

SYNERGIES

VOLUME 11

What's new at General Magnaplate Corporation

GENERAL MAGNAPLATE CELEBRATES ITS 50TH ANNIVERSARY IN 2002

Where Did It All Begin?

There is a saying that 'from small acorns, great oak trees grow' and this could not be any truer than in the case of General Magnaplate. Back in 1952, Dr. Charles Covino, a young man just out of college, started the Company in a small facility resembling a garage in Hoboken, NJ. Today, General Magnaplate boasts a worldwide presence with four US plants, one in Canada, and a network of licensees throughout Europe and Japan. Hoboken is not just famous for being the birthplace of Frank Sinatra, it is also the origin of a Company that now celebrates its 50th year in business!

So how did it all begin? Well, back in 1952 Dr. Covino set up a testing laboratory and sowed the seeds of a singularly unique business – the field of materials science. His first aim was to establish a testing laboratory for the Aircraft industry and he soon ventured into the use of metal platings and coatings and made them an integral part of aircraft performance. Dr. Covino had the foresight to realize that industry in general would become reliant upon metal coating, plating, anodizing, and polymers – a vision that has benefited businesses across the USA and the entire world.



Where It All Began

GENERAL MAGNAPLATE

50th



The birth of synergistic coatings came about when NASA approached the Doc with problems they were having with their space program. The metals NASA were using posed many problems. Aluminum, titanium and high strength steel were all failing because their surfaces did not provide long-term protection – and all other conventional lubricants would simply 'boil' away in the vacuum of space.

NASA scientists sought to bolster the performance of primary metals in outer space and, like all good patients with an ailment, they brought their problem to the Doc. Dr. Covino and his team at the fledgling General Magnaplate developed an answer – a range of new coatings that combined the advantages of a hard-coating with the infusion of low-friction polymers or other dry lubricants.

The rest, as they say, is history. From establishing itself in the aerospace industry, General Magnaplate's coatings went on to be

used in thousands of other industrial applications, including food and drug packaging, chemicals, plastics, textiles, gears, hand tools, and even military hardware. Not only do we use General Magnaplate's products at work, but they often reach out to us at home too. Nabisco,

PROFILE ON GENERAL MAGNAPLATE CANADA

Canada Is Doing Great – Eh!

As part of a new regular feature in Synergies, we will be taking a closer look at some of the successes achieved by our satellite offices across North America. First on the list is General Magnaplate's Canadian plant which, thanks to the continuous hard work of Cathy Geddis and her team, is building a list of very happy customers north of the border.



The steel fabrication industry has a powerful presence in Canada and, as a result, provides a lot of challenges for Cathy's team. One company that tops the list of happy Canadian customers is Bellevue Fabricating Ltd. Based just two hours east of Toronto, in the water-side setting of Belleville, Ontario, Bellevue Fabricating Ltd. has established itself as a diversified, quality metal fabrication company and now boasts a roster of diverse customers, from the local Black Diamond Cheese Company, to leading multinational, blue chip corporations.

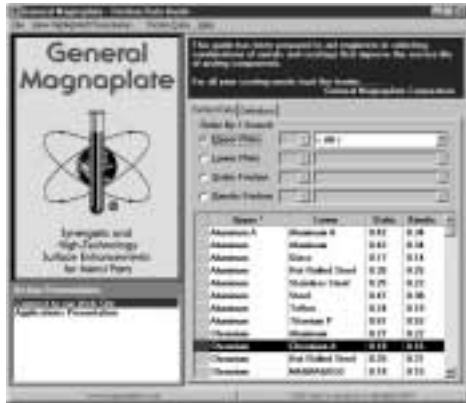
Over the past thirty years Bellevue Fabricating has developed a reputation for its structural/stainless steel fabrication business and machine shop services, and now employees over 100 staff across two sites. Bellevue Fabricating has based a large portion of its success on maintaining long-term relationships with customers. One of the Company's clients for the past twenty

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General Magnaplate Prevents Friction at Trade Shows

If you visited this year's National Manufacturing Week in Chicago from March 18-21, then hopefully you stopped by the General Magnaplate booth to pick up your free Friction CD. The CD has been prepared to guide engineers in selecting combinations of metals and coatings that improve the service life of mating components.



The new, easy-to-use Friction Data Guide shows comparisons of the coefficients of friction (COF) of a variety of combinations of treated and untreated surfaces. It identifies both static friction (the starting friction) and kinetic friction (friction in motion) obtained from mating tests conducted on combinations of Magnaplate's coatings and a variety of materials, including aluminum, steel, and stainless steel.

However, in case you did not make it to the show, feel free to stop by the General Magnaplate booth at one of the following shows later this year:

Trade Show Calendar 2002

June 4-6

East Pack, Javits Convention Center, New York, NY:
Booth 624

September 10-12

Label Expo 2002, Rosemont Convention Center, Rosemont, IL:
Booth 3602

November 3-7

PackExpo/IEFP 2002, McCormick Place, Chicago, IL:
Booth 8066

A Commitment To Quality and Our Customers



Dr. Covino, founder of General Magnaplate, has been an advocate of Quality Control for over 50 years!

Last year General Magnaplate announced that it would be undergoing an implementation program to obtain ISO-9001:2000 Certification. Reaffirming its commitment to

quality, the Company has dedicated the necessary resources and time to ensure the next step to "World Class" quality.

Larry Campbell has been assigned the task of 'Management Representative' for the program and it is under his careful supervision that the program is being undertaken. And according to Larry, progress so far has been excellent and the company is on schedule for completion in 2002.

Larry reports, "ISO-9001:2000 implementation will be major benefit for our Company because it defines a world-class approach to the quality of process and product. It is not only a key step in ensuring our manufacturing facilities adhere to the highest standards in product quality and performance, but it also confirms our commitment to our customers."

The ISO-9001:2000 program covers a range of topics from continuous improvement of quality and meeting/exceeding customer standards, to safety in the workplace and improved efficiency/productivity in the workplace.

"There are 212 elements that have to be addressed before registration is possible," adds Larry. "It involves a lot of training, thought, time and effort on behalf of the whole company, but it is an investment that both General Magnaplate and our customers will reap the benefits of."

DON'T LOSE YOUR BATTLE FOR THE WANT OF A GOOD COATING

Back in the days of yore, the battle was lost for the want of a horseshoe nail....don't lose your battle all for the want of a good coating.

For the want of a good coating, the part was lost.

For the want of a part, the machine was lost.

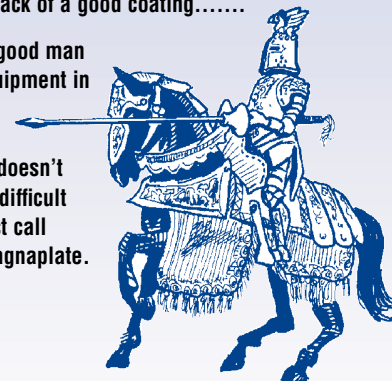
For the want of a machine, the line was lost.

For the want of a line, the factory was lost.

For the want of a factory, the business was lost.

All for the lack of a good coating.....

Keeping a good man and his equipment in the field is not easy – but then it doesn't have to be difficult either! Just call General Magnaplate.



Canada is doing great

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years has been a multi-national company, who markets more than 300 leading brand products to over five billion consumers throughout the world. Recently this company came to Bellevue Fabricating with a problem that was hindering production – the dead plates which bridge conveyor belts together and the conveyor belt rollers themselves were showing signs of wear and tear. Not only did they want to ensure the parts wore well, but also had other key factors to consider.

“First of all the steel and aluminum parts had to have good release properties, so that substances did not stick to the rollers and dead plates,” comments Mike McCormick, Sales Representative at Bellevue Fabricating. “Secondly, any coatings added to the metal had to pass FDA standards because the production parts are in contact with food and pharmaceuticals.”



General Magnaplate, Ajax, Ontario

“We contacted General Magnaplate with the problem and after minimal testing they were able to suggest a solution. Because they are such a valued customer it was imperative that General Magnaplate worked quickly with us to provide the best possible results.”

The parts in question were shipped to General Magnaplate’s Canadian division who began a ‘synergistic’ coating process with a product called NEDOX. Initially developed to ensure reliability, wear and performance of metal parts in NASA’s space vehicles, NEDOX creates a hard dry lubricating surface that resists corrosion, friction, sticking, galling and static build-up, while also exhibiting superior mold release.

Importantly, in this particular case, compliance with NSF, FDA, USDA and AgriCanada codes, makes NEDOX particularly appropriate for food and pharmaceutical applications. It eliminates the potential of mold and bacteria by creating a dense,

non-porous surface. NEDOX has been used extensively in the food and drug industries on processing, packaging and handling equipment to prevent product residue from clinging to machinery and equipment. Because it permits sanitation cleanup with just plain water – eliminating the use of harmful caustics or other dangerous chemicals – NEDOX is considered ‘environmentally friendly’.

Following the coating work done by General Magnaplate on these parts, Bellevue’s Mike McCormick received extremely positive feedback. He comments, “The customer was delighted with the results and although time will be the true test, the products have stood up very well and are wearing well,” reports Mike. “In addition to the technological expertise they offer, General Magnaplate has also shown that they can accommodate our often urgent deadlines.”

Cathy Geddis of General Magnaplate added, “We keep our customers happy by not only delivering a solution, but also delivering it in a time scale that suits their business. General Magnaplate is always happy to ensure we can answer those needs, no matter what the circumstances or time scale, and keep delivery times and lead times to a minimum.”



GM CN NEVER TIRES OF PROVIDING THE RIGHT SOLUTION

Headlines in the automotive industry have been dominated by the tire industry in past years and, as a result, manufacturing processes are now under greater scrutiny than ever. One Canadian company, RMS Equipment in Kitchener, Ontario, has made it their mission to ensure that manufacturers avoid costly down time on equipment and recently they made a critical design change to the coating of components. Founded in 1917, this custom machinery company has established relationships with most of the world’s tire manufacturers.

“We provide machinery to a wide cross section of industries,” reports Steve Boronka, Engineering Buyer for RMS Equipment, “but it’s true to say that we have become something of a specialist in the tire manufacturing sector. About 80 percent of our business comes from tire manufacturers outside of Canada, and there are not many manufacturers we have not worked with at one stage or another.”

“When tire manufacturers approach us with deterioration problems on components, there are critical properties that need to be reinforced,” continues Steve Boronka. “They need to be made harder to avoid wearing during the manufacturing process and they need to remain lubricated. However, any coatings used have to have a minimal thickness because of the tight tolerances the parts have to meet.”

“One specific problem we often encounter in the tire manufacturing industry is the deterioration of tire drums, which operate 24 hours a day. These are made from aluminum to be light and fast, but crucially they have to have a hard shell to deal with the constant, repetitive work of expanding and contracting, to stop them from wearing out too quickly. And because they rub against materials and have to be able to slide, lubricity is also very important.”

RMS approached General Magnaplate’s Canadian division with this problem and the team began to investigate which surface enhancing coating would provide the best solution.

“General Magnaplate took the parts in house,” continues Steve, “and coated them in a synergistic coating which was thin enough and solved any wear and tear problems. The coating also gave the components a smoother surface, therefore minimizing any sticking and slipping.”

“Our clients have been very satisfied with the new coatings applied and, importantly, General Magnaplate has been able to work to a very tight schedule and deliver the components on time. They have also been careful to ensure that the parts delivered are well finished and not rough or damaged. This is key because the work performed by General Magnaplate is a reflection of RMS Equipment, and we only want to provide our customers with the highest quality solutions.”



Canada even has its own proprietary coating: Dynaloy

50TH ANNIVERSARY

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for example, used a General Magnaplate finish on the molds that make the distinctive Milk-Bone Dog Biscuits. Even Gertrude Hawk has used coatings on molds for its delicious candy!

50 years later, General Magnaplate now offers a family of 13 coatings, many of which are compliant with FDA, NSF, USDA and AgriCanada codes for food and drug contact. General Magnaplate prides itself on its long-standing reputation as one of the industry’s foremost “problem solvers.” Utilizing its internal R&D group, the company is well known for taking on the most difficult of challenges. A testament to General Magnaplate’s place in the forefront of technological advances is the appointment of HI-T-LUBE to the Guinness Book Of World Records! In achieving the world’s lowest coefficient of friction (0.03), HI-T-LUBE won the accolade of the “world’s most slippery solid” and is used on all types of mating parts.

So what is the ‘Doc’ up to today? Well, he still keeps an eye on General Magnaplate, now in the experienced hands of his daughter and son-in-law, Candi and Ed Aversenti, and pursues his hobbies. As for the company, General Magnaplate employs 125 people nationwide and has changed somewhat from the fledgling company established in 1952 in Hoboken. However, its aims remain the same; to solve its customer’s problems with the best coating, in the shortest amount of time, in the most efficient manner.

"Why Replace Equipment When You Can Repair With New Coatings?"

**says Edmund Aversenti,
Executive VP, and Chief Operating Officer at General Magnaplate**



*Edmund Aversenti,
Executive VP, and Chief
Operating Officer
at General Magnaplate*

"As the tough economic conditions continue to effect industry in all marketplaces; from manufacturing through to food packaging, preserving cash flow has become an even greater priority for most businesses. The aftermath of September 11th has not helped the situation for many companies and fiscal belts are being pulled tighter and tighter, all the time. One area that major cost savings can be realized is in the repair of equipment that, in better times, would be replaced. Advances in coatings technology have provided the means for the repair of worn equipment, as a valid long-term solution, that provides immediate cost savings.

In many cases we have been able to provide customers who are facing enormous capital equipment expenditure with a solution that will free up critical cash flow. This often makes the difference, and provides an alternative to other less favorable solutions for cash flow preservation, such as workforce cutbacks and marketing reductions."

At General Magnaplate, we have developed a range of 'synergistic' enhancement coatings which protect parts against wear, abrasion, and corrosion. When applied to all types of base metals, these coatings give the metals an extremely hard surface and instill other properties such as lubricity, resulting in reduced friction. We also have a range of products that are USDA, NSF/FDA and AgriCanada compliant, making them highly suitable for the pharmaceutical and food industries.

As you have seen from the front cover article we are celebrating our 50th anniversary. General Magnaplate's first coatings have an interesting beginning; they were the result of a solution developed for the early NASA space program, which found that existing coatings could not protect their space hardware from the harsh elements of space.

Over the next 50 years, General Magnaplate's family of coatings has grown to thirteen high-tech metal enhancing coating processes, which are applied in a multi-step process that starts with a series of specialized cleaning treatments. An enhancement of the substrate's surface is then performed by conversion, deposition, thermal spray, or a blend matrix of all three technologies.

The process continues with a controlled infusion of proprietary polymers or dry-lubricating metals. Unlike less sophisticated 'paint-on' coatings, these particles are mechanically cross-linked and locked-in through a proprietary process to become a permanent, integral part of the new surface.

These permanent, non-stick, self-lubricating coatings can be used to protect and enhance the operation of sealing bars, molds and other parts against abrasive wear and corrosion. Coupling this with the release properties of the coating, you dramatically extend the service life of parts which leads to significant cost savings. In fact, we have now developed a 'One Stop Shop' program at all of our plants to repair damaged parts.

At General Magnaplate, we have developed a wide range of surface enhancement coatings to solve many different types of metal performance problems. Plasmadize, for example, can offer metals lubricity and wear resistance unsurpassed by conventional thermal sprays. Magnaplate HMF imparts wear performance to aluminum, steel, stainless steel, copper, and other alloys.

Whether coating stainless steel balls to eliminate galling and extend the life of a valve, or coating a mold to protect against abrasion and erosion, the use of General Magnaplate's high quality coatings can extend the life of critical equipment. And more importantly,



extending the life of parts can free up cash flow in difficult times."

*Candi Aversenti,
CEO, reiterates
General
Magnaplate's
Quality policy.*

The employees of General Magnaplate Corporation will, through continuous improvement, provide surface enhancements which consistently meet or exceed the standards set by our customers and do so with on-time deliveries in an environmentally friendly, safe and efficient workplace.

For more information, or to request literature on any of our "synergistic" surface enhancement coatings, contact:



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