

WORLDWIDE ABSTRACTS AND REVIEWS

A sampling of Nonwovens Abstracts from Pira International — A unique intelligence service for the nonwovens industry

50 years from weaving school to nonwovens training centre

Founded in 1854, the Munchberg Weaving School, Germany, has developed into an institute teaching all aspects of textile technology. In 1971 it was split, with one section becoming part of the Coburg Technical High School, offering textile related technician, economics and master courses. The second section became the State Professional Textile Training Centre (BBZ). In 1987 the Munchberg centre introduced the first two year course in textile machine management for the nonwovens industry, adding a nonwovens mechanics course in 1989-1990. A technical centre was built in 1988 to house machinery used for the formation and bonding of the main nonwovens constructions. In 1990-1991 a course on nonwoven and technical textiles was added, followed in 1992 by a nonwovens laboratory. In 1986 the Munchberg faculty launched the annual Hof Nonwovens Seminars in which current machine, fibre and additive developments are discussed by researchers and practitioners in the industry. The 10th event in 1995 attracted 180 German and foreign participants, a figure that has risen to more than 230 since then. The school works closely with industry and research institutes.

Author: Anon

Source: Allg. Vliesstoff-Rep.

Issue: no. 1, 2004, pp 7-8 (In German)

Waterjet bonded nonwovens sawatex

Sandler AG, Germany, has installed

one of the world's largest and most modern spunlace lines to meet the growing demand for nonwovens for baby, cosmetic and disinfectant applications. Wet wipe usage is growing at 20% globally. Sandler's waterjet bonded sawatex range covers smooth, perforated and textured products of 30-120gsm. Fluid management techniques allow lotion usage to be reduced. Multilayer constructions are used to optimise surface properties. Daily Wipe multilayer dry wipes offer high levels of dust and liquid absorbency. (Short article)

Author: Anon

Source: Allg. Vliesstoff-Rep.

Issue: no. 1, 2004, p. 15 (In German)

Hygiene market: growth from new products

Hygiene products represent the largest part of the nonwovens industry. The sector is growing at 10%/y globally, with growth driven mainly by innovations. Freudenberg's nonwovens developments aim to improve the comfort and discretion of nappies, and of incontinence and feminine hygiene products. A number of investments and acquisitions have enabled BBA Fiberweb to increase its turnover to \$850 million. A research centre has been established at the company's Peine, Germany, plant to develop new products for the hygiene market. Absorbent materials for diapers and feminine hygiene products are expected to offer high growth potential, with opportunities also in food packaging, fluid management, odour control and waste handling applications.

Fiberweb has installed a new spunlace line in the USA and has acquired the Italian Tecnofibra, producing waterjet bonded material. BBA Fiberweb has also entered into a German joint venture, Finotech, to produce film/fabric laminates and other backing sheet materials. A new company, APA/Advanced Printing Aschersleben has been formed to produce printed nonwoven and film products.

Author: Kneh E

Source: Allg. Vliesstoff-Rep.

Issue: no. 1, 2004, p. 21 (In German)

Combined technologies improve nonwovens properties

More than 35 NSC lines have been installed in Europe, America and Asia to produce waterjet bonded hygiene products. The company's AirWeb, ProDyn and Ouatsys systems can be combined with carding units to produce materials for specific enduses. Substances can be varied from 15-200gsm, with carding/AirWeb units producing 50-80gsm materials. The machine direction (MD):cross direction (CD) strength ratio can be varied from 1:1 to 4:1 by using one or more carding units inline. Thickness is determined by the number of carding units and by the waterjet pressure. Surface softness is also determined by the amount of carding and by the degree of bonding. The use of cross-lapping and drafting modules allows one machine to produce a wide range of substances and widths. It also allows MD:CD strength ratios to be controlled more closely.

Author: Anon

Source: Allg. Vliesstoff-Rep.

Issue: no. 1, 2004, p. 22 (In German)

Japan Vilene KK, outstanding power of research and development as a manufacturing company

Japan Vilene KK, Japan, highly values research and development (R&D) activities, to be a competitive and distinguished company in the global nonwoven market. Vilene's photocatalytic nonwoven, developed in autumn 2003, is a fruit of R&D in the nonwoven surface

treatment field. The technology allows direct adhesion of titanium oxide powder onto the surface melted nonwoven fibres, resulting in high contents of photocatalytic component in the nonwoven. This achieves five-fold improved adsorption of acetaldehyde odour compared to the conventional photocatalytic nonwovens. Furthermore, Vilene's new photocatalytic nonwoven is stable over 6mon, while binder mediated products showed loss of effective components at 2mon. The cost performance of this new materials is also outstanding, since neither expensive binders, nor photocatalytic fibre making technology are required.

Author: Nakamura T

Source: Nonwovens Rev.

Issue: vol. 14, no. 4, 2004, pp 76-77 (In Japanese)

Ikegami Kikai KK, natural and ecological fibres and recycling are the key

Ikegami Kikai KK, Japan, has developed Ban Opener BH, which recovers bamboo fibres without using the rayon process. Bamboo is treated under high pressure at high temperature, typically 10 bar and 180 deg C. The resulting bamboo fibres show antibacterial and deodorant features, and adsorbs volatile organic compounds (VOC). A compact banana fibre spinning machine was developed with Tokyo Toritsu Sangyo Gigyutsu Kenkyusho. Manual operation can be selected for the use at isolated locations. Ikegami Kikai has succeeded in the recycling of used heavy duty fibre sacks to manufacture composite sheets, by combining with polylactic acid. Used sacks are treated by Recycle Braker RB-100, and the resulting fibres are further processed by Recycler and Taft Blender to make single layer thin sheets or multi layered bulky sheets. Those ecofriendly products were exhibited in the Small and Middle Sized Enterprises Techno Exhibition 2003.

Author: Yamamoto N

Source: Nonwovens Rev.

Issue: vol. 14, no. 4, 2004, pp 86-87 (In Japanese)

Kanebo Gosen KK developed a reinforced polylactic acid composite material

Kanebo Gosen KK, Japan, developed a polylactic acid composite material reinforced with bamboo or kenaf fibres. This composite contains 20% of those fibres, and shows improved impact resistance compared to conventional polylactic acid material. Evaluation studies as cushioning materials and covers for domestic apparatuses are being conducted with the help of potential customers.

Author: Anon

Source: Nonwovens Rev.

Issue: vol. 14, no. 4, 2004, pp 95-96 (In Japanese)

Lenzing Lyocell capacity 40,000tpy

At the end of January 2004, the new line at the Heilingenkreuz plant of Lenzing AG, Austria, commenced production, which will double the Lyocell staple fibre capacity to 40,000tpy. Production will gradually be expanded in the next two years to reach full capacity, and 30 new jobs are being created. Lenzing Lyocell fibres are sold globally for high quality textile applications, including clothing and home textiles, and the product is also used by the nonwoven industry for medical and hygiene end uses. New bed linen developments were launched in January 2004 in Frankfurt, Germany, at the Heimtextil fair. Kiel University, Germany, has conducted research demonstrating the dermatological benefits of Lenzing Lyocell. Growth of mites and formation of mould can both be avoided naturally with the elimination of condensation in the sleeping area, which stays dry. A new filling has been created by Schlafmond, using 80% Lenzing Lyocell and 20% kapok fibres. Kapok inclusion is helpful for allergy sufferers as it includes a natural bitter substance which deters moths, mites and bacteria. (Short article)

Author: Anon

Source: Tech. Text.

Issue: vol. 47, no. 1, Mar. 2004, p. E4, 5

Natural fiber reinforced composite materials for automotive interiors

One of the factors driving the increasing use of natural fibre reinforced composite materials in the automotive supply industry, notably for automotive interiors, is the development and growing interest in renewable raw materials for industrial applications. Natural fibres such as flax, hemp, kenaf and sisal can be used with a thermoplastic or thermosetting matrix in the manufacture of door trims for cars. When compared to glass fibre composites, those made from natural fibres are lighter, cheaper and do not produce sharp edges when damaged in crashes. Their use increased by more than three-fold in the period 1996-2003. The automotive industry uses the byproduct of flax grown for the textile industry. Concerns about emissions in the thermoset matrix sector has tended to shift the emphasis away from phenol and unsaturated polyester resins and towards acrylic, epoxy, polyurethane and powder resin systems having low emissions in addition to good impregnation and fibre/matrix adhesion. Thermoplastic matrix materials continue to be dominated by polypropylene (PP) and this sector has a bigger market share than thermosets. Such composite materials have a considerable advantage over conventional injection moulding and glass fibre reinforced composites, while back foaming with materials reinforced with natural fibres provides high quality components for vehicles in the middle class and upper class sectors of the market. Figures show the growing area for flax and hemp in Germany 1993-2001 and in Europe 1990-1998 and the use of natural fibres in composites in the automotive industry in Austria and Germany 1996-2002. (7 fig)

Author: Philipp K

Source: Tech. Text.

Issue: vol. 47, no. 1, Mar. 2004, pp E34-E37e, 38-40d

Higher added values for polyester and PP spunbonds

While spunbond products have long provided stiff competition to carded products based on staple fibres in the nonwovens industry, this pressure is increasing through the recent succession of mergers and market consolidations in the spunbond industry, consequent greater pressure on margins of commodity fabrics, particularly polypropylene (PP) products, and vigorous growth in the polyethylene terephthalate (PET) spunbond market. The PET spunbond market continues to stay successful: through continuous reductions in production costs, and through the substitution of common fabrics with new ones that are cheaper to produce. Considerable progress has been made in production techniques for PP and PET spunbond nonwovens, notably the Neumag spunbond process, with the patented Ason Spunbond Technology, featuring a spinning process capable of reaching high filament velocities up to 6,000 m/min for PP and 8,000 m/min for PET. A wide range of products to be produced on a spunbond line by means of the high and adjustable spinning speeds to cater for a wide range of product types, from light weight hygienic products to heavy weight geotextiles. The filaments are better crystallised by the high spinning speed, so becoming stronger and achieving special characteristics. The PET spunbond nonwovens market is divided into roofing, 40%; carpet backing, 19%; geotextiles, 10%; furniture, 3%; automotive, 6%; interlinings, 6%; filter media, 5%; and other, 11%. (1 fig) (Short article)

Author: Brenk J

Source: Tech. Text.

Issue: vol. 47, no. 1, Mar. 2004, p. E43

Versatile nonwoven filtration media

The properties of nonwoven filtration media depend on their form and construction. The mean flow pore (MFP) ratings of nonwoven filtration materials normally range from 1-500 micron. MFP ratings vary with the test method used. The choice of filter materials for specific

applications also depends on their dirt holding capacity, flow rates and differential pressure capability. The USD2bn global nonwovens filtration media market is divided into three major zones comprising Europe, North America and Asia. Products range from heavy weight strong, durable and expensive needlefelt fabrics for baghouse filtration to light weight, low cost spunbonded polypropylene fabrics used to filter coolants in the car and aircraft industries. The high loft, bulk and dirt holding capacity of air laid and air bonded fabrics makes these suitable for air filtration applications. Melt blown nonwovens are also increasingly used for liquid and air filters. Baghouse filtration represents the largest market by volume and value for nonwoven fabrics, with needlefelts the preferred construction. While needlefelts are widely used for liquid filtration, melt blown fabrics are increasingly used for air filters, with spunbonded constructions offering versatility in different applications. Challenges facing the nonwovens industry include environmental demands for recyclability, the ability to provide filtration for finer and more specialised media, and the trend to globalisation.

Author: Gregor E C

Source: Allg. Vliesstoff-Rep.

Issue: no. 2, 2004, pp 25-27

The use of fully synthetic nonwovens in air filtration: trends and developments

Air filters for clean rooms are expected to remove dirt particles, bacteria and viruses, using little energy and with minimum pressure drops. Polyester, polypropylene and other synthetic fibre nonwovens are increasingly displacing products based on natural or glass fibres which can lead to particle or fibre shedding problems. Synthetic fibres are treated with active bonding agents to improve dust particle retention of filters used in car lacquering plants. The introduction of synthetic pocket filters in which the filter medium is welded rather than sewn has raised their share

of this market sector to more than 85%. Synthetic nonwovens are now also predominantly used in car and truck air vent filters. Nonwoven filters are also used in respiratory protection, ranging from simple disposable masks to more complex protection from asbestos, lead dust or gas attacks. Filtration performance can be improved by using nonwovens incorporating electrically charged fibres. Clean rooms used in the production of electronic chips and other components require air filters capable of removing more than 99.9% of 0.3-0.4 micron diameter particles. Such filters are produced from synthetic nanofibres of diameter less than 1 micron.

Author: Sievert J

Source: Allg. Vliesstoff-Rep.

Issue: no. 2, 2004, pp 28-30

(In German)

— INJ

RESEARCHER'S TOOLBOX

Sample Digestion Via Microwaves

When household microwave ovens started to become rather widely available, there was a natural effort to use these devices in the laboratory. The initial use in applying this equipment to the textile laboratory was in determining the moisture content of textiles, fiber, pulp and other samples.

Some success was achieved in these efforts, because heating of most samples was rapid, and for many specimens, the heating stopped when the sample was devoid of water. Not all samples followed this simple pattern, however, and a greater understanding of microwaves became necessary.

Application of this new technology fostered developments in many research areas, much of which was considerably beyond simple moisture determination. One of the most successful applications involved the use of microwaves to breakdown and digest samples so that detailed analysis could be carried out.

As a result of this interest and effort, microwave digestion systems have evolved into complex and advanced instruments.

In contrast to other heating systems where the heat is applied to the vessel and then the exterior of the sample and gradually moves into the interior, accurate control of microwave heating is possible, because the heating does generally begin in the interior and moves outward. Also, when the microwave power is turned off, the heating of the samples ceases virtually instantly. In essence, the heating of the sample and its reagents results in heat flow outward to the container, followed by dissipation to the surrounding environment.

All of this makes for easier control of the process. To take full advantage of these features, pressure and tempera-

ture feedback controls were soon added to commercial microwave digestion systems, to achieve great flexibility because of the possibility of instantaneous on/off control.

As a consequence of this and with the use of advanced microwave transparent or inert composite materials, sample digestion systems with excellent performance have been developed. With these materials, pressure and temperature limits, along with convenience and flexibility, have been raised to a point not previously possible in sample digestion.

Today's standard vessels can tolerate temperatures of around 160 degrees C. and pressures of about 120 psi. With advanced vessels produced from composite materials, these conditions can be raised to about 240 degrees C. and pressure of about 800 psi. Such conditions may not be required for samples encountered in the textile laboratory, but they do give an indication of what conditions are available.

With digestion of organic samples, which includes most polymeric material, the oxidation of the sample results in evolution of largely insoluble gases, such as carbon dioxide. These gases add to the vapor pressure of the reagents in the vessel, which can give rise to high pressures. Some of the new digestion instruments provide for this pressure rise by allowing automatic venting of the large amount of gases during the oxidation stage of the digestion. This allows the use of somewhat larger sample size, and reduces the total pressure requirements of the equipment.

Typically, a reagent volume of about 10 ml. is desired for a sample size of about 0.5 g. Some of the more advanced instruments also can use the heat and pressure of the system to concentrate the sample down to a small volume, or take it to dryness, if desired. Also, the

latest instruments can handle as much as 40 samples per digestion run. With innovative sensor controls, the temperature of each sample vessel can be monitored and controlled.

All of these advances tend to make the old days of multiple samples in muffle furnaces and other fusion techniques in the laboratory a bit of ancient history. That's welcome progress!

For Your Safety's Sake !

Memorial Day was celebrated on a national basis on Monday, May 30, 2004. Another Memorial Day that is less known was celebrated this year on April 28, 2004; this date is designated as "Workers Memorial Day" by the international labor community. This date is designed to remember those workers who have died or been injured on the job.

In considering this day, it is probably well to consider the magnitude of the overall problem of safety in this country.

- On an average DAY in the United States, as a result of work-related injuries or illnesses, nearly 11,000 workers are treated in emergency departments, and approximately 200 of these workers are hospitalized.

- An estimated 7,000 private-sector workers require time away from their jobs.

- 15 workers die from their injuries.
- 134 die from work-related diseases.

Further, the economic, and social costs of these injuries and illnesses are immense. In 2001, as an example, workers' compensation costs for employers alone totaled \$64 billion for the year. The emotional costs for this burden is difficult to calculate, but undoubtedly it is also immense.

This year's Workers' Memorial Day also commemorated the 33rd anniversary of the signing of the U.S. Occupational Safety and Health Act, which created the National Institute for Occupational Safety and Health within the CDC (Center for Disease Control) and the Occupational Safety and Health Administration (OSHA) within the U.S.

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Department of Labor to lead the effort to create safer workplaces.

On the positive side, there has certainly been improvements in safety in the nation's workplaces and elsewhere when a long-range view is taken. Comparisons with similar figures for the situation three generations ago (60 years, 1944) shows some distinct improvements in virtually all areas of public safety. However, that is small consolation for an individual or a family that are on the wrong side of the safety statistics.

All of this makes a person realize the importance of safety in design, planning and action for all human activities. It is not only well to analyze the situation and all related and contributing factors after an accident, but much can often be learned in a similar intense review of a near-accident, or an >incident=, as safety experts describe such events.

Industrial hygienist, safety professionals and experts (yes, and even "Moms" encourage all of us to continually "THINK SAFETY." That's sound advice, even for researchers, scientists, technologists, plant personnel, marketing experts, research administrators and nonwoven professionals!

Additional information about workplace safety is available from many sources, including:

- www.cdc.gov/niosh/homepage.html or telephone, 800-356-4674. The CDC Work-Related Injury Statistics Query System. Is described at <http://www2a.cdc.gov/risqs>.

- Information from the Bureau of Labor Statistics, Workplace injuries and illnesses is available at: <http://www.bls.gov/news.release/pdf/osh.pdf>.

- The Bureau of Labor Statistics, National Census of Fatal Occupational Injuries in 2002, is available at: <http://www.bls.gov/news.release/pdf/cfoi.pdf>.

Numerous other internet sites can be accessed by searching under a variety of safety key words.

For YOUR sake, give a look!

Textile Technology From A Distance

The concept of using computers and the Internet to allow a greatly expanded vehicle for teaching has been promoted for several years. In collegiate circles, the concept is referred to as "distance learning," emphasizing the fact that whatever is done in the classroom can also be done in the greatly expanded classroom of the internet.

Using this concept, the lectures of the classroom can be beamed virtually anywhere there is access to the Web. The professor and the student can carry on a dialog, separated by time and space, but with all critical features still intact. The student can ask questions and receive answers, the teacher can make assignments and receive results. With only slight modifications at times, the learning experience can go forward with few hitches.

Some earlier efforts in "distance teaching" of textile fundamentals was carried out by the University of Manchester Institute of Science and Technology (UMIST) in Manchester, UK. This involved putting course lectures and audio-visual teaching aids on a compact disc. Using this CD, a student could view the material at leisure, repeating the experience as often as needed. Some nonwoven course work was prepared in this manner and has been used by numerous students and others.

Now, the concept is being greatly expanded in a full "distance learning" format by the College of Textiles Extension and Applied Research at North Carolina State University. The staff at NCSU has adopted Distance Learning as the foundation their education planning for the future. They are currently developing CD and Internet-based version of their most popular Continuing Education Courses, with the first offering being their core course, Textile Fundamentals.

NCSU staffers indicate that the Textile Fundamentals course provides a comprehensive, in-depth study of textile processing, from fiber to finishing. "Based on a current undergraduate

course, Textile Fundamentals provides the participant with insight into all areas of textile processing, and an understanding of how these processes interact with each other to produce a quality product."

This Distance Learning course is for those who wish to improve their understanding of the basic technology of the textile industry - managers, supervisors, purchasing agents, researchers, cost accountants, information systems, sales, product development, technical service and financial personnel - who work with or for the textile industry, according to the course designers.

Textile Fundamentals is also available in a five-day classroom/seminar format, and has been presented by NCSU staff at a variety of office and plant locations. Now, it will be available to a much broader student body C anyone with Internet access.

More information on this course and the NCSU current and future efforts in Distance Learning related to textile technology can be obtained from the North Carolina State University College of Textiles Professional Education Program office at 919-513-7401, or from the NCSU College of Textiles web site (<http://www.tx.scsu.edu/distance/learning/demos>), where a demonstration of this module is available. — INJ

DIRECTOR'S CORNER

Being Intelligent About Personal Health

The importance of taking care of one's health would seem to be so obvious that it would not require much discussion or urging. Such is apparently not the case, however, especially when it comes to persons who are in or approaching the "senior" category. With even a little probing, however, it is quickly discovered that the need for such encouragement in personal behavior is not limited to any age or other categorization. Put simply, good health and good practices are GOOD at any time.

To this end, a recent release from The Institute for Healthcare Advancement is worth some consideration by all. The Institute (IHA) is a private, nonprofit foundation located in La Habra, California; it is dedicated to healthcare and wellness promotion and enhancement of healthcare delivery. Realizing that seniors are living longer today than ever before, there are still serious health issues that occur with the aging process, ranging from arthritis and vision problems to hearing loss and forgetfulness.

In an effort to help seniors better deal with their health problems, IHA has identified the 10 most common mistakes seniors make in caring for their health. As indicated, individuals of all ages would do well to consider these factors in their own lives.

The 10 most common mistakes identified are as follows:

1. Driving when it's no longer safe: Seniors often associate mobility in a car with their independence, but knowing when it is time to stop driving is important for the safety of everyone on the

road. Decisions about when to stop driving should be made together with a family physician, because chronological age alone does not determine someone's fitness to drive.

2. Fighting the aging process and its appearance: Refusing to wear a hearing aid, eyeglasses or dentures, reluctant to ask for help, or to use walking aids are all examples of this type of denial. This behavior may prevent the individual from obtaining helpful assistance with some of the problems of aging.

3. Reluctance to discuss intimate health problems with the doctor or health care provider: Seniors may not want to bring up sexual or urinary difficulties. Sometimes problems that the senior thinks are trivial, such as stomach upsets, constipation, or jaw pain, may require further evaluation.

4. Not understanding what the doctor told them about their health problem or medical treatment plan: "I could not understand the doctor," or "He told me what to do, but you know me, I can't remember what he said," are typical complaints. Reluctance to ask the doctor to repeat information or to admit that they do not understand what is being said, can result in serious health consequences.

5. Disregarding the serious potential for a fall: Falls result in fractures and painful injuries which sometimes take months to heal. To help guard against falling, seniors should remove scatter rugs from the home and have adequate lighting in the home and work areas. They should wear sturdy and well-fitting shoes. Seniors should watch for slopes and cracks in sidewalks.

Participating in exercise programs to improve muscle tone and strength is also helpful.

6. Failure to have a system or a plan for managing medicines: Missed medication doses can result in inadequate treatment of a medical condition. By using daily schedules, pill box reminders or check off records, seniors can avoid missing medication doses. Because health care providers need to know all of the medicines that a person is taking, seniors should maintain a complete list of all their prescription and over-the-counter medicines, including dose and the reason that the medicine is being taken.

7. Not having a single primary care physician who looks at the over-all medical plan for treatment: Health problems may be overlooked when a senior goes to several different doctors or treatment programs, and multiple treatment regimens may cause adverse responses. The patient may be over or under treated if a single physician is not evaluating the full medical treatment program.

8. Not seeking medical attention when early possible warning signs occur: Reasons for such inaction and denial may include lack of money or reduced self worth due to age, in the case of seniors. "I am so old it doesn't matter anymore." Of course, such treatment delays by seniors or others can result in a more advanced stage of illness and a poorer prognosis.

9. Failure to participate in prevention programs: Flu and pneumonia shots, routine breast and prostate exams are examples of readily available preventive health measures that seniors should utilize to remain healthy.

10. Not asking loved ones or others for help: Many people are simply too stubborn to ask for help, whether due to an understandable need for independence or because of early signs of dementia. It's important that elderly people alert family members or other loved ones to any signs of ill health or unusual feelings so that they can be assessed before the problem advances.

Being diligent and intelligent about

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one's health and health care does indeed make good sense. Sometimes the wise administrator has to preach the word. Read the list again!

Safety Training Documentation

Safety Training sessions generally need to be carefully documented in order to satisfy a variety of regulations policies. Such a recording should clearly establish the fact that the session was held, the appropriate material covered and the required individuals were present.

Such documentation can often be rather difficult to obtain and to accurately maintain, due to a variety of reasons, including the various different locations involved, employees' vacation times or employees being off work when such training is done. A variety of other reasons can make this task very difficult.

One potential solution to this problem, as well as making the safety training more interesting and effective, is the use of web-based training. With the proper web-based program, the training can take place at any location, and at a time that is most suitable to the employee. The database also tracks and maintains documentation of the training. The documentation can be printed in the main office or upon demand in the event of an audit or other needs.

A wide variety of possibilities exist for such training, as evidenced by that fact that 22,334 sites were obtained from a quick search of the Internet, using the keywords "safety training, web-based." Many different types of safety training are listed, including sites sponsored by state and federal government agencies. Specialized training covering a wide range of categories is available from associations, societies, universities and other organizations.

Amongst the commercial organizations offering a wide variety of training topics and services are included the following:

- WebEx Training Center – www.webex.com
- BuyerZone Center –

www.buyerZone.com

- Online Training – www.ilinc.com
- Compysite Training – www.compysite.com

Training programs, as well as documentation databases, are available from these sources, which can usually be adapted to specialized and specific training needs, including those of interest to plant and laboratory locations.

World Class Safety

At a recent symposium on "Achieving World Class Safety:" sponsored by the American Society of Safety Engineers (ASSE), it was frequently noted by a variety of speakers that there is a lack of agreement on the actual requirement for such a designation.

The most specific description of such a status was provided by Dr. James Stewart, a researcher and former employee of DuPont. He indicated that exceptional numbers associated with safety parameters are needed, along with meticulous recordkeeping. Specifically, he said the LWIF (Lost-workday Incidence Frequency) should be less than 0.1 per 200,000 hours worked. The Total Recordable Incident Frequency should be less than 0.7, while the Off-the-job Lost-Workday Incidence Rate should be lower than 0.5.

"Most companies are amazed at how good the rates are of world class companies," said Dr. Stewart. In researching the best of the best, Dr. Stewart studied five Canadian companies with an LWIF average of 0.008 over a five-year period. By comparison, in 2002 U.S. industry averaged a total recordable rate of 5.3 and a lost-workday rate of 2.8.

Dr. Stewart mentioned other world class criteria. The percentage of workers who perceive that management is committed to safety is "an extremely fragile but valuable predictor." Occupational illness rates must be low. Contractors held to the same standards as the organization. Off-the-job safety gets much more attention than pay stuffers. And values and beliefs about the importance of safety are untouchable; as he indicat-

ed, the items are "embedded so deep into the organization's culture they are immune to CEO turnover and zig-zagging profit trends."

One speaker stressed the importance of a durable but flexible infrastructure; he said: "It boils down to Deming's 'Plan-Do-Check-Act' model. You plan assignments, responsibilities, goals, activities. Then you do what you said you would. You monitor and audit and track and document performance, of individuals, teams, programs and progress toward goals. Based on what you learn, you fine-tune, make changes when necessary, and draw up new plans. The cycle repeats itself."

Another speaker preached that: "Management systems are today's buzzword to describe Deming's model. OSHA's Voluntary Protection Program, ISO 9000 and 14000, the forthcoming ANSI Z10 health and safety voluntary standard are examples. Whatever you call them, the best-practiced systems are sustainable and impervious to personnel changeover. And their accepted procedures bring safety and health issues and activities in sync with overall business goals and values." – INJ

PATENT REVIEW

The “Death” of a Single European Union Patent

For several years there has been an effort within the European Union to establish a single European patent that would cover all of the countries within the EU. A single EU patent makes a lot of sense when considering the time, effort, duplication and expense involved in dealing with multiple patent offices and regulations.

The proposal for a single EU patent would have allowed a single application in any one EU country to provide full protection throughout the EU. Such a move would have been a great help in protecting and exploiting Intellectual Property.

The proposal has been declared virtually “dead,” however, as the Competitiveness Council of the EU recently failed to come to agreement on the details of the proposal. The concept has been discussed for a considerable number of years.

However, the critical problem of the languages that would be used in writing and defending a patent proved to be the major hurdle that could not be overcome. The council recently issued a statement that “All conceivable compromise solutions for the only outstanding issue, which is related to the translation of patent claims, had been tried.” No acceptable compromise was found, however, and so observers have indicated that the proposal really has no possibility of further consideration.

With the recent expansion of the EU (10 new members, raising the total to 25), the problem becomes more wide-

spread and more complex. This complexity does give an indication as to how difficult it would be to establish a single patent that would cover all of the world’s countries. A very tempting situation, but not very likely.

Is It Patentable?

Over the past few years the USPTO has certainly adopted a new concept of what is patentable, and what can be covered by a patent, trademark or a copyright.

The murky region of computer programs has done a lot to change some of the thinking at the USPTO. Witness the “patenting” of the single computer keystroke concept to usher in a very significant patent within the Internet business community (Amazon.com). The concept of web-based banner ads have been patented (DoubleClick.com). The pink color of a brand of insulation material offered by a US firm has been allowed as an acceptable trademark. A “smell trademark” has also been allowed, for a product line of sewing thread and embroidery yarn with a distinctive fragrance.

Harley Davidson has even been able to convince the USPTO that a certain motorcycle sound is sufficiently unique to be claimed as a trademark. Business methods are being covered as unique and novel, and consequently appropriate for a patent. Recently, eHarmony.com was granted a patent (U.S. 6,735,568) for “A method and system for identifying people who are likely to have a successful relationship.”

Some people have called this one the “love patent.”

The quest to have dubious and controversial patents declared invalid has received considerable interest in the past few months. Late last year, the Federal Trade Commission issued a report addressing questionable patents. This report, amongst other things, recommended better ways to challenge a patent’s validity without going into court. A civil liberties group (Electronic Frontier Foundation, EFF) that has battled Hollywood and the recording industry over digital rights has also raised this question of dubious patents. EFF has indicated that it will push a campaign to get such patents re-examined and rescinded by the Federal Government.

A Boston-based dot-com (Bountyquest.com) has inaugurated a program on the Internet, wherein they provide a vehicle for engaging bounty hunters to uncover information that would invalidate a patent. For a fee of \$2,500, plus a cash prize bounty of \$10,000 or more for success, a company can publicize on the Net their desire for help in challenging and busting patents. The operation has reported a rather substantial number of successful projects. They also report active participation as bounty hunters by a wide range of individuals, including a substantial number of scientists, technologists, hobbyists, legal participants, among others.

As the head of Bounty-Quest put it; “By weeding out bad patents we help consumers, and by weeding out enough of them, we may help restore faith in the ones that remain.”

Improving the U.S. Patent System

Instead of just complaining about deficiencies in the U.S. patent system, there are also efforts underway to eliminate some of the problem areas and to improve the overall system.

Efforts by the PTO itself to improve have been previously reported in these pages. The USPTO’s Strategic Plan for The 21st Century is a pretty ambitious

PATENT REVIEW

effort in this direction. Reportedly, some progress is being made in achieving the goals of this strategic plan.

In the meantime, another government report has examined some of the issues involved, and has made suggestions for improvement. A few weeks ago, the National Research Council of the National Academies put out a report entitled: "A Patent System for the 21st Century." This report concluded that while a major overhaul is not required, some measure should be taken to increase the flexibility, openness, and reliability of the U.S. patent system. The report made seven recommendations to assist in reaching these goals.

Major proposals in this report include the following critical steps:

- Provide additional resources for the USPTO, including financial resources; some of this resource deficit could be corrected if the Congress would let the PTO retain fees that are collected during patenting process.

- Congressional legislation to create an "open review procedure" for issued patents.

- Harmonization with the European and Japanese patent systems by reconciling differences among the systems. This proposal faces some big obstacles, but it would certainly be a giant step forward. As noted above, the European Union cannot get agreement within the organization on patent uniformity; agreement on an even broader scale would certainly be even more difficult.

In commenting on these recommendations, the USPTO expressed gratitude and welcomed the support of the National Academies in striving for a more effective system. At least everyone is on the same page as to the need for improvements.

PATENT REVIEW

Fine multicomponent fiber webs and laminates thereof; US 6,723,669 (April 20, 2004); filed: December 17, 1999. Assignee: Kimberly-Clark Worldwide, Inc. (Neenah, WI). Inventors: Darryl

Franklin Clark, Justin Max Duellman, Bryan David Haynes, Matthew Boyd Lake, Jeffrey Lawrence McManus, Kevin Edward Smith

Multilayer laminates incorporating fine multicomponent fiber webs are disclosed. These webs can be, for example, of the configuration of spunbond/meltblown/spunbond laminates or spunbond/meltblown/meltblown/spunbond laminates. In the laminate, the meltblown layer comprises microfibers having a first polymeric component (polypropylene) and a second polymeric component (amorphous poly-alpha-olefin) in distinct zones across the cross-section of the fibers which extend substantially continuously along the length of the fibers; these multicomponent meltblown fibers have an average fiber diameter of less than about 7 micrometers. The spunbond layers comprise continuous bicomponent filament webs, with an average fiber diameter greater than about 10 micrometers. These fine, multicomponent fiber webs provide laminates having excellent softness, peel strength and controlled permeability.

Liquid-pervious topsheet for disposable absorbent article and process for making the same; US 6,699,564 (March 2, 2004); filed: November 18, 2002. Assignee: Uni-Charm Corporation (Ehime-ken, Japan). Inventors: Takayuki Hisanaka, Hisashi Takai.

A topsheet for a disposable absorbent article including a first plastic film layer, a second plastic film layer and a fibrous assembly layer disposed between these two layers. Both plastic film layers are blown apertured films; The one plastic film has its smooth surface toward the fibrous layer, while the second plastic film has its smooth surface away from the fibrous layer.

Method and device for color patterning of a web by hydrodynamic treatment; US 6,735,834 (May 18, 2004); filed: January 3, 2003. Assignee: Fleissner GmbH & Co.,

Maschinenfabrik (Egelsbach, Germany). Inventor: Fleissner; Gerold.

Colored patterning of a nonwoven or a composite made of a nonwoven and a woven fabric or knit is achieved by water jet needling, as disclosed in this patent. The nonwoven provided as the upper layer of two layers is provided with one or more colors or is colored or printed itself. It is placed on a second nonwoven or other fabric or one that has a different color. Then, both layers are subjected to high pressure water jets that entangle and displace the fibers, with the colored fibers in the first layer being displaced into the second layer to produce a pattern on the underside of the second layer. It is also possible, instead of colored fibers in the nonwoven of the upper layer, to move them when they are not colored into a second layer that can have any color.

Soft polypropylene melt spun nonwoven fabric; US 6,740,609 (May 25, 2004); filed: August 15, 2000. Assignee: Polymer Group, Inc. (North Charleston, SC). Inventors: Fang Yi Peng, Zang Dao Hong, Chen Kang Zhen, Zhou Pei Qiong.

In this patent, softness in a spunbond nonwoven fabric is achieved by blending fatty acid amides into the polypropylene filaments of the thermally bonded nonwoven fabric at the extrusion stage. The blend comprises a larger amount of stearamide and a lesser amount of erucamide, with the total fatty acid amide content being less than 0.02% by weight. The fabric may be used as a topsheet component in an absorbent article, or as a skin-contacting component in a protective apparel article.

Sound absorbent thin-layer laminate; US 6,720,068 (April 13, 2004); filed: May 27, 2003. Assignee: Rieter Automotive (International) AG (Zollikon, Switzerland). Inventors: William Ray Vanbommel, Anthony Vulpitta, Thorsten Alts.

This invention relates to a sound

absorbent, thin-layer laminate consisting of at least one open-cell support layer and a second open-cell fiber layer. The support layer consists either of a first fiber layer, especially a low-density nonwoven material with a mass per unit area of less than 2,000 gsm and a thickness of less than 50 mm, or of an open-cell foam layer, especially an ultra-light plastic foam with a density of between 16 and 32 kg/cubic meter and a thickness of at least 6 mm. The second fiber layer is made of melt blown microfibers, whose fiber diameter is approximately 1 to 10 microns, especially 2 to 5 microns. The air resistance of the thin-layer laminate is in a selected range. According to the method for producing the thin-layer laminate, the microfibre layer of melt blown fibers is fixed to the support layer by means of a spray-on adhesive.

Method and device for producing a nonwoven material; US 6,708,381 (March 23, 2004); filed: November 4, 2002. Assignee: SCA Hygiene Products AB (Gothenburg, Sweden). Inventors: Mikael Strandqvist, Hannu Ahoniemi.

A method and device for manufacturing a nonwoven material by hydroentangling a fiber web by water jets at a high pressure. The fiber web is supported by a molded, close-meshed screen of a thermoplastic material during the hydroentanglement. The meshes of the screen have an aperture size within the interval 0.2-4 mm. The screen can have a substantially smooth surface or meshes in the screen can have apertures of different sizes and the apertures are arranged in groups to form patterns. The screen can be reinforced with reinforcement wires composed of a monofilament or a multifilament yarn.

Nonwoven fabric having three-dimensional printed surface and method for producing the same; US 6,737,114 (May 18, 2004); filed: April 22, 2002. Assignee: Milliken & Company (Spartanburg, SC). Inventors: Durwin Glenn Dawson, Jr., Sarah Bambridge Winter.

This invention describes a nonwoven

fabric having a three-dimensional printed surface. The fabric is primarily composed of continuous multi-component filaments that are at least partially split along their length, by high pressure water jet treatment. The three-dimensional printing is achieved by screen printing the fabric with a puff or foam pigment to create an inexpensive, textured fabric. The fabric is preferably printed with a foam pigment of contrasting color, when compared with the color of the base fabric, so that an aesthetically pleasing two-tone fabric is produced. The fabric may be used in products such as automotive interior fabric, apparel, drapery, cleaning cloths, upholstery, and office panels and similar items.

Method for making a bulked web; US 6,726,870 (April 27, 2004); filed: July 17, 2000. Assignee: The Procter & Gamble Company (Cincinnati, OH). Inventors: Douglas Herrin Benson, John Joseph Curro.

A method for making a bulky nonwoven web is disclosed. A nonwoven web, preferably a spunbond or a meltblown web, is fed into a CD web enhancement or stretching apparatus. The web is subjected to incremental stretching in the CD and then returned to the original width dimension to provide a bulky web. The bulky web is then stabilized (thermally or chemically) to provide a stabilized bulked web.

Tear-resistant bond pattern; US 6,713,159 (March 30, 2004); filed: August 30, 2000. Assignee: Kimberly-Clark Worldwide, Inc. (Neenah, WI). Inventors: Timothy James Blenke, Gregory Lynn Malchow, Daniel Hoo, Jeffrey Jon Radke.

This invention pertains to bonded composites of fibrous nonwovens, film or foam sheet structures or combinations of these materials, and absorbent articles comprising such bonded composites. Disclosed is a bonding pattern for such structures that provides increased tear-resistance to the structures. Bonds can be made by applica-

tion of thermal or ultrasonic energy, or pressure, e.g. pressure against an adhesive. The bond pattern has a length, and width. The pattern includes a first sub-array along the side edges of longitudinally-oriented separate and distinct stress receptor elements spaced at first distances from each other, and also a second sub-array of longitudinally-oriented separate and distinct transfer and dissipation elements, preferably disposed inwardly of the side edges and inwardly of the stress receptor elements, and at second distances from the stress receptor elements less than spacing of the stress receptor elements from each other. In preferred embodiments, the stress transfer and the dissipation elements direct stresses inwardly into the interior of the pattern, thus achieving a substantial tear resistance, as the stress is transferred and dissipated. — INJ

TECHNOLOGY WATCH

Thermal Comfort in Apparel

A new textile treatment that offers a high degree of temperature regulation has recently been introduced by Ciba Specialty Chemicals. This treatment results in a very consistent level of thermal comfort in apparel constructed from fabric or fibers containing the chemical treatment

The company has indicated that their treatment (based on Ciba's ENCAPSULENCES' PC140) represents a radical shift from the traditional trapped-air type of insulation.

The treatment involves fibers that contain a phase-change material in the fiber polymer, present in a microencapsulated form. When utilized within textiles and fabrics, the micro particle capsules work interactively with the wearer's body temperature. This involves a phase change, going from a solid to a liquid state. This action keeps the body warmer and comfortable longer in more extreme environment and temperature conditions.

Phase change materials absorb, store or release heat as they cycle between solid and liquid forms. Heat can be liberated on cooling and absorbed on heating. During physical activity, the wearer's excessive body heat increases and this heat is absorbed by the encapsulated phase change materials. As activity ceases, the body cools and the microcapsule returns the stored heat back to the wearer.

The micro particle form of Ciba's ENCAPSULENCE' PC140 protects the phase change material during the manufacturing process as well as in its end use application by the consumer. The phase change material is permanently entrapped within its micro particle form, so that the effect it offers is not diminished through use.

The treatment is currently being utilized within textiles and fabrics for

Outlast's thermal regulation apparel. Outlast Technologies Inc. has the technology licenses to sell these temperature regulation compounds to the fiber and textile industry. The technology is based on microcapsules, which are spun into acrylic fibers by Acordis at their Grimsby plant in the UK.

Bioabsorbable fibers

From the Yet2.com website, the following technological development is offered:

Enhanced methods and techniques for quick design and production of single or multiple array of biomaterial fibers for use in a number of application areas is offered. These potential applications include external devices such as wound dressings, bandages and tissue scaffolds; and internal/implantable devices such as artificial ligaments and tendons, vascular grafts, sutures and drug release implants.

The medical device industry presently lacks bioabsorbable implantable materials capable of retaining their mechanical properties, such as tensile strength and stiffness, for longer than 3-6 months. Such problems continue to cause serious limitations in scaffolds for load bearing structures, such as ligaments and tendons, that require 1-2 years regeneration period. These fibers could also be used in non-medical applications, for example clothing and personal hygiene products. These fibers can be either hollow or non-hollow, and can also be made to be antimicrobial.

This technology is in an advanced stage of development with several applications already lab tested. This technology is supported by 2 U.S. patents and 2 European patents, the most recent year of issue being 2001.

Developments from IDEA 04

The IDEA 04 Technical Conference and Exhibition was held earlier this year, offering a wide range of developments in both nonwoven technology and technical textiles. More than 300 companies from 47 countries exhibited new products and innovations to nearly 7,000 visitors.

The following are some of the technical development that were introduced and presented at the IDEA 04.

Ticona (Summit, NJ), a business unit Celanese AG of Germany, presented a range of polyphenylene sulfide (PPS) and polybutylene terephthalate (PBT) polymers for meltblown products, spunbond fabrics, extruded nettings and other fiber systems.

Ticona also exhibited a wide range of engineering thermoplastic resins that may have potential uses for specialty nonwoven products. These include its Vectra's liquid crystal polymer, Celcon's acetal, polyarylates, specialty nylon 6 and nylon 6,6, and alloy-type polymers.

ExxonMobil Chemical Co. (Houston, TX) promoted their Achieve's 6936G1 metallocene polypropylene for meltblown applications. The melt flow rate of 1,500 for this polymer is specially designed for optimum meltblown processability. This company also presented its Vistamaxx's specialty elastomer for use in elastic spunbond and meltblown nonwovens, and for the production of other elastic fibers and films.

Hills Inc. (West Melbourne, Florida) exhibited some of their developments in extrusion systems for manufacturing bicomponent and multicomponent fibers, spunbond, and meltblown fabrics.

A recent developments by this company was a system for producing Islands-In-A-Sea spunbond fabrics that can be especially designed for filtration and other applications requiring fiber sizes of less than 2 microns. A wide range of bicomponent fiber cross-sections that can be produced using its spinning equipment was also shown by Hills; this includes 35-holes-per-inch (hpi) sheath/core, 16-segment hollow pie, and 25 and 36 Islands-In-A-Sea spunbond

nonwovens. Hills representative stated that they have a 200-hpi meltblown die under development.

FiberVisions Inc. (Covington, GA) showed their range of polypropylene fibers, including a polypropylene staple fiber in the 1-denier range for nonwoven products. FiberVisions was a finalist for the IDEA04 Achievement Award for this development.

DuPont Nonwoven Technologies (Old Hickory, TN) featured a modified spunbond process which provides a means to combine different fiber types within a fabric structure. From this Advanced Composite Technology the company demonstrated their Suprel7 fabric product line for medical applications. Suprel is made of polyester filaments for strength, in combination with filament polyethylene for softness, and is designed to be low-linting. The fabric also has less surface friction than other medical fabrics and allows for greater comfort and freedom of movement in products such as surgical gowns, according to company representative.

Reifenhäuser GmbH (Troisdorf, Germany) was typical of the many nonwoven machinery producers at IDEA 04. This company demonstrated the ability of their spunbond system to make a change-over from polypropylene feedstock to polyester resin with only modest conversions. Improvements were described in their aerodynamic fiber drawing and fiber controls systems, resulting in stronger and more uniform fabrics. The incorporation of the meltblown units can be done in a single-beam or double-beam line. The Reicofil system can be adapted to produce bicomponent fibers in the fabric.

Rieter Perfojet (Greensboro, NC), exhibited their very broad range of machinery for producing nonwoven fabrics by several processes. Rieter offers all of the basic components such as spin beams and extruders for its PERFObond 3000 spunbond systems and their EMBLO meltblown systems. For spunlace production, the company supplies JETlace 3000 and PERFOdry 3000 units. A recent addition to its product line is the AIRlace 3000 spunlace/airlaid combination unit for wet

wipes. This product enables man-made fibers to be entangled with cellulosic pulps.

Fleissner (Egelsbach, Germany) provided information about a number of its products at the show. The company continues to improve the efficiency and versatility of its AquaJet7 Spunlace Systems. Improvements in the jet head provide greater fabric uniformity and have allowed manufacturers to use these fabrics as substrates for synthetic leather. The AquaPulp7 system combines spunlace and airlaid nonwoven processes. The AquaSpun7 system is used for the spunlacing of spunbonded fabrics. Fleissner has supplied more than 10,000 of its through-air drum dryers for nonwovens and other textile and paper applications.

Eduard Küsters Maschinenfabrik GmbH & Co. KG Nonwoven Division showed their recently introduced Twin Calender that enables the very rapid changing of bonding pattern, or the switching from embossing to bonding mode. Such a change in use of the equipment can be made within minutes, according to company personnel, the calender can be equipped with the Hot-S-Roll7 or the HyCon-Roll7. The standard calender provides for material widths of up to 6 meters and production speeds of up to 1,000 meters per minute. In addition, the parked roll can be replaced during production, thus improving flexibility and reducing set-up time.

Polymer Group, Inc. introduced a product line of nonwoven fabrics under the Comfortlace(TM) name; they indicated that this product line comprises the highest performing fabrics for feminine hygiene products offering a customized appearance, greater absorbency and superior comfort. The fabrics are made with PGI's proprietary LACE (Laminar Air Controlled Embossing) technology, a manufacturing process that adds a soft, three-dimensional imaged or bulky surface layer to a reticulated film. This body contact layer directs liquids away from the skin and into the absorbent core.

Targeted for use in pantyliners, feminine napkins, diapers, adult incontinence and

other hygiene products, the new fabrics join PGI's Comfortsilk and Comfortouch product lines. These latter products are apertured films which feature a silky smooth comfortable feel; dryness, cleanness and coolness; low friction against the skin; and customizable patterns.

The Comfort product family has been popular in Asia and PGI sees market potential for the product in other parts of the world. Comfortlace(TM) is the result of PGI's efforts to develop dimensionality in its products for customers. Comfortsilk(R) offers high opacity and masking, heat sealability, high strike-through and low rewet. Comfortouch is an economic, value-added offering with good opacity and masking.

Deactivating Microbes

A new device for trapping and deactivating microbial particles has recently been developed. It has the potential to benefit the war on terrorism by deactivating airborne bioagents and bioweapons such as the smallpox virus, anthrax, and ricin, as well as routine indoor air ventilation applications, such as in buildings and aircraft cabins.

The device combines an electrical field with soft electromagnetic rays and smart catalysts to capture and destroy bioagents. "When the aerosol particles come into the device, they are charged and trapped in an electrical field," explained Dr. Pratim Biswas, Professor of Environmental Engineering Sciences at Washington University. "Any organic material is oxidized, so it completely deactivates the organism. "Professor Biswas has explained that conventional corona electric discharge systems do not charge and effectively trap nanometer-sized particles, such as viruses. But his invention combines soft x-rays coupled with a conventional corona that has been proven to be very effective at charging and trapping particles in a range of sizes. The walls of the device have coated nanoparticles that catalyze the oxidation. These nanoparticles are described as "smart" objects that are turned "on" and "off" by the irradiation (<http://link.abpi.net/1.php?20040309A2>).

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The Convenient and Safe Storage of PASSWORDS

When the storage and management of computer passwords is considered, everyone seems to have a "system." However, when the storage must be convenient and also safe, then the possibilities are narrowed rather considerably.

Everyone who uses a computer to any degree has faced the task of selecting a password, a word or combination of letters and numbers that will open the door to a wide variety of stuff. Unfortunately, the password selected has often already been in use for a time and belongs to someone else. Then begins the task of selecting a combination that is unique and also available. Once that is accomplished, the second, and often greater task, is to recall that combination at some future date when access is desired.

That seems like a fairly simple task. However, most users have a rather significant number of sites that require a password, and that means juggling a number of different combinations. For those who travel for business or have a number of locations used to access the Internet, the problem gets even larger.

Fortunately, some sites will store your password and will check the combination when you logon. That again creates a problem for users with multiple computers, a unit at home, a different one at the lab or the office and a still different laptop used on trips. Also, in some cases a person on the road has to use a visitor PC in an off-site location.

When one considers the variety of ID/passwords that can be encountered -- online banking accounts, retirement information, stock and bond files, medical and insurance information, sensitive databases and files, along with various specialty, miscellaneous, and pro-

TECTED sites, the number of passwords involved can become rather sizeable.

It is often tempting to create a database of such passwords in an encrypted file on the computer. However, this doesn't meet the portability requirement faced by many users. Some software programs have been designed to meet this need, which may suffice for many users. However, many employers often have a strict policy against installing unauthorized software on any company asset.

Some people have printed their ID/passwords and have a booklet or file they can throw into their briefcase. This may be convenient, but obviously fraught with security hazards. If such a list were to fall in the wrong hands, a person can be "cleaned out." Software, such as Symantec Corporation's Norton Password Manager and Apple Computer Inc.'s Keychain help by storing passwords in secure, encrypted form. However, if the master password is compromised, you've had it.

Some people feel that the risk of having a password compromised is small indeed. However, a certain segment of Web users ply the Net in what is referred to as "password harvesting." Keystroke recorders have been secretly installed at public Internet terminals and elsewhere to capture passwords, as can "phishing" e-mails designed to trick users into submitting sensitive data to fraudulent sites that look authentic.

There are also computer viruses specifically programmed to harvest passwords, as well as software that "guesses" passwords by rapidly running through words in dictionaries, and other combinations.

In Scandinavia, a "two-factor authentication" system is being expanded. In this system, an additional security factor is provided by the site source. The

initial password is required, but the user is also provided with a card with 50 scratch-off codes, each code good for only one use. In essence, the second security element changes continuously. A new scratch-off card is provided to the user as the card approaches exhaustion. A rather complex system, but it does the job for a lot of people in Sweden and other areas of Scandinavia.

Obviously, this is a situation where one solution does not fit all. Individual needs and preferences must be considered, but fortunately there are a variety of potential solutions, awaiting individual review and selection.

Here are some possibilities----

Passwords Max: This is a shareware that was previously called "Passwords Plus." This program stores passwords in an encrypted format. It has several very useful features, although it does require an installation on your computer and it is not portable. It has the possibility to handle several users, with a license fee to cover the expanded number of users (Passwords Max For Groups, (www.passwords.plus.com)).

Roboform: The Roboform program is described as a "password manager and a one-click form filler with some serious artificial intelligence." It is a product of Silber Systems. A new version (Version 5.9.92) was recently released for single computer use. A version for pocket PC or Palm unit use is also available. It is possible to put password data on a USB key chain, giving easy portability. It does require some installation. It is available in 17 different languages (www.roboform.com).

Excel Spreadsheet: Another approach that has been advanced is to use a self-created Excel spreadsheet to store all of your passwords. Such a file can be password-protected, so it cannot be opened unless you know the password; using this approach only one password must be remembered to gain access to all of the others.

A search of the internet can reveal a number of other password managers, including the following:

- SafeInHand

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- PINs
- Password Manager (Celerity Consulting Services Inc.)
- Password Keeper 2000
- Whisper 32
- Cloak Desktop
- SplashID

Biometric readers and password-generating devices such as micro-chips may help eventually. In the mean time, remember: Keep it easy, Keep it convenient and Keep it safe.

Searching For THE Answer

One of the most unique and useful features of the Internet is its search capability. With the correct site address, a search is completed within the blink of an eye, easily within a fraction of a second of time.

It seems that the more one uses this capability, the more that one expects. It's the old story that the first use of the capability results in sheer amazement; a short time later, any performance short of outstanding is viewed with impatience and annoyance. Small wonder, then, that computer technologists spend a lot of time investigating needs and developing new search capabilities. Also, it is not surprising that the financial community is paying a great deal of attention to organizations involved in this development.

It's not as though this area of cyberspace has not received a lot of effort. A recent survey indicated that there are over 3300 search engines available. A lot of these are for specialized searching, but the total number gives an indication of the utility of this feature of the Web.

A significant sign --- Earlier this year, Microsoft Corporation acknowledged that one of their "worst goofs" is that they did not put adequate resources toward in-house research and development focusing on search technology. MS executives explain that the company had relied on outside sources for such technology and had virtually ignored that sector of computer technology for a long time.

No more! In an attempt to get involved in this market, Microsoft is now turning its substantial and proverbial might to web searching technology. This move brings it into direct competition with Google, the world's most popular Web surfing facility, and with Yahoo, the Internet's most popular destination.

Google has tried to enhance its usefulness and solidly link its customers by offering other services beyond searching. Google's new Gmail service currently in a limited trial, offers uses a gigabyte of free storage, 500 times as much as Microsoft offers. Also, Google now offers their Froogle system for internet shoppers as well. The Gmail service has a controversial feature in that the Email message is scanned, and then a banner ad can be inserted which is based on the content of the message. Some privacy advocate groups object to the fact that, with this enormous storage capacity, your Email may be around forever.

To obtain some insight into this market, consider that about 114.5 million Americans, or 39 percent of the population, now use search engines, according to Nielsen NetRatings. Also, businesses last year spent an estimated \$2 billion on search-related advertising and some analysts expect the market to triple during the next three years. That's real growth.

Another Sign --- The emergence of relatively new, highly effective search engines. As the technology progresses, the older methods and means do improve. Along with this, is the introduction of basically new vehicles and systems. A case in point is the search tool entitled TEOMA. This site (www.teoma.com) claims to add a new dimension and a level of authority to search results through its approach, known as Subject-Specific PopularitySM. Instead of ranking results based upon the sites with the most links leading to them, Teoma "analyzes the Web as it is organically organized into naturally-occurring communities that are about or related to the

same subject" to determine which sites are most relevant.

Teoma claims to be the only search technology that can locate communities on the Web within their specific subject areas, as they actually exist. And this allows the search engine to finely tune searching process, providing more precise results.

To determine the authority (and thus the overall quality and relevance) of a site's content, Teoma uses their subject specific popularity technique, which ranks the popularity of a site based on the number of same-subject pages that reference it, not just general popularity. In a recent test performed by an industry publication, Teoma's relevance grade was given an "A" for this capability.

To better understand the importance of this extra step in delivering highly-relevant results, the company suggests a scenario: "You are in front of the hood of your severely out-of-commission pick-up truck. You need help with this major repair, and you can either ask your uncle, who owns two cars but has never held a wrench in his life and happens to be visiting (similar to using other leading search technologies) or you could phone your best friend, who has a degree in applied mechanics and builds automobiles from the ground up in his spare time (similar to Subject-Specific Popularity). The choice is quite clear."

This site touts its three basic keys: Results (relevant web pages); Refine (suggestions to narrow your search); Resources (link collections from experts and enthusiasts).

A Third Sign -- Probably not needed, but the considerable interest of the financial community in search engines, and specifically in Google, presages more of the same. Google has been the subject of numerous rumors recently regarding a potential IPO, opening up the possibility of outside investors purchasing stock in the enterprise. From the interest generated by such reports, it is obvious that the world of investors (and many other segments) realizes the

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potential of developments and advances in search engine capabilities.

Web Sites – Some Interesting

A lot of journal columns devoted to web sites usually described them as “Interesting Web Sites.” Recognizing that the interests of nonwoven experts vary a great deal and can meander over the full extent of cyberspace, It is hoped that you find some of these interesting.

NASA Space Education - All items related to space and space travel are very well provided in their site at www.nasa.gov. This is an excellent site with many educational and interesting features.

Calculators and Databases - An excellent compendium is found at www-sci.lib.uci.edu/HSG/. This site has “a collection of links to online calculators on nearly every subject imaginable, including science-specific ones.” It also gives a lot of info on calculators, education and science. Related to the Newwork and Academic Computing Service of the University of California-Irvine.

Best Deals on Tech Items - a marketing and information site covering computers, computer hardware, electronics and video, cameras and related items. They cover not only a full range of their own products, but include information on other retailers and outlets with special deals on tech items. www.techbargains.com.

Government Benefits - Government programs to which a person may be eligible. It gives a mind-boggling insight into how many programs are available. How much can you qualify for? www.govbenefits.gov.

Science in Developing Countries - This site, sponsored by the InterAmerican Network of Academies of Science (IANAS), is an authoritative resource for monitoring the influence of scientific events and developments in the Developing World. It covers IP (Intellectual Property) and patents, with an emphasis on drugs and pharmaceuti-

als. It has sections devoted to specific world areas. www.SciDev.net.

Materials from A to Z - AZOM is the gateway to searches for materials by category (shoes or architecture and many others), by keyword (allow, fiber, etc.), by applications (electronics, space travel), or by industry (automotive, construction, etc.). Also covers materials-related conferences and specialty events and news. www.azom.com

General Science - These two sites are very good for general and informational science items. They also provide very useful links to other science sites: www.popsci.com (*Popular Science* magazine); www.discover.com (*Discover* magazine).

Translating Websites - Although they may not be perfect, this site can be very helpful in providing translations into English from an amazing list of languages, along with the reverse translation: www.babelfish.altavista.com

Top News Sites - The Top Ten sites for news, according to the Nielsen ratings, is as follows:

- CNN News - www.cnn.com
- MSNBC News - www.msnbc.com
- Yahoo! News - news.yahoo.com
- New York Times - www.nytimes.com
- AOL News - aolsvc.news.aol.com/news/main/adp
- Washington Post - www.washingtonpost.com
- FOX News - www.foxnews.com
- ABC News - abcnews.go.com
- Internet Broadcasting Systems - www.ibsys.com/index.html
- MSN News - <http://slate.msn.com>

ASSOCIATION BULLETIN BOARD

INDA's International Nonwovens Directory

The first industry directory published by INDA was offered in the 1960's. Several editions have been prepared since that time, with each issuance being superior and offering additional useful features. The current 2004 International Nonwovens Directory is undoubtedly the best ever.

This directory is featured on the internet, and is claimed to be "the most comprehensive Nonwovens Directory in the world." This on-line directory has several new features. It can be sorted and searched by State, Country, Product Listing and a variety of other search topics. It is truly international in nature, listing over 12, 000 buyers and sellers worldwide.

An especially important feature is the fact that the data in the directory are updated, sometimes on a daily basis. As a result, the user is assured of getting the latest information and details on the wide variety of companies covered.

A demonstration of the power and utility of the Directory can be experienced, which can provide a dramatic proof of the capability for general and specific needs. Such a demonstration can be arranged by contacting Brooke Boyle at the INDA headquarters (Telephone 919/233-1210, ext. 120), followed by an on-line visit. Test it out!!

TANDEC Process Equipment Activities

At the University of Tennessee, TANDEC, in cooperation with the UT Department of Chemical Engineering, has made a Leistritz_ZSE 27 twin screw extruder available to TANDEC customers for compounding studies and processes uses

This extruder is equipped with co-rotating screws, and is currently configured with 10 heat zones; this configuration makes it admirably suited for the mixing and compounding of complex polymer mixtures, particularly those that have limited compatibility. The Leistritz extruder can also be connected to TANDEC's 6" meltblowing line, and has been used on that line to spin Lyocell-type cellulosic fibers utilizing NMMO solvent as the means to put the cellulose raw material into a suitable solution.

Dr. John Collier, head of the UT Department of Chemical Engineering, as indicated that the extruder will be connected to a six-foot water bath and the laboratory's Scheerby BT-25 Pellitizer. This combination has the capability of processing 100 pounds of resin per hour, converting the formulated resin blend into manageable pellets. The compounding operation will be located in the 6" meltblown line area, where electrical and control connections for the Leistritz unit have been installed.

Researchers interested in using the capability of this equipment should contact and discuss their specific interest with Dr. Allan Stahl (865/974-3574) at

the University of Tennessee in Knoxville, TN.

Also at TANDEC, the research facility, along with the nonwoven machinery manufacturer, Reifenh euser, have announced plans to upgrade the TANDEC bicomponent meltblowing capability in September 2004. With the installation of this newly upgraded bicomponent system, TANDEC will be able to offer the latest in bicomponent die technology, according to the research center and the equipment manufacturer. This capability will be offered to TANDEC member companies and others interested in meltblowing research and development.

New General Manager At EDANA

Following the departure last fall of Mr. Paul Dewingaerden from the position of Secretary General of EDANA, changes in organization and personnel have taken place.



New EDANA GM Pierre Wiertz

EDANA's Board of Governors created a new position which replaces the previous role of Secretary General. The new position, Association General Manager, will involve responsibility for all of EDANA's operations. The Board of Governors has named Pierre Wiertz to this new position.

In addition to creating this position, the EDANA Board has indicated that the association will follow a more business-oriented direction, under the leadership of the new General Manager.

Congratulations and Best Wishes to Mr. Wiertz. INJ

IDEA04 Achievement Awards Presented To Six Companies

Six companies from around the world were recently presented with prestigious IDEA04 Achievement Awards recognizing outstanding contributions to the global engineered fabrics industry.

The winners of the IDEA04 Achievement Awards were announced during the keynote session of the IDEA04 International Engineered Fabrics Exposition and Conference, April 27-29, in Miami Beach, Fla. The Awards are sponsored by *Nonwovens Industry* magazine and INDA, Association of the Nonwoven Fabrics Industry, the organizer of the triennial IDEA trade show.

The Achievement Awards recognize new product introductions in nonwovens and engineered fabrics since IDEA01 in 2001. Companies and products were nominated by the industry late last year and three finalists in each category were voted on through Internet balloting during the month of March.

The recipients were:

- Raw Materials/Fibers – H.B. Fuller: Hydrolock
- Machinery/Equipment – Sonobond Ultrasonics: Ringmaster
- Roll Goods – DelStar Technologies: DelPore Filter Media
- End Use-Short Life – Unilever, Dove: Cleansing Pillows
- End Use-Long Life – BBA Fiberweb: Tytar House Wrap
- Entrepreneur – Saudi Arabian: Advanced Fabrics

"These companies represent the best of the best in motivation for the engineered fabrics industry and it is appropriate that their accomplishments are recognized during IDEA04, the largest and most important industry event of the year," says Rory Holmes, President of INDA.

"All of the finalists were winners for having made it so far in an extensive nominating process," Holmes added. "The efforts of all these companies are leading the business of engineered fabrics into the future."



Former INDA president Ted Wirtz, shown here with his wife, Jerry, received the IDEA Lifetime Achievement Award during IDEA04 in April.

In addition to these six Achievement Awards, an IDEA04 Lifetime Achievement Award was presented to Ted Wirtz, former INDA President. Wirtz retired last year after more than 30 years in different segments of the nonwovens industry.

"I give credit to Ted Wirtz for bringing INDA into the 21st century in terms of technology, business practices, strategic planning and global reach," says former INDA Chairperson Lee Sullivan, of Freudenberg Nonwovens.

IDEA07 will be held April 24-26, 2007 at the Miami Beach Convention Center, Miami Beach, Fla. USA. Nominations for the IDEA07 Achievement Awards will be accepted during the first half of 2006.

NONWOVENS CALENDAR 2004

July 2004

July 7-8, 2004. Ecotextile 04 Conference. Lowry Hotel, Manchester, UK. The theme of the conference is "The Way Forward For Sustainable Development In Textiles", sponsored by Bolton Institute in collaboration with The Textile Institute. For more information, contact: The Textile Institute, St. James Bldg., Oxford Street Manchester, M1 6FQ, UK; Tel.: 44+161/237-1188; Fax: 44+161/236-1991; Internet: www.texti.org.

July 12-16, 2004. INDA/NCRC Bonding Fundamentals Course. INDA Headquarters, 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/events/.

August 2004

Aug. 10-12, 2004. INDA Nonwovens Basic Training Course. For more information, contact: INDA Headquarters, 1200 Crescent Green, Suite 100, Cary, NC, 27511, USA.

Aug. 23-27, 2004. INDA Fabric Properties and Characterization Training Course. INDA/NCSSU, 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/events

September 2004

Sept. 13-17, 2004. ATME-I. Palmetto Expo Center, Greenville, SC. The American Textile Machinery Exhibition-International. For more information, contact: ATME-I, Greenville, SC. Tel: 864/331-2277; Fax: 864/331-2282. Internet: www.atmei2004.com.

Sept. 15-16, 2004. International Fibers Conference 2004. The Phoinix Greenville Inn, Greenville, SC. Sponsored by the International Fiber Journal and Industrial Textile Associates. For more information, contact: International Fiber Journal, 7421 Carmel Executive Park Drive, Suite 105, Charlotte, NC 28226; Tel.: 704/544-1969; Fax: 704/544-6559; Internet: www.fiberconference.info.

Sept. 20-23, 2004. International Nonwovens Technical Conference (INTC 04). Westin Harbour Castle Hotel, Toronto, Canada. The INTC 04 meeting will be held in Canada for the first time. For more information, contact: INDA, P.O. Box 1288, Cary, NC; Tel.: 919/233-1210; Fax: 919/233-1282; Internet: www.inda.org/events/.

Sept. 28-30, 2004. Advanced Fiber Science. Textile Research Institute, Princeton, NJ. Special Guest Lecturer: Dr. Joseph Spruiell, University of Tennessee, Knoxville, TN. For more information, contact: Course Registrar, TRI/Princeton, 601 Prospect Avenue, P.O. Box 625, Princeton, NJ 08542; Tel. 609/430-4828; Fax: 609/683-7149; Internet: www.triprinceton.org.

Sept 29-Oct. 1, 2004. OUTLOOK 2004 - EDANA Personal Care Products Conference. Monaco. For additional information, contact: Mr. Philip Preest, Marketing Manager, EDANA, 157 Avenue Eugene Plansky, B-130 Brussels, Belgium; Tel.: 32+2/734-9310; Fax: 32+2/733-3518; Internet: www.edana.org.

October 2004

Oct. 3-6, 2004. ASTM Committee D-13 pm Textiles. Omni Shoreham Hotel,

Washington, D.C. For more information, contact: Len Morrissey, ASTM, W. Conshohocken, PA.; Tel.: 610/832-9726; Fax: 610/832-9555; Internet: www.astm.org/commit/d13.htm.

Oct. 4-8, 2004. INDA Automotive Products Development Course. INDA Headquarters, 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/events/. This event has been rescheduled from the previous dates of November 1-5, 2004.

Oct. 10-14, 2004. INSIGHT 2004. Hotel Hilton Austin, Austin, TX. For more information, contact: Marketing Technology Service, Inc., 4100 South 7th Street, Kalamazoo, MI 49009; Tel.: 269/375-1236; Fax: 269/375-67101; Internet: www.marketingtechnology-service.com.

Oct. 11-13, 2004. 2004 Annual Fiber Society Meeting and Technical Conference. Cornell University, Ithaca, NY. A symposium on AAdvanced Materials and Processes@ will be held in conjunction with this meeting and conference. For more information, contact Professor Kay Obendorf (sko3@cornell.edu) or Professor Anil Netravali (ann2@cornell.edu). Internet: www.the-fibersociety.org.

Oct. 19-21, 2004. Porous Materials Characterization. Textile Research Institute, Princeton, NJ. Special Guest Lecturer - Professor Kenneth Sing, Brunel University & Exeter University, UK. For more information, contact: Course Registrar, TRI/Princeton, 601 Prospect Avenue, P.O. Box 625, Princeton, NJ 08542; Tel. 609/430-4828; Fax: 609/683-7149; Internet: www.triprinceton.org.

Oct. 25-27, 2004. INDA Needlepunch Conference. Savannah, Georgia. This conference will have a New Technology Showcase. For more information, contact: INDA, P.O. Box 1288, Cary, NC;

NONWOVENS CALENDAR

Tel.: 919/233-1210; Fax: 919/233-1282;
Internet: www.inda.org/events/ .

Oct. 26-27, 2004. EDANA FILTRET
Filtration Conference and Exhibition.
Kempinski Airport Hotel, Munich,
Germany. For more information, con-
tact: Mr. Jean-Michel Anspach,
Technical & Education Director,
EDANA, 157 Avenue Eugene Plansky,
B-130 Brussels, Belgium; Tel.: 32+2/734-
9310; Fax: 32+2/733-3518; Internet:
www.edana.org .

Oct. 26-27, 2004. Analytical
Laboratory Expo. Xxxxx. Conference
and exposition related to microscopy,
image analysis, chromatography and
spectroscopy only. For more informa-
tion, contact: Jennifer Miller, Associate
Editor, Reed Business Information, 100
Enterprise Drive, Suite 600; Box 912,
Rockaway, NJ 07866; Tel.: 973/920-7052.

Oct. 27-29, 2004. IFAI Expo 2004.
David L. Lawrence Convention Center
in Pittsburgh, PA. For more information,
contact: IFAI, Roseville, MN; Tel.:
651/225-6942; Fax: 651/631-9334. E-
mail: confmgmt@ifai.com. Internet:
www.ifaexpo.info . A conference enti-
tled AMedical Textiles@ will be held on
Oct. 27-26, 2004, in connection with this
Conference.

November 2004

Nov. 1-5, 2004. INDA Manufacturing
Process Fundamentals Training Course.
INDA/NCSU, Cary, NC. For mor infor-
mation, contact: INDA, P.O. Box 1288,
Cary, NC; Tel.: 919/233-1210; Fax:
919/233-1282; Internet:
www.inda.org/events.

Nov. 16-18, 2004. INDA Nonwovens
Training Course. INDA Headquarters,
1200 Crescent Green, Suite 100, Cary,
NC, 27511, USA. For more information,
contact: INDA, P.O. Box 1288, Cary, NC;
Tel.: 919/233-1210; Fax: 919/233-1282;
Internet: www.inda.org/events.

Nov. 18-20, 2004. 13th Annual

TANDEC Nonwovens Conference. 2005
University of Tennessee Conference
Center, Knoxville, Tennessee. For more
information, contact; TANDEC
Conference

Textiles and Nonwovens
Development Center, The University of
Tennessee, Knoxville, TN 37996; Tel:
865-974-6298; Fax: 865-974-3580;
Internet: <http://tancon.utk.edu> .

Nov. 23, 2004. 4th Annual TTNA
Conference - >Advanced Materials for
the Environment and the Production of
Energy=. Aitken Hill Conference
Centre, Yuroke, Victoria, Australia
(Melbourne). For more information,
contact: Lorraine Gierck, Technical
Textile and Nonwoven Association,
TTNA Secretariat, Level 2, 20 Queens
Road, Melbourne, VIC 3004, Australia;
Tel.: 61+3/9866-6643; Fax: 61+3/9866-
6434.

December 2004

Dec. 5-9, 2004. Consumer Specialty
Products Association Annual Meeting.
Fort Lauderdale, Florida, USA. For
more information, contact: Consumer
Specialty Products Association, 900 -
17th Street, Washington, D.C. 20006.
Tel.: 202/872- 8110; Fax: 202/872-8114.
Internet: www.cspa.org .

Dec. 7-9, 2004. Filtration 2004.
Pennsylvania Convention Center,
Philadelphia, PA. This event will feature
for the first time, co-location events by
INDA and the American Filtration and
Separation Society (AFS). Although
INDA and AFS will share the same loca-
tion, each association will develop its
own conference program. The AFS pro-
gram will focus on technical aspects of
the filtration process, while INDA=s
focus will be on markets, new business
opportunities and filtration end uses.
For more information contact: INDA,
P.O. Box 1288, Cary, NC; Tel.: 919/233-
1210; Fax: 919/233-1282. Internet:
www.inda.org .

2005

March 2005

Mar. 20-22, 2005. INDA Annual
Meeting. Hyatt Regency Grand Cypress
Resort, Orlando, FL. For more infor-
mation, contact: INDA, P.O. Box 1288,
Cary, NC; Tel.: 919/233-1210; Fax: 919/233-
1282; Internet: www.inda.org/events.

April 2005

Apr. 12-15, 2005. INDEX 05
International Nonwovens Conference
and Exhibition. Geneva, Switzerland.
For additional information, contact: Mr.
Philip Preest, Marketing Manager,
EDANA, 157 Avenue Eugene Plansky,
B-130 Brussels, Belgium; Tel.: 32+2/734-
9310; Fax: 32+2/733-3518; Internet:
www.edana.org .

November 2005

Nov. 15-17, 2005. Filtration 2005.
Navy Pier, Chicago, IL. For more infor-
mation, contact: INDA, P.O. Box 1288,
Cary, NC; Tel.: 919/233-1210; Fax:
919/233-1282; www.inda.org/events .