and medical industries.

### Consumer Products

Introduced in 1st Quarter 2005, Somos ULM 17220 is an Ultra Low Modulus material that simulates parts traditionally made out of rubbers, silicones and elastomers. Laser Reproductions in Gahanna, OH was one of the first service bureaus to beta test ULM earlier this year. Finding that it built highly detailed and accurate elastomeric-like parts, they have since added it to their list of resins available to customers.

"We've used ULM to successfully prototype a variety of designs requiring rubber-like components," says Laser Reproductions VP Paul Bordner. This has included the soft grip for a Rigid drill (helping the design engineer approximate the feel of the design), rubber boots for protecting mechanisms, and button membranes for keypads. They have also used ULM for overmolding applications.

Overmolding utilizes multiple types of resins which are joined together and seamlessly integrated through the molding process to improve the overall performance properties of the final product. Examples include flexible grip handles on toothbrushes, power tools and kitchen utensils, which provide additional gripping properties without the hygienic concern normally associated with mechanical assembly.

"In addition to expanding business applications for our company, ULM has served as a good marketing tool for us," says Bordner. "Since we've been one of the first service bureaus to offer this resin, we get a lot of calls from new customers who are specifically looking for rubber-like parts. That gives us the chance to discuss our other services with them as well."

### Medical Industry

Medtronic Xomed, a manufacturer and distributor of surgical products used by ear, nose and throat (ENT) specialists, has recently begun using Somos ULM to prototype products that will eventually be made from silicone.

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Somos ULM™ 17220 is an Ultra Low Modulus material that simulates parts traditionally made out of rubbers, silicones and elastomers.

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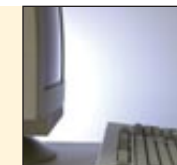


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Unlimited. **DSM**

## Somos ULM™ 17220

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After receiving ULM parts made for them by Accelerated Technologies Inc. (another ULM beta tester), Medtronic began prototyping a series of parts off their own 3D Systems Viper si2™ for internal functional evaluation. The parts had small, detailed features including thin side walls—some as thin as twenty thousandths of an inch on a part measuring 1.75 inches tall—and holes that measured fifteen-thousandths of an inch in diameter.

“For our applications, we’re finding that ULM’s accuracy is as good as Somos’ other (non-elastomeric) resins such as WaterShed® 11120,” says Medtronics Xomed Advanced Designer Ron Graves. “Having the ability to produce accurate, rubber-like parts right from a stereolithography machine is proving invaluable. In many cases, we’re able to work out design issues before proceeding to potentially expensive tooling.”

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— Ron Graves,  
Medtronic Xomed

Somos ULM 17220 is now commercially available worldwide. To learn more about what this exciting new material can do for you, contact your Somos account representative today.

## Somos WaterShed® Used to Verify Accuracy Requirements for Investment Casting

In the largest accuracy study ever conducted for QuickCast™ parts, Chicago-area service bureau Express Pattern chose Somos WaterShed® 11120 resin to produce their investment cast patterns. The patterns had a metal part yield of close to 95%—similar to those achieved by traditional wax patterns made from tooling.

Express Pattern built more than 500 QuickCast patterns from WaterShed, ranging in size from 1 to 20 inches. Each pattern was measured multiple times in three to four dimensions, ultimately making 4,300 individual measurements on finished patterns. Based on these efforts, they were able to verify that over 98% of all measurements were within the acceptable tolerance band required by manufacturers.

“This study is significant in that it demonstrates the capacity of high-accuracy, high-stability SL resins like WaterShed to be successfully used in demanding manufacturing applications like investment casting with greater yields than ever before,” says DSM Somos Marketing Manager Eva Montgomery. “With the proper resin, so much more than just part prototyping can be achieved.”

“QuickCast” refers to a hollow build style used in stereolithography to create parts that are subsequently sent to foundries for investment casting. The hollow structure is needed in order to accommodate expansion of the material as it is heated during the casting process. This percentage of hollow space to solid space is referred to as the “void ratio.” The higher the void ratio, the better the part’s success rate will be at the foundry.

“Today’s QuickCast build styles result in a theoretical 87% void ratio—though some resin always fails to drain out of the pattern, causing the void ratio to



Somos WaterShed® 11120 has been used to produce highly accurate and stable investment casting patterns

be less than 87%,” says Montgomery. “A low-viscosity stereolithography resin such as Somos WaterShed 11120 is attractive because of its improved resin drainage and subsequent reliability in building thin-walled parts.”

Other WaterShed properties which led Express Pattern to choose the resin for their study included its high humidity-resistance, high initial green strength, heat deformation characteristics, and its overall transparency.

Based on their study, Express Pattern believes that the production use of stereolithography patterns will have a significant impact on the way investment casting is viewed and the applications for which it is considered. Express Pattern Partner Tom Meuller says, “Without the cost and lead-time required for tooling, investment casting can now be a very attractive, cost-effective option for small quantities—even as small as one.”

## Technical Service... Fast! Using the Somos TS-Fast System

DSM Somos works hard to produce the highest quality SL resins on the market today—however, we realize that technical issues sometimes come up that can be difficult to solve without some help.

When you find yourself needing assistance, the Somos Technical Service Group is just a few clicks away, thanks to the TS-Fast (Technical Service-Fast) automated system.

Simply log on to TS-Fast from anywhere in the world and your request immediately generates a text message alert to all members of the Somos tech service team. You can expect a call back promptly—in as little as 15 minutes.

While some customers are still used to calling one technical service representative directly for assistance, many are now experiencing the unique benefits of the TS-Fast automated system:

*Is your tech service rep traveling or otherwise unavailable?* With TS-Fast, multiple team members are receiving your message immediately.

*Is your problem one that's been seen before?* TS-Fast requests are viewed by Somos' entire team of tech service experts—so you get the best solution in the shortest amount of time.

To learn more about the Somos TS-Fast online tool, contact your account representative today.

### To access TS-Fast:

Log on to [www.dsmsomos.com](http://www.dsmsomos.com) and click on the homepage link under “Somos at your Service.” Or, if you prefer, you can type in the following URL directly: [www.dsmsomos.info/tsfast](http://www.dsmsomos.info/tsfast)