

# The Shapes of Things to Come





*Keystone Profiles produces precision cold drawn products that can save you up to 70 percent of your parts production costs. We make a wide variety of special shapes, flats, squares and hexagons, in a broad range of sizes and materials, with tolerances as close as .0003 inch.*

## **200 Years of Experience**

Keystone Profiles is a merger of two companies, both formed more than a century ago.

One of the companies, the original Union Drawn cold finish plant in Beaver Falls, PA was founded in 1892. It was eventually purchased by Republic Steel and became known for its large size range, producing rectangular and square shapes, as thick as five inches and as wide as 14 inches.



The second company, Pittsburgh Tool Steel, was founded in 1902 and built a reputation for cold drawing special shapes with extremely tight tolerances and unmatched precision. The company made custom shapes in a wide variety of materials --- from basic carbon steels to stainless and tool steels. It employed a number of skilled die makers and had complete in-house tooling capabilities.



Keystone Profiles incorporates the best aspects of both companies — the precision, close tolerances and technical skills of Pittsburgh Tool Steel with the strong manufacturing and larger size capabilities of the Republic Technologies cold-finish plant. We supply customers in more than 50 SIC categories --- virtually every industry in which high-quality parts with precise tolerances are critical, or where cost and time savings in parts production is important. Our markets include: aerospace, medical, dental, hand tools, automotive, safes and vaults, power generation and large equipment manufacturers, and producers of armament and munitions.

**Exceptionally Tight Tolerances,  
Smooth Surfaces and Tight Corners**

- Tolerances as close as .0003 inch
- Keystock Quality (Oversize)
- Sharp Corners
- Radius Corners
- Surface Finishes
  - Defect-free
  - RMS of 63, or better
- Lengths up to 42 feet

**From the Most Basic Materials  
To the Most Difficult**

- Carbon steels
- Commercial quality alloys
- Aircraft quality alloys
- Bearing quality alloys
- Stainless steels
- Tool steels
- High-speed steels
- High-strength steels

**We Supply Over  
50 SIC Classifications**

Some of our markets include:

- Aerospace
- Dental
- Medical
- Hand and power tools
- Power generation
- Oil drilling equipment
- Automotive parts
- Safes and vaults
- Construction equipment
- Firearms and munitions



## Reduce Your Parts Production Costs By Up To 70 Percent

If you're using machined parts or making your own, you can save up to 70 percent of your production costs by switching to cold drawn, custom profile shapes.



Simply specify the exact solid bar shape you need, then cut off the parts as you need them. You minimize or eliminate machining, hand operations and scrap loss. Our cold drawn parts are so precise, that often

the only additional processing required is drilling, tapping, threading or countersinking.

## Delivering What You Value Most

A survey of our customers identified these four critical needs:

- High quality
- A wide variety of products, grades, sizes and conditions
- Special needs
- Timely, reliable delivery



Here's how we meet those needs.



## Exceptionally Tight Tolerances, Even KEYSTOCK Quality

Flats, Squares, Hexagons and Octagons, all available in a variety of materials.

- Extremely close tolerances --- as tight as .0003 inch
- Tighter tolerances, including flats and squares produced to "KEYSTOCK" quality (Oversize) specifications.
- Corners drawn to specific customer needs.
  - Sharp corners
  - Radius corners
- Surface finishes that are defect-free, with an RMS of 63 or better

We can produce exactly the shape you need, in lengths up to 42 feet. We have a team of professional die makers who have crafted dies for more than 6,000 different shapes. If they see a way to improve your product, they'll work directly with your technical personnel to enhance, or optimize, the design. Once they make a die, they work directly with our operators to assure the finished product meets your exact specifications.

## The Widest Size Range in the Industry; Materials From the Most Basic to the Most Difficult.

We have the capability to produce the widest range of sizes in the industry:

- Special profiles: .020 inch through 25 sq. inches
- Flats: thicknesses 1/16 inch through 2 inches; widths 1/8 inch through 14 inches
- Squares: 1/16 inch through 5 inches
- Hexagons: .028 inch through 4 inches
- Lengths: up to 42 feet



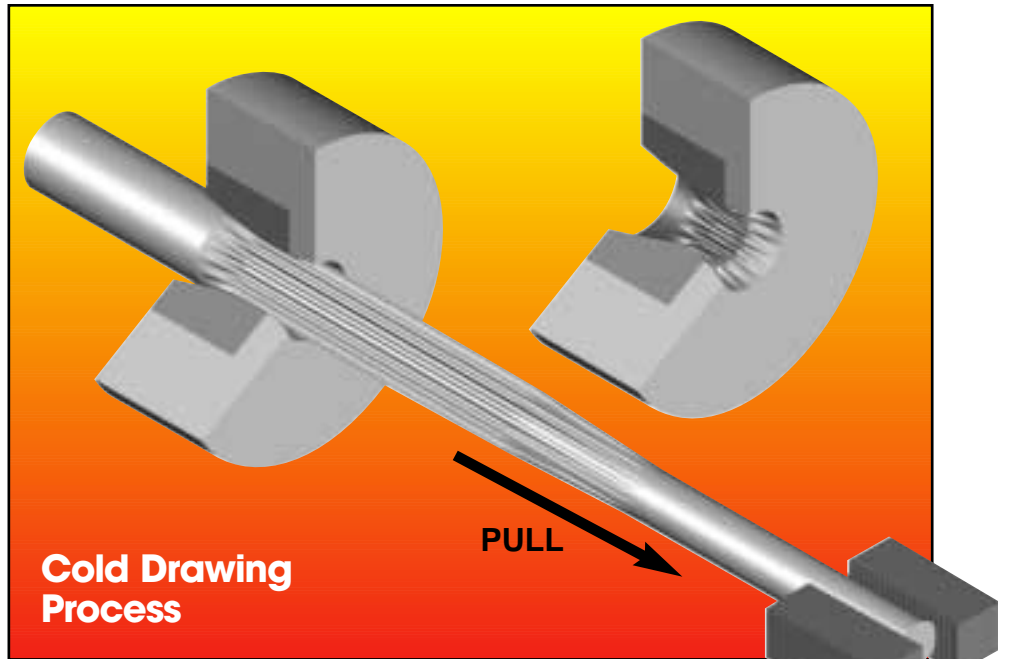
We can produce shapes and materials that others won't even attempt.

We work with:

- Carbon steels
- Commercial quality alloys
- Aircraft quality alloys
- Bearing quality alloys
- Stainless steels
- Tool steels
- High-speed steels
- High-strength steels

## How the Cold Drawing Process Works

In the cold drawing process, standard shape bars (rounds, squares, hexagonals or flats) are *pulled* through carbide dies which have been contoured to the exact shape of the part you need. The drawing process changes the shape or reduces the size of the metal. Several passes may be required through smaller and smaller dies depending on the final shape, or the complexity of the finished product. Sometimes annealing may be required between the drawing operations to restore the ductility of the metal.



## The Benefits of Cold Drawn Products vs. Hot Rolled

- Increased mechanical properties
- Improved machinability
- Longer tooling life
- Tighter dimensional tolerances
  - Cold drawn tolerances as close as .0003 inch vs. hot rolled only to .060 inch
- Better surface finish
  - Cold drawn finish as good as 63 RMS vs. hot rolled to only 250-plus RMS
- More consistency of dimensions (bar-to-bar and end-to-end)

- Tighter straightness tolerances matched to your specifications

- ready to replace worn-out machines, retool or add capacity

- using your part-making equipment infrequently, and you can't justify the expense

## Why You Should Consider Cold Drawn Special Profiles

Precision cold drawn products not only provide significant cost and time savings, they can also save you significant capital and labor costs. You should consider precision cold drawn products if you are:

- having a difficult time making a product
- working with a material that is difficult to shape or form



- able to benefit from the reduced machining you get with near net shapes

- unable to find the skilled craftsmen to produce precision, high-quality parts



## Have It Your Way

If your current supplier is having a difficult time producing a product for you, ask us. Chances are, we'll be able to do it — routinely.



Because of the experience and ability to work with the most exotic materials and to produce to the most exacting tolerances in the industry, we're asked to take on the most demanding jobs, including prototypes for scientific and research projects.

We supply cold drawn products for everything from extremely delicate dental tools to the drive trains that power construction equipment.

Some of our markets include:

- Aerospace
- Dental
- Medical
- Hand and power tools
- Power generation
- Oil drilling equipment
- Automotive parts
- Safes and vaults
- Construction equipment
- Firearms and munitions

We produce the widest number of grades and sizes in the industry. And, we have virtually no minimum order restrictions, so we can produce nearly any size production run. (For *standard* shapes, order size may be subject to hot metal requirements.)

We also have the ability to convert your raw materials. Let us know your conversion requirements.

### In-House Processing; Shorter Lead Times

Because we control all of our processes in-house, we can provide the shortest lead times in the industry. Those capabilities also assure that we can keep your order on-schedule, and that it will be ready to ship on-time, when you need it.

Superior customer service starts with an attitude and the desire to continuously improve...to never be satisfied with our performance. We start with a careful inspection of the raw materials for your order, then document our production processes every step along the way, through hand packaging and shipping.

We can provide the exact shape in the material you need and help you reduce or eliminate machining costs. Let's discuss your materials, tolerances and other requirements. We'll be happy to provide you a quote.



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