

G.O. CARLSON, INC.

custom producer of specialty metals



The Steel Division maintains an extensive inventory of stainless steels nickel alloy, titanium and copper-nickel alloy plate and slab stock.

In a world of increasingly large, volume oriented specialty steel companies, G. O. Carlson, Inc.'s two operating entities – its Steel Division (plate and plate products) and Electralloy (ingot, pig, billet, bar, rod and wire) – are effectively serving customers who are seeking unique combinations of grade, specification, quantity, delivery, size and shape requirements at competitive prices. Looking forward, G. O. Carlson, Inc. will continue to focus on that market, employing its experienced, creative sales personnel who are equipped with cutting-edge e-commerce and other advanced tailor-made sales tools backed by world class manufacturing facilities which are operated to maximize flexibility and customer service.

By Miel Bingen and Caroline Linsen

By no stretch of the imagination can G. O. Carlson, Inc. be called a large company. Rather, it prides itself on the fact that it is not. As A. Frederick Travaglini, Chairman of the Board of this privately held company puts it: “We consider ourselves to be the premier custom producer of specialty steel products. Note the phrase ‘custom producer’: we rely on the combination of our world class production capabilities along with our experienced, customer sensitive sales teams to satisfy our customers’ unique needs. Whereas the larger steel mills have to rely on volume and capacity utilization, we concern

ourselves with flexibility and customer requirements. We can move more quickly to provide the special needs of the customer, whether it is delivery, melt specifications or special cut shapes. That is where we concentrate our efforts.”

In the field of stainless steel, nickel alloys, titanium or copper-nickel alloys, G. O. Carlson's two operating entities, the Steel Division and Electralloy, are forces to be reckoned with. G. O. Carlson's founder, Gunard O. Carlson, started the business in 1936 after recognizing that there was a market for tailor-made stainless steel plate. Since he could not sell the whole plate every time, Carlson decided to build a small machine shop in Thorndale, Pennsylvania, to make use of the ‘stock ends’ that were generated. “Excess plates were stored outside in an orchard under the protective cover of apple trees,” says Mr. Travaglini, Carlson's son-in-law. Over the years, business grew as G. O. Carlson, Inc. became an important supplier of specialty plate and plate products to the aerospace, biotechnology/pharmaceutical, chemical/petrochemical, energy and power, food processing, marine, pollution control, pulp and paper and thermal processing industries. Carlson has been a worldwide leader in supplying nuclear quality materials for both commercial and military power applications. With Gunard C. Travaglini, Steel Division Sr. Vice President – Operations and Frederick C. Travaglini, General Manager – Property Group, the third generation is now actively involved in the family-owned business.

The next major step forward took place in the 1990s, when G. O. Carlson, Inc. made a strategic purchase of the assets of ingot supplier Electralloy an Oil City, Pennsylvania company. The potential opportunities associated with acquiring Electralloy were quite obvious to Horace L. “Kep” Kephart, the corporation's President and Chief Executive Officer, who was the point man on the acquisition team. “Electralloy was a diamond in the rough; it was being operated by a small but extremely talented team of people. Regrettably it had, for a number of years, been starved of investments in equipment and process upgrades by its owners. It was obvious to us that this could be remedied

by an enlightened, caring company who understood the business and had the resources to make the needed investments. In addition, the acquisition of Electralloy would bring under common ownership an assured supplier of specialty steel ingots for the Steel Division. Over this past decade, we have poured in all the funds needed to bring Electralloy up to the standards of a world class, cost competitive air melt and remelt shop. In addition, we have given support and encouragement to their management team to build the business utilizing their inherent entrepreneurial drive. The results have exceeded even our fondest dreams.” The Steel Division and Electralloy operate as two independent sister companies under the flag of G. O. Carlson, Inc. The links between both companies are close, but based on each entity's pursuit of profit. There are other synergistic side effects to the arrangement. The quality and production control departments as well as the sales management of both entities frequently communicate with each other. For example, when the Steel Division has an opportunity to receive an order that is contingent upon modifying the specs or arranging better delivery, it works closely with Electralloy to ensure that the customer's needs are being met even if it requires scheduling extra production shifts. And when a Steel Division sales person calls on a customer, he keeps his eyes open for opportunities for products that Electralloy might provide, and vice versa.

NICHE OPPORTUNITIES

What the companies share at all times is their commitment to being the premier custom producers in the industry. This often leads to “niche opportunities”. One example of this has been the recent partnership of Electralloy and Hoeganaes Corporation. Just this year Hoeganaes installed a multi-million dollar stainless steel water atomization facility at Electralloy's plant, bringing together Electralloy's advanced melting technology and Hoeganaes' experience in producing stainless powder products. The result is stainless powder now being produced in 20 ton batches with green strength properties comparable to traditional iron powders. Another advantage is Electralloy's flexibly operated melt shop; it rou-



A new state-of-the-art waterjet cutting system enables the Steel Division to supply cost effective, near net shape parts from specialty plate.

tinely adjusts its melt schedule to produce the material in the time frames Hoegaanes specifically needs.

PRODUCTS AND MARKETS

G.O. Carlson's Steel Division offers a wide range of specialty plate and plate products. The company produces 80 grades of material in plate from .1875" through 12" thick with widths to 168" and lengths to 540". The extra-large plates enable customers to eliminate costly weld seams. At Carlson's Coatesville, Pennsylvania plate processing facility rings, discs, tubesheets, cut bar and special cut shapes are produced. In house non-destructive testing and metallurgical laboratory services are provided. The Steel Division, utilizing Electralloy's melting expertise, recently expanded

its line of specialty alloys with the additions of GOC 22 (UNS N06022) a highly corrosion resistant alloy, C HX (UNS N06002) a high strength heat resistant alloy for gas turbine applications and E 36 (UNS K93600) a low expansion material used for aerospace composite molds.

"Custom-made" is the word on everyone's lips at the Steel Division. That is why it is crucial that the company has at its disposal every existing cutting methodology or process. The recent installation of a new water-jet cutting machine is just one example. This state-of-the-art machine enables the Steel Division to supply its customers near-net shape parts with no heat-affected zone and with tolerances equal to or better than machining. In addition, "what

the Steel Division cannot do in-house - for instance heads, cylinders, special heat treatments or polishes - we sub-contract in order to provide one-stop shopping for customers", Gunard C. Travaglini, Steel Division Senior Vice President of Operations, explains.

Electralloy has many more grades and specifications as it services a wider variety of markets. It can provide ingots, pigs, billet, bar, coil rod and even weld wire. The Nitronic® family of alloys is produced in all forms. Electralloy will add any special grade or will work with the customer to develop new melting specifications when there is a need for it.

Electralloy prides itself not only on customer focus but also its flexible melt facilities, which includes an electric arc furnace and Argon Oxygen Decarburization (AOD) processing. The plant uses AOD vessels with capacities of 30, 20 and 22 tons. Electralloy's new Remelt shop contains one of the largest VAR and ESR furnace installations that has been installed in the past 10 years in North America for specialty steel production. All the EAF, AOD and Remelt production controls are computer-operated, enabling very tight chemical tolerances and reproducibility. Electralloy's other asset is the creativity of the staff, says Tracy Rudolph, President and Chief Operating Officer of Electralloy. "We have built up a very special business philosophy through the years. When

CQO2

In the old days, 24-hour service meant hooking up the company telephone lines on weekends to the private residences of Gunard O. Carlson and Mr. Travaglini. Today, CQO2 (www.cqo2.com) does the trick all by itself. CQO2 stands for "Customized Quotes and Orders Online"; it is a patent pending e-commerce quotation/order entry system that was developed in-house by G. O. Carlson. CQO2 is available online, anytime, anywhere enabling customers who may be half way around the world to do business with the Steel Division during their normal business hours. The goal for CQO2 is very simple: sell more specialty steel. Out there in this big world there are a lot of companies that need a way to quickly obtain competitively priced quotes and to conveniently place orders with a reliable producer for specific combinations of grades, specifications, sizes, shapes and edge treatments of specialty steel in shipment times that meet their needs. They also have the ongoing need to be able to easily recall and revise their quotes and, in the process, automatically obtain current price and shipment time information. CQO2 does all this for them. It also provides another vehicle through which they can easily get in touch with one of our experienced salespersons who can discuss their needs and offer ways to "customize" more effective ways to have them met.

Today CQO² is an e-commerce platform that targets the specialty steel plate market providing instantaneous customized quotations for cut-to-order and random-length items. The user can store up to 50 quotations, update prices and delivery instantaneously with current information and if necessary revise the quotes. With one keystroke, the quotation is changed into an order. Another feature of the system is that with one click of a button the user can switch from English to metric units. CQO², which was introduced in September 2000, has already been visited by users from 25 nations outside North America. As a result, this e-commerce tool is contributing to an expansion in the geographical distribution of sales; the Steel Division expects even more along that line in the future.

The next step is already on the drawing board. Discussions are underway with other companies to expand the breadth of the current CQO² self service e-tail store to incorporate more kiosks, each specializing in a particular type of metal such as carbon steel, aluminum, copper and brass. Behind each kiosk the user will find the company that actually produces the material. The expanded self serve idea will attract more customers for all companies represented on the site: someone who may come in for copper will also notice the kiosk offering stainless steel and visit it when he needs that material.



The new remelt installation at Electralloy features two of the largest furnaces operating in North America. The electroslag remelt unit (shown above) and the vacuum arc remelt unit can both process rounds up to 40 inches diameter.

attract extraordinary clients. The lengths to which Electralloy will go to fulfill a specialty need are illustrated by a story related by Mr Rudolph: “The Korean War Memorial in Washington DC is the only war memorial in the United States ever made out of stainless steel – our steel. Electralloy was contacted by the art foundry that was making the figurines for it. They were having trouble getting the facial expressions right and asked if we could help. We re-designed the chemistry and produced a trial heat. The foundry poured the moulds again and the artist was very pleased with the result.”

North America is the main market for G. O. Carlson’s Steel Division and Electralloy products.

approach can provide real advantages to the customer.”

POWERFULL APPROACH

“Globalization and additions to stainless production capacity that are far above that needed to meet increasing demand will undoubtedly have an adverse impact on stainless producers everywhere over the next several years. Much of the capacity additions have been fueled by government subsidization, an ongoing problem that must be effectively addressed by all countries,” Mr Kephart remarks. Having said that, how does all this affect G. O. Carlson, Inc. and its two operating entities? Both entities recognize that they will have to become even less dependent on the sale of standard size, commodity grade materials in standard quantities. “We will continue to find ways to provide material at a reasonably competitive price to customers who need it in a hurry as well as orders which require customized handling”, states Kephart.

“Another important aspect of our strategy for the future is focussing on nickel alloys, duplex stainless steels, low expansion materials and copper-nickel alloys. These are exactly the types of materials that fit our expertise. These developments give us even more impetus towards being a custom producer with an expanding base of customers. There are certainly thousands of potential customers out there who can benefit from our services and we are finding ways to reach out to more of them. Which brings us to CQO² (see box) and providing our sales people with even more powerful sales quoting tools. Any way you look at it, G. O. Carlson’s Steel Division and Electralloy will continue to pursue market opportunities that can benefit from our flexible, custom production approach to business.” ◀

a customer comes to us, the key issue for us is ‘how do we do it?’ instead of ‘can we do it?’ Our customers recognize this. When their needs demand a new grade or a change in the standard specifications, they know that the metallurgists at Electralloy will find a way of doing it. If it is physically possible, and if Electralloy can make a profit, we will produce that material.”
Being a specialty steel producer can

Both entities are expanding their sales representation in Southeast Asia to increase market penetration there. Over the past years, the Steel Division has provided nuclear-rated material for Korean power plants. Explains the Steel Division’s Travaglini, “Both operating entities are selective in our outreach beyond North America. We’re aggressively pursuing opportunities in these markets when our custom production

FACTS & FIGURES

G. O. CARLSON, INC.’S OPERATING ENTITIES

	Steel Division	Electralloy
Location	Thorndale, USA	Oil City, USA
Number of employees	140	185
Products	Specialty plate and plate products in stainless steel, nickel alloy, copper-nickel alloy and titanium and Nitronic® grades.	Custom melter of stainless steel, nickel alloys, copper alloys, low expansion alloys and a licensed producer of Nitronic®
Websites	www.gocarlson.com and www.cqo2.com	www.electralloy.com,

Nitronic® Registered Trademark of AK Steel, Inc.