



Small Foundry Gets Away from Outsourcing and Long Lead Times PLUS Gains Flexibility

THE COMPANY

Founded in 1934, the Independent Protection Co., Inc. (IPC) is a family owned and operated corporation, currently in their fourth generation of manufacturing quality lightning protection materials. In an interview with Tony Bradley, who serves as Plant Manager the Goshen, Indiana-based company, we learned that his company provides a very special kind of protection, so special, in fact, that there are just twelve primary suppliers worldwide. IPC designs and manufactures systems that defend man-made structures against one of nature's most powerful weapon – Lightning.

Most estimates suggest that lightning hits the earth over 50 times per second, which means that the earth is getting pummeled with lightning at the rate of over 4.32 million strikes every day. Considering that any single strike can carry several millions of volts, protection from this particular form of Mother Nature's wrath is in great demand.

That's where IPC comes in. Inquiries for lightning protection systems come to IPC from all over the world. The firm's primary products include system design and layout services, installation assistance, on-site supervision, and supply of protection devices and individual system components such as high performance

lightning rods. End users put these elements in service for lightning surge protection of just about any kind of man-made structure, from warehouses and factories to skyscrapers and single family homes. Most of the applications IPC engages are for new, commercial-sector construction; however there is also momentum in less conventional areas, such as golf courses and even individual trees. Demand for IPC's products usually coincides with the pace of new construction, which, according to Bradley, hit its peak back in 2008. "Our business is strange that way," Bradley says. "We didn't feel the effects of the last recession until way after it was over. We were last into the 2009 recession; because the new construction projects weren't finished up before the rest of the economy went down."

"With our Eurotech machine, we are able to run 24 hours a day, lights out on our products, which is an increase in production of over 25%. We were also able to cut out 8 operations on our tripod castings; and scrap factor went from 20% down to 0% on our main parts."
-Tony Bradley, Plant Manager

About five years ago they were running into long lead times for some of their parts as their machinery wasn't giving them the flexibility they needed. They turned to outsourcing but still often ran into longer lead times than they wanted. "We operate with the 'Golden Rule' philosophy and strive to treat all customers the



way we would like to be treated, so we wanted to find a solution that would give us better lead times and the flexibility to make all our parts in house," said Bradley.

THE PROBLEM

IPC had a small foundry and was sourcing out some of their parts to machine shops in their area. "We did not have the flexibility of changing our products and had long lead times to deal with. We also wanted to bring in house some seat track T-nuts for our sister company Turtle Top, so I started to look on the internet, went to some machine shows and visited some nearby machine shops. Most of the CNC companies we talked to did not want to run the steel T-nut on their CNC lathes as they would not guarantee their machine would be able to run them. Then I ran across a web page on the internet that said 'Take the Eurotech Challenge', so I filled out the questions on it and the next day I got a call from Brendon Gideon, from Superior Equipment (Eurotech's IN distributor).

THE SOLUTION

We met with Brendon and Pete Heins and showed them what parts we wanted to make on a CNC lathe. They said the Eurotech E42L Turning Center would be the machine we need and Eurotech would guarantee it would do the T-nuts for buses. We purchased our Eurotech E42SL Turning Center and as we didn't know much about CNC lathes greatly benefited from Eurotech's Free Training Program. Pat Cochren from Eurotech had us trained and running in no time. We have run close to 100,000 of these T-nuts and have been able to improve the quality and quantity of our Lightning Protection Products.

One of the key reasons IPC is so well positioned has to do with process improvement brought about by key changes in manufacturing philosophy. In a way, a different kind of lightning struck at IPC seven years ago, when the company decided to purchase its first Eurotech machining center. "At the time, we were using several manual lathes and drill presses as well as our on-site foundry to produce our lightning rod points, adaptors,

and bases," said Bradley. "Then a representative from Eurotech came in and told me we were sitting on a gold mine as far as improvements we could make with a multi-axis machine. Turns out that the Eurotech rep was right."



Once IPC installed the Eurotech machine, significant progress was made in productivity, efficiency, cost and quality. There was an additional benefit; IPC was facing the impending retirement of three seasoned operators, so the move to a more automated process, in keeping with the digital mindset of young people entering the manufacturing workforce, seemed to be timed just right.

RETURN ON INVESTMENT

"Eurotech was a gold mine," Tony said. "We went from 15 operators down to 9 and from running 3 mold lines in the foundry down to 1! AND...our quality went way up as we were able to make parts machined to precise specification on the Eurotech out of solid billets and in one operation instead of casting them in the foundry."

Tony pointed out that with the pitfalls of porosity and inclusions that are often present when casting metals like brass, aluminum and copper, scrap rates can go through the roof. "After we put in the Eurotech," Bradley said, "our scrap factor went from 25% down to less than 3%. That alone qualifies for 'gold mine' status."

When asked about how investing in the Eurotech multi-axis machine impacted his business, Tony indicated that, "Quality has dramatically improved; and throughput has improved to the tune of 25%. I would say that these improvements along with the new ability to run Lights Out with a smaller staff have been a very positive and profitable impact by anyone's standard."



