

INTC — Growing, Growing, Growing

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You may have recently sensed a level of excitement and sighs of relief within the technical community of the nonwovens industry. I would venture to guess that this is driven by the upcoming 2003 International Nonwovens Technical Conference (INTC). This will be the fourth year for INTC, which is jointly sponsored by INDA and the TAPPI Nonwovens Division. INTC, through the efforts of the conference committee members from INDA and TAPPI, has become the premier nonwovens technical conference. The initial concept was to create synergy by combining the technical conferences of the two organizations.

The success of the last three conferences has proven that the con-

cept was valid. INTC brings together the industry and academic technical communities each year to review leading technology and network with technical leaders and decision-makers. As highlighted by the theme of "Growing, Growing, Growing" this year's conference will offer new sessions on Nanofibers and Insulation along with over twenty sessions covering a wide range of subjects and has been expanded to four days.

A good deal of the success of the conference can be tied to the joining together of INDA and TAPPI to sponsor and develop the conference. Combined, these two organizations represent both the individuals and the companies in the nonwovens industry. INDA is a trade association with corporate membership while TAPPI is a professional association of individuals involved in all fields within the nonwovens industry.

Having members and staff from both organizations working to develop the conference sessions and papers ensures that a broad range of subject areas and interest relevant to the technical community will evolve. Quoting from an International Nonwovens Journal editorial about the inaugural INTC written by Peter Wallace, Conference Chairman for INTC 2000, "It is truly a case of the sum being the greater than its parts".

You might question why these two organizations felt that it was important to promote a technical conference for what some might consider a mature industry. If you were to survey the comments of industry leaders and advisors over the past few years, I am confident that one common theme would emerge: the need for continued innovation to insure growth in both sales and profitability. Innovation thrives on the sharing of concepts and new ideas among a broad group of people of shared interests but different backgrounds and experience. INTC serves as a catalyst that drives innovation that benefits the industry as a whole as well as companies and individuals.

That's why you should make sure that your in Baltimore on September 15-18 for INTC 2003 so that you, your company or university and the industry can continue GROWING, GROWING, GROWING! — INJ

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RESEARCHER'S TOOLBOX

ANALYZE THAT MARKET BEFORE YOU RESEARCH IT!

In times past the analysis of an existing or potential market for nonwoven products was the domain of the Marketing Group. More than one nonwovens product development scientist recalls the rebuke of the Marketing Division for venturing into that area, even a very short venture.

Times Change!!

With today's emphasis on interdisciplinary efforts, the role of technology in virtually all markets, and the favorable results from multi-disciplinary Task Forces, scientists and technologists deep within the research activity need to know the fundamentals of a Market Analysis. In many cases, their research effort can be more effectively directed after or during a preliminary market analysis is done.

A knowledge of the fundamentals of the process can therefore be a very useful resource in the Nonwoven Researcher's Toolbox. While certainly not comprehensive, here are some basic principles:

1. Market Definition - The first step in a market analysis is often the development of a clear definition and identification of the specific market. The results of such the overall analysis will often clearly depend upon this definition. It can impact the role of market characterization and segmentation, as well as open up new concepts and approaches. It may be tempting to quickly and simply define the market, but a detailed

examination and consideration will often prove very valuable in the end.

2. Seasonality - This often involves determining how much volume can be sold in each quarter of the year. The sales of some products may peak at a certain time of the year (holidays, tax due date, seasonal apparel, vacation products, etc.). This consideration may also reveal the leans periods that often accompany seasonality and must be considered in future planning.

3. Competition and Related Markets or Categories - Virtually every market is affected by related markets. Hence, the competition for a given market must be studied and clearly considered. Many categories interact, and thus such relationships may be significant to the target market. The Internet, governmental groups, trade associations and participants in closely related markets can be useful resources for this aspect of an

analysis.

4. Life Cycle - There has been much change in the life cycle of products and markets in recent years. Much shorter life cycles are typical of today's products and markets. This factor also gives emphasis to the timeliness of a market study. The point occupied by a product on the typical S-curve of life cycle is important to know. New and emerging products and technologies may have an explosive growth potential and high profit margins. Mature industries and markets are characterized by increased price competition and different marketing strategies.

5. Market Segmentation - Markets, as well as their products, can be segmented by type of product, color, size, usage, durability, disposability, sustainability, timeliness and many other factors. Mature markets tend to be more highly segmented. A specific market segmentation may open up new opportunities and threats.

6. Size of Market, Segments and Categories - The size of the market can be determined in terms of dollars and units sold. Both of these measurements are important to understanding the size of a market. Their interrelationship can often give insights in the market characteristics.

7. Wholesale and Retail Sales - It is important to distinguish the basis for sales within the market. This information can also give insights into profitability levels and relative profits at

CONVERSION FACTORS FOR FREE

Every researcher has experienced the frustration coming from the encounter with a piece of information or data that are important but not really useful, as they are expressed in terms that are not consistent with the rest of the data. Alas, where to find the "right" conversion factor. No one, it seems, has enough tables of conversions or other forms of conversion factors.

Thus, it is helpful to learn that a U.S. company is offering engineers and scientists a free copy of its 33-page handbook of conversion factors. Compiled by engineers, the book consists of more than 2,000 conversion factors, including temperature, pressure and altitude tables. Each table provides an easy-to-use format for quick reference.

To obtain a copy, contact International Reactor Corporation (IRC) by telephone at: 937-224-4444 or at their Internet site: www.irc-reactors.com.

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each stage of market distribution.

8. *Trends in The Market* - A critical question is the matter of market growth versus decline. By knowing or estimating the volume change in dollars and units, and the percentage increase or decrease, the trends over a time period are obtained. Short range and long range trends may be important. This can also lead to an understanding of the market drivers.

9. *Major Players* - All of the participants in the market, as well as their relative important is vital to an understanding of the market. The major brands and their relative rankings based on sales are important to determine. Market shares in dollars and units can reveal the more profitable lines and the players that are depending upon pricing discounts. The existence of shifts in comparative market positions can reveal trends amongst the market players. Regional and national brands, private label and generic brands are important to recognize. The profitability of the various brands can often give insights into current strategies and likely future moves.

10. *Promotion* - It is important to know how the market is normally promoted and merchandised. The type of advertising employed, whether print, or whatever medium used can be important in future plans. The relationship between various promotion activities may be important in some markets.

11. *Price Points* - Price points may be important to the size of units and the distribution of units. The existence of value price versus a quality segment may have importance in the operation of a market. Increases in private label or generics typically bring down prices within an industry.

12. *New Products/New Segments* - The segment of the market held by new products or new versions may indicate the growth patterns and future expectations. The role and impact of technology as manifested by new products may be very important to future expectations and activities.

13. *Distribution* - Distribution patterns

within a market will often determine the major outlets and usages. This factor may also be involved in "turn rate," the sales of a product on a monthly or quarterly basis. Information on inventory and inventory control can be deduced from some of this information.

14. *Regional Analysis* - An analysis of sales by regions can lead to information on the relative important of distribution or pricing. Promotion by regions can be important, as well.

Many of these items may be difficult to obtain, and may have to be estimated, especially early in the project. Also, some of these factors may not be critically important in the early stages of a research and development program. The clever researcher can quickly ascertain what is critical and what is not, relative to the initiation and organization of the new research or product development project. Good Luck.

LEARNING FROM FAILURES ... AND NEAR MISSES

Every experienced researcher knows the disappointment of a failed experiment, a pilot trial that did pan out or a plant run that went all wrong. It's very easy to dismiss such an experience with a "Who needs that!"

However, a great deal can often be learned from such failures, when the time is taken to properly analyze the full situation. One wise mentor used to say, "You don't learn very much if the first experiment is fully successful." Also, Thomas A. Edison was quoted as saying, "I have not failed 700 times. I have not failed once. I have succeeded in proving that those 700 ways will not work. When I have eliminated the ways that will not work, I will find the way that will work."

That is a 'tough teaching', but very true, nevertheless.

There is a related principle that deals with safety and human nature. When an accident occurs, there is invariably a lot of reason to examine the circumstances, and perhaps to take some action that will hopefully prevent a re-occurrence.

However, when there is no accident, only a 'near miss,' the tendency is to thank one's lucky stars and dismiss any further consideration.

How foolish! Often a great deal can be learned by fully considering a near miss. There may not be the trauma or the loss or the pain involved in a sad accident, but there may be important lessons to be learned.

A slogan used by safety experts should be used by everyone "Take a close look at close calls."

Become a safety promoter; examine those close calls and near misses.... Also, become a TAE (Thomas Alva Edison) and learn from those "failed" experiments.

— INJ

THE DIRECTOR'S CORNER

OUTSOURCING - THE ACT OF GOING OUTSIDE

It's hard to think of fashions and fads in business, management and such concrete activities as research practices. However, they do exist.

In the past, it was not unreasonable or unique for a laboratory to send out samples to an analytical laboratory or testing service that was set up to handle such analyses or testing procedures. It was a routine practice.

Now, however, this practice is currently receiving all kinds of attention, and even has its own name C outsourcing. It is not confined to laboratory work, of course, but can apply to almost any phase of business, industrial work and even academic activities.

The activity can be as simple as a small company using an outside accountant or legal resource, a one-man operation using the local income tax service provider, or as complex as a large multinational company utilizing an independent product development laboratory or a large pharmaceutical company using a contract manufacturer to augment their own production facilities.

To some individuals, outsourcing became synonymous with downsizing; however, it means much more than that. And its range of activities has expanded greatly. Using the keyword outsourcing in Yahoo! gives a listing of almost 22,000 sites.

Outsourcing as defined by one major participant (Firmbuilder.com), is "a long-term, results-oriented relationship with an external service provider for

activities traditionally performed with the company. Outsourcing usually applies to a complete business process. It implies a degree of managerial control and risk on the part of the provider." While the actual nature of the relationship may vary from one situation to another, there are some common elements.

It is different from contracting, which implies a fixed amount of time, almost always for the short term. Outsourcing usually is a relatively permanent arrangement, and both participants are in it for the long haul.

Within the research community, outsourcing generally revolves around an independent R&D organization (IRDO). These groups are generally well established and often link the government-industrial-academic interfaces. Since the tragedy of 9-11, there have been changes in these relationships, with increased activity by government and more pro-

nounced focus on technology, security and terrorism. Despite this increased emphasis, there is still a lot of outsourcing that does not entail security, but rather highlights the well-known threats and opportunities of the market place.

In a recent survey of the reasons for outsourcing, research companies that regularly employ this practice provided the following reasons for doing so:

- Expertise not available internally: 65%
- Equipment not available internally: 53%
- Shortage of manpower: 51%
- Less expensive: 23%
- Certified results: 21%
- Faster: 19%
- Established relationship: 10%

Source: *R&D Magazine*

Today, more than one-half of the major industrial companies engaged in significant R&D use outsourcing; a few years ago that number was substantially less. Based on the recent past, it can be expected that R&D outsourcing will increase in the future.

With respect to the financial side of outsourcing, the following figures typical business outsourcing, supplied by The Outsourcing Institute, can provide a realistic basis for comparative costing:

- Information Technology and related: 28%
- Human Resources: 16%
- Sales and Marketing: 15%

LOCATION OF EYEWASH FOUNTAINS

Common sense dictates that an eyewash fountain should be located close to the area where it might be needed. This location can generally be pinpointed, dependent upon the hazards in the surrounding area, the distance or time from a corrosive use area.

However, the path to the fountain may be of equal or greater importance. An industrial hygienist with the San Francisco Department of Public Health-Hazardous Materials, Jim Ambrose, points out this important fact and also makes a suggestion to check on the path. He says, "Blindfold an employee at the use area and see if he can get to the eyewash. Path turns and objects along the pathway now become apparent. If the employee needs lots of buddy help, the eyewash location may need to be re-evaluated".

- Finance and related: 11%
- Administrative: 9%
- Other expenses: 22%

Almost everyone who has been involved in outsourcing in all of its various aspects stresses the fact that outsourcing is about relationships. Frequently, the arrangements are compared to a typical marriage, where there must be a win-win relationship. Like a marriage itself, the role of outsourcing in an organization's operations deserves a lot of study, planning and introspection.

USEFUL WRITING TIPS FOR INTEROFFICE MEMOS

A memo can be a powerful tool for achieving a variety of ends; it can thank, congratulate, inform, request, announce, quiz, and a variety of other actions. Virtually everyone in business and in all phases of science and technology is intimately familiar with the ubiquitous interoffice memo. However, there is a surprising difference in the quality and effectiveness of this familiar missive.

Obviously, the most successful memos effectively communicate your message, no matter what it is. Knowing the value of a good memo, one organizational expert has offered the following recommendations to help ensure that your message is noticed, and that it achieves the results you want.

1. *Fewer Words, More Impact* - An important principle in preparing a memo is to keep it short and simple. The person receiving the memo has other work to do and will appreciate a brief message, in contrast to a "book" or long dissertation. The recipient is much more likely to read every word and absorb the meaning when there are fewer words. Remember the modified KISS principle — Keep It Short, Sharpie!

2. *Bullet Your Thoughts* - A variety of studies have shown that a paragraph format often turns off your reader. Bulleted copy helps to stress key ideas. If you think about it, using bulleted items is more inviting to you as a reader.

It will enhance the overall impact of your memo and message.

3. *Solicit Feedback* - A smart way to add impact to your memos is to involve the reader personally; this can be done most easily by asking them to get back to you on what is contained in the memo. If changes are discussed in the memo, it may be appropriate to ask the reader to submit their own ideas back to you.

4. *Become Multimedia Sensitive* - In this day and age of electronic communication, it is wise to be aware of the medium preferred by your reader. Some people still prefer paper and pen, while others place much more reliance on other means of communication. Respect the method preferred by the reader, and don't hesitate to combine media to ensure attention.

5. *Courtesy Copy (CC) the People in Charge* - The abbreviation "cc" used to mean "carbon copy." However, today it is more frequently referred to as "Courtesy Copy." As it is wise to remember the people you report to, it makes for good practice to see that they get a copy of your improved memo. Including the names of such people in upper management no doubt helps to get careful reading of your memo.

One of the best suggestions in finally improving your memo is to put yourself into your reader's shoes. Ask yourself if your would read, react, and respond appropriately to YOUR memo.

SAFETY TRAINING WITH AN IMPACT

Training on safety issues is almost always carried out in the regular Safety Meeting. Teaching prompt response to emergencies and the various appropriate actions to be taken can be done at any time. After all, emergencies don't necessary occur on schedule or at a particularly appropriate time.

One Safety and Compliance officer described the most effective teaching episode he has ever experienced in these terms. The topic was about chemical spills and emergency action plans. The instructor sat a paper cup filled to the brim with water on the table, around

which were seated the participants.

Without any warning or hesitation in his discussion, he took a pencil and jabbed a hole in the side of the paper cup. As would be expected, water started to stream out of the hole and onto the conference table. The instructor started yelling about a chemical spill and urged anyone in the group to come up with an idea as to how to deal with the emergency.

There were some napkins sitting on the table and that seemed to be a logical way to deal with the increasing flood. One person reached to cover the hole with his finger, and then withdrew, not knowing if the material was indeed hazardous. Another individual reached forward and jammed the pencil, which was still sitting on the conference table, back into the hole in the side of the paper cup. The flood virtually ceased.

At that point several suggestions were forthcoming, as the sense of the criticality of the emergency subsided.

The instructor quickly took advantage of the "teaching moment" to stress the point about keeping cool under pressure, and the advantages of quickly thinking about potential responses and their outcome.

Needless to say, the entire exercise was one that was talked about for the next few hours and days. In fact, the lesson was referred to often over the next several months, and every participant quickly recalled the impact of the lesson and the conclusions and points drawn from the incident and the discussion that followed.

Lesson learned!!

MAKING SCIENCE AND TECHNOLOGY INTERESTING

For the past decade, educators in science, engineering and technology have been wringing their hands and expressing concerns about today's student not having a burning interest in pursuing studies and careers in science and engineering.

One recent report, entitled "Attracting the Best and the Brightest," by two pro-

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fessors at the University of Washington's Evans School of Public Affairs, indicates that many of the top U.S. college graduates are increasingly rejecting careers in science and engineering. The authors site data from the National Science Foundation indicating a 14% decline in enrollment in science and engineering graduate programs over the past seven years; current data show further declines. Over the same time period, MBA enrollments grew by nearly a third.

Such a trend does not give any comfort to the nonwovens industry, as a career in this area is mirrored by general trend in science and engineering (S/E).

At the same time, guess what is the fastest growing major at West Virginia University, Baylor and some other colleges nationwide – forensic science!

How can that be, you ask. The simple answer seems to be the impact of crime and forensic TV shows. Witness the fact that when Court TV put together a forensics curriculum for high school age students, over 1,000 high schools in the U.S. adopted it and are attracting students to a course loaded with chemistry, physics, biology, engineering, anatomy and the like.

Perhaps such a simple explanation is only part of the answer. Somewhere along the line, perhaps S/E teachers and professor (most, but not all, fortunately) have lost sight of the fact that supposedly dull subjects, such as those traditionally associated with S/E, can be made to sparkle with exciting and interesting material.

Every researcher in the nonwovens industry can no doubt recall teachers and professors that were "deadly" — not necessarily in terms of the grades, but rather in the sleep-inducing tendency of their classroom work. Also, the pervasive use of teaching assistants (TA's) in some institutions may be an important factor in the current trend.

On the other hand, it is also very likely that every researcher in the industry can also recall an instructor that was a

real mentor in the finest sense of the word. Many attribute their interest in the field and their current career to such an individual and their pervasive influence.

To such mentors we raise our hands in salute. Thank you so much!! — *INJ*

PATENT REVIEW

21ST CENTURY STRATEGIC PLAN OF U.S. PATENT AND TRADEMARK OFFICE

Several months ago the Secretary of Commerce and the Director of the U.S. Patent and Trademark Office (USPTO) jointly announced a very ambitious effort for modernization of the USPTO, their "21st Century Strategic Plan."

Under this plan, the USPTO is attempting to transform its entire operations into a quality-driven, cost-effective organization. As discussed in a previous article in this Department (INJ, Volume 9, No. 4, Winter 2000), the PTO has been steeped in the tradition of its 200 years of operations, to its rather distinct disadvantage. This tradition involved a paper-based operation that was so far out-of-step with the current times, that paper of special dimensions was used throughout the agency in contrast to paper of current commercial U.S. dimensions; this was but one of the many features of an old fashion bureaucracy.

This branch of the government concerned with innovation and the latest technology was very slow in adopting modern methods and equipment. The PTO was very late in adopting the use of computer technology. It resisted use of the Internet for the advantages it could provide to its operations as well of that of its patrons; it was only after a private individual threatened to independently put the entire trademark database on the web that the Office began serious use of the Internet.

However, recent management has "gotten the message," and the new

Strategic Plan is being implemented to bring the entire operation up to the latest standards of business and commerce.

A recent communication from James E. Rogan, Undersecretary and Director of the USPTO, stated the every one of their 3,500 patent examiners has high-powered desktop computers that can electronically search over 9090 commercial, scientific, and technical databases, as well as every sime one of the 6.5 plus million U.S. patents issued since 1790, as well as over three million foreign patents.

One noteworthy example of this transformation, is the Office's aggressively movement toward end-to-end electronic processing of patents. This will involve use of electronics in filing an application, as well as all other aspects of prosecuting a patent to completion and publication. The goal for this move is 2004. After that point, there will be little or no paper involved in processing any patents.

There are 37 "action initiatives" in the five-year Strategic Plan. The agency has reported that comments on the Plan have been positive in almost all cases; a total of slightly less than 100 industrial firms, associations and related entities have commented. Some changes to the original plan include a provision that the PTO will now contract with private sector commercial search firms in lieu of the previously propose requirement for applicant-commissioned search reports.

Also, comments from USPTO users has resulted in withdrawing the

requirement for mandatory Information Disclosure Statements (IDS); as the Office will continue to rely on voluntary submissions. The IDS is a document prepared by the applicant that advises the Patent Office of earlier patents, articles, sales literature, products, activities and other matters that could adversely impact getting a U.S. patent.

Also, the agency has agreed that it will demonstrate the Strategic Plan's concepts and practices through elaborate testing and evaluation methods, to ensure that the desired results can be obtained.

As further evidence of serious moves to improve the operation, the PTO is also aggressively working with the European and Japanese Patent Offices to end duplication of effort by sharing prior art searches. Full use of commercial searching firms and methods can now be employed, and the patent applicant can now take a more sizable (and helpful) position in the search process.

There are several other aspects of modernization under the 21st Century Strategic Plan. One of the noteworthy goals of the Plan has been to reduce the time involved in obtaining a patent (pendancy time). The average time from application to granting is still over 26 months, while to goal is achieve a tenure of only 18 months. Progress has been made on this effort, however, as can be noted in recent issued patents.

Another well-publicized goal of the Plan is to eliminate "Fee Diversion." This practice stems from the fact that the PTO is one of the few Federal government agencies that actually takes in more money that it spends. This has been exploited in the past by the Congressional habit of appropriating such excess funds to uses other than improving the operation of the PTO. The Commerce Secretary has informed Congress that the current Administration is working to fully eliminate such Fee Diversion.

Earlier this year, Department of Commerce officials indicated that "the President has already reduced the annual practice of 'fee diversion' by 50% in

the Administration's fiscal year 2004 Budget," The current management within the Department of Commerce is also committed to "working toward ending fee diversion entirely. This bold step is another manifestation of the Administration's commitment to strengthen the economy by ensuring that the USPTO continues to lead the world in producing the most timely and reliable intellectual property rights protection for American innovators."

Also, Mr. Rogan has indicated that he wants to increase the fees inventors pay by about 15%. This increase in fees will further fund aspects of the agency's Strategic Plan. Mr. Rogan points out that even with the proposed increase, the cost of a patent in the United States will be merely one-half the cost of obtaining a patent in Japan and one-fifth the cost of a European patent.

Making more money available sooner to the PTO will undoubtedly help in fully modernizing the Office. Hopefully, this will accelerate transforming this vital operation into a "quality-driven, cost-effective organization" that fully employs the most advanced technology to carry out its important assignment. Watch for further details in this effort.

THE DOCTRINE OF EQUIVALENT - THE FESTO DECISION

The doctrine of equivalents" in patent work is the principle that slight variations from a disclosed operating condition do not constitute an invention. Thus, if the inventor discloses a process with a curing temperature of 320 degrees C. to 360 degrees C., the same identical process except for use of a curing temperature of 365 degrees C. is not a new invention.

The patent office holds that such conditions are virtually equivalent, even if not exactly equal. The reasoning is that a person skilled in the art would expect the same results even though the temperature of curing was only elevated slightly. This doctrine of equivalence permits a patent holder to claim that a process is infringed because the system

is equivalent, although it may not be identical, with the patent claims.

Although the doctrine of equivalence has been applied in patent law in the U.S. for over 150 years, a ruling last year by the Court of Appeals for the Federal Circuit (the patent system's court) held that if the applicant narrowed some of the claims in the process of carrying out the prosecution of the application through the Patent Office, the doctrine of equivalence would not pertain.

The decision is referred to as the Festo decision. It placed a much greater burden on the inventor, especially in preparing the original application.

The Festo decision was presented before the U.S. Supreme Court a few months ago, and the Court made a unanimous ruling that overturned the lower Court decision, thus eliminating the Festo challenge to the doctrine of equivalence.

In essence, the Supreme Court decision makes it more difficult for copycat inventors to receive a patent by making insignificant changes to the original invention.

Score ONE for reason and sanity!

NONWOVEN PATENT REVIEW

Method and Equipment for Low-cost, Improved Fabric Hydroenhancement Process

Hydroenhancement of woven and knitted fabrics involves the use of high pressure water jets on the surface of such spun yarn and/or filament yarn fabrics. Improvements achieved by such treatment include yarn blooming, increased fabric cover, improved surface texture, hand and drapability, along with reduced fabric shrinkage.

Conventional high pressure waterjet equipment, such as used for the spunlace nonwoven process, has been the traditional equipment used for such hydroenhancement treatment. The conventional view has been that the degree of enhancement is related to the amount of energy imparted to the fabric; that is, the more energy delivered to the fabric,

the more pronounced the enhancement effect. However, this patent discloses a method and equipment for achieving improved fabric hydroenhancement with substantially simplified and less costly processing equipment, and with reduced total energy requirement.

The process involves multiple passes of the fabric under the waterjet manifold, with a low-energy delivered to the fabric per pass. This allows the use of a substantially less complex and expensive processing line. These results are possible by the use of a manifold system that is reciprocated, oscillated, or rotated to simulate multiple passes on the fabric. By this means, the curtain of fluid jets delivers a low energy to the fabric per pass, whereby an improved conversion of delivered energy to enhancement energy is obtained on each pass and the waste of energy is reduced,

Other variations for improving hydroenhancement include angling the manifold at a diagonal to the fabric travel direction, using a high-density number of double rows of jets to eliminate interference patterns.

In a preferred embodiment of improved hydroenhancing equipment, a simplified "jigging" line is disclosed, in which a length of fabric is conveyed back and forth between a pair of unwind/windup reels on a sinuous path, which passes the fabric between a pair of manifolds for treating opposite sides of the fabric in multiple passes. The manifolds may be aligned at an angle to the vertical relative to support rolls supporting the fabric in order to allow convenient drainage of fluid away from the path of the fabric around the support rolls. This can eliminate the need for the usual vacuum-suction removal of fluid.

The jigging equipment can be configured to be self-contained and small in size. Only two manifolds are required to treat both sides of the fabric. This eliminates the need for the large and costly type of conventional processing lines that employ multiple manifolds and an extensive conveyor and fluid removal system for treating fabric in one contin-

uous run. Suitable hydroenhancement of fabric can be obtained, for example, by conveying it back and forth 5 to 12 times (depending on fabric construction and the enhancement desired) between the reels with a manifold fluid pressure of 1800 psi. The total energy can be as low as 0.12 hp-hr/lb (0.062 hp-hr/lb per side).

The low-energy, multiple-pass approach converts more of the total delivered fluid energy to enhancement energy for greater efficiency and reduction in wasted energy. Also improved fabric coverage and reduced fabric shrinkage is obtained in the modified process.

U.S. Patent 6,557,223 (May 6, 2003); filed February 15, 2002. "Fabric hydroenhancement method & equipment for improved efficiency." Assignee: Polymer Group, Inc. (North Charleston, SC). Inventors: Michael J. Greenway, Jackson Lawrence, Herschel Sternlieb, Frederick Ty, Frank E. Malaney.

Soft, Gel-like Stitchbond Composite Fabric

Disclosed is a method for producing a fabric that is stitchbond composite. Specifically, the fabric is a loop stitched composite fabric with a spongy fill layer attached to one or two outer layers. The composite fabric is constructed so as to have a unique gel-like feel. The gel-like feel of the fabric is created by utilizing a high loft fiber fill and attaching the fill layer to the one or two outer nonwoven or woven fabric layers by a loop pile stitching technique.

Composite fabric products made in accordance with the present invention have a distinctive and aesthetic appearance and are well suited for use in a variety of applications. These applications may cushioning uses, such as use in footwear in order to surround, support, and provide

cushioning to a foot. Alternatively, these fabric products can be used in automotive applications, such as headliners and other uses.

The fill layer of the composite is com-

prised of high loft fibers. For instance, the fibers, in one embodiment, have an openness value preferably of at least 2.5. The high loft fibers can be crimped fibers, containing from about 5 to about 15 crimps per inch, and particularly containing at least 8 crimps per inch. The use of siliconized fibers, such as hollow polyester siliconized fibers is particularly advantageous. The siliconized fibers can have a denier of from about 6 to about 30, preferably with a denier of about 15.

The basis weight of the fill layer can vary depending upon the application. For most applications, however, the fill layers will have a basis weight of from about 200 gsm to about 800 gsm.

The outer fabric layers of the composite fabric product of the present invention can be in general any material capable of accepting the loop stitches. The stitches can be placed in a plurality of rows, such as from about 12 to about 20 rows per inch, and particularly at about 14 rows per inch. Each row can contain from about 7 to about 28 stitches per inch. The yarn used to form the stitches can have a denier of from about 100 to about 200 and can be heat stable containing substantially no residual shrinkage.

In one especially useful embodiment of the present invention the composite fabric is sanded on one fabric surface. Sanding a surface of the composite product frays the loop pile stitches without substantially breaking the stitches. Of particular advantage, sanding causes the surface of the product to be softer and to have a feel like flannel.

U.S. Patent 6,562,434 (May 13, 2003); filed: September 17, 1999. "Gel-like fabric composite." Assignee: Tietex International, Inc. (Spartanburg, SC). Inventor: Martin Wildeman.

Protective Laminate of a Nonwoven Fabric and Shrinkable Film

Large articles, such as automobiles, machinery and boats, must often be transported from the factory to the ultimate consumer on open trucks where

they are exposed to the environment. Consumers expect that these new items be in pristine condition, and will not tolerate defects. This patent discloses a nonwoven/film laminate that can serve as an excellent protective envelope for this application.

The protective laminate material consists of a shrinkable film adhesively laminated to a protective nonwoven fabric. Hot melt adhesive is applied to the film in a pre-determined pattern. The adhesive generally covers from about 8.0 to about 33.0% of the film. The nonwoven fabric is then adhered to the film by bringing the film and the fabric into physical contact. When the laminate is subjected to heat, the film thermally shrinks; the nonwoven fabric separates from the film in the areas between the adhesive bonds on the film to provide pillow-like raised portions. The repeating nature of the pattern of adhesive also facilitates manufacture, and strengthens and adds tear resistance to the material. The cushions or pillows of the nonwoven layer holds the film off of the surface being protected, and provides a distinctive cushioning property..

The laminate is formed into a bag which is placed over the object be protected. The bag is then further shrunk around the object with the non-woven fabric engaging the surface of the object, supporting the film off of the surface of the object. This provides a compact package which protects the surface of the object and gives good weatherability and strength to the wrap.

U.S. Patent 6,562,740 (May 13, 2003); filed: September 19, 2000. "Material for protecting articles having a nonwoven fabric bonded to a shrink film by an adhesive applied to the film in a pre-determined pattern." Assignee: Transhield Technology AS (Oslo, Norway). Inventor: Gregory L. Todt.

Color Patterning a Nonwoven Web via Waterjets

This invention is directed to a method for achieving a colored patterning of a nonwoven web by means of a hydroen-

tanglement treatment.

A nonwoven provided with one or more colors or dyed or printed is selected as the upper layer of two layers. This patterned or colored nonwoven is placed on a second nonwoven or other fabric, or one having a different color. Both layers are then subjected to the high pressure water jets such as used for hydroentanglement. This treatment displaces the fibers; the colored fibers of the first layer are displaced into the second layer to produce a pattern on the underside of the second layer.

The nonwoven in the first layer can come directly in front of a card and has fine fibers of one or different colors. When these fibers are subjected to the water jets, they are moved into and through the second layer. Hence, not only the known solidification of the webs alone and with one another takes place, but the fibers of the first nonwoven reach the underside of the second web of goods and produce a pattern of some type there because of their own color. This pattern can be influenced in a wide variety of different ways.

As an alternative to the process, white fibers in the first nonwoven can penetrate to the back of the colored second nonwoven by the water needling and there they produce a pattern of some type on the underside. This pattern can be influenced in a wide variety of different ways as well.

To produce a pattern on the back of the second web of goods with the fibers of the first nonwoven, it is important for these fibers to be readily movable by the water jets, in other words for them to have a fine denier (such as 1-6 dtex) and a fiber length (20 to 100 mm) to permit easy migration and entanglement. This is most easily accomplished if the first nonwoven is unbonded or only lightly bonded; a light weight carded nonwoven is especially suitable.

The second web, on the other hand, can also be a nonwoven but it can be pre-solidified by mechanical needling, for example, or it can be a woven or a knitted fabric that directions to a degree

the fibers penetrating from the first nonwoven by its internal thread structure. This is typical of the pattern that can be produced on the underside.

It is also important in this regard, from what fibers the second web is produced: Their thickness, properties, and the strength of the thread structure of the second web are important in controlling the pattern obtained.

Quite different color patterns can be produced if a third means for steering the water jets in a desired direction is added. This means can be located in front of or between the two layers or even below the second web. If the element is located between the webs, it is obvious that it remains permanently in the total product. It is different if, for example, the water jets are aimed at the first nonwoven by an endless belt or drum that is permeable with a pattern that unrolls directly on the nonwoven. The partially colored fibers of the first nonwoven are partially transported through the second web so that it is only at these places that coloration of the back of the second web or patterning takes place.

By utilizing and controlling these various parameters, a wide variety of colored patterning effects can be achieved.

U.S. Patent 6,557,224 (May 6, 2003); filed: June 13, 2002. "Method and device for color patterning of a web hydrodynamic treatment." Assignee: Fleissner GmbH & Co., Maschinenfabrik (Egelsbach, Germany). Inventor: Gerold Fleissner.

A Thermal Method For Forming an Apertured Nonwoven Web

Disposable absorbent articles such as diapers and adult incontinence products are designed to collect and retain urine and fecal material deposited thereon by the wearer.

To date, most attempts to handle the urine and fecal material collected and retained in the disposable absorbent article have been directed to handling urine. Dealing with fecal material collected by the disposable absorbent arti-

cle is simply more difficult than dealing with urine, due to the complex rheology of low-viscosity fecal material.

A Variety of methods have been proposed to deal with this complex problem. These have involved the use of various topsheets produced from a wide variety of nonwoven and film materials and combination thereof. The use of multiple layers of nonwovens and films, some having various pore sizes, have also been employed, but with problematic results.

However, all of these attempts to handle urine do little, if anything, to improve handling of low-viscosity fecal material which may also be present in the disposable absorbent article. The problem of low-viscosity fecal material is especially prevalent in younger children, particularly those who are breast fed. As a result, the low-viscosity fecal material easily migrates within the disposable absorbent article under the influences of gravity and motion or pressure by the wearer and remains a problem.

Improved performance under these adverse conditions is obtained by aperturing the nonwoven used as the topsheet. The patent discloses a thermal method for aperturing a nonwoven fabric under controlled conditions, to yield a softened fabric that has improved performance in diapers.

The method of forming the apertured web comprises the steps of:

a) feeding a web in a machine direction through a first nip formed by a pair of rollers; one of the rollers has a smooth outer surface and the other roller has an outer surface with a plurality of projections extending from the outer surface, at least one of said rollers being heated, such that the web is apertured with a plurality of apertures having fused perimeters.

b) cooling the web to solidify the fused perimeters of the apertures; and

c) feeding the web through a second nip formed by a pair of rollers to break the solidified, fused perimeters of the apertures; the rollers of this second nip

have an outer surface with a plurality of grooves.

The preferred effective size of the apertures is at least 2.0 square millimeters. The effective open area of the web is preferably of at least 25%. The apertures in the web can vary in size, shape and pattern, with some possible shapes such as circular, square, rectangular, oval, triangular, dog-bone, star, oblong, etc. The apertures can be arranged in either a systematic, uniform or random pattern. A systematic pattern, with similarly sized apertures is preferred.

The grooves imparted to the fused perimeters of the apertures help to direction flow in the topsheet, as well as provide improved fabric softness. The size, spacing, shape and number of grooves may be selected so as to provide the desired softness in the web, as the grooves help to break the solid fused material which extends about the perimeter of the apertures.

In the diaper, the apertured web can be used in the rear or back waist region of the diaper, or alternately the web may be apertured in only the crotch region or only in the front waist region, or combinations of the two regions.

U.S. Patent 6,551,436 (April 22, 2003); filed: April 5, 2001; PCT filed: October 6, 1999. "Method for forming an apertured web." Assignee: The Procter & Gamble Company (Cincinnati, OH). Inventors: Andreas Flohr, Georg Pescher.

Hydraulically Entangled Composite Fabric of Synthetic Fibers and Woodpulp Fibers

The nonwoven fabric disclosed in this patent is a tri-layer composite that is multiple launderings. This ability, along with the excellent surface abrasion resistance of the fabric, also makes it very suitable for use in limited use industrial apparel, and as a general purpose industrial wiping material as well.

The nonwoven fabric disclosures in this patent is a composite structure composed of three layers; synthetic fiber in the first and third zones, with short woodpulp fiber in the second zone posi-

tion between the two other zones. The tri-layer structure is then hydraulically entangled from both sides, so that portions of the first and third synthetic fiber zones are entwined.

The inventors point out that the first and third synthetic fiber webs should be prebonded. The preferred nonwoven type for these two layers is a bonded synthetic filament spunbond web. A preferred embodiment of the composite is the use of a combination of a spunbond web with a meltblown web, bonded into an integrated structure. Such a structural combination may be used for one or both of the synthetic fiber layers.

The short fiber second zone may include in addition to the pulp fibers, various staple fibers, particulates, and combinations of one or more of these components.

The first and third synthetic fiber zones or layers may have a basis weight from about 12 to about 50 gsm, preferably from about 20 gsm to about 27 gsm for each layer. The second short fiber layer may have a basis weight from about 28 gsm to about 165 gsm, preferably from about 80 gsm to about 131 gsm or more preferably from about 90 gsm to about 125 gsm.

Consequently, the synthetic fiber layers may range from about 10 to about 70 weight percent of the total fabric weight, and correspondingly, the short fiber layer may range from about 90 to about 30 weight percent of the total fabric weight. In addition, the total basis weight of the completed fabric may range from about 90 gsm to about 175 gsm.

Although not required, the inventors describe an integrated process wherein the short fiber second zone layer is produced directly on the hydraulic entangling production line by wetforming this layer, and then combining it with preformed webs of zones one and three taken from rolls. Such integrated operations undoubtedly reduce production costs.

In all cases the inventors indicated that the synthetic webs of zones one and

three should be prebonded structures that have full integrity. The inventors advance the theory that the high strength of the synthetic fiber structure zones, which may be prebonded thermally or chemically prior to hydroentangling, permits rigorous high pressure hydroentangling. Such rigorous hydroentangling results in extensive bonding between the various zones, which avoids the necessity of any post-bonding procedures. The extensive hydraulic bonding between the three zones and avoidance of post-bonding assists in controlling the economics of the process.

The hydroentangling of the three zones may be done simultaneously or in separate stages, such as entangling zones one and two together, and then combining and entangling zone three to this composite. Other combinations of this stage may be employed, but it is important that the combined structure be treated with the high pressure water jets on both sides of the composite.

The inventors indicate that the entangling step is carried out with fluid ranging from about 11,000,000 Pascals to about 12,000,000 Pascals. Although not limiting, the processing described by the inventors using their forming and foraminous fabrics was desirably operated at from about 0.91 meter per minute to about 16.4 meter per minute; higher speeds are contemplated depending upon the fluid pressure of the manifold units.

US Patent 6,550,115 (April 22, 2003); filed: October 16, 2000. "Method for making a hydraulically entangled composite fabric." Assignee: Kimberly-Clark Worldwide, Inc. (Neenah, WI). Inventors: Henry Skoog, Fred R. Radwanski, Terry R. Cleveland, Frances W. Mayfield, Lawrence M. Brown. — INJ

THE NONWOVEN NET

TODAY WE'VE GOT TO GET ORGANIZED!

There is an interesting site on the Web that deals with a more or less universal human desire; its message is "Get Organized Now!"

The site is managed by a private individual (Maria Gracia), who apparently has some sympathy for us slobs in the world. Her Internet site (www.getorganizednow.com) offers a weekly newsletter, logically entitled Get Organized Now! Newsletter. There are 95,406 subscribers to date, so obviously the concept has led to a positive response by quite a few people, including your correspondent.

A recent issue was devoted to "The Truth About Lists." Accepting the idea that lists can be very powerful tools, it stressed that fact that a person needs to understand what is important in making and using lists. The newsletter provided 5 list reminders:

1. *It is not just about making lists.* Some people spend a considerable amount of time and effort preparing lists, and they may appear to be well organized. However, many people write everything down, but never refer to the list. Lists can be very powerful tools, but only if you refer to them daily, and apply what you've written on them. It's good to make lists, but for them to be worth anything, you have to actually DO the things on your list.

2. *Let your lists work for you.* Everyone has seen that person who claims they don't need to write it down, only to get into trouble because of a faulty memory. The bottom line is, no matter how good

one's memory is, it's never a good idea to rely solely on memory. The average person has tons of things to remember in a given day, and things are bound to be forgotten. If you write things down there's no need to remember and errors will be reduced dramatically.

3. *Making a list doesn't take more time; It saves time.* A certain type of person may say that by the time he/she writes things down, he/she could have them done. So, he/she randomly does things throughout day, only to find out that they did indeed miss some important items. It never saves time to try to keep everything in your head and to approach your day in a random manner. Writings things down allows you to see the big picture, and to approach your day in a systemized manner that ends with you accomplishing many things and feeling productive. Taking just a few minutes to write things down can save you hours.

4. *It doesn't take the fun out of it.* You see, just because you make To Do lists, that doesn't mean you can't be flexible. Even though a person makes To Do lists, they have often decided to be spontaneous and take the afternoon off to enjoy a book outside or to take a walk in a nearby park. A To Do list is simply a guide that allows you to systematically get things done, but it's not set in stone and it's not restrictive. In fact, the list as a tool to free the mind. You don't have to remember what to do. It's on your list. And if you decide to take the afternoon off, your list will remind you to get back to your projects tomorrow.

5. *Have many lists, but not in many places.* Some people have a list for everything -- To Do, groceries, movies to see, books to read, places to visit, ideas to remember, gifts to buy, web sites to check out, people to call, letters to write. The list of their lists goes on and on. The problem is not that they have too many lists and in too many different places. Their lists are written on sticky notes, notebooks, scraps of paper tossed in a drawer, torn envelopes pin on the office partition or attached to the fridge, and random papers scattered everywhere. In other words, they have lists, but they can never find them. Your lists should be in one place and easily accessible when you need them.

Now.... Go make a list! It will make you feel better organized instantly!

SEARCHING BY FORMAT

Everyone that uses the Internet knows that it grows and grows. Every time that you read about the number of pages of text that are available, the total has increased since the last time; sometimes the increase seems incredible.

However, if a person is willing to go beyond text material, the information available takes another quantum leap.

The powerful search engines of today are now able to look beyond plain HTML, and index material in a variety of other formats. These can include material in formats as diverse as PowerPoint presentations, Excel spreadsheets, Word documents and Adobe Acrobat files. Very often such formats include material that can be very useful to the researcher.

Why would anyone put such formats on the web? For the same reason that you might use the formats in your own work. When that is realized, another entire segment of the Internet may open up and become available to you.

Sometime limiting a search to a particular format -- spreadsheet or PDF file, perhaps -- can give very focused and more relevant results. This may be true for statistical information in a spreadsheet tabular form, or other form. If a

speech has been given on a particular topic, there is a good chance that a PowerPoint presentation format was used, and it may be on the net in that format.

Most search engines let you specify the type of document through the Advanced Search page; some search engines also allow you to include the file-type restrictor directly in the search box, if you know the syntax. For the most commonly used search engines, here is how to limit by file format:

- Google: filetype:xls [or pdf, ps, doc, ppt or rtf].

- AllTheWeb: use the pull-down menu in the Advanced search screen to select .pdf, .swf (flash), or .doc.

- AltaVista: filetype:pdf [no other formats supported].

- MSN Search: use the check-boxes in the Advanced search screen to select .pdf, xls, pdf or .doc.

Obviously, limiting a search by file format in this manner will result in lower overall retrieval; the trade-off is that the web pages you do find may be more targeted to the information you really need.

USEFUL ... AND INTERESTING WEBSITES

Here are a selection of Internet web sites that may be of interest to the non-wovens researcher:

- FiberBuys.com is an on-line fiber resource -- a global meeting place for buyers and sellers of all types of fiber to exchange knowledge and complete product transactions. Included amongst the possibilities on this site are various activities such as :

- Sales of surplus fiber, fiber related products and services

- Up-to-the minute inventory accuracy

- Fee-based technical support for specific fiber types

- Discussion groups* Industry news

This site has been in existence since October 1999 and recently underwent a complete revision and improvement. Orders are handled electronically and product specifications are provided. A

range of testing services are now available using standardized ASTM methods, as well as other specialized test procedures. Internet: <http://www.fiberbuys.com> .

- Texdata.com is a U.K.-based site that provides a comprehensive range of internet services for the textile and related industries in Europe. Industry news, technical papers and information on a wide range of companies is provided. A detailed calendar of industry events in Europe is provide. A section is devoted to industry employment activities, involving job seekers as well as employers seeking special employee talents.

Ten companies are featured each month, with comprehensive information on their activities. New products and services are highlighted each week. Some research and market information is provided from time to time.

Although the focus on this site is very much European, it can be a very useful resource for that area of the world. Internet: www.texdata.com .

- Howstuffworks.com is a very interesting site; the only problem is that it may be too interesting, and consequently consume hours of time just surfing. The concept of the site is to provide information on the workings of a staggering number of "things" from fiber optics to root beer. Most of the explanations are very well done and with enough information that a satisfactory understanding can be obtained.

A section of this site is devoted to business and business strategies. Simply click on the Biz button, and a wide range of business-related topics are at hand. Some of this material actually makes business practices and mysteries understandable. Internet: www.howstuffworks.com .

- Sustainability - a popular buzzword at the present time, is dealt with in detail at the sustainability corporate site of Dow Chemical. The site focuses on the company's efforts, philosophy, and operating record as far as sustainability is concerned. Communications on recent and archived material is maintained on this site, including executive

speeches, press releases and conference talks and appearances. Internet: www.dow.com/susdev/index.htm

A site with a similar objective is maintained by BASF. The company's "Sustainability Annual Report" is posted on the site. DuPont also has such a site. All of this likely foretells a coming trend in the effort by companies to put forth their best appearance when it comes to Sustainability.

- BeyondDiscovery.org - this interesting web site presents a series of articles that trace the origins of various technological and medical advances. The crucial role played by basic and fundamental science is described in each case. This drives home the importance of such research for the site sponsor, The National Academy of Sciences.

The stories are organized in nine categories, which include: Agriculture, Biology, Chemistry, Earth Sciences, Environmental Issues, Health, Mathematics, Physics, and Technology.

The stories surrounding the origins are divided into chapters of text, and have a time line, a glossary, and related links. Internet: <http://www.beyonddiscovery.org> .

- Acronyms Database - Did you ever encounter an acronym in a science setting that you did not understand? So has almost every other researcher, scientist and technologist. Some help is now available from an acronym database maintained by Indiana University-Bloomington. This is a broadly based collection of science acronyms, and there is no guarantee that it is complete. However, it is a good place to check before spending a lot of time guessing. <http://129.79.137.107/cfdocs/libchem/titleu.cfm> .

— INJ

EMERGING TECHNOLOGY WATCH

WIPE IT!!

A recent survey of the cleaning wipes used in the average American household indicated that in excess of six different types of wipes is a typical situation. There is a disinfecting wipe in the bathroom for general clean-up, and another wiper specifically designed to be used on and around the toilet. Facial wipes are also common in the bathroom, several impregnated with specialty soaps, skin cleansers and other emollients. There will be the package of pre-moistened baby wipes if there are infants or juniors in the household. That room is also likely to have moistened, flushable wipes around the toilet, along with a selection of "refreshing wipes" and specialty wipes for make-up removal.

Also, the male in the household is not neglected, as a refreshment wipe for after-shave, overall body use and general sanitation, and personal scent is available for masculine use. Flushable and non-flushable wipes for kids may also be found there, as well as elsewhere in the average U.S. home. There may also be a box or package with a variety of medical and first-aid wipers.

A move to the kitchen reveals another cache of pre-wet and dry wipes for a variety of tasks. The disinfectant wipes are common around the sink, joining other wipes for cleaning silverware, cleaning and polishing glass and mirrors, as well as other "touch-up" cleaning, as well as general light- and heavy-

duty wiping, cleaning, disinfecting and polishing chores.

There has been a flood of wipers for use on kitchen and other hard surfaced floors in the past couple of years. This has included a range of dry and wet mops with cleverly designed handles and applicators.

The laundry room also harbors a selection of wipes, including the wipes for stubborn spot removal for pre-spotting apparel and other items in the family wash. The dryer fabric softener sheet is a familiar sight in this area, as is the sheet in a plastic bag for freshening clothes between trips to the dry cleaner.

Even the garage and tool shed are not exempt for the presence of the ubiquitous wipe. Included in the selection in this area may be wipes for cleaning and rust-preventing of metal surfaces and tools. The family car also has its full compliment of wipers for cleaning, polishing, refurbishing and protecting the interior and exterior. Specialty hand cleansers may be found there, as well as insect repellent, plant wipes, along with insecticidal and fungicidal wipers for a variety of garden chores. Several wiping products for the care of various household pets have also been commercialized.

Several years ago your editor had a very interesting conversation with an airlines seat companion on a long flight. He was associated with a hotel chain, involved in the "hospitality business," as he described it. After exchanging

some explanation of the respective business activities, he opened his attache case and brought out an individual packaged premoistened wipe product. He shook the product in the front of our faces for emphasis, and then said; "Your industry is missing a great opportunity with the potential in this product concept."

He then went on to describe the problems he had in finding this type of product to purchase, as he liked to have some in his attache case, in his golf bag, in his desk and in the car. He then proceeded to give a short lecture on the inherent value of this concept, and the opportunities that could be exploited by expanding the applications.

He was absolutely right! The expansion of this category the past few years has clearly shown the potential in the concept.

Facial wipes barely existed as a serious skin-care product a few years ago, but it now accounts for almost 20% of the category. A earlier study by ACNielsen indicated that 36% of baby wipes were purchased by consumers who either didn't have children or had kids older than four years. Obviously, this product was being used for many chores other than those associated with diaper use.

In fact, at that time, premoistened baby wipes were being used in substantial volume by EPA inspectors in testing for lead residues in older houses and apartments. The wipe was rubbed over a flat surface exposed by a one square foot template; the wipe was then analyzed for lead content to detect old surfaces that had been painted with lead-based paint.

Although not restricted to the material, nonwoven webs constitute the preferred substrate in almost all of these products. The application uses a variety of fabrics produced by several nonwoven processes, as well as nonwoven webs that have receive specialized after-treatments.

The "convenience" of the product is obviously a major factor in the growing usage. However, some of the recently

introduced products have clearly expanded category by making the consumer aware of other factors and other uses.

It may be noteworthy that a few of the most interesting current applications of premoistened wipers have come into the American market from overseas, especially Japan and Germany. Surely there are other opportunities for expanding and exploiting this concept. It is clearly a target worthy of concerted effort by the nonwoven industry's product development researchers!

COMPETITION FOR NONWOVEN OIL SORBENTS

The market for oil sorbent products based on nonwoven technology was been very good to the producers of meltblown nonwoven products. Many new meltblown operations have depended upon these markets to consume start-up production material as the new meltblown line settles into a controlled operation.

While no civilized person applauds when an oil tanker breaks up and the surrounding environment is assaulted, oil sorbent products have gone beyond such disasters to build several solid market segments and applications. All of these have been a boon to the meltblown nonwoven business.

This growth has not gone unnoticed by producers of competitive products. One such segment is the use of oil sorbents to protect floor and other drains, especially storm sewers and the effluent from such systems. The strong oil adsorbent qualities of the polypropylene microfibers in meltblown webs work to remove quantities of oily waste in such cases, as well as the troublesome "sheen" of traces of such materials on a water's surface.

Competitive synthetic materials aimed at such markets have recently been introduced into commercial use. Such competitive materials as well as meltblown webs have gone far beyond various natural materials that were formerly used for such sorbent applica-

tions. One noteworthy recent competitive product is the so-called "Smart Sponge"-based sorbents of AbTech Industries.

This company, located in Scottsdale, Arizona (4110 North Scottsdale Road, Suite 235; 480-874-4000; Internet: www.abtechindustries.com), has offered a range of sorbent products designed for use in storm sewers and related systems, as well as with open water locations. Their products have a variety of package designs, for a variety of methods of application and retrieval.

The company claims their sorbents are based on proprietary polymers that bond permanently with oil. The material can be in mat form as well as a variety of other configurations. These sorbents have the appearance of compressed popcorn, and let water pass through, but absorb oil, PCBs, and other toxins, according to the company.

From patent claims, it would appear that the active material in the sorbents are structured and porous forms of various styrene-butadiene-styrene (SBS) and styrene-butylene-ethylene (SBE) copolymers. Reportedly, the company is close to offering filter/sorbent materials with antibacterial coatings, to remove potentially deadly bugs from drainage outfalls.

— INJ

NONWOVENS CALENDAR

June 2003

Jun 2-5, 2003. Shanghaitex 2003 - 10th Annual International Exhibition of Textile Industry. Shanghai New International Expo Center, Pudong, Shanghai, China. For more information, contact: Monica Kan, Adsale Exhibition Services Ltd.; Tel.: 408/737-2820; Fax: 408/737-2369. Internet: www.adsale.com.hk.

Jun 2-6, 2003. Nonwovens Product Development Workshop. Cary, NC. Joint with INDA and North Carolina State University School of Textiles. For more information, contact: INDA, Tracey Barefoot, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282; Internet: www.inda.org; or Mr. Rory Holmes, North Carolina State University, Raleigh, NC; Tel.: 919/515-4550; Fax: 919/515-7614. Internet: www.tx.ncsu.edu.

Jun 17-19, 2003. Nonwovens Enhancements Conference. North Raleigh Hilton Hotel, Raleigh, NC. Sponsored jointly by INDA and AATCC. For more information contact: INDA, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282; Internet: www.inda.org www.inda.org/events/enhance-tt.pdf.

Jun 18-19, 2003. ASTM Committee F23 on Protective Clothing. Adam=Mark Hotel, Denver, CO. For more information, contact Steve Mawn, ASTM International, West Conshohocken, PA; Tel.: 610/832-9500;

Fax: 610/832-9555. Internet: www.astm.org.

June 19-21, 2003. Textile Roofs 2003. Technical University of Berlin, Berlin, Germany. The 8th International Workshop on the design and practical aspects of architectural membrane structures. For more information, contact: Prof. Dr.-Ing. Lothar Gründig, Technical University of Berlin, Berlin, Germany; Internet: www.textile-roofs.de.

June 22-25, 2003. 12th Pan-American Conference on Soil Mechanics and Geotechnical Engineering. Massachusetts Institute of Technology, Cambridge, MA. For more information, contact: Professor Herbert Einstein, MIT; Tel.: 617/253-3598; Fax: 617/253-6044; einstein@mit.edu. Internet: <http://soilrock.mit.edu/eng/welcome.html>.

June 23-25, 2003. Characterization of Porous Materials: From Angstroms to Millimeters. Nassau Inn, Princeton, NJ. For more information, contact: Eleanor Lehman, TRI/Princeton, 601 Prospect Avenue, P.O. Box 625, Princeton, NJ 08542, USA; Tel.: 609/430-4820; Fax: 609/683-7149. Internet: www.triprinceton.org/workshop2003.

June 30-July 2, 2003. Fiber Society Spring Technical Meeting - Advanced Flexible Materials and Structures. University of Loughborough, UK. For more information, contact: Dr. Memis Acar, Conference Chair; Wolfson School

of Mechanical and Manufacturing Engineering, Loughborough University, Leics., LE11 3TU, UK; Tel.: 44+1509/227-533; Fax: 44+1509/227-648; Internet: www.fibersociety.org.

July 2003

July 8-9, 2003. Healthcare and Medical Textiles >03 International conference and Exhibition. Bolton, U.K. For more information, contact: The Textile Institute; Tel.: 44+1204/903-543; Internet: www.texti.org.

July 14-18, 2003. 14th International Conference on Composite Materials (ICCM-14). For more information, contact: The Society of Manufacturing Engineers; Tel.: 800/733-4763; Fax: 383/271-2861; Internet: www.sme.org.

July 15-17, 2003. NCSU Short Course - Fundamentals of Thermal Bonding. Raleigh, NC. For more information contact: Wade Carter, Office of Continuing & Professional Education, P.O. Box 7401, North Carolina State University, Raleigh, NC; Tel.: 919/515-2261; Fax: 919/515-7614. Internet: www.tx.ncsu.edu.

August 2003

August 12-13, 2003. INDA Nonwovens Training Course. Cary, NC. For more information contact: INDA, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282; Internet: www.inda.org.

September 2003

Sep. 9-12, 2003. AATCC International Conference and Exhibition. Palmetto Exp Center, Greenville, SC. For more information, contact: AATCC, Research Triangle Park, NC; Tel.: 919/549-3531; Fax: 919/549-8933; Internet: www.aatcc.org.

Sep. 16-18, 2003. INTC 2003 International Nonwovens Technical Conference. Renaissance Harborplace

NONWOVENS CALENDAR

Hotel, Baltimore, MD. For more information, contact: INDA, P.O. Box 1288, Cary, NC 27512. Tel.: 919/233-1210; Fax: 919/233-1282. Internet: www.inda.org. Also, TAPPI, P.O. Box 105113, Atlanta, GA 30348. Tel.: 770/446-1400; Fax: 770/446-6947. Internet: www.tappi.org.

September 23-25, 2003. INDA Nonwovens Training Course. Cary, NC. For more information contact: INDA, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282; Internet: www.inda.org.

October 2003

Oct. 1-3, 2003. IFAI Expo 2003. Las Vegas Convention Center, Las Vegas, NV. For more information, contact: IFAI, Roseville, MN; Tel.: 651/225-6942; Fax: 651/631-9334. E-mail: confmgmt@ifai.com. Internet: www.ifaiaexpo.info.

Oct. 6-10, 2003. Nonwovens Product Development Workshop. Cary, NC. Joint with INDA and North Carolina State University, School of Textiles. For more information, contact: INDA, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282; Internet: www.inda.org; or Mr. Rory Holmes, North Carolina State University, Raleigh, NC; Tel.: 919/515-4550; Fax: 919/515-7614. Internet: www.tx.ncsu.edu.

Oct. 20-24, 2003. INSIGHT 2003. Nashville, Tennessee. For more information, contact: D. McCormick, Marketing/Technology Service, 4100 South 7th Street, Kalamazoo, MI 49009; Tel.: 616/375-1237; Fax: 616/375-6710.

November 2003

Nov. 11-13, 2003. Techtexil South America. Sao Paulo, Brazil. For more information, contact: Messe Frankfurt GmbH, Frankfurt a. M. Germany; Tel.: 49+69/7575-0; Fax: 49+69/7575-6433; Internet: www.messefrankfurt.com.

Nov. 18-20, 2003. Filtration 2003. Navy Pier, Chicago, Illinois. Major conference and exposition covering all aspects of the filtration business. For more information contact: INDA, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282. Internet: www.inda.org.

Nov. 18-20, 2003. Chem Show 2003. Jacob Javits Convention Center, New York City, NY. The major North American exhibition of chemical equipment and related items. Internet: www.chemshow.com.

Nov. 18-20, 2003. Guanzhou International Nonwovens Exhibition 2003. Chinese Export Commodities Fairground, Guanzhou, PR China. For more information, contact: Top Repute Co. Ltd or Guanzhou Nonwovens Association; Room 2405, Fu Fai Commercial Center, 27 Hillier Street, Sheung Wan, Hong Kong; Tel.: 852/2851-8603; Fax: 852/2851-8637. Internet: www.toprepute.com.hk.

Nov. 18-20, 2003. 13th Annual TANDEC Nonwovens Conference. University of Tennessee Conference Center, Knoxville, TN. For more information, contact: Dr. Dong Zhang, TANDEC, University of Tennessee-Knoxville; Tel.: 865/974-3573; Fax: 865/974-3580. E-mail: tancon@utk.edu. Internet: <http://web.utk.edu/~tancon>.

January 2004

Jan. 13-14, 2004. ASTM Eighth Symposium on Performance of Protective Clothing: Global Needs and Emerging Markets. Tampa, Florida, USA. Sponsored by ASTM Committee F23 on Protective Clothing. For more information, contact: Dorothy Fitzpatrick, Symposia Operations, ASTM International, W. Conshohocken, PA. Tel.: 610/832-9677; Web site: www.astm.org.

April 2004

April 27-29, 2004. IDEA 2004 International Engineered Fabrics Conference & Expo. Miami Beach Convention Center, Miami Beach, FL. For more information, contact: INDA, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282; Internet: www.inda.org.

May 2004

May 23-27, 2004. 83rd World Conference - The Textile Institute. Donghua University, Shanghai, P. R. China. For further information, contact 83rd TIWC Secretariat at the College of Textiles, Donghua University, Shanghai 200051, P. R. China; Fax: 86-21/621-93061; Email: ti04shanghai@dhu.edu.cn; <http://www.dhu.edu.cn/83tiwc.htm>.

ASSOCIATION BULLETIN BOARD

TEXTILE AND GARMENT DIRECTORY FOR CHINA

The China Textile & Garment Directory 2004 has recently been offered to the world-wide textile, nonwoven industry, apparel and related industries by World Textile Publications, in partnership with China Textile Network Co. Ltd. This is claimed by the producers to be the definitive guide the entire China fiber and textile industry.

The reference work has been exclusively researched and produced in Beijing, by Chinese researchers. It contains 8,000 entries from the the top 50% of Chinese textile enterprises, i.e., those companies with annual turnovers in excess of 5 million yuan. Each entry provides full contact details and a brief description of company activities.

Industry segments covered by the publication include;

- Fiber manufacturers
- Textile machinery makers
- Apparel machinery makers
- Yarn producers
- Weavers
- Knitters
- Carpet manufacturers
- Nonwoven producers
- Textile dyers & finishers
- Textile auxiliaries & dyestuffs producers
- Apparel manufacturers
- Embroidery companies
- Testing Services
- Research/Consultancies
- Fabric Merchants
- Universities & technical institutes
- Trade associations

Transport & shipping concerns
Textile accessories for Apparel

The publisher reports that only 500 copies of the China Textile & Garment Directory 2004, will be available. For more information: World Textile Publications Ltd., Perkin House, 1 Longlands Street, Bradford, West Yorkshire BD1 2TP, United Kingdom; Tel.: 44+1274/378800; Fax:44+1274/378811; Internet: www.world-textile.net . Subscription Sales Controller - Liz Pollard, Tel.: 44+1274/378828; E-mail: lpollard@word-textile.net .

INDA'S NONWOVEN TECHNOLOGY HANDBOOKS

INDA recently offered two items in their Nonwovens Technology Handbooks series. These handbooks included the "Hydroentangling Technology Primer" and the "Air Laid Pulp Primer."

Both of these items describe the technology employed by their respective processes, as well as the historical development of the technology. The key factors that have driven the markets enjoyed by the technologies are described and these markets are described on an international basis.

In addition to the evolution and past the industries associated with these two technologies, highlights of the future developments predicted for each are disclosed. Also, the successful exploitation of the technologies are divulged in each of the separate primers.

The content of each handbook has

been prepared by knowledgeable experts who have participated in various aspects of the business over several years of the growth phases.

Each Handbook sells for \$45 to INDA members and \$55 to nonmembers. Orders can be placed with INDA, Association of the Nonwoven Fabrics Industry, P.O. Box 1288, Cary, NC 27512, USA; Tel.: 919/233-1210 (extension 120); Fax: 919/233-1282; Internet: www.inda.org .

ASTM PROTECTIVE CLOTHING CONFERENCE

The American Society for Testing and Materials (ASTM) has a very active and sizeable committee devoted to Protective Clothing (Committee F23). This group covers a very broad range of topics associated with all aspects of protective clothing. Development of standardized test methods is an important function of the Committee, of course, but other activities include cooperative work on a wide selection of hazards and methods for protection from such hazards by use of specialty clothing and accessories.

ASTM Committee F23 will sponsor the Eighth Symposium on Performance of Protective Clothing: Global Needs and Emerging Markets. This symposium will be held on January 13-14, 2004, in Tampa, Florida, USA. Following the symposium, special meeting will be held for two days wherein the F23 Committee will discuss a range of testing standards and development activities within the worldwide industry.

The Committee is requesting papers for the symposium on topics including, but not limited to the following special topics.

- Smart Technology for protective clothing
- Cooling and heat stress issues connected with protective clothing
- Photo/thermal sensitive technologies associated with protective clothing.
- Selective permeable technology suitable for protective clothing
- Civilian use of protective clothing

and its implications for the future.

A call has been put forth by ASTM Committee F23 for technical papers suitable for this symposium next year. For more information, contact Dorothy a. Fitzpatrick, Symposia Operations, ASTM International, 100 Bar Harbor Drive, W. Conshohocken, PA 19428, USA; 610-832-9677; Internet: www.astm.org.

MEDTEX 03 CONFERENCE

Hosted by the Centre for Materials Research and Innovation of Bolton Institute in Bolton, UK, MEXTEX 03 will be held on July 8-9, 2003. The venue for the conference, The 3rd International Conference and Exhibition of Healthcare & Medical Textiles, will be the Moat House Hotel, in Bolton.

The conference will discuss recent developments in the main aspects of healthcare and medical textiles, covering such items as materials, manufacture, performance, applications, standards and user experience. It offers an ideal opportunity to exchange knowledge and experience with healthcare and medical textiles manufacturers, clinicians, researchers and consumers.

Special sessions will be devoted to the following topics:

- Woundcare and Implantables
- Biomaterials
- Bandaging and Pressure Garments
- Medical Devices
- Healthcare and Hygiene
- New Technology & Smart Materials
- Clinical Trials

The conference is sponsored by the Textile Institute of U.K., in association with Tampere University of Technology of Finland. The full program and registration forms are available at <http://www.bolton.ac.uk/medtex03>. For further information, telephone T/Off Limited at: 0113/240-2005 or send e-mail at Sales@t-off.ltd.uk — *INJ*

INDA AND NONWOVENS INDUSTRY TO ONCE AGAIN PRESENT IDEA ACHIEVEMENT AWARDS

For the second consecutive IDEA show, INDA, Association of the Nonwoven Fabrics Industry, and NONWOVENS INDUSTRY magazine are co-sponsoring the IDEA Achievement Awards program, designed to award innovation within the nonwovens and engineered fabrics industries.

First presented at IDEA 01 in Miami in April, 2001, the IDEA Achievement Awards recognize the leading companies, individuals and new products in the global engineered fabrics industry. Designed by the industry and for the industry, the program allows anyone in the global engineered fabrics industry to make nominations for the awards.

The IDEA 04 achievement Awards will be presented during the Opening Keynote Presentation at IDEA 04, April 27-29, 2004, at the Miami Convention Center in Miami Beach, FL.

"The incredible reach of our industry gives us the opportunity to promote innovation and recognize outstanding achievement within the worldwide engineered fabrics community, especially during the IDEA show," said Dennis Tavernetti, Global Vice President at BBA Nonwovens and recently elected chairperson of INDA, the organizer of the triennial IDEA Conference and Exposition. "By partnering with NONWOVENS INDUSTRY we are able to reach all corners of the world in search of these individuals and companies deserving of industry-wide recognition."

The IDEA Achievement Awards will be presented in six categories:

- IDEA 04 Equipment Achievement Award ... Given to the company with the best equipment new product introduction since IDEA 01.
- IDEA 04 Roll Goods Achievement Award ... Given to the company with the best roll goods new product introduction since IDEA 01.
- IDEA 04 Raw Material Achievement Award ... Given to the company with the best fiber/raw material new product introduction since IDEA 01.
- IDEA 04 Short-Life Product Achievement Award ... Presented for the best new disposable product utilizing engineered fabrics introduced since IDEA 01.
- IDEA 04 Long-Life Product Achievement Award ... Presented for the best new durable product utilizing engineered fabrics introduced since IDEA 01.
- The IDEA 04 Entrepreneur Achievement Award, for the company founded since IDEA 01 that has made a significant impact on the engineered fabrics industry.

In addition, an IDEA Lifetime Achievement Award will be presented to an individual or company that has contributed to the advancement of the industry for at least 20 years. Wayne Hays, one of the founders of INDA and a pioneer in the business of nonwovens, received the inaugural IDEA Lifetime Achievement Award during IDEA 01.

The entire engineered fabrics industry will have the opportunity to nominate companies for each of the six awards through a number of outlets, including the INDA website at www.inda.org and through the Nonwovens Industry site at www.nonwovens-industry.com. A Selection Committee will then select three finalists in each category, and later this year and in early 2004 members of the industry will have the opportunity to vote on the recipient in each category.

The winners will be revealed during a gala ceremony kicking off the Keynote Presentation at IDEA 04 in Miami Beach.

Anyone wishing to submit a nomination in any of the seven categories can do so at www.nonwovens-industry.com or at www.inda.org or by contacting project coordinator Michael Jacobsen at 201-612-6601; [mjacobson@inda.org](mailto:mjacobsen@inda.org).