Throughout the ages, ever since metal castings have been around, the lost-wax process has been virtually the only way to make investment cast parts...until now.

FOPAT, a FOam PATtern material has been introduced. Being dubbed The Next Generation Investment Casting Pattern Material, FOPAT is multi-component foam that is pushing the design envelope of wax-based investment cast parts.

As shown below, a long thin FOPAT pattern was successfully injected in January and February 2007. The size of the die cavity was 6” wide x 24” long with a thickness of 0.040” on one end and 0.060” on the other end. This demonstrates FOPAT’s capability to fill a long and thin cross-section AND the ability to remove such a pattern successfully in one piece.

The benefits offered by FOPAT over wax patterns include:

- Minimal pattern shrinkage gives stable pattern
- No shell cracking due to little or no pattern expansion
- Can withstand temperatures up to 300 F
- Cost effective for a given pattern
- Durable patterns for thin sections
- No chills required
- Shippable patterns - good handling & stability
- Potentially quicker and lower cost tooling
- Potential to eliminate leaching of soluble cores

FOPAT work began in the 1990’s but was accelerated during the past few years through the efforts of a team of industry members working with government sponsored programs. Over the past two years, almost a million dollars in funding has been allocated to help complete the feasibility and viability analysis which will now be followed by scale-up, tooling, and process optimization work. FOPAT LLC was created to commercialize the new technology.

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GIVE ME 3 STEPS - buyCASTINGS.com Guide to Buying CASTINGS

Saying all castings & foundries are created equal is like describing every tributary of water as a "stream" (the streams may all contain water, but no two are exactly alike), and so too with castings.

Many factors play a part in finding a suitable source for castings. Even the obvious factors, of size, metal type, and castings process have exceptions. So when you get to quantities, finishes, cost efficient production, quality certifications and manufacturing availability and add in literally tens of thousands of facility choices for production, it indeed can become a daunting task to find the suitable home for a particular group of produced castings.

Generally it is not the major corporations where buyCASTINGS assistance is most helpful. A typical buyCASTINGS.com client tend to be a lean, mid or smaller manufacturers maybe a machine shop who doesn't have unlimited resources for searching the globe for the right foundry. The cast product needs for this group call for a good match for casting product type, process, and quantities for a fair price. These companies tend to use buyCASTINGS as a development and problem solving resource. One of our primary targets is to decrease the risk of buying the right product without spending large amounts of time and money for researching facilities and quality systems or processes. There are over 800 foundries, with 500+ in North America, represented in buyCASTINGS.com system. Our partners have a wealth of experience in solving engineering issues and making quality castings for fair prices.

This unique diverse structure of suppliers allows buyCASTINGS.com representatives to narrow in on the best matches without spending months on research or bring prejudices about the production process. (All process types are represented.) Our foundries have willingly documented into our system their capabilities and capacities so they can spend their time working on projects which fit their facilities. When a request for castings is placed into the buyCASTINGS online system, our first step is to utilize this list to narrow the production facilities to a reasonable group.

The question of importing castings has become an important part of doing business. It is sometimes a complicated formula to determine if a suitable savings is worth the additional risks. We set out years ago to develop relationships with foundries and set up buyCASTINGS affiliated agents in China to assist our buyers in mitigating the risks. Our associates from across the globe help to communicate directly with foundries to overcome issues before they become problems and solve problems when they inevitably do arrive. This partnership has served us well allowing us to ramp up overseas casting development projects in record times, combining the efforts and resources of multiple facilities and integrating supplies from across the globe.

It is indeed a rare occurrence when buyCASTINGS cannot provide a match to a casting resource for any given cast product. You may feel lost in your search for castings, but with buyCASTINGS we may be able to get onto the right stream!

It's All about Value-Added Service in a Deflationary World

By Neil Chaudhry, COO buyCASTINGS.com, inc.

Manufacturing is a deflationary force. In the manufacturing world, by and large the prices have been going down for two decades now. They are certainly NOT going up like they are in the service sector. In services like health care, education, legal, financial, advertising...the prices continue to rise steadily but surely. No wonder, the hardware guys such as the cell phone manufacturers, computer and printer manufacturers are virtually giving away the hardware. Why? Because they know that the money is made in services like selling you the warranties, the monthly subscriptions, and the consumable supplies after they sell you the hardware.

The IT world realized this a decade ago or so. IBM started selling services to expand out of the PC box business. They started focusing on consulting, problem solving and value added services like customized software development rather than the manufacturing and selling of hardware. Why? Because the margins are a lot nicer, the pricing power is great, and there is little or no competition if you provide a niche solution.

Long term, this bodes well for internet services, IT customized services, product designers, anyone who is clearly providing value added service that is not easy for others to provide.

So, how does the foundry industry take advantage of this trend? We need to define our customer's need not just with respect to pricing and terms but with respect to service, delivery, solutions, bundling of services, and what do they value the most. Every customer has needs that go well beyond what they are coming to you for. It's our job to discover those needs, define solutions, define our value added service and show how we can satisfy those needs.

The difficult part is putting a value or a price on the value added services. The customer has to be willing to pay for the value added services, otherwise there is no value added or perceived value to the customer. How do you put a value on value added service? The value is the price that both parties agree on and if that price is less than your cost of providing that service than there is perceived value but no deal unless you are willing to take a loss for some other long term benefit perhaps. Ideally, you should be able to mark up your service if there is a significant perceived value to the customer.

In a manufacturing world where the price of the tooling, the castings, and the hard goods is stable or going down, there is no choice but to charge for value added services to grow your margins and profits.
buyCASTINGS.com Opens an Office in Cincinnati, Ohio

In September 2007, buyCASTINGS.com officially opened a new office on the north side of Cincinnati. The office is located at 9319 Cincinnati-Columbus Rd in West Chester, Ohio.

With more and more casting buying activity in the Cincinnati area, it was important for buyCASTINGS to service its customers efficiently and quickly.

With buyCASTINGS.com having approximately 1,000 foundries in its network, buyers in the Cincinnati area can now have access almost immediately to the buyCASTINGS.com foundry and associated supplier network that will allow them to obtain the castings and services they need.

At the present time, Bob Dzugan, President and Dave Rauen, Project Manager, buyCASTINGS will be located in the Cincinnati offices, but expect to expand with more casting personnel in the coming months.

The headquarters in Dayton will now have additional space for expansion as well, especially for upcoming government programs.

“It is important to us to be able to serve our customer needs as quickly as possible. With the new location, casting buyers in Cincinnati and Northern Kentucky can expect buyCASTINGS.com’s representatives to be at their facility at any time within an hour.” Bob Dzugan, President of buyCASTINGS Inc.
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Breakthrough in Investment Pattern Technology…

con’t from page 1

The project details will be displayed at the FOPAT Booth at the upcoming Investment Casting Institute’s 55th Technical Conference & Expo in Cleveland, OH, October 14 - 17, 2007. However, in brief, there are several cost and energy savings, which are being explored and quantified in the Phase II SBIR project by the FOPAT team. A few examples of the patterns, tooling, and some of the castings are shown below:

FOPAT offers the potential for saving energy, reducing cost, and extending the design capabilities of investment cast parts for defense and commercial components.

Please contact Mr. Neil Chaudhry at nchaudhry@buyCASTINGS.com or call 1-866-buyCAST to learn more about the various buyCASTINGS technology development & collaborative projects.
Drawings to CAD Overnight

On two recent occurrences, Mr. John Eric Voltin of Agile Technology services in Austin Texas has been a savior; converting 2D machining drawings to 2D fully dimensioned casting and associated 3D CAD files basically OVERNIGHT!!!

In the last six months, John has been involved in several projects where buyCASTINGS Inc. has a buyer that has final machined drawings but no casting drawings and files. In all situations, John Eric Voltin has risen to the occasion, understanding where to add machining stock and converting the 2D files to usable CAD and drawings for our foundries. The best part about this is that they have been done almost overnight. In a recent "panic situation", Agile started with only 2D drawings and within 2 days made casting drawings and files for 7 parts. Some of the cad files were done within hours, allowing the tooling to start immediately and allow for the buyCASTINGS team to complete investment casting tooling for 7 parts within 2 weeks. These parts were for the newly introduced MRAP military vehicle and required cast parts within weeks.

In another MRAP related part series, Agile started work about 5PM one evening and completed 6 complete casting drawings and files by noon the next day.

John Eric Voltin is one of the responsible suppliers in the buyCASTINGS.com network that allows our team to successfully compete and win many casting orders.

For more information about John Eric Voltin of Agile Technology or casting success stories, please contact Bob Dzugan at buyCASTINGS 937-259-1341.

Do you have at least two induction melting furnaces? Is your plant demand greater than 2000Kw? Is your demand charge greater than $6/kW? CALL 1-866-buyCAST AND ASK FOR OUR NO COST, NO OBLIGATION ENERGY COST REDUCTION PROGRAM!