



GET HELP DESIGNING WITH STAINLESS STEEL TUBING

In an ideal world, obtaining tubing for your project would be straightforward. In the real world, designs and installations often present difficult-to-satisfy requirements. However, most tube suppliers only offer standard tube products, leaving customers with few options to address their unique design or performance issues.

That's why it pays to collaborate with your tube supplier early in the design process. Collaboration can help address a challenge before it becomes a bigger problem, and it can establish a lasting relationship to solve future problems. Keep in mind some tubing suppliers have deeper resources than others. At HandyTube, we draw and manufacture stainless steel and nickel alloy tubing in-house and can apply our expertise and modify our processes to help you solve design problems. By partnering early with a tube supplier with this level of service, you can achieve your objectives, eliminate costly and time-consuming engineering processes and build a trusted relationship.

HOW HANDYTUBE CAN TAILOR TUBING TO YOUR EXACT NEEDS

Using flexible manufacturing processes and equipment, we can provide a custom tubing product that matches your specific criteria for:

- **Custom dimensions and mechanical properties.** Certain applications require tubing to exhibit specific flow rates and withstand high pressures. We can create custom wall thicknesses, precise outer diameter (OD) tolerances or make temper adjustments to give your tubing product the mechanical properties it needs to function reliably.
- **Custom-cut lengths.** Depending on the needs of your application, our straight tubing can be custom-cut to lengths of one inch up to 24 feet. This range includes lengths that many tubing manufacturers cannot deliver. We also manufacture long-length coil tubing.
- **Surface enhancement.** Our coating options can, for example, enhance non-stick properties, boost your 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 our standard alloys, we can collaborate with our melting mill partners to offer an alloy with the properties you need. In fact, some melting mill partners have asked us to produce alloys in sizes that even they cannot provide for their customers. They turn to us because we specialize in manufacturing small-diameter tubing — even below 1/16-inch outer diameter.
- **Unique packaging.** Sometimes special packaging is preferred in order to make tubing easier to install in difficult applications. We can package tube products in non-standard sizes or with unique designs to adapt to your situation.

HOW HANDYTUBE HAS HELPED CUSTOMERS SOLVE PROBLEMS IN VARIOUS INDUSTRIES

INDUSTRY	PROBLEM	HANDYTUBE SOLUTIONS
Life Science	Help life science customers address miniaturization needs	<ul style="list-style-type: none">▪ Produced custom ODs and IDs▪ Provided custom wall thicknesses▪ Created smooth surface finishes
Aerospace and Space Exploration	Manufacturing difficulty caused by a brazing process	<ul style="list-style-type: none">▪ Met strict dimensional tolerances▪ Determined ideal surface finish▪ Delivered time and cost savings
CNG and Hydrogen Fuel Stations	Withstand extreme pressures and maximize gas flow	<ul style="list-style-type: none">▪ Produced custom ODs and IDs▪ Provided custom wall thicknesses▪ Created custom mechanical properties
Alternative Energy	Develop a special tube for a difficult-to-fit assembly	<ul style="list-style-type: none">▪ Created a custom tube shape▪ Special alloy development with material supplier

ACHIEVING SUCCESSFUL OUTCOMES IN MANY INDUSTRIES

These and other capabilities allow HandyTube engineers to provide customer-specific solutions throughout the project to ensure successful implementation. And, our willingness to fine-tune a product has driven successful applications across many industries, such as:

- **Life science.** Equipment miniaturization trends in the life science industry have created a need for smaller, yet durable tube products. Thanks to our advanced drawing processes, we have delivered tailor-made tubing for life science customers requiring smaller diameters, thinner walls and smooth surfaces when other tube suppliers were unable to achieve the same results with consistent quality.
- **Aerospace and space exploration.** One customer that incorporates a tube into a fabricated component encountered difficulties brazing its part with the tube. Our engineers worked with their team, implementing a trial-and-error approach to determine the right surface finish for the tube. Our experts also engineered a tighter tolerance product, which allowed the component producer to optimize its manufacturing process to ultimately fabricate its product in less time while saving money. Just as important, the project created a strong relationship that has led to additional collaboration.
- **CNG and hydrogen fuel stations.** When it comes to transporting compressed natural gas and hydrogen, tubing must withstand extreme pressures and have uniquely designed wall thickness to ensure maximum gas flow. HandyTube has helped customers in this industry by providing optimal-sized tubes with different mechanical properties than standard tubing in order to handle elevated pressures and achieve their desired flow rates.
- **Alternative energy.** A customer in the alternative energy field needed tubing in an alloy that no other tubing provider could offer. Our internal development program provided a framework for creating a special alloy tube that was fabricated to a specific shape so it could easily be dropped into the assembly.

In addition to our ability to fine-tune tube products, HandyTube develops new products in response to our customers' needs and ideas. Using the well-established and respected stage gate process, we take a team approach to navigate a product from conception through product trials and testing to commercialization and beyond. The team takes ownership of the product through each step and funnels it back to customers for review and feedback.

HANDYTUBE PROVIDES CUSTOMER-SPECIFIC SOLUTIONS

When you come to HandyTube with a challenge, the relationship goes beyond just selecting a tube. We apply our deep expertise and manufacturing know-how to create new solutions to satisfy your most stringent problems. If there's an idea or modification beyond our wide scope, there's a good chance one of our ISO 13485-certified partners will provide it. And when you receive the exact tubing product you specified, we'll help you to straighten, install and use that product as you prefer. Even though our resources make us a leading tube manufacturer for a wide range of industries, we're never too big to devote attention to our customers' technical needs.

When you need a problem-solving partner instead of a tube seller, turn to HandyTube for engineering guidance or collaboration on a non-standard product. You'll eliminate processing steps while saving time and effort, and you'll ultimately realize a better cost of ownership for your tube products. Best of all, you'll have a relationship with experts you can count on to help you tackle your future challenges.

For more information about working with HandyTube for customization and product development, visit www.handytube.com.