

IN-LINE with FI-TECH

Spring 2004

A publication for Synthetic Fiber and Nonwovens Producers

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Welcome to IN-LINE with FI-TECH



Welcome to the Spring issue of *In-Line with Fi-Tech*! Fi-Tech and its principals had a busy end to 2003 with the ITMA Show in Birmingham in October and the various conferences for the Nonwovens Industry held in the

Todd Bassett fall (INDA-TEC, Insight, & TANDEC). All shows and conferences were very well attended and we appreciate the effort our customers made to travel to these events. It looks like 2004 is starting off in the same way with the Vision Conference, Exintex, Tectextile, and IDEA all in the first 4 months of the year! These conferences and shows are great opportunities for Fi-Tech and its principals to meet with our customers and share with them new product developments as well as to learn from our customers regarding their present and future requirements.

We look forward to seeing you at these shows and conferences. In this issue of *In-Line with Fi-Tech* we provide you with additional details on these shows and our principals who will be participating.

Also keeping us busy over past few months has been the integration of the Fleissner product line into the Fi-Tech organization. Fi-Tech is pleased to announce that effective November 17, 2003, we have become the agent for Fleissner GmbH - Egelsbach, Germany in the US and Canada. More details of this new addition to the Fi-Tech product

Fi-Tech Announces Representation of Fleissner GmbH

We are delighted to officially announce our appointment as Fleissner's representative in the USA and Canada. In November 2003, our associates, Zimmer AG, of Frankfurt, Germany, received government approval of their previously reported purchase of Fleissner-Egelsbach, Germany. Since Mr. Fleissner retained ownership for the facility in Charlotte, NC, it was decided that Fi-Tech would assume all marketing, sales and spare parts support for Egelsbach, effective with the purchase approval. Mr. Fleissner retains ownership of Fleissner Nonwovens GmbH & Co. KG.

We quickly moved to take over the spare parts supply in order to guarantee a seamless transition. On January 1, Don Gillespie, the former Sales Manager for Fleissner, Inc. - Charlotte, NC., joined the Fi-Tech Team. Many of you know Don from his years of service to the fiber, nonwoven and textile industries. Don will continue to have overall

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line are covered in this issue of *In Line with Fi-Tech*.

We hope you find this issue informative. As always, we look forward to receiving your feedback. There is a fax-back form in the center of the newsletter if you would like additional information on our principals or their products. Also, previous issues of *In-Line with Fi-Tech* can be viewed on-line at www.fi-tech.com/news.





responsibility for the Fleissner-Egelsbach product line. We are happy to have Don on our team, and look forward to serving Fleissner's customers in North America.

Fleissner continues to

Don Gillespie provide new and innovative solutions to the fiber, textile and nonwoven industries. Please refer to the article on latex free tufting of carpets included in this issue. We appreciate Mr. Alfred Watzl's contribution to this issue. We also look forward to meeting all of you at the three shows in which Fleissner will participate this year: Techtextile Atlanta; IDEA04 Miami Beach; and ATME2004 Greenville. Come by and see the latest innovations from Fleissner.

Techtextil 04 - Atlanta, GA

Make plans to attend the Techtextil North America 2004 in Atlanta, Georgia from March 30 - April 1, 2004. Meet with decision-makers, review new technologies and discuss the most recent developments in technical textiles and nonwovens. All areas of technical textiles and nonwovens can be experienced in this single trade event.

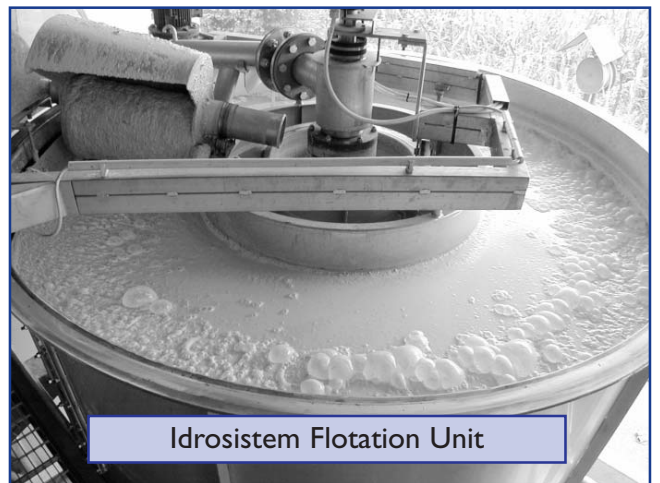
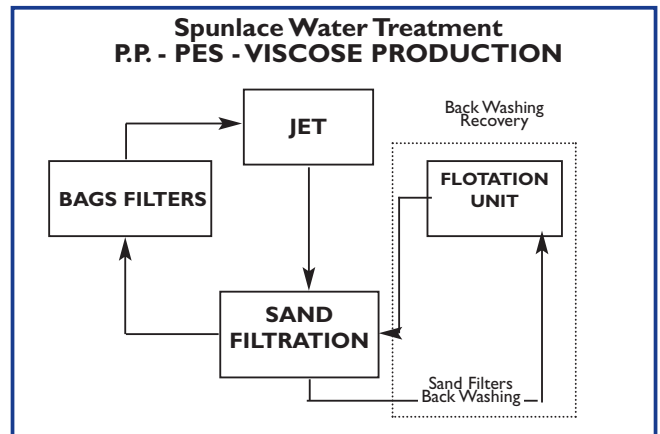
Techtextil North America offers excellent educational opportunities. Topics currently scheduled include: New & Emerging Technologies, Fiber Developments, Medical Textiles, High-Performance Composites and much more.

The Techtextil North America is a great way to learn more about the trends and predictions in all areas of technical textiles. It also offers visitors the opportunity to meet with over 300 major companies exhibiting at this show.

For more information and to register, log on to www.techtextil.com. Be sure to visit Fleissner in Booth 1717.

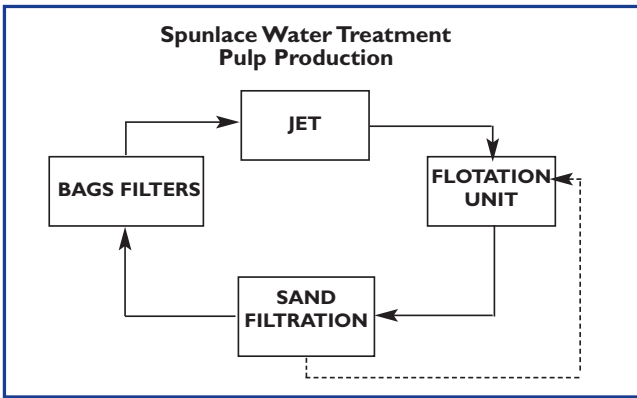
A Clear Solution to Your Water Filtration Problems

The water filtration system from Idrosistem Energy srl was developed to meet the needs of spunlace producers for better water quality. Typical problems that spunlace producers incur as a result of poor water filtration include clogged jet strips that lead to streaks in the fabric, frequent replacement of filter bags in the final safety filter, loss of sand in the sand filters, bacteria growth, and excessive discharge



of water in the back washing of filters.

There are now over 20 spunlace lines worldwide using the well-proven water filtration system from Idrosistem. The water filtration system consists of patented sand filters and an optional dissolved air flotation unit. Sand filtration provides for the complete removal of suspended solids and the reduction of oils and surface agents.



The additional flotation unit is used when pulp is present or for the recovery of the back washing water, to provide 100% water recovery. It also provides a further reduction in surface agents and oils.

| | Reduction with Idrosistem Sand Filter | Reduction with Idrosistem Sand Filter & Flotation |
|-------------------------|--|--|
| Suspended Solids | 99% | 99% |
| Surface Agents | 60% | 80% |
| Oil | 50% | 95% |

The Idrosistem sand filter has multiple layers of different size sand granules and a specially designed water distribution system to prevent blinding of the top sand layer. The sand filter has an automatic back washing cycle that cleans the sand so that there is

Automated BCF Doffer/Donner System by Autefa

For many years BCF carpet yarn producers have been asking for more automation of the bobbin handling function. Even though automatic doffing winders were available, most of the full bobbin handling and empty tube donning was done manually. Recently Neumag GmbH, one of the world's leading manufacturers of BCF yarn production machines, teamed up with Autefa automation to provide the industry with a fully automated bobbin handling, doffing/donning system.

Autefa has many years of experience in the tracking and identification of POY and FDY yarn bobbins, making them a natural selection for the partnership with Neumag. Autefa's ability to maintain individual bobbin identity from production to end-user was essential for success, because of the vast number of different colors and deniers produced. Each single bobbin can be identified in the system at any time and the production history of that bobbin recalled at the customer's demand.

The heart of the system is the single position doffer/donner system FDD (Fast Doff - Donner). The fast system was developed to match the short bobbin running times on the BCF machine. Upon receiving a signal from the winder the Autefa/Neumag

Autefa continued on page 7

Idrosistem continued

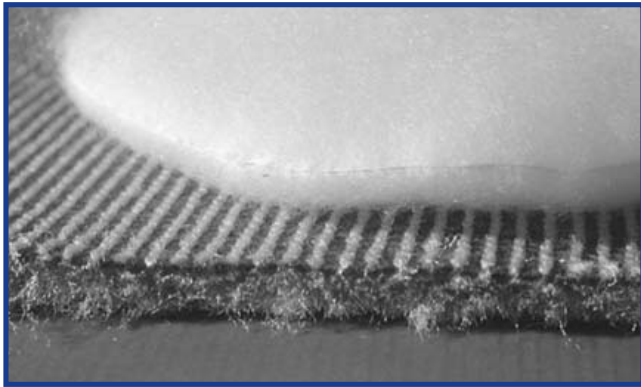
never a need to replace the sand. A special patented feature of the Idrosistem sand filter prevents sand from being lost during back washing.

In order to demonstrate the efficiency of the Idrosistem sand filter, Fi-Tech has a pilot unit that can be delivered to your plant for a free trial.

Idrosistem Energy has over 20 years experience supplying industrial water purification equipment and is the only company in the world specializing in water filtration for spunlace plants.

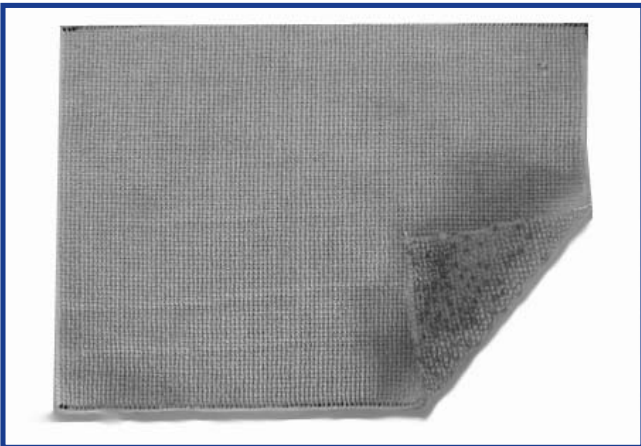
New Patented Process for Bonding Carpet Backing, from Fleissner

Carpet tufting is a well-known process whereby a pile layer is attached by inserting yarn loops, into a carrier material, such as spunbond nonwoven or a woven primary backing. The tufts must be bonded in the primary backing with an adhesive coating to give the required performance, utility and mechanical stress resistance. Anchoring tufts in position in the carrier layer is imperative for optimizing loop tearing resistance and behavior during roller chair testing.



Carpet with primary backing and web placed on top

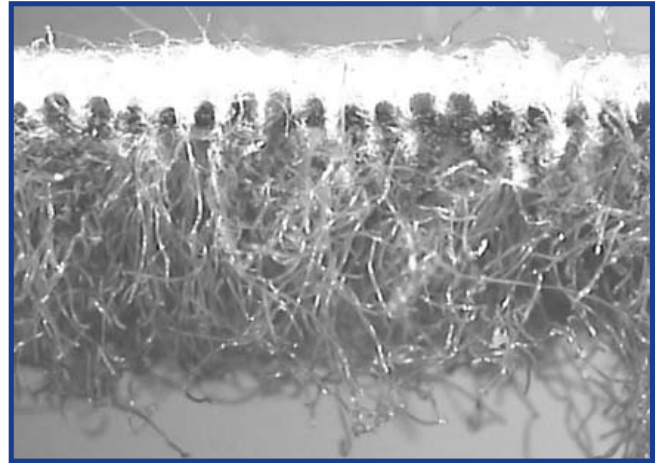
In most cases, a secondary backing is added to enhance walking comfort and overall carpet performance. This may be either a textile backing (web or fabric) or foamed latex backing.



Tufting carpet with primary backing bonded by latex precoat on top

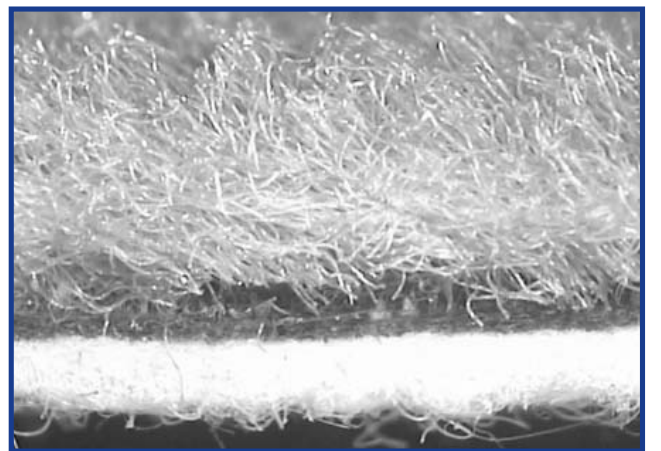
The use of a latex precoat has disadvantages both during production and in recycling tufted carpets.

Latex use produces wastewater and bad odors. Latex use also adds to the carpet's overall cost. In some cases, the latex binder is reduced with calcium carbonate to lower this cost. Other bonding processes have been used including polyethylene



Latex-free tufting carpet with web entangled with primary backing by AquaJet.

powder and mechanical needling. Both have significant disadvantages that have prevented widespread use.



Latex-free tufting carpet with web entangled with primary and secondary backing by AquaJet.

The ecologically harmful processes using latex precoating and the problems associated with recycling can be avoided when a nonwovens web is applied to the tufted carpet backing using Fleissner's AquaJet Spunlace Technology. Spunlacing makes it possible to bond the web fibers into or onto the primary

[See Fleissner page 7](#)

Fleissner continued from page 4

backing while retaining the pile layer without any web fibers appearing on the carpet face. The nonwoven material used for stabilization of tufts should be a carded web that is either unbonded or slightly pre-bonded. This can also be done by spunlacing. Possible fiber types include PES, PP or PA. Spunlacing injects the fibers of the stabilizing web at an optimal depth in the backing of the primary carrier material and into the tufts retained by it. The nonwoven web is not visible on the pile side nor at the root of the pile. The water jet pressure, nozzle geometry and other factors control this process.

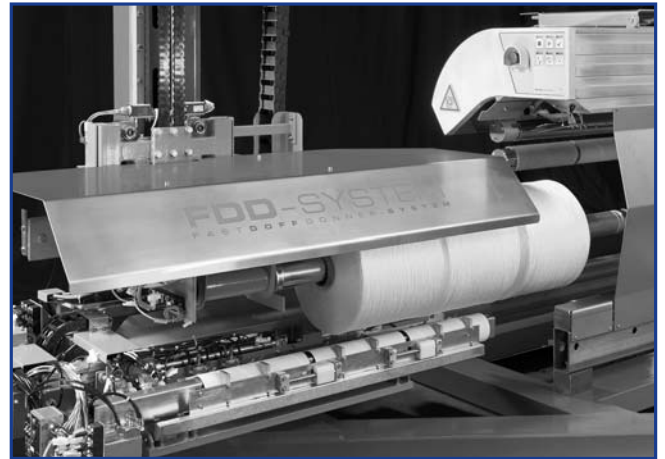
For optimal bonding of the carpet pile, a mixture of standard fibers and bicomponent fibers can be used in the backing web that is needed into the primary backing using the spunlace process. When the carpet is dried using a perforated drum dryer, these low melt fibers are activated, locking the structure in place. Apart from tufted carpets, any other pile structure such as plush fabrics, may be stabilized in the same manner.

The process of bonding carpet backing by spunlacing technology was developed using the Fleissner AquaJet Spunlace system, and is now covered by a worldwide patent. This patent describes a process for continuous stabilization of pile goods such as pile carpets, tufted carpets, plush or similar structures with a face that must not be changed in structure nor quality, and a reverse that is not yet stable. In a second step, a secondary backing can be needled onto the nonwoven web by another jet head. This significantly improves the walking comfort of the carpet, permanently bonds the face fibers and provides dimensional stability. Such a stabilizing backing can have a weight of up to 600 g/m.

Contact your sales representative for more information on this patented process.

Autefa continued from page 3

FDD doffs the full packages from the winder chuck, then places empty tubes on the chuck in preparation for the next automatic changeover cycle. The full packages are then transferred to the overhead mono-



Autefa FDD System

rail system, or BRS (Bobbin Rail System), similar to those used for many years now on Autefa's fully automated POY yarn handling systems. This same mono-rail delivers the empty bobbin tubes to the FDD.

Once the BRS carrier has a full complement of yarn packages, it then transports the bobbins to an inspection station, then on to either the creeling area, palletizing for shipment, or an intermediate tray storage system (also developed by Autefa). Fully automated palletizing, packing systems and warehouses are also available from Autefa automation.

The advantage of the Autefa/Neumag system FDD, over conventional multi-position doffers that tend a number of positions, is that there is never a missed doff due to the doffer being occupied at another winding position. This is critical with the short doff cycles typical of BCF operations. The simple and robust mechanics make sure that all doffs and donnings are handled automatically, without the need for operator interface. Full automation is now a reality for BCF yarn production.

South Beach in the Spring

The International Engineered Fabrics Conference and Expo, IDEA04, is coming fast. As always, Fi-Tech will be there ready to bring you our long list of principals along with their newest developments in the nonwovens machinery and equipment arena.

The event takes place at the Miami Convention Center, from Tuesday, April 27th through Thursday, April 29th. The conference begins at 8:30 am on Tuesday and runs through 12:30 pm on Thursday. The exposition will be open Tuesday and Wednesday from 10:00 am until 6:00 pm and Thursday 10:00 am through 4:00 pm.

Fi-Tech - Booth 902 will be present and will host many of its principals in the nonwovens industry in its booth. Fi-Tech represented companies in Booth 902 will include: Autefa, Cofpa, Edelmann, Enka tecnica, Idrosistem, Schill and Seilacher, and Ungricht. Fleissner, Herrmann Ultrasonics and Reifenhauser will also be at IDEA04 with individual booths. Some highlights of what these companies will be showing include:

Autefa automation - Booth 902 will be present to answer questions regarding their full line of Topliner Crosslappers, along with their line of cutting and winding systems. In addition, they will be presenting their newest technological advance, the WEBMAX. This, with the Topliner series crosslapper, produces a counter weight profile on the layering belt of the crosslapper, compensating for weight changes leading to the highest possible weight profile in the final product.

COFPA Engineered Fabrics - Booth 902 will be on hand to demonstrate their groundbreaking development in the area of spunbond forming fabrics. The Neostat 2000 belt will offer improved fiber support, better formation, ease of cleaning, increased mechanical strength, and faster start-up. Representatives from COFPA will be available to discuss this new fabric as well as the entire COFPA line of forming fabrics for the nonwovens industry.

Edelmann Maschinen GmbH - Booth 902, manufacturers of winding and slitting systems, offers maximum efficiency for nonwoven manufacturers through customized innovative solutions. Their expertise ranges from carded nonwovens to spunbond nonwovens to meltblown and spunlaced nonwovens, Edelmann is a world market leader for in-line slitter-winders with automatic roll changing systems as well as off-line slitting systems.

Enka tecnica Wetzal - Booth 902 will be present to discuss their broad range of capabilities regarding spinneret manufacturing. Be sure to stop by the booth to see various samples of Enka's bi-component spinneret capabilities including sheath-core and islands in the sea.

Fleissner GmbH - Booth 402, offers bonding and finishing lines for nonwovens including carded, airlaid, spunbond, and wetlaid webs. Fleissner also offers turnkey spunlaced lines, impregnation and drying lines, and through-air thermal bonding systems.

Herrmann Ultrasonics - Booth 420, is the acknowledged technology leader in ultrasonic plastic bonding and welding systems. The patented non-contact/non-wear technology with "micro-gap" control system has the ability to bond, emboss, perforate, and slit nonwovens and films at high speeds with consistent high quality.

IDROSISTEM Energy srl - Booth 902 is dedicated to designing and supplying wastewater treatment plants to the nonwovens industry. IDROSISTEM's first aim is to minimize the problems encountered during production that arise from poor water quality. With IDROSISTEM's patented filtration system, it is possible to dramatically reduce the water consumption. Depending upon the type of nonwoven, it is possible to achieve a zero water intake, excluding water loss due to evaporation.

Reifenhäuser GmbH - Booth 802 will exhibit its latest developments in Spunbond, Meltblown, and composite nonwovens, including Reicofil 4

Spunbond technology. Reifenhäuser will also highlight their Bi-Component Spunbond and Meltblown capabilities. Representatives from the Sales, R&D, Technical and Service Departments will be in Reifenhäuser's booth.

Schill & Seilacher AG - Booth 902 will be on hand to discuss their vast offering of hydrophilic, permanent hydrophilic and anti-static spin finishes for the manufacturing of carded PP-web and PP-spunbond nonwovens in different application areas including disposable diapers, feminine hygiene, medical applications, and food packaging.

Ungricht GmbH & Co. - Booth 902, the world leader in engraved and smooth roll manufacturing for the nonwovens industry, will be present and ready to answer your questions whether you are developing new products and patterns or you are looking for information regarding repair, maintenance or re-engraving of existing rolls.

ENKA tecnica WETZEL MICRO PRODUCTS - Two Powerful Enterprises Merge Into One

On October 1, 2003, two of Europe's largest spinneret manufacturers joined forces to create a technologically advanced enterprise to provide high-precision products for the synthetic fibers industry. Spinnerets and other fiber quality control devices will be produced at manufacturing facilities in Heinsberg and Groebzig, Germany. All products will eventually be marketed under the brand name "Enka tecnica".

Through this merger, Enka tecnica and Wetzels Micro Products have expanded their position in the worldwide market by developing new technologies and by constantly adapting products to meet changing market requirements. Your Fi-Tech sales representative will be glad to discuss our services in greater detail. Contact us today!

Fi-Tech Assumes Magenta Representation in US/Canada

Effective January 1, Fi-Tech assumed complete responsibility of the US and Canadian markets for Magenta Master Fibers (MMF) of Magenta, Italy. Previously, Fi-Tech was only responsible for new business development. Fi-Tech has represented MMF in Mexico since 2002. Leslie Polson will still be involved in certain key accounts as a sub-agent of Fi-Tech. He will also provide technical assistance to Fi-Tech in new business development.

MMF maintains a warehouse in Charleston, SC to support the North American market. Fi-Tech is now responsible for making customer shipments from Charleston inventory and coordinating inventory shipments from Italy.

MMF is a key supplier of black and monochrome masterbatches to the nylon and polyester fiber and nonwovens extrusion markets in North America. In addition, MMF produces other masterbatch additives such as UV stabilizers, anti-mite, anti-microbial, and TiO₂.

For more information on MMF masterbatches, please contact Fi-Tech, Inc.

Fi-Tech can assist you with all of your foreign parts needs including part identification, ordering, importing, customs clearance and delivery.

Contact Keith Wise for:

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EVENTS CALENDAR

Exintex 2004

March 9 - 12, 2004

Puebla, Mexico

www.exintex.com.mx

Techtextile North America

March 30 - April 1, 2004

Atlanta, GA

www.usa.messefrankfurt.com

IDEA04

April 27-29, 2004

Miami, FL

www.INDA.org

ATMEI-2004

September 13-17, 2004

Greenville, SC

www.atmei2004.com

K 2004

October 20-27, 2004

Duesseldorf, Germany

www.k-online.de