

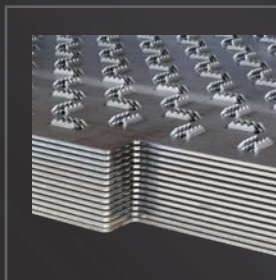


Denver, PA □ 866-543-5116

*Your Strategic Partner  
for Complete Metal Fabrication*



BRING YOUR  
REQUIREMENTS!



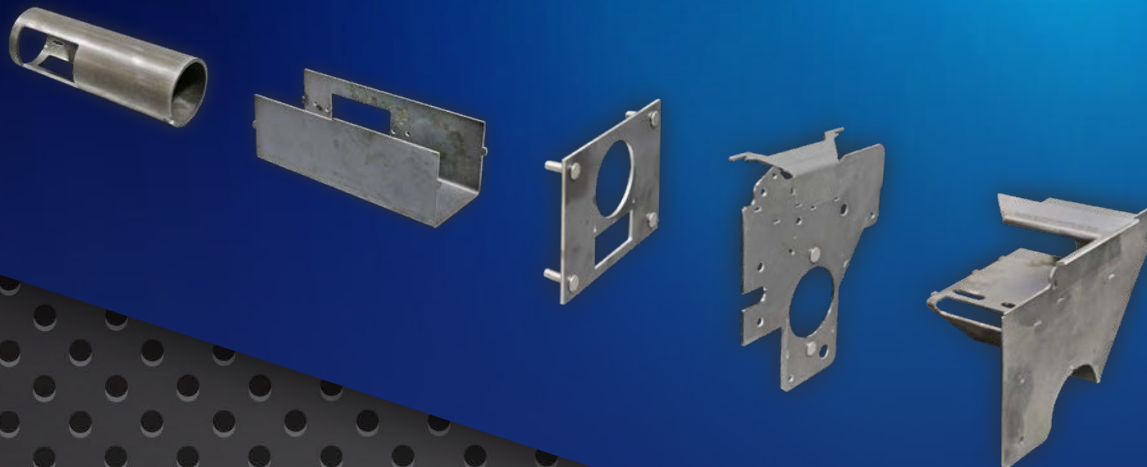


# Introduction...

Established in 1999, Sturdy Built Manufacturing began as a small shop nestled among the fields of farmland in Reinholds, PA. The initial purpose of Sturdy Built Manufacturing was to build durable equipment to support the dairy industry. Over the years, we have expanded these products and services, while also increasing our manufacturing capabilities. This expansion has enabled us to offer services to new industries.

In 2010, out of an effort to better serve our customers with a more equipped facility, we transitioned to our current location in Denver, PA. After this move, we increased in commercial fabrication to focus on serving a wider manufacturing range. With on-site production machinery configured for many automated processes and high productivity, we offer prototype to large volume manufacturing solutions tailored to fit your requirements from start to finish.

Even though many things have changed at Sturdy Built over the years, there is one thing we purpose to never change: our team's commitment to you, our customers. We value partnering with you on projects and finding solutions together. Explore the possibilities with us to find the commercial fab solutions that you have been looking for.



## □ Our Services



Whether you need a prototype, a single component, or a production run, we are your strategic partner for complex needs! We are equipped to handle saw cutting, laser-cutting, press brake forming, tube bending, machining, welding, finishing, and assembly. Partnered for water jetting, galvanizing, and powder coating services, we are a one-stop shop for your projects.

## □ Inventory



We inventory many tubing and sheet metal options, as well as solid rounds, squares, and structural steel. We have many sizes available and will cut to length for you.

## □ Value Design



Our experienced in-house design team, coupled with integrated software, implement efficient processes to reduce project costs while maintaining high quality specifications.

## □ Quality Control



With over two decades of industry experience, quality and accuracy is central to our work and the value we supply to our customers.

## □ On-Time Production



Delivery goals and requirements are planned into our manufacturing processes. We strive for consistent and reliable lead times.

## □ Logistics



Transportation costs make a big impact on project costs. From maximizing truckload space and coordinating carrier routes, you experience shipment savings.

## □ Our Location



We are conveniently located along S. Muddy Creek Road in Denver, PA, with easy access to major highways, including the PA Turnpike (I-76), PA Route 222, and PA Route 272.

## □ Our Commitment



Sturdy Built Manufacturing is committed to being a reliable team player on your project. It is out of this dedication to our customers that we promise to stand behind our work. Our job is not complete until we have made our customer's design a reality and have resolved any unexpected issues that may have arisen during the manufacturing process.

# BRING YOUR REQUIREMENTS!



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# SHEET & PLATE FAB



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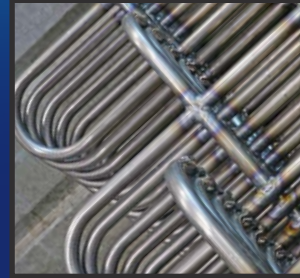
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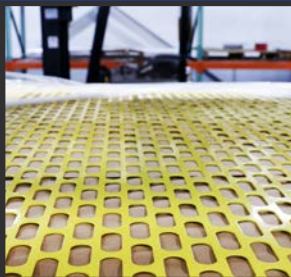


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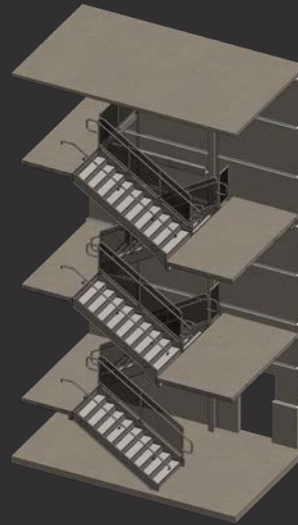
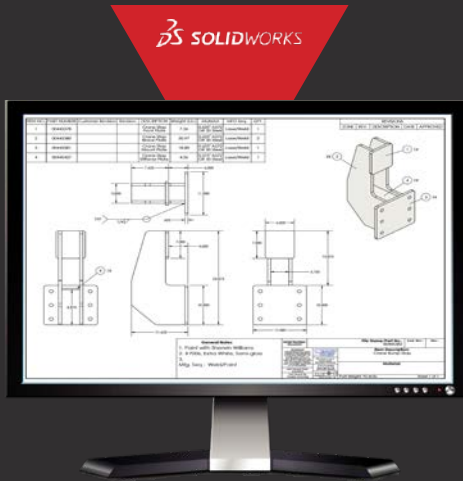
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## Design 3D Modeling



### *In-House Design Team*

Our design team is available to help advance your project or concept to the next phase. We model with 3D CAD software, which helps to identify potential fitment issues before your parts enter production. This reduces the amount of rework and trial and error. Contact us to see if we can help you improve existing parts or to design new items prior to manufacturing.

3D 3D 3D 3D



## Perforated Pattern Designs

CAD software enables us to convert almost any image document into perforated pattern designs on sheet metal. After these 3D patterns are created digitally, laser cutting or punching brings them to life on sheet metal. This is an effective way to embed your logo into products as well as to create an unlimited amount of presentations for various applications.

# PRECISION CUTTING

Integrated cutting machines support reliable turn-around times and yield precision without compromise. As your project advances through production, the raw materials accompany the automated workflow until your needed components are cut and stacked neatly on a pallet, ready for the next step in fabrication.

Useful features throughout implement versatile solutions for greater manufacturing advantages. Production on the combination punch/laser machine equals efficiency and maximum design flexibility, all in one step.

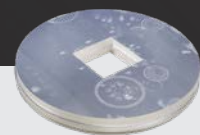
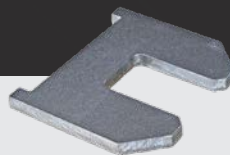
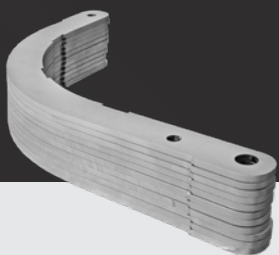
## Sheet Storage System Automation ▾

The backbone of versatility in our fabrication is the ability to rapidly change between raw materials and work in process parts within the material storage system. This aids in improved lead times in addition to reducing manual handling touches and minimizing scratches.





# Laser Cutting ▾





## ▽ Laser Cutting

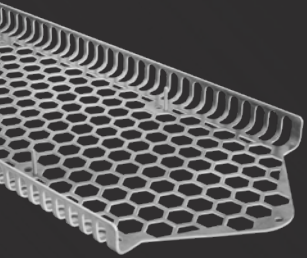


### Fiber Laser Capacities

▼ TruLaser 7030	▼ TruLaser 5040
This laser sorts, separates, and stacks parts efficiently. With vacuum part sorting and small part drop bins, production jobs are created efficiently and accurately. Micro joints are eliminated with integrated parts separation.	Oversized material production at full speed! Production is continuous when synchronized with the automated sheet storage system. Create custom shapes and complex geometries cost-effectively with CNC technology and nesting software.
Up to 60" X 120" sheet size	Up to 80" x 160" sheet size
Up to 0.500" material thickness: ferrous (steel and stainless)	Up to 1.18" ferrous (steel and stainless)
Up to 0.250 material thickness: non-ferrous (aluminum, brass, copper)	Non-ferrous metals (1.58" aluminum, 0.5" brass, and 0.629" copper)



## Punch + Laser Cutting ▾



### *Punch + Laser Capacity*

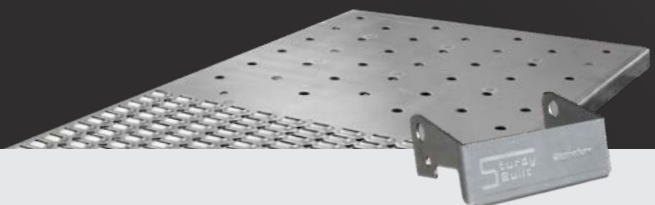
25 ton capacity

Up to 60" X 144" sheet size in full automation

Up to 60" X 168" in manual operation

Up to 0.312" material thickness

Laser cut profiles with perforations, embossing, countersinking, tapping and forming all in one machine, all in one setup! The scratch free processing and optional contour deburring create powerful multipurpose solutions with high output efficiency for your manufacturing requirements.





# SHEET & PLATE FAB

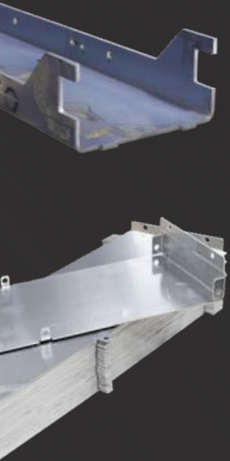
By stocking a large variety of raw materials in standard sizes, Sturdy Built is prepared to supply what you require in HRP&O, galvanized, galvanized, aluminum, and stainless. Specialty materials and additional sizes are available by request.

The space-efficient sheet storage system keeps the inventory well organized and ready for retrieval, while automatically supplying materials on-demand to production throughout the shop floor.

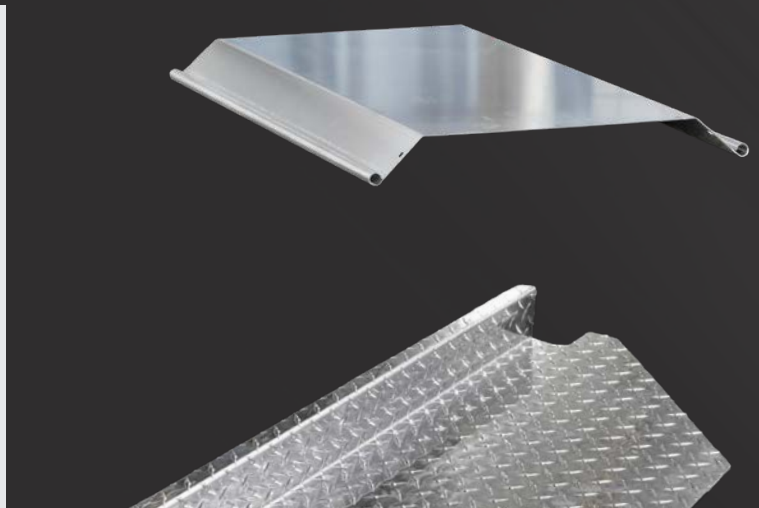
In addition to creating your custom laser-cut parts, we continue to work your sheet and plate projects to completion with the forming, rolling, finishing and specialized fabrication required.



## Press Brake Forming ▾



Stand-alone press brakes are well suited for small, delicate, or more complex components. Whatever the job may demand, the team at Sturdy Built works to deliver the right bends for the right outcome.







## ▽ Press Brake Forming



### Manual Pressbrake Capacities\*

▼ TruBend 5320	▼ TruBend 5170
6 Axis - Press Force: 350 ton	6 Axis - Press Force: 185 ton
Profiles up to 167 in.	Profiles up to 127 in.
1/4 in. x 14 ft. A36 with die width at 8 x material thickness	Materials up to 1/2 in. thickness
1/2 in. x 8 ft. A36 with die width at 8 x material thickness	

\*Inquire about capabilities of additional pressbrakes



## Press Brake Forming ▾



### *Robotic Pressbrake Capacity*

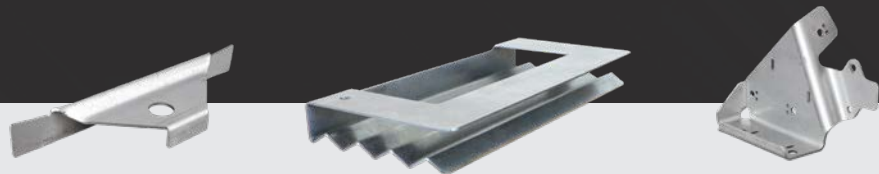
6 Axis - Press Force: 250 ton

Profiles up to 167 in.

Up to 350 lb. parts



Custom profiles are created via automated processes. Robotic pressbrakes help close the cost gap between large and small batches, by manipulating parts during the bending operation. Material springback is automatically compensated.





## ▽ Sheet / Plate Finishing

### Capacity

Parts up to 60" wide and 5" thickness

For deburring, finishing, oxide removal and/or edge rounding. Whether you need only the laser edge rounded or prefer a grained finish on the entire part, we can provide the finish you request.

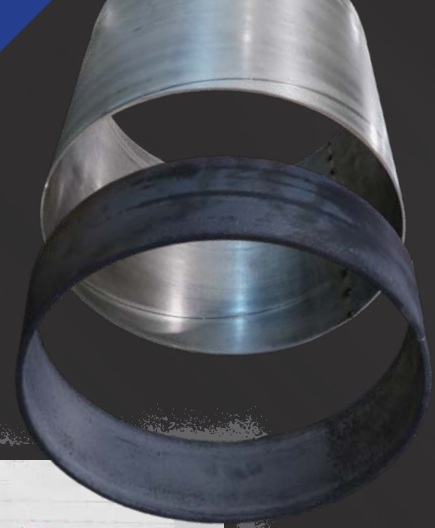


## Pem Insertion Press ▽ with Robotic Automation

Many projects requiring detailed fastener systems can be simplified with the insertion press. This machine presses the threaded fastener or other component into a hole of specific size creating a solid joint to the added hardware. The small fastener feeding system can place 4 varying fastener components on the same part, while utilizing a robotic arm for handling.



## Plate Rolling



### *Plate Roll Capacity*

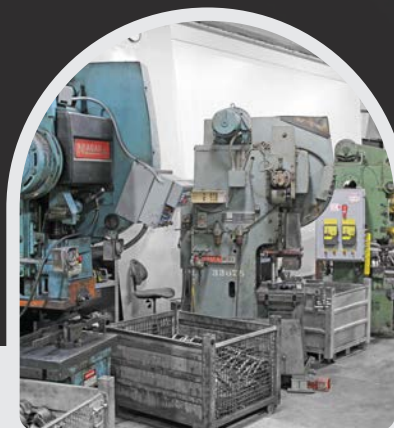
Up to 10 ft. x 3/8 in. x 43.5 in. internal diameter, in 65,000 psi steel

Up to 5/8 in. plate with proportional width and diameter

Transform flat sheet into many different contours with the 8 axis CNC rolling machine. The CNC precision guided rollers are capable of producing ellipticals as well as rectangle boxes with radii corners. The rollers can also be made non-parallel for creating conical contours.

## Punch Presses

Coil feeding. Range 15 to 150 tons. Parts stamping. You may supply the die set, or we can design and build one for your part.

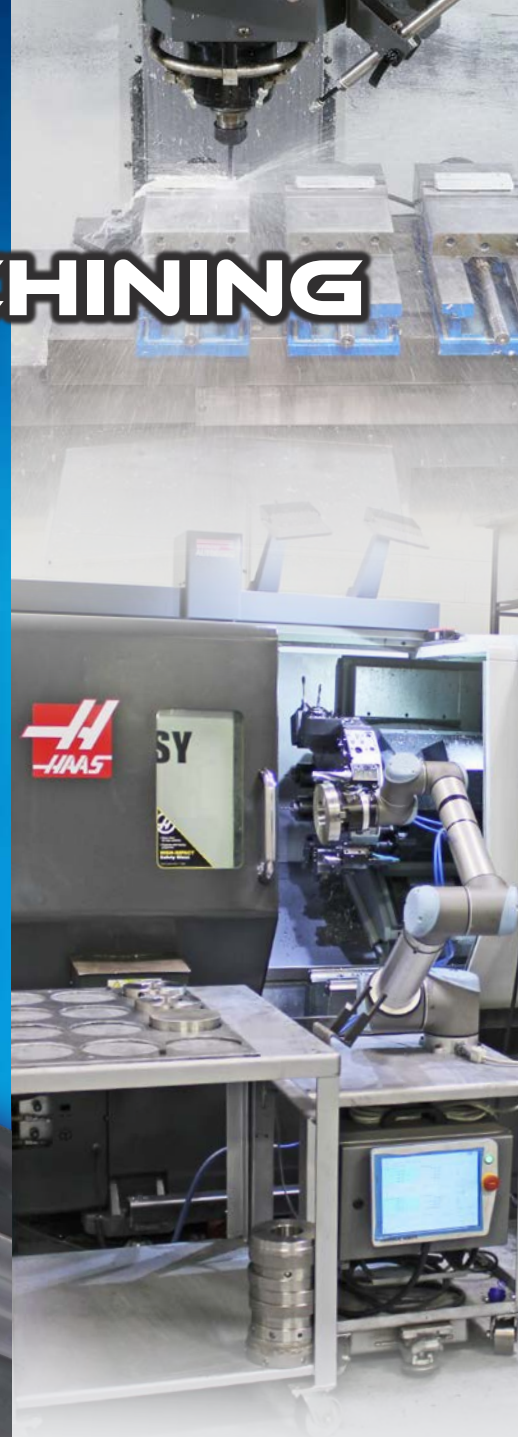




# PRECISION MACHINING

The capabilities of precision machining are virtually endless. In today's manufacturing, it can be challenging to reach completion without the need for specialized part features. Whether you are needing a unique part for a single application or thousands of parts to stock an assembly line, we are tooled and ready with a versatile machine floor.

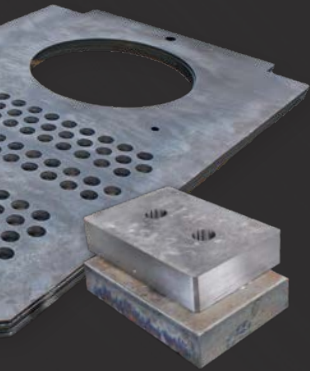
Partner with Sturdy Built to solve complex challenges together.



*Integrated Robotic  
Automation at work in  
the Sturdy Built Mfg.  
Machining Area*



## Vertical Mills

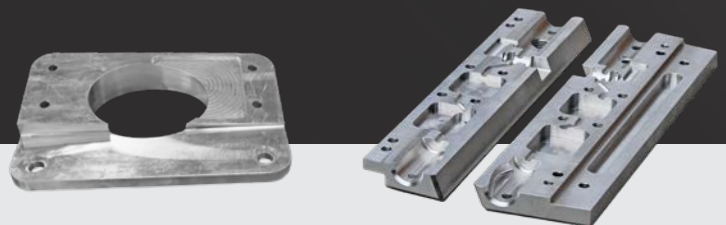


### *Milling Capacity*

3 axis: Small, multifaceted pieces  
up to 120 in. x 40 in. x 30 in.

5 axis: Parts up to 30 in. diameter.

Access a high level of detail and finish. With full uniformity, verticals mills convert a wide range of metal and plastic workpieces into finished parts. After drawings are programmed and tools are loaded into the machine, the cutting begins to spawn your project into reality.





▽ CNC Lathes



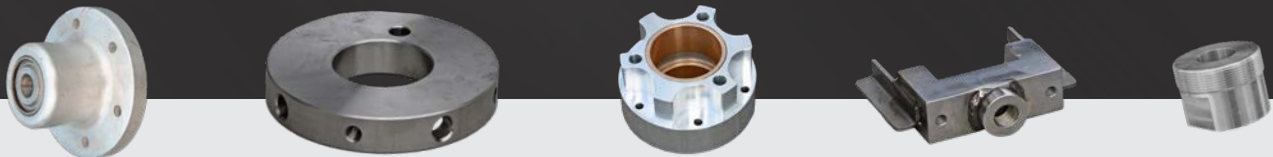
*Turning Capacity*

Up to 16 in. diameter

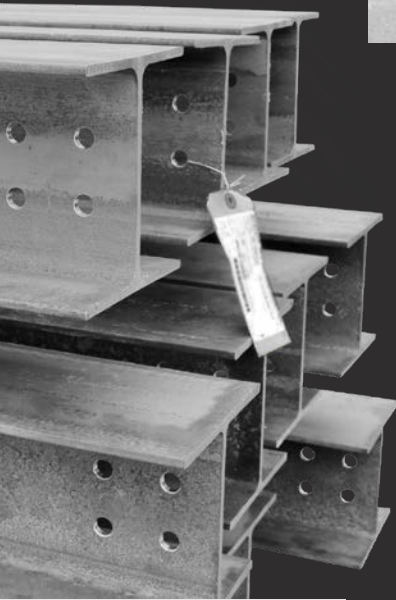
Up to 23 in. length with Y-axis and live tooling

3.0 in. spindle bore with C-axis

Get precision on a small prototype or a large batch of parts on our CNC turning centers with automated bar feeding and/or robotic parts load and unload. The multi-axis tooling capabilities allow for additional milling details without re-fixturing the part. CNC lathes eliminate the extra steps to make your projects successful sooner.



## Gantry Mill



### *Mill Capacity*

3 axis: 19.5" x 72" x 240"

368 ft/lbs. torque capacity

Drills, mills, taps, and bevels large parts all in one setup. CNC precision for high production and small run project efficiency.





# TUBE FABRICATION

Transforming raw tubing materials into functional products is a Sturdy Built standard. While some methods and technologies have changed over the years, our commitment to quality is as sturdy as ever.

Our selection of pipe and tubing is for projects of any size. Whether it's hand railings or multi-directional bends for industrial applications, the team at Sturdy Built can efficiently deliver your custom projects in a timely manner.

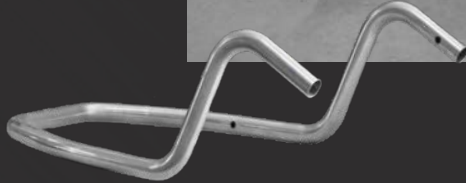
The method by which a piece of tubing is shaped and prepared for assembly has been a process of constant innovation over the past decades. The traditional multi-step process of sawing, drilling, tapping, and freehand plasma cutting can now be replaced with a one cycle process in the CNC tube laser. Contact Sturdy Built for assistance!



*Large Inventory of*  
**PIPE AND  
TUBING**



## Tube Bending



### *Bender Capacity*

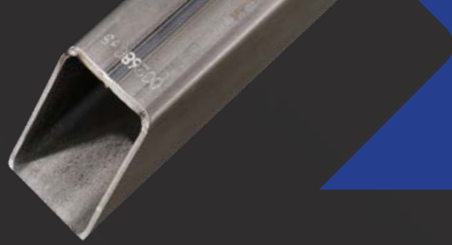
The CNC benders at Sturdy Built convert round or square tubing into functional curved shapes with multi-directional angles. Precision bent profiles shaped to your specifications.

Small tubing up to 4 in. sch. 40 pipe  
or 5 in. O.D. rotary draw.

5 axis interpolation push bending  
with variable radius up to 2-1/2 in. sch. 40 pipe.







## ▽ Tube Laser Cutting



### *Tube Laser Capacity*

10.0 in. max od, 0.500 in. minimum od

Wall thickness up to .500" mild steel

30 ft. max length material infeed

20 ft. max length part discharge

3D bevel cutting up to 45°. Form-drilling & tapping functions and custom profile cutting with weld seam detection.

The tube laser applies hole features, miters, copes, and final part length, all in one setup.





## Band Saw Cutting



### *Cutting Capacity*

25 in. vertical x 30 in. horizontal (straight cut)

16 in. vertical x 18 in. horizontal (45° miter cut)

10 in. vertical x 18 in. horizontal (60° miter cut)



## ▽ High Speed Cold Saw Cutting



### *Cold Saw Capacity*

Up to 3 in. OD tubing and 1.5 in. solid bar.  
24 ft. bundle infeed and 16 ft. part discharge.

Dot-matrix stenciling available for  
individual part length labeling.

## ▽ Brush Deburring

Deburring bent and straight pipes, special profiles and heavy weights. Accommodates steel, stainless, aluminum and NE-metals. High performance brushes debur both the inside and outside edges at the same time.

## ▽ Swaging

Up to 4-1/2 in. O.D. schedule 40







*Your Strategic Partner  
for Complete  
Metal Fabrication*



**BRING YOUR REQUIREMENTS!**

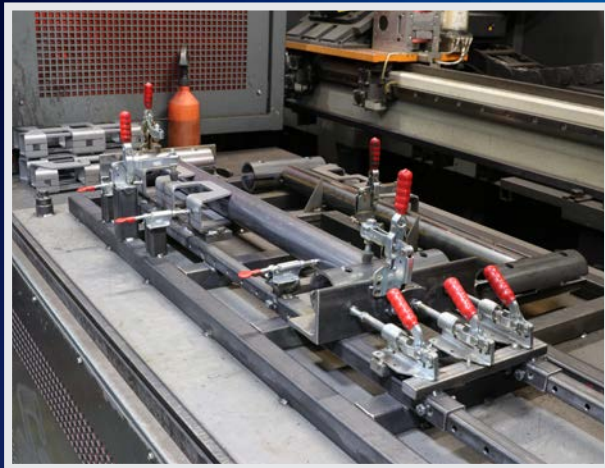


# PRECISION WELDING

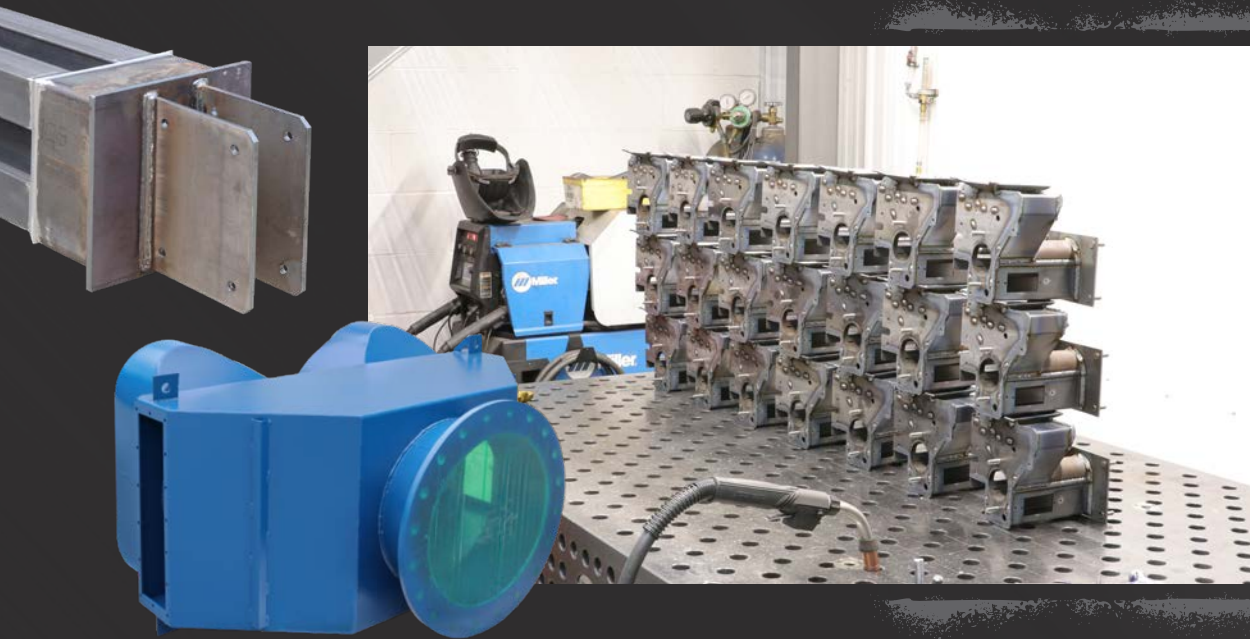
The most suitable welding technique for an application varies greatly, depending on project details. Sturdy Built offers a full line of welding options, from manual welding for one off projects to robotic welding for volume production. Weld type capabilities include mig, tig, stud, spot, and laser welding.

The team of experienced welders at Sturdy Built can efficiently fabricate small projects or tackle complex weldments that are beyond the scope of robotics.

Robotic welders on the other hand make the repeatability needed in larger production orders an easy process. The welding team is prepared to join your production priorities with a solid outcome. Contact Sturdy Built today with your project.



## Manual Mig Welding ▾



Specializing in one-offs and low quantity with high-precision welding tables. Rapid-setup modular tooling helps eliminate fixture charges.

Certified for AWS unlimited thickness and ASME certified for pressure vessel steel welding. Machines are calibrated on an annual basis to ensure accuracy.

### CARBON



### ALUMINUM



### STAINLESS



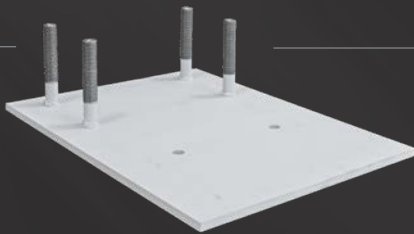


## Manual Tig Welding



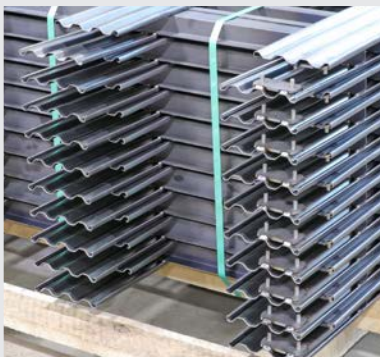
Higher quality, stronger welds on non-ferrous, thin and heavier metals, including stainless steel and aluminum. Rely on our team of skilled welders for the quality your projects need. We also offer Robotic Tig Welding with water cooled fixtures to minimize warpage during the fusion process.

## Stud Welding



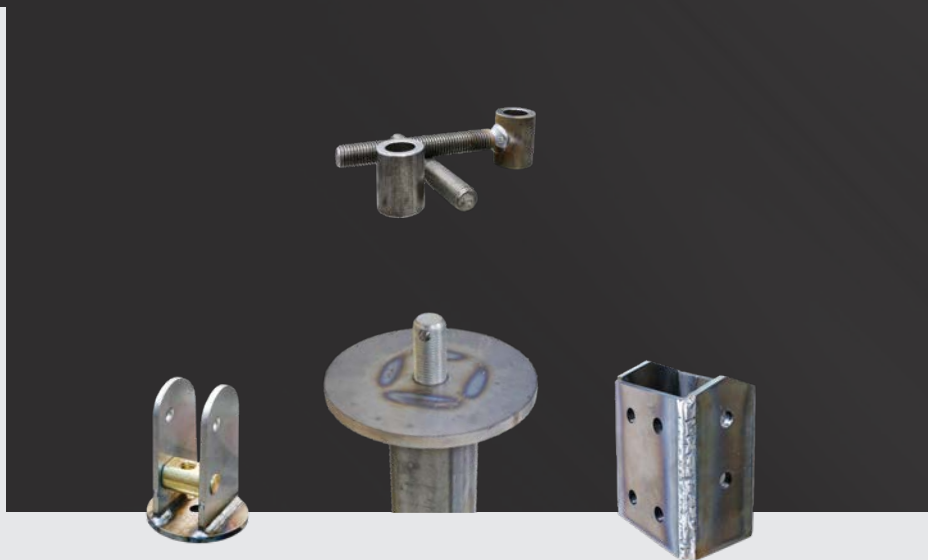


## Robotic Mig Welding ▾

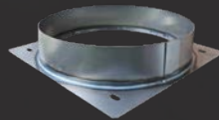
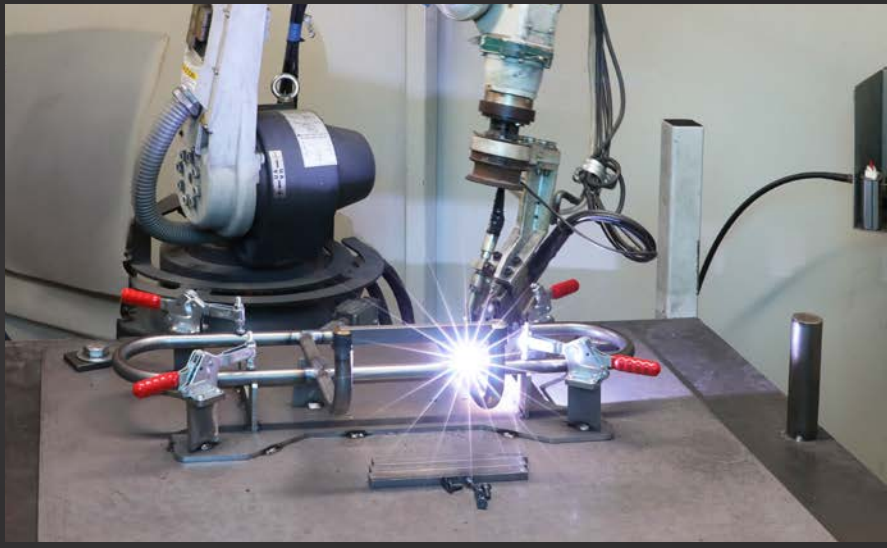


### *Precision Robotic Welding*

When it comes time to pull it together, the robotic welders with their experienced operators are ready to begin. Precise, strong, and durable welds, systematized robotics meet the demands of production in difficult, tedious, or fatiguingly long welds. We invite you to reach out to us!



## ▽ Robotic Tig Welding



## ▽ Fixtures for Volume Production



For volume production, we design and build custom fixtures suited to your production project.



## Parts Finishing ▾



### *Vibratory Finishing*

Deburring, descaling, and polishing for tubes, formed parts, machined profiles and much more. Size capabilities range from small pieces up to 60 in. long.



### *Disc Finishing*

Powerful, small to micro part finishing at high efficiency. With disc finishing, the difference between centrifugal forces acting on the parts and the process medium produces very fine finishes suited for a wide variety of applications. Cost-effective automated parts/media sorting.



### *Manual Finishing*

Many parts require grinding, polishing and special detail finishing after the fabrication processes. We provide automated or manual finishing to ensure your parts are uniform and fully completed, ready for assembly or shipment.





# PARTNERED FOR COMPLETE FABRICATION SERVICES

- ✓ Anodizing
- ✓ Galvanizing
- ✓ Powdercoating
- ✓ Painting
- ✓ Zinc Plating



## ✓ Waterjetting

Cut intricate shapes with severe tolerances in materials from plastic to stainless steel up to 6 inches in thickness.





## ▽ Technical Inspections

Cad-based 3D arm measurement on request. First article inspection, in-process inspection, prototyping, part verification and analysis. We ensure dimensional and tolerance accuracy with high-end quality control.



## ▽ Product Assembly

Sturdy Built provides a final resource option to completely assemble your products from the components we have created along with any additional parts necessary, provided by you or by our supply chain. This valuable service increases overall lead time efficiency and allows us to direct ship to your customers, reducing transit and handling costs.



## ▽ Packaging & Shipping

In addition to our commitment to meet your needs in complete product fabrication, product assembly and lead time satisfaction, we offer local delivery and nationwide shipping via UPS, FedEx, or common carrier anywhere in the United States and Canada. Special care is taken during packaging to ensure our customers will receive their product in excellent condition.



# Supporting Key Industries



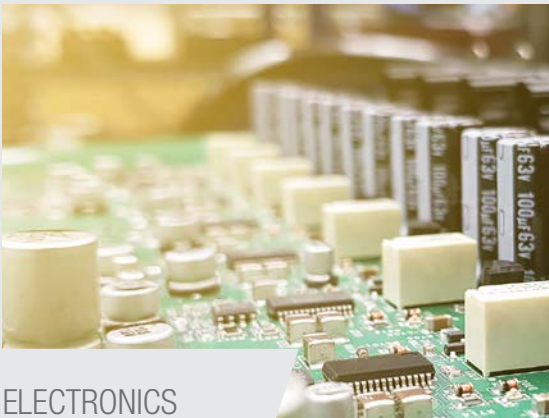
AGRICULTURE



MEDICAL



FOOD / BEVERAGE



ELECTRONICS



AUTOMOTIVE



CONSTRUCTION





# CONVERSION

# CHART

Fraction	Decimal	Millimeter	Fraction	Decimal	Millimeter	Fraction	Decimal	Millimeter
1/64	0.015625	0.3969	11/32	0.343750	8.73120	43/64	0.671875	17.0656
1/32	0.031250	0.7937	23/64	0.359375	9.12810	11/16	0.687500	17.4625
3/64	0.046875	1.1906	3/8	0.375000	9.52500	45/64	0.703125	17.8594
1/16	0.062500	1.5875	25/64	0.390625	9.92190	23/32	0.718750	18.2563
5/64	0.078125	1.9844	13/32	0.406250	10.3187	47/64	0.734375	18.6531
3/32	0.093750	2.3812	27/64	0.421875	10.7188	3/4	0.750000	19.0500
7/64	0.109375	2.7781	7/16	0.437500	11.1125	49/64	0.765625	19.4469
1/8	0.125000	3.1750	29/64	0.453125	11.5094	25/32	0.781250	19.8438
9/64	0.140625	3.5719	15/32	0.468750	11.9062	51/64	0.796875	20.2406
5/32	0.156250	3.9688	31/64	0.484375	12.3031	13/16	0.812500	20.6375
11/64	0.171875	4.3656	1/2	0.500000	12.7000	53/64	0.828125	21.0344
3/16	0.187500	4.7625	33/64	0.515625	13.0969	27/32	0.843750	21.4312
13/64	0.203125	5.1594	17/32	0.531250	13.4937	55/64	0.859375	21.8281
7/32	0.218750	5.5563	35/64	0.546875	13.8906	7/8	0.875000	22.2250
15/64	0.234375	5.9531	9/16	0.562500	14.2875	57/64	0.890625	22.6219
1/4	0.250000	6.3500	37/64	0.578125	14.6844	29/32	0.906250	23.0187
17/64	0.265625	6.7469	19/32	0.593750	15.0813	59/64	0.921875	23.4156
9/32	0.281250	7.1437	39/64	0.609375	15.4781	15/16	0.937500	23.8125
19/64	0.296875	7.5406	5/8	0.625000	15.8750	61/64	0.953125	24.2094
5/16	0.312500	7.9375	41/64	0.640625	16.2719	31/32	0.968750	24.6062
21/64	0.328125	8.3344	21/32	0.656250	16.6687	63/64	0.984375	25.0030

## Stainless Steel ▾

## Aluminum ▾

## Galvanized & Galvaneal ▾

## Mild Steel ▾

Gauge	Decimal Thickness	Est. lbs/ft <sup>2</sup>
28	0.0150	0.630
26	0.0180	0.756
25	0.0200	0.840
24	0.0240	1.008
22	0.0300	1.260
20	0.0360	1.512
19	0.0420	1.764
18	0.0480	2.016
16	0.0600	2.520
14	0.0750	3.150
13	0.0900	3.780
12	0.1050	4.410
11	0.1200	5.040
10	0.1350	5.670
8	0.1650	6.930
7	0.1874	7.871
3/16	0.1875	8.579
1/4	0.2500	11.160
5/16	0.3125	13.750
3/8	0.3750	16.500
7/16	0.4375	19.080
1/2	0.5000	21.660
5/8	0.6250	26.830
3/4	0.7500	32.120
7/8	0.8750	37.290
1.0	1.0000	42.670

Decimal Thickness	Est. lbs/ft <sup>2</sup> (Based on 6061)
0.016	0.233
0.020	0.279
0.025	0.349
0.032	0.447
0.040	0.559
0.050	0.698
0.063	0.880
0.080	1.117
0.090	1.257
0.100	1.397
0.125	1.746
0.160	2.235
0.190	2.654
0.250	3.492
0.313	4.365
0.375	5.238
0.500	6.980

Gauge	Decimal Thickness	Est. lbs/ft <sup>2</sup>
28	0.019	0.781
26	0.022	0.906
25	0.025	1.031
24	0.028	1.156
22	0.034	1.406
20	0.040	1.656
19	0.046	1.906
18	0.052	2.156
16	0.064	2.656
14	0.079	3.281
13	0.093	3.906
12	0.108	4.531
11	0.123	5.156
10	0.138	5.781
9	0.153	6.406
8	0.168	7.031

Gauge	Decimal Thickness	Est. lbs/ft <sup>2</sup>
26	0.0179	0.750
24	0.0239	1.010
22	0.0299	1.250
20	0.0359	1.510
19	0.0418	1.750
18	0.0478	2.010
16	0.0598	2.501
14	0.0747	3.125
13	0.0897	3.751
12	0.1046	4.375
11	0.1196	5.001
10	0.1345	5.625
9	0.1500	5.871
8	0.1640	7.011
7	0.1790	7.501
3/16	0.1875	7.661
1/4	0.2500	10.210
5/16	0.3125	12.760
3/8	0.3750	15.320
7/16	0.4375	17.870
1/2	0.5000	20.420
9/16	0.5625	22.970
5/8	0.6250	25.530
3/4	0.7500	30.630
7/8	0.8750	35.740
1.0	1.0000	40.840



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