POROUS WORKS

Vol. 1 – No. 1

News and Information on How Applied Porous Technologies Can Work for You!

Welcome

Welcome to the first issue of *Porous Works*, the newsletter of Applied Porous Technologies, Inc. Our company was founded with the intention of becoming *the supplier of choice* for porous metal products. One of our original goals was to provide total product support to our customers. We believe that this periodical will help to ensure that we attain that goal.

It is our hope that the news and information in this and future issues will increase your understanding of our capabilities and the benefits of using our porous media in new and existing product designs. So that you can also get to know us on a more personal basis, we plan to feature a member of our highly dedicated staff in each issue. Finally, we will use *Porous Works* to keep you apprised of any changes in our product offerings, equipment or company policies. Since we want to make this newsletter as relevant to your business as possible, we look forward to hearing your comments on the first issue. We would also welcome any suggestions you may have for future issues. Thank you for your interest.

Sincerely,

Ed Swiniarski

Ed Swiniarski, President

APT Breaks Ground for Installation of Hydrogen Gas Storage System

With our manufacturing operations continuing to grow, Applied Porous Technologies, Inc. (APT) has begun the installation of a new hydrogen storage system that will enable us to increase the efficiency of our sintering furnaces. Although heated electrically, the furnaces used to process our stainless steel porous metal are constantly blanketed and flushed in hydrogen to provide a clean, dry, oxygen-free atmosphere. This keeps the stainless steel free from oxides and other contaminants and provides for the best corrosion resistance in the finished product.

APT's new hydrogen storage system incorporates a series of high-pressure storage tubes which feed into a control manifold to manage the delivery of hydrogen to our various furnaces.The greater efficiency of this system will enable us to maintain competitive pricing. The modular system will initially store 30,000 cubic feet of hydrogen, but we can easily expand it in the future as production growth warrants. The unit is being installed, and will be maintained, by ABCO Welding and Industrial Supply, Inc. We expect it to be on-line by March, 2003.

Inside...

Applied Porous Technologies, Inc.

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The Voice on the Phone

Staff Spotlight:

Teri Rust, Office Manager

When a customer calls to place an order, check on existing orders, or request product information, chances are they will be speaking with Office Manager Teri Rust. Teri has been with APT for most of the three years that we have been in existence. She came to us from Hamilton Standard, where she had worked for 16 years as an Administrative Secretary to a staff of engineers and as a Contract Administrator. The experience that she brought to APT has been key to our growth and success. As we all know, working in a small company often means that everyone wears many hats. This is particularly true with Teri as she very efficiently manages all of the office functions, including incoming order processing, purchasing, billing, bookkeeping, and human resources functions. In her "spare time", Teri also helps out with our sales and marketing efforts.

Teri holds an Associates Degree in Business Management from Asnuntuck Community Technical College, and she has participated in numerous professional development programs. She is also an avid camper and spends many weekends traveling with her husband, Don, in their 34-foot camper.

See us at

PITTCON® 2003

March 9-14, 2003 * Orlando, Florida

www.pittcon.org * 412-825-3220

Bringing Together the Elements of Science

Applied Porous Technologies, Inc. will be participating in the 54th Pittsburgh Conference and Exposition on Analytical Chemistry and Applied Spectroscopy (PITTCON). PITTCON 2003 will be held from March 9-14 at the Orange County Convention Center in Orlando, Florida. Please visit us at ***Booth # 3574.***

APT supplies literally millions of filter discs, components and finished assemblies to companies involved in the manufacture and supply of Chromatography Equipment, Chemical and Moisture Sensors, and other analytical applications. We will be displaying a wide selection of our products during the convention, and we look forward to seeing many of our good customers, and meeting some new ones, while we are there. If you would like to schedule a time to meet with us while we are in Orlando, please contact us before the conference.

Satisfied Customer:

Flair Corporation

Flair Corporation produces industrial air dryers and purifiers. A critical component of this Ocala, Florida, company's air dryers is a means of monitoring the relative humidity of the air that is being dried. Flair recently began developing a new air dryer. They asked APT to create a prototype for a fitting to hold the miniature circuit board that would sense the dew point of the dry air created. Our sintered porous metal was the ideal material to use, since it would allow the air to pass through, while keeping out dust and water. Flair provided us with sketches and requested that the fitting and cover that we produced be able to withstand the 150 pounds of pressure to which it would be subjected.

APT supplied this customer with five prototype pieces. We soon received a letter from Flair's R & D Engineer, Byron George, which stated, in part, "I was very impressed with how perfectly the miniature circuit board fit into the cavity and how well you grasped what the function of the device was… You did a masterful job on the prototypes."

Humidity Sensor Assembly

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Applied Porous Technologies Expands QC Capabilities to Meet ATEX Directive

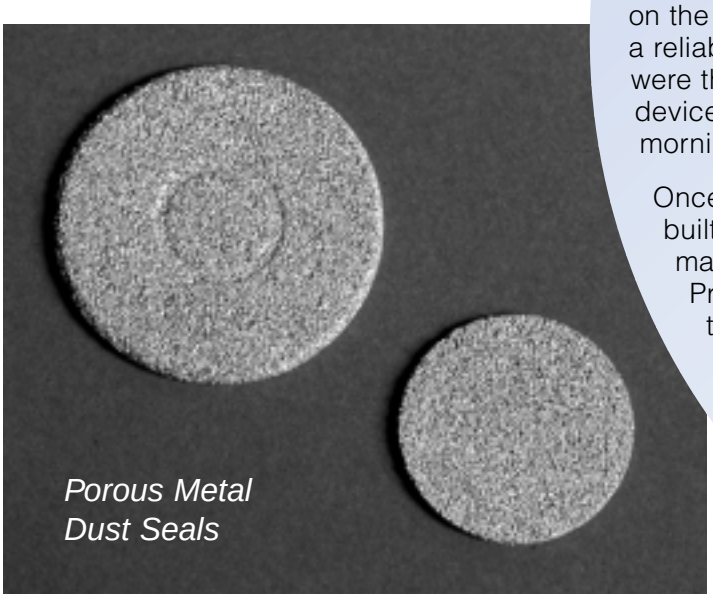
Product Marketed to Europe Now Complies with ISO 4003 and ISO 2738

One unique property of sintered porous metal is its ability to stop flame propagation during an ignition event that might occur, for example, in a malfunctioning gas sensor. APT manufactures and supplies many components and engineered devices that are incorporated into systems as flame arrestors. In most cases, customers are required to have the finished product tested and approved by testing agencies such as UL (USA), the CAS (Canada), and CE (Europe) prior to going to market. APT often participates in the application of our porous metal components into these devices and provides the customer with design assistance to ensure that the finished device will get the required approvals.

A new directive, with a compliance deadline of June 30, 2003, has been issued in Europe. It requires all devices sold within the European Economic Area for explosion-proof applications to meet the same stringent set of criteria. This is known as the ATEX Directive (from the French ATmospheres EXplosibles). For our part, this means that the porous components and devices we provide to our customers must be certified to meet design specifications per ISO 4003 for porosity and ISO 2738 for density. In response to these directive requirements and in support of our existing and potential new customers, APT has invested capital in new equipment and developed the necessary testing methods to comply with the directive. As customers develop new products or move to certify existing products before the deadline, APT is ready to support the tighter product specifications and certification.

Featured Application: Porous Metal Dust Covers

Industry: Aerospace
Customer: Airpot Corporation



Porous Metal Dust Seals

Airpot Corporation, of Norwalk, CT, manufactures air cylinders and pneumatic dampening devices. This company was recently asked to develop and produce a specialized air cylinder that would become an integral component of a safety mechanism designed into the "next-generation" cockpit doors for commercial airlines. Airpot, in turn, contacted APT for assistance in designing a series of porous metal dust covers (or filters) to be incorporated into the air cylinder. This was a high-priority project, and Airpot needed our quick response to their requirements for design input, prototype turnaround, and scale-up for manufacturing.

To save time and tooling costs, APT performed initial prototype work on parts that were laser cut from larger components built on existing tooling. In some cases, we filled prototype requests on the same day. We produced the blanks and coordinated with a reliable outside vendor to perform the laser cutting. The parts were then hand-delivered in time for Airpot to finish building the device and deliver it to a third-party testing group the following morning.

Once the design was finalized, production tooling was quickly built and qualified, so that APT could meet Airpot's tight manufacturing and delivery schedule. Tom Lee, Vice President of Engineering at Airpot, says, "We were under tremendous pressure from our customer to design special air cylinders for two new cockpit door latches. Applied Porous Technologies was able to provide the filters very quickly, and they provided great technical support. With their help, we were able to meet an aggressive production schedule."

As a service-driven company, APT works to ensure that each of our customers is as satisfied as Airpot was.

New Product: Seamless Porous Metal Tubes

Applied Porous Technologies is now producing a series of porous metal tubes and is working to develop a new line of end products around them. Porous metal tubes are produced by isostatically pressing powdered metal in specially designed molds to produce a seamless tube structure that is then sintered to form rigid porous filter tubes. The tubes can then be incorporated, with various hardware, into devices that include cartridge filters, gas spargers, applicators, air rollers, and other unique devices.

We currently produce tubes up to one inch in diameter, in most of our standard pore sizes. We will soon be expanding that line to include 1.5-, 2-, and 2.5-inch diameter tube products.

Sintered Porous Metal: An Engineering Medium

An artist, trying to capture just the right effect, will choose a material that best suits the piece. Whether it is oils, watercolors, or charcoal, the proper medium is every bit as important to the end product as the idea itself. Before making the choice, the artist must first understand how a particular medium can be used. Consideration must be given to such things as how a material flows on a brush, how it will blend with other colors, or how it sits on the canvas. The more an artist can learn about the application of each medium, the more tools become available – enhancing the artist's ability to turn an idea into a successful work of art.

For the design engineer, working with porous materials is much the same. The more an engineer can learn regarding the unique characteristics of porous materials, the greater the ability to successfully incorporate them into a design. Every porous material has a unique set of characteristics, and sintered porous metal is no exception. Although filtration is a common end use, the material exhibits a variety of properties that can be exploited in a wide range of other applications. For example, sintered porous metal can be used to control flow. It can also prevent flame propagation in an explosive atmosphere. In addition, sintered porous metal is used to sparge gas into process streams. It exhibits high corrosion and temperature resistance, making it an excellent choice of material for harsh environments. Sintered porous metal also works well as a rigid support material for other media.

The list of unique applications grows constantly. With such an extensive range of useful properties, it is clear that sintered porous metal is truly an engineering medium and a tool that should be a part of every design engineer's tool kit.

As the Applied Porous Technologies name suggests, we are not just in the business of building filtration products. Our true specialty is in providing our expertise and experience in the development and application of porous materials. We are constantly working to increase our understanding of the capabilities of our medium, developing new porous materials, and teaching our customers how to use this knowledge in their own applications.

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