



Company Introduction

April 2012



Introduction to STALCOP

- We specialize in developing cost effective, custom engineered solutions, hinged around our expertise in cold forming, supported by our precision machining knowledge and our extensive capability in secondary operations and multiple surface finish and heat treatments.
- We master the cold forming technology for a wide variety of steel, aluminum, copper and their alloys.
- We are best equipped to manufacture small to medium volume production lots.
 - *Founded in 1981*
 - *Acquired by 13i Capital in 1994*
 - *Acquired German business unit in 1999*
 - *Acquired Czech business unit in 2005*
 - *Divested German and Czech businesses, March 2012*
- 2008 sales: \$40.0MM

Introduction to STALCOP



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Introduction to STALCOP



* Sales % Export

SUS Product Lines:
Solenoid Terminals
Electrical
Connectors
Cable Terminations
Diode Bases
Power Trans. and
Dist.
Resistance Weld.
Tips
Wiper Shafts
Ind. Battery
Terminals
Purchase for Resale

Worldwide Manufacturing Capabilities

The Company's global presence and cold forming expertise have earned Stalcorp a reputation as a world leader in the metal forming industry.

STALCOP Competitive Advantage:

Local presence: European and US offices

Experienced and friendly multilingual staff

Advanced R&D custom made New Product Development system (NPD).

Quick response times

ISO certified facilities by UL

TS16949 certification Plan for 2012

Advanced supply management systems (Kanban, consignment inventory)

Efficient lean manufacturing process.

Multiple operations under one roof. (cold heading, press forming, impact extrusion, roll threading, drilling, taping, CNC machining, ultra precision machining, lapping, slotting, brazing, assembly, heat-treatments, plating

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Advantages of the Cold Forming Process

- Product performance is improved over machining processes as the cold forming process rearranges the grain structure to follow the part configuration. This favorable characteristic eliminates the potential for porosity fatigues, increases over-all strength performance (shear strength, etc.) and reduces risk of other types of material integrity.
- The work hardening done during the cold forming process makes a more homogeneous product.
- Surface finish is improved versus machined surfaces.
- Precision: Tolerances produced by cold forming are more consistent and repeatable from tool controlled dimensions.
- Design freedom enables more intricate contours and shapes that would require many different and cost prohibitive machining or secondary processes.
- Stalcorp has the capability and knowledge of making complex shapes and thin walls (0.75mm), with a variety of internal features.
- Net or near net shapes, produced by cold forming, generate outstanding surface finishes, preventing further machining operations from castings.

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Cost Savings from cold forming

- The cold forming process enables material cost savings up to 70% by avoiding the production of scrap from the machining process. Many machined components can be re-designed as cold formed components for substantial cost savings.
 - Production costs are reduced by the high speed manufacturing process. Speeds range from 50 pieces per minute to 400 pieces per minute on the cold heading process. By replacing machined or cast parts with cold formed parts, we have helped our clients achieve savings of 50% or more.
 - Net shape or near net shapes from cold forming prevent costly secondary machining operations
 - The carbon footprint of a cold formed component is lower than the carbon footprint of a cast or machined component.
-

New Product Development

Stalcorp has a long history of working collaboratively with customers to engineer manufacturing solutions that produce more efficient, cost-effective components



CAD Solid Modeling Software

- Stalcorp's New Product Development (NPD) system can support complex, long-range developments, including toll-gate evaluations at steps:
 - Product/process design
 - Product/process evaluation
 - Initial production
- R&D team is led by VP Business Development
 - Stalcorp uses a team approach with product managers, process engineers, and customer engineers working together to introduce new products and processes
 - Once a new process is introduced the product manager and R&D engineers quickly try to exploit in other customer opportunities.
- 3,000 square feet of the US facility dedicated to new product development
- Stalcorp's three primary sources for new parts in a "family of parts" from both current and new customers are:
 - New product requests – 50%
 - Co-engineered products with the customer – 40%
 - In-house engineered products for new product lines

Manufacturing capabilities

- Cold heading

- Diameters from 0.125" TO 1.25"

- Length from 0.250" to 5"

- Experience in

- Steel, Aluminum, Copper

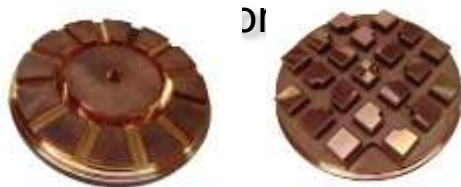
- Bronzes, SS steels, Nickel



- Press forming:

- Tonnages from 5 tons to 500 tons

- Part size configurations



Manufacturing capabilities

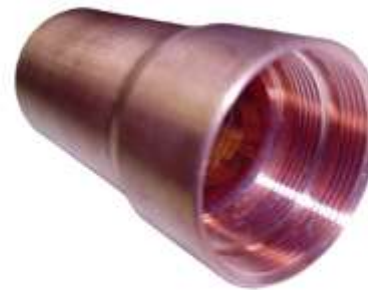
- Impact Extrusions

- Tonnages up to 500 tons
- Part length up to 18"
- Diameter up to 4"



- CNC Machining

- Turning with live tooling capability
- Dual spindle CNC turning
- Automated loading
- Vertical milling for complex part
- Diameters up to 6"



Manufacturing capabilities

➤ Brazing

- Multiple brazing compounds available
- Part height up to 6"



➤ Assembly

- Multiple techniques available on demand
- Over molding capability with alliances
- Resistance welding
- Crimping



Stalcorp Product Sales Mix

Example of markets segments

- Automotive OEM
- Automotive After Market
- Electrical distribution
- Cable Terminations
- Medical instruments
- Military components
- Industrial specialty battery
- Lithium Ion Battery terminals
- Solar energy
- Industrial OEM
- Power Semiconductor industry
- Marine Industry
- Nuclear
- Aerospace
- Industrial heavy equipment
- Ammunitions
- Packaging industry
- Hybrid vehicles connections

Product Sales Mix by materials

Steel	Aluminium	Copper	Stainless Steel	Nickel
C 1006 B	AL 1060	UNS C10100	SS302	NI 200
C 1008 B	AL 1100	UNS C10200	SS304	NI 201
C 1010 B	AL 1350	UNS C10300	SS316L	
C 1015 B	AL 2017	UNS C10700	SS430	
C 1018 B	AL 2024	UNS C11000		
C 10B21	AL 2047	UNS C15000		
C 1022 B	AL 2117	UNS C18150		
C 1035 B	AL 5056	UNS C18200		
C 1038 B	AL 5083	UNS C26000		
C 1541 B	AL 6061	UNS C65100		
C 1007 B	AL 5055			

References

Stalcorp continually strives to find new and creative ways to serve the needs of its diverse customer base more effectively



Operations: Lean Manufacturing



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