CLARK
ENGINEERING

CUSTOM METAL ENGINEERING AND MANUFACTURING COMPANY

OVERVIEW

Clark Engineering, established in 1946 and located in Owosso, MI, is a manufacturing company offering a wide variety of products & services. Clark specializes in the custom designing and high volume production of rod, wire, and tube formed products.

Primary industries served are the lawn and garden, automotive, industrial and other industries. Clark Engineering is ISO certified.

Clark is vertically integrated with in house capabilities consisting of machining, cold heading, threading, welding, forming, coining and more. This positions Clark to control processes, lead time and cost.

All tooling is designed and built in house including single hit and transfer dies, CNC fixtures, multi slide tooling, and custom automation/dedicated high volume machinery.

The company operates out of two buildings totaling nearly 60,000 square feet.

FACILITIES

Clark Engineering operates out of two facilities, located at 1470 McMillan, Owosso, Michigan, 48867 and 780 McMillan, Owosso, Michigan 48867.

1470 MCMILLAN

- The facility at 1470 McMillan is 41 880 total square feet
- Built in 1979 and renovated in 1990 this structure is in very good condition The building contains a fire suppression system and 480 V electric service throughout
- The entire shop floor has been renovated over the last decade
- The building contains 4 bay garage doors utilized for shipping & receiving
- Recent exterior renovations include a new roof over the office area, new concrete pad next to the shipping dock entrance, and a separate shed behind the building to safely store packaging materials

780 MCMILLAN

- The facility at 780 McMillian is 12,000 total square feet
- This facility houses the process of storing and shearing raw material for the entire Clark Engineering operation.

QUALITY MANAGEMENT

Clark Engineering's quality management systems have been assessed by Excalibur Registrations and have been certified to meet the standards of ISO 9001:2015. The current certification is valid until September 15, 2024.

As quality is the Company's top priority, Clark Engineering performs daily audits on all its quality systems, as well as annual surveillance audits by a 3rd party registrar.

In order to ensure all products conform to the desires of customers, Clark Engineering has implemented the use of the following processes:

- 1st piece setup inspections on all processes
- PPAP level 1 to 5 using "Power Way" software system
- Layered audits
- Staging audits, before parts are packed and are ready to ship
- Dock audits, after parts are packed and are ready to ship
- SPC inspection and charting
- Attribute fixtures and variable fixtures


Excalibur
REGISTRATIONS

Certificate of Registration

Quality Management System for 9001

Clark Engineering Co., Inc.

P O Box 166 1470 Morrison Rd

Owosso, MI 48867-0166

Has been assessed by Excalibur Registrations and found to be compliant to the following standard (s)

ISO 9001:2015

Scope of Registration:

Randy Reiner, President

IAS ACCREDITED

Excalibur

INSPECTION EQUIPMENT:

- Optical Comparator
- CMM – Coordinate Measuring Machine
- Height Gages
- Ring Gages
- Plug Gages
- Rockwell Hardness Tester
- Micrometers
- Calipers
- Pitch Diameter Micrometers
- Magna-Gage Plating Thickness Tester
- Certified Gage Blocks and Pin Gages
- Certified Granite Surface Plates
- Attribute Fixtures that are Customer Approved

PRODUCTS












OUR SERVICES

1

CNC WIRE FORMING

A wire form is an industry term used to describe a solid metal rod with bends along its length. With a wide variety of uses, wire forms are found in automotive, agricultural, alternative energy, and furniture applications, as well as many others. Wire forms typically don't conform to tight tolerance applications due to the nature of variation in the tensile strength from one batch of steel to the next. However, with Clark Engineering's processes the company can create machined features on the wire forms themselves which allow them to be held to tighter customer tolerances.

2

APPLICATIONS

The benefit of wire forms is the ability to combine many different functions into one singular part. If the goal is to reduce the number of components and save costs within a design, considering a wire form as an alternative to multiple individual parts is a great solution Additionally the tooling for a wire form is much less costly than a progressive stamping die.

3

CNC MACHINING CENTERS

With multiple vertical machine centers and turning centers, Clark Engineering is able to keep all operations in house utilizing top notch brand name machines such as Mori Seiki and Haas paired with Clark Engineering's experienced in house programmers and engineering staff, the Company possesses the ability to produce extremely tight tolerance products.

Clark Engineering specializes in "outside the box" type thinking when it comes to designing the Company's tooling Clark prides itself on crafting tools which produce high quality parts, throughout both high and low volume production runs.

Implementing automation within the CNC production process has been a significant focus for Clark Engineering and has helped the company build a sustainable competitive advantage. Using Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) programs, Clark can optimize the cutting paths to find the most efficient programs, reduce customer costs, and provide the highest quality possible.

OUR SERVICES

4

COLD HEADING

Like the process required to manufacture the head of a bolt, Clark Engineering's rod headers can produce a multitude of head shapes, upset collars from the end of a part, and even extrude the end of the part in preparation for roll threading; another service offered by Clark. Using coil and magazine feed headers, Clark Engineering offers the flexibility and speed to quickly head both ends of the pieces the company is producing. Additionally, Clark Engineering's multiple blow capabilities allow the same part to be struck multiple times in order to craft more difficult and complex end features.

5

DIFFERENTIATORS

The capabilities mentioned above, combined with Clark's magazine feed CNC bending machines, place Clark Engineering ahead of the competition when it comes to the parts produced from coil feed CNC machines. The Company can produce headed wire form pieces quickly and efficiently, allowing cost savings to be forwarded onto customers.

6

PRESSING

Metal pressing, or stamping, is the process of transforming pieces of tubular metal and steel into flat sections. A metal press can be advantageous in that the material can be shaped and crafted into any design specification with extreme precision.

The process of stamping occurs by forming the metal between two halves of a tool on the press, thus determining the outcome The pressing tools used within Clark Engineering's operations are designed in house along with the remainder of the Company's tools allowing Clark to fulfill customer's needs start to finish without having to outsource along the way.

With over 50 presses varying in size and functionality, Clark Engineering has the capability to press nearly anything from 600 ton knuckle joints to 50 ton straight sides. These presses are used for coining, stamping, and forming materials ranging in diameter from 1/8" to 1". Th e capacity of the company's press room allows Clark to handle many extreme jobs, such as heavy duty tow hooks, heavy braces, steering rods and connectors.

OUR SERVICES

7

THREADING

Clark Engineering has the capability to produce threads over 1” in diameter via the company’s Landis thread cutting machines Additionally, Clark owns high speed magazine thread rolling machines which can manufacture threads up to 4” long on metal rods as thin as 1/2” in diameter. Offering the service of threading only furthers the company’s commitment towards providing the lowest cost solutions by ensuring threading operations remain in house.

As Clark Engineering states, “Producing a high quality roll thread is a science all in itself.” This science has been perfected internally, with 60 years of experience The company’s detailed inspection process allows Clark to ensure that only products of the highest quality ship and that Clark Engineering threaded products exceed expectations by performing well within high stress applications.

8

POKA YOKES AND AUTOMATION

A poka yoke is a mistake proofing device which prevents any nonconforming part from continuing along the production process. By utilizing mechanical tooling, electrical sensors, photo eyes, torque guns, etc Clark is confident any bad parts do not move on to the next operation.

Along with each poka yoke, Clark Engineering uses defective parts on a predetermined frequency to ensure that all tools are functioning properly and identifying all defects.

Clark also observes pass through features or characteristics when it comes to unique production runs. Aside from the flexibility from CNC machines, Clark Engineering uses several automation and manufacturing techniques to create a unique solution to every product.

Robotics, transfer systems, hydraulics, pneumatics, and other automation tools are in house.

OUR SERVICES

9

MULTISLIDE MACHINES

Clark Engineering's multi slide machines are crucial in helping the company provide high volume, complex parts at a low cost to customers. This is done through dedicated tooling designed and built in house at Clark Engineering to be used on the company's Refflinghaus multi slide machines, or on the company's hydraulic multi slide bending machines.

These multi slide machines allow Clark Engineering to form any bend without repositioning, fewer moves, and less non-value adding time means a more efficient, quicker turnaround time an d a lower cost solution for the customer.

Additionally, Clark Engineering can integrate secondary operations, such as coining, piercing, or chamfering, into these multi slide machines and the company can produce a finished part directly from one machine with minimal operator involvement.

10

TUBING

Clark Engineering can fabricate a vast range of parts from metal tubing Clark can cut, size, coin, pierce, and weld tubing depending on the specific needs of a customer and requirements for a design. Clark can transform many different sizes of tubing from square to round by using the processes mentioned above.

A wide variety of metals can be chosen, such as alloys, stainless, brass, steel, and aluminum, just to name a few Clark Engineering strives to be able to fulfill customers' demands, no matter the scope of the project required.

The tubing process is completed by finishing the bare metal, where Clark Engineering can provide several different finishes with powder coating, e coating, zinc plating, and nickel plating being the most requested Clark Engineering has been serving the manufacturing needs of many for over 60 years and has cemented the company's reputation for producing nothing but the best tube formed products.

PRODUCTION BATCHES

The smallest production run Clark completes is a batch with an Estimated Annual Usage (EAU) quantity of 2,000 pieces, while the larges t batch manufactured by Clark has an EAU of nearly 400,000 pieces.

On average the batches requested by customers are in the EAU range of 20,000 pieces to 30,000 pieces.

INDUSTRIES SERVED

AUTOMOTIVE

LAWN & GARDEN

INDUSTRIAL

DOD

MEDICAL

CLARK ENGINEERING

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