



Innovation for customer-specific solutions: HandyTube Corporation

HandyTube Corporation, a Steel Partners Company, is a premium manufacturer of seamless stainless steel and nickel alloy coil and straight length tubing. For over 70 years, the company has been committed to providing customer specific solutions, and will be celebrating their 40th anniversary in their Camden, Delaware, U.S.A. headquarters in 2021. *Stainless Steel World* spoke with Lisa Presutti (President), Dean Hoffmann (Vice President, Sales and Marketing), and Christopher Rowland (Vice President and General Manager), about how HandyTube has taken steps to stay customer and employee focused during COVID-19, their capabilities to provide custom solutions, and what their plans are for 2021 and beyond.

By Brittani Schroeder

A proven history

HandyTube Corporation's journey began in 1867 with the founding of precious metals company Handy & Harman. In 1892, Handy & Harman was first to set the domestically traded price of silver, and the name is still in use today in the metals stock exchange. "HandyTube's mission is to be recognized as the global leader in customer service, quality, and delivery in seamless stainless steel and nickel alloy tubing," says Lisa Presutti. "We serve diverse industries, and we know that the end user expectations for each industry or application differs. We need to ensure we are delivering quality tubing that meets

each need correctly, and that is why we invest in highly focused and dedicated commercial and engineering teams."

Manufacturing facilities and capabilities

HandyTube serves domestic and international customers from its Camden headquarters. With warehouses in Texas and Singapore, and a sales office located in Shanghai, China, the company can ensure that all the needs of their global customers are met. "The USA manufacturing facility is approximately 100,000 square feet, sitting on 11 acres here in Delaware," says Christopher Rowland. "We have a

team of 160 people spread across the different locations. With our customer service team located in the same facility as engineering and manufacturing, we can provide feedback to our customers in an accurate and timely manner. This allows significant flexibility in expediting orders and the customization of specific requirements, so our customers receive exactly what they need, when they need it. We also have an ambitious goal to respond to all inquiries within 48 hours." To provide customers with the best value and service, the HandyTube manufacturing facility focuses on lean processes: "Lean manufacturing



practices provide our customers with high value products by eliminating waste, streamlining processes and decreasing lead times,” explains Rowland.

High-performing nickel alloys and ultra small diameter tubing

HandyTube manufactures tubing for a wide range of industries, including oil and gas, chemical processing and instrumentation, alternative energy, life sciences, nuclear power, aerospace, and space exploration. “Our seamless tubing is available in both coils and straights in numerous high-performing, corrosion resistant stainless steel and nickel alloys,” says Dean Hoffmann. The company offers common 300 series alloys, Alloy 276, Alloy 22, Alloy 400, MP35N, Alloy 825, Alloy 600, Alloy 625 and Alloy 6Mo (UNS S31254) featuring wall thickness up to 3.8 millimeters. Rowland states, “Our tubing can also be coated and encapsulated through our partners.”

HandyTube’s coil tubes feature outer diameters as small as 0.017 inch (0.508 millimeter) and inner diameters as small as 0.003 inch (0.076 millimeter), working up to 1 inch outside diameters and 0.150-inch walls.

HandyTube’s straight length tubing is available in a wide variety of sizes, ranging from outer diameters of 0.017 inch and inner diameters as small as 0.003 inch, up to 0.750 inch outside diameters.

HandyTube’s Ultra-Small Diameter (USD™) capillary tubing for

chromatography applications features outside diameters less than 0.0625 inch (1.59 millimeters). “To minimize the risk of cross-contamination and save our customers time, we developed our proprietary Chroma Clean ID™ cleaning process, which removes manufacturing lubricants and other contaminants from the tubing interiors,” explains Hoffmann. “In addition, our Chromat ID™ drawing process provides inside diameter (ID) support during the manufacturing process, which creates smoother, consistently uniform ID surface characteristics.”

Handling the impact of COVID-19

At HandyTube, the safety and wellbeing of their customers and employees is always their top priority. It is impossible to anticipate the

outcome of a global crisis such as the Coronavirus (COVID-19) pandemic; as a result, HandyTube seeks to understand current impacts, potential risks, and mitigation opportunities to assess supply chain resilience during this time. “Our business was declared essential and we continue to serve our customers without any supply disruptions, while protecting our customers and the HandyTube team members,” Presutti says. “We will continue to follow guidance from the various health agencies and government officials to maintain a safe environment for everyone involved.” During the pandemic, HandyTube has taken steps to ensure the safety of their team, including: enhanced cleaning protocols; required stay-at-home policies for all employees



From the left; Christopher Rowland (Vice President and General Manager), Lisa Presutti (President), and Dean Hoffmann (Vice President, Sales and Marketing).

[COVER STORY]

who are feeling ill; encouraging all employees to take health precautions recommended by the Centers for Disease Control and Prevention (CDC) agency in the U.S.A. – such as frequent handwashing and the use of alcohol-based hand sanitizers; and, expanding work-from-home options to provide associates with additional flexibility if they are feeling unwell or have contracted the virus.

HandyTube is very committed to safety. The company achieved over one year without an Occupational Safety and Health Administration (OSHA) recordable, and also completed 2020 with under a dozen positive COVID-19 cases (of which, those employees were not in the office), all while maintaining a positive behavior culture.

Providing customer-specific solutions

HandyTube draws and manufactures stainless steel and nickel alloy tubing in house, apply their expertise and modifying their processes in collaboration with their customers to solve their most urgent problems. By partnering with HandyTube and their wealth of resources, their customers can achieve their objectives, eliminate costly and time-consuming engineering processes, and build a trusted relationship.

Using flexible manufacturing processes and equipment, HandyTube provides a custom tubing product that can match a customer's specific criteria for:

- **Custom dimensions and mechanical properties.** Certain applications require tubing to exhibit specific flow rates and withstand high pressures. HandyTube can create custom wall thicknesses, precise outer diameter (OD) tolerances, or make temper adjustments to give the tubing product the mechanical properties it needs to function reliably.
- **Custom-cut lengths.** Depending on the needs of the application, the company's straight tubing can be custom-cut to lengths of 1 inch up to 24 feet. This range includes lengths that many tubing manufacturers cannot deliver. HandyTube also manufactures long-length coil tubing.
- **Surface enhancement.** HandyTube's coating options can, for example, enhance non-stick properties, boost a tube's durability and corrosion resistance in harsh environments, or improve flow paths for process control and analytical applications.
- **Special alloys.** While most requirements can be satisfied by the company's standard alloys, HandyTube can collaborate with their melting mill partners to offer an alloy with the properties the customer needs. In fact, some melting mill partners have asked HandyTube to produce alloys in sizes that even they cannot provide for their customers. They turn to HandyTube because they specialize



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in manufacturing small-diameter tubing - even below 1/16-inch outer diameter.

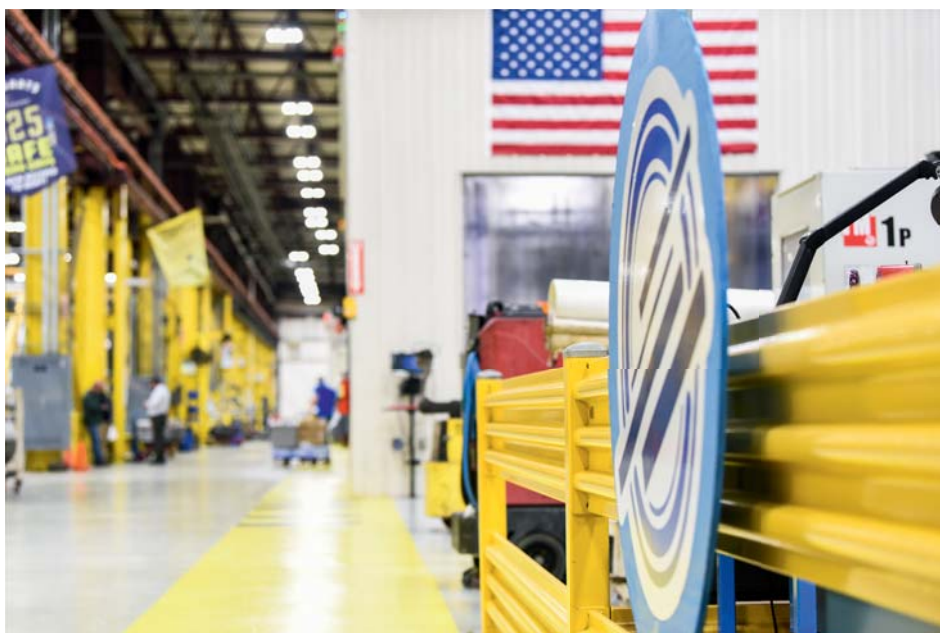
- **Unique packaging.** Sometimes special packaging is preferred to make tubing easier to install in difficult applications. HandyTube can package tube products in non-standard sizes or with unique designs to adapt to any situation.

Research and development

HandyTube strives to improve its current manufacturing processes and to develop new products and services that are enhanced by its dedicated team of experienced engineers. "HandyTube works successfully with customers worldwide to take products from a raw idea to full implementation of extensive, high quality solutions for critical applications. We develop these new projects in response to our customers' needs and ideas, using the well-established and respected stage gate process, where a team takes ownership of the product from conception through to commercialization, gathering feedback along the way," Hoffmann relays. "We also work and collaborate with melting mills on new alloys."

Ultra-Small Diameter (USD) capillary tubing

An example of HandyTube's continuous research and development is their Ultra-Small Diameter (USD) capillary tubing. This tubing plays a critical role in improving the performance of liquid chromatography



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and related microfluidics instrumentation. "Industry leaders in these fields require faster, more efficient equipment that can provide high-precision results. Thanks to USD tubing, this competitive edge is now attainable," explains Rowland. "USD tubing used in these applications must have a clean and smooth inside diameter and be able to withstand high working pressures. Achieving these properties, however, raises some unique challenges because of the small size (less than 0.0625 inch) of the outer diameter."

USD tubing used in high-precision applications requires a smooth ID surface finish to ensure delivery of high-purity liquid and gas. Achieving proper smoothness depends on two things: how the tube is first drawn and the engineering expertise of the manufacturing supplier. "We have developed proprietary tube-drawing processes and equipment that can draw stainless steel in coil form, resulting in more reliable flow rates and faster sampling cycles," says Hoffmann. Impurities in USD tubing left over from the manufacturing process can result in cross-contamination and inaccurate sample readings. HandyTube's proprietary cleaning methods degrease USD coil tubing several hundred feet long, reducing the amount of cleaning time required by OEMs.

Seamless, economical long-distance tubing for high-pressure applications

HandyTube has an innovative manufacturing process that can produce long lengths of ½, ¾ and 1 inch diameter

seamless stainless steel tubing capable of handling working pressures up to 5,500 psi — without any longitudinal or orbital welds — that can be safely and economically installed. Long-length stainless steel tubing offers compressed natural gas and hydrogen fueling stations many safety and cost advantages. With the right tools, feeding long lengths of coiled large-diameter tubing through conduit, rather than using conventional tubing, not only takes a fraction of the time, reducing labor costs, it is safer, and resists corrosion, has no risk of incurring impurities and requires no maintenance. For safe uncoiling, HandyTube also designed a special field straightener to help users straighten the coil. Many facilities that transport high-pressure or flammable gases can benefit from HandyTube long-length; large-diameter coiled stainless steel tubing. "Our advanced tube manufacturing capability allows us to achieve coils up to 700 feet in length," says Hoffmann. "Designers and builders of natural gas fueling stations or hydrogen delivery systems can enjoy increased safety, time, and cost savings."

Quality standards

HandyTube is an ISO 9001-certified facility and holds many other certifications in shipbuilding and high-pressure applications. "We are well-equipped with the latest testing equipment and trained personnel. We maintain the highest level of integrity regarding traceability throughout our entire manufacturing process. We also independently verify all raw material prior to use by an outside

laboratory for verification of chemistry," explains Presutti. "Our state-of-the art manufacturing laboratory is on-site and climate controlled. Samples are retained from every lot for peace of mind. We perform 100% Positive Material Identification (PMI) prior to shipping, and 100% of all coils are pressure tested."

What is next?

In July 2020, HandyTube welcomed their new president, Lisa Presutti, to the team. Presutti has an outstanding track record in building high-performing teams, driving year over year top- and bottom-line growth, implementing operational improvements, and positioning brands as industry leaders.

"A brand is what our customers perceive, experience, and believe about a company. We feel that in 2021, we need to have a clear message of our values, cement our loyal relationships while also building new ones, and foster belief and drive advocacy with our employees," Presutti explains. "We have looked at our 'Why's' in depth, and we want to deliver our message with a new logo that emphasizes our customer, product, and people approach. We believe our business is mission critical; we are also future-focused, active, and able to adapt to different business conditions."

The company's new logo represents the wide variety of custom solutions that HandyTube develops for their customers. "It is an abstract and unique design, representing a strong promise to our customers. Our tubes are seamless, and we aim for our business practices to be as well."

All images were taken before the COVID-19 pandemic, or in compliance with social distancing.