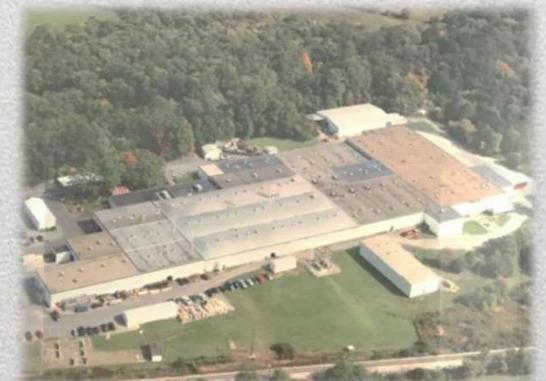


WELCOME TO



SMALL TUBE PRODUCTS
DUNCANVILLE, PA U.S.A.



Skilled Producers of Copper and Brass Tubing
Continuing the Excellence Established in 1947



Contents

- **Ownership**
- **STP's Role in the Supply Chain**
- **Statistics / Capabilities**
- **STP Core Competencies**
- **Served Markets**
- **Alloys and Tube Sizes**
- **Tooling**
- **Markets Served**
- **Packaging Forms**
- **Shapes / Fabrication Department**
- **Plant Layout**





Kothar Group

Kothar Group consists of:

- **Arzon Limited**
Burlington, Ontario
- **Cyprum Metals**
Franklin, KY
- **National Copper & Smelting**
Huntsville, AL
- **National Copper & Smelting**
Ardmore, TN
- **Small Tube Products**
Duncansville, PA

UNITED STATES

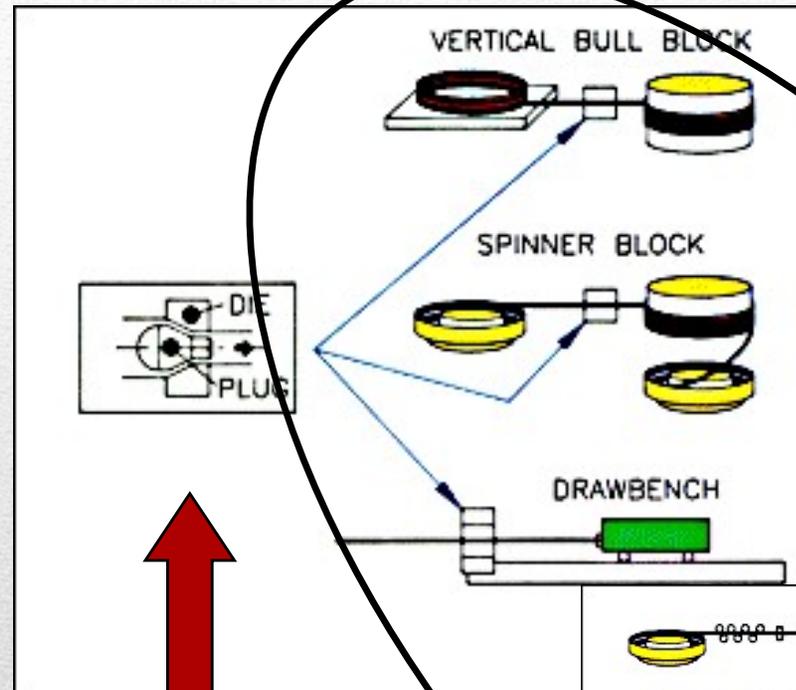
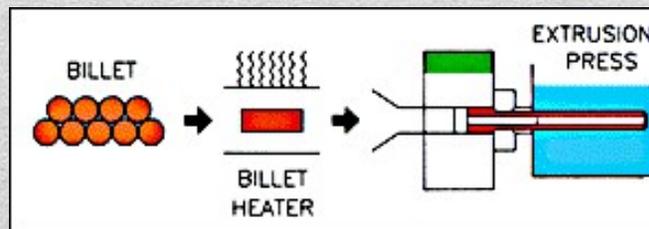
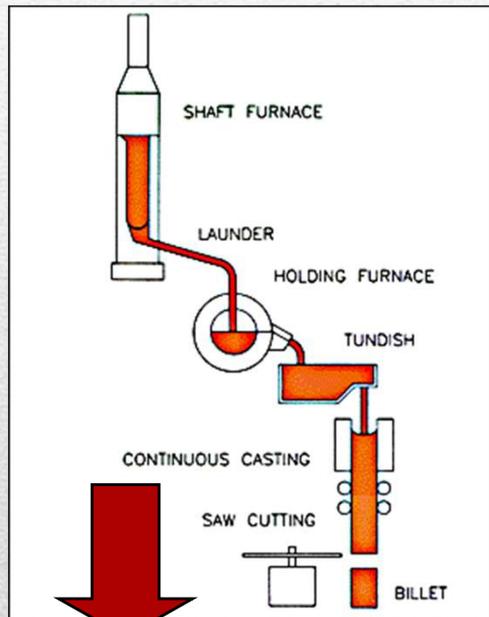


Produced by the Cartographic Research Lab
University of Alabama

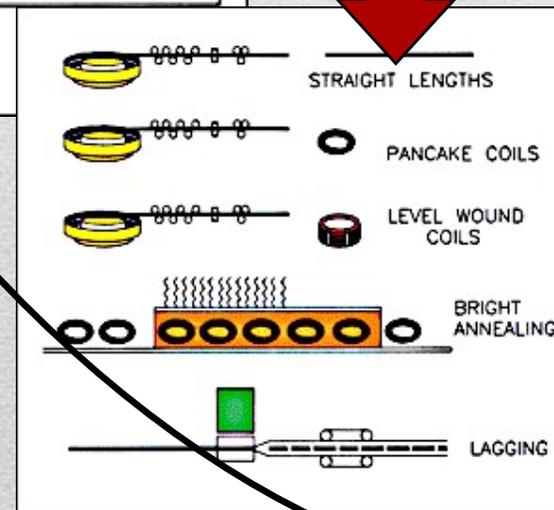


STP's Role in the Supply Chain

Cast and Extrusion



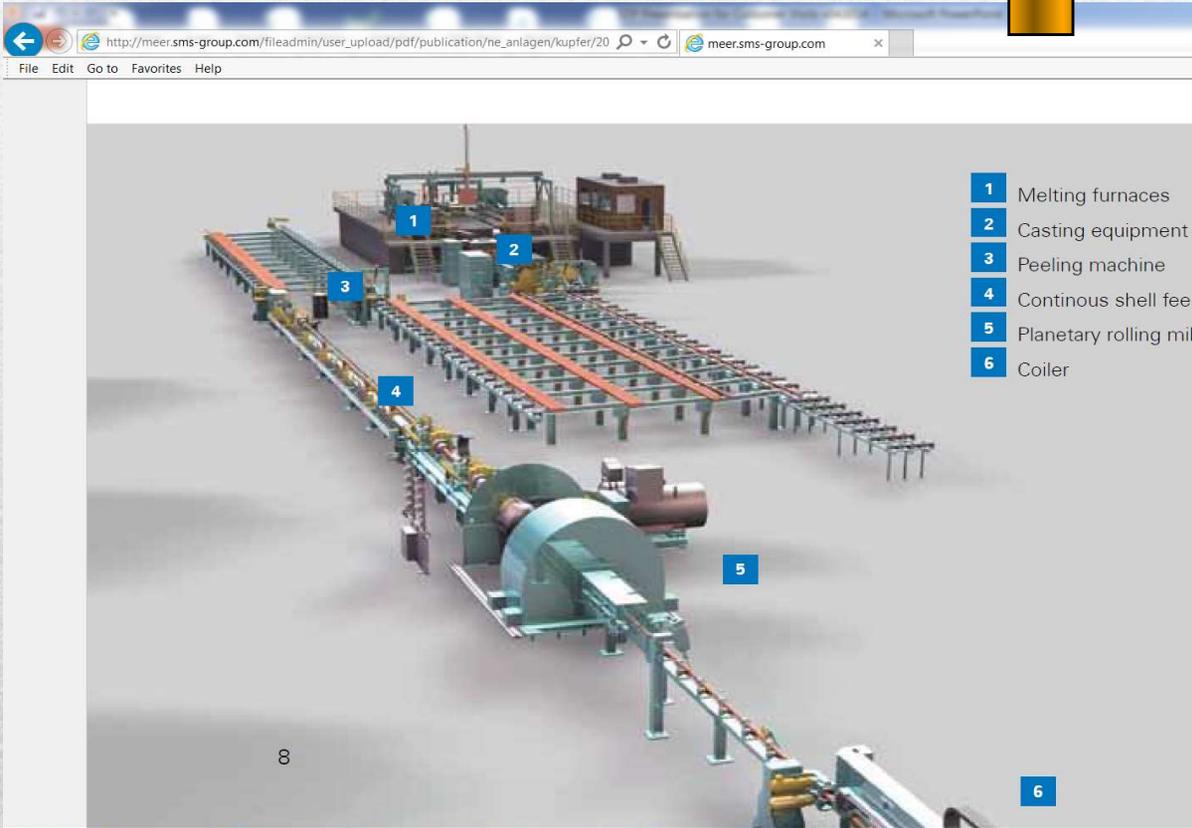
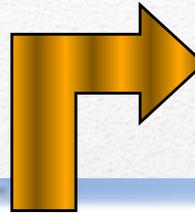
STP's Operations



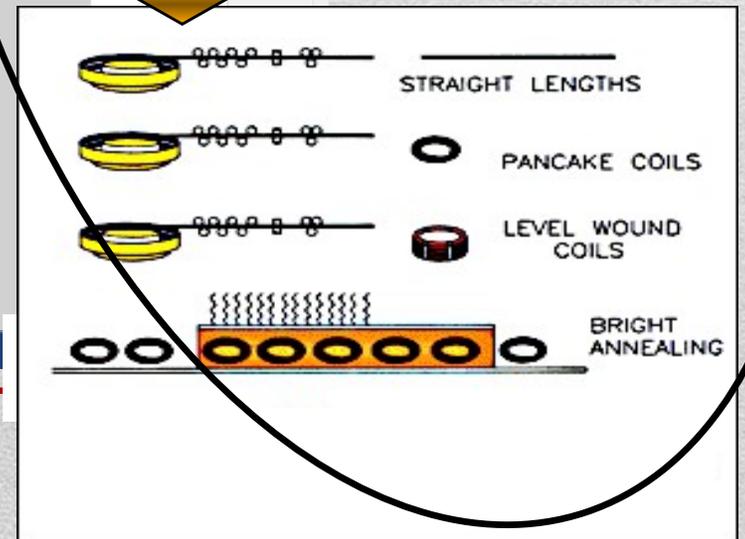
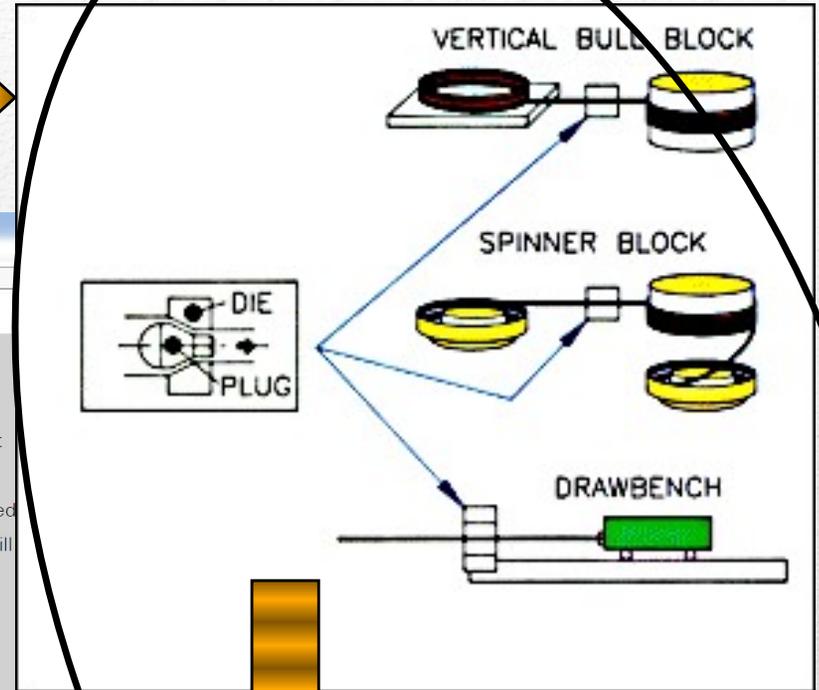


STP's Role in the Supply Chain

Cast and Roll Technology



- 1 Melting furnaces
- 2 Casting equipment
- 3 Peeling machine
- 4 Continuous shell feed
- 5 Planetary rolling mill
- 6 Coiler





Our People



PRECISION SPECIALIST
BRAD



QUALITY PRODUCTS. WORLD CLASS SERVICE.
Our People - Experts in Copper Tube Fabrication

- **190 Employees**
- **Experienced workforce w/ 16 years avg. service**
- **Dedicated to craftsmanship**



PRECISION SPECIALIST
TIM



QUALITY PRODUCTS. WORLD CLASS SERVICE.
Producing Custom Parts For Happy Customers Since 1947



WHERE IN THE WORLD?
ALWAYS WORKING HARD TO BRING YOU QUALITY PRODUCTS



 **Copper Production - Operator**



SMALL TUBE PRODUCTS

ESTABLISHED 1947

CELEBRATING 75 YEARS
IN CUSTOM COPPER FABRICATION PROJECTS

Our capacity for collaboration and years of experience in copper tube fabrication puts us ahead of the competition.



Plant Data / Capabilities

- **Plant Information:**

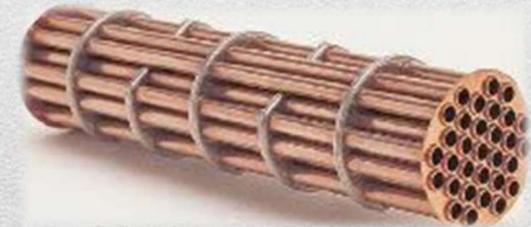
- 210,000 sq. ft.
- 3 shifts / 5 day weeks

- **ISO 17025 Accredited Laboratory**

- Dimensional
- Mechanical - *tensile, yield, elongation, hardness*
- Microstructural Analysis - *grain*
- Residual Stress
- Conductivity
- Optical Emission Spectrometry (OES) - *chemical analysis*

- **On-site Customer Service:**

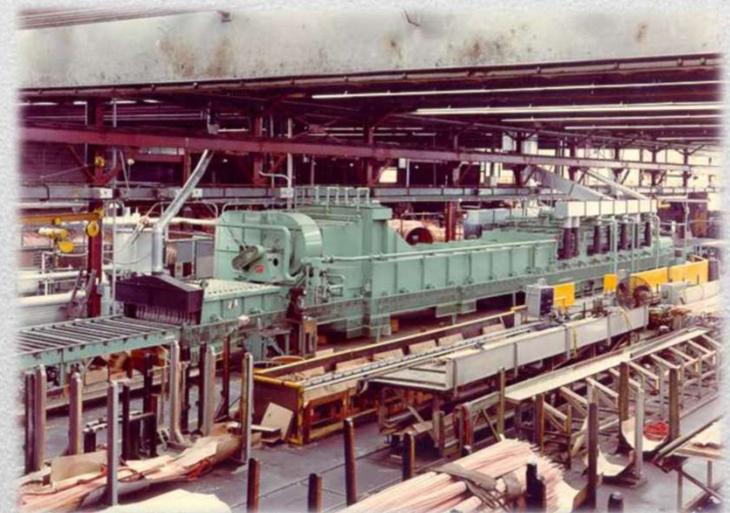
- Servicing customers' needs at the production site
- Gateway for customer to STP's commercial and technical services
- Quotation requirements
- Order Processing / Special Requests





STP Core Competencies

- **Precision redrawing of metals**
 - *22 different copper alloys, 2 Aluminum alloys*
 - *Die profiling expertise*
- **Precision straightening**
- **Shapes (*>1000 architectural combinations*)**
- **Short Cut-To-Length**
- **Small lot sizes - 100 lb. minimum**
- **ISO 9001 registered facility**
- **Lean Enterprise Culture**





Large Selection of Alloys

(listed by UNS Numbers)

Coppers

- C10100
- C10200
- C12000
- C12200
- C14200 (special order)
- C19400

Copper-Nickel

- C70600
- C71000 (special order)
- C71500

Brasses

- C22000
- C23000
- C26000
- C27000
- C33000
- C33200
- C43500
- C44300
- C68700 (special order)

Phos Bronze

- C51000
- C52100

Nickel Silver

- C74000
- C75200

Aluminum

- A91100
- A93003



Other Alloys may be available upon request

Precision cutting -0.125" to 42 foot lengths



Tube Size Ranges

COILS

ALLOY

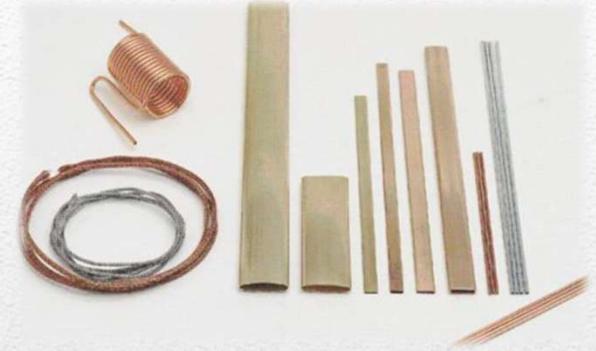
- Copper
- Brass
- Copper Nickel
- Aluminum

OD

- .040" - .875"
- .040" - .875"
- .040" - .875"
- .040" - .875"

WALL THICKNESS

- .005" - .200"
- .010" - .065"
- .010" - .070"
- .012" - .065"



STRAIGHT LENGTHS

ALLOY

- Copper
- Brass
- Copper Nickel
- Leaded Brass
- Phos Bronze
- Aluminum

OD

- .040" - 2.625"
- .125" - 2.625"
- .125" - 2.625"
- .109" - 1.375"
- .200" - .875"
- .040" - 2.000"

WALL THICKNESS

- .004" - .367"
- .010" - .175"
- .010" - .175"
- .010" - .200"
- .004" - .045"
- .012" - .200"





STP In-House Tooling

The essence of STP's quality tubing:

- Tooling expertise
- In-house maintenance and engineering
- Skilled manufacturing people and processes

Extensive training program for tool room personnel

Superior abilities with:

- Die and plug profiling
- Maintenance of Shape Tools
- Saw blade sharpening
- Gage maintenance and design
- Problem Solving for drawing issues
- Tube straightening
- Short cut lengths
- 3-D Printing Technology



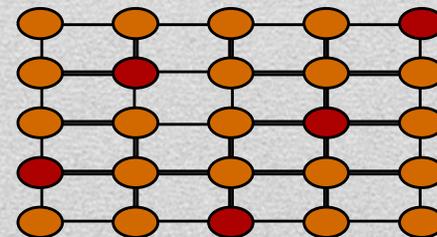
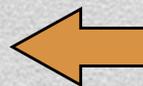
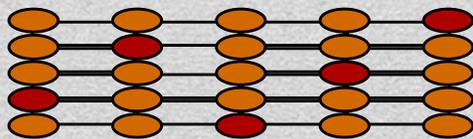
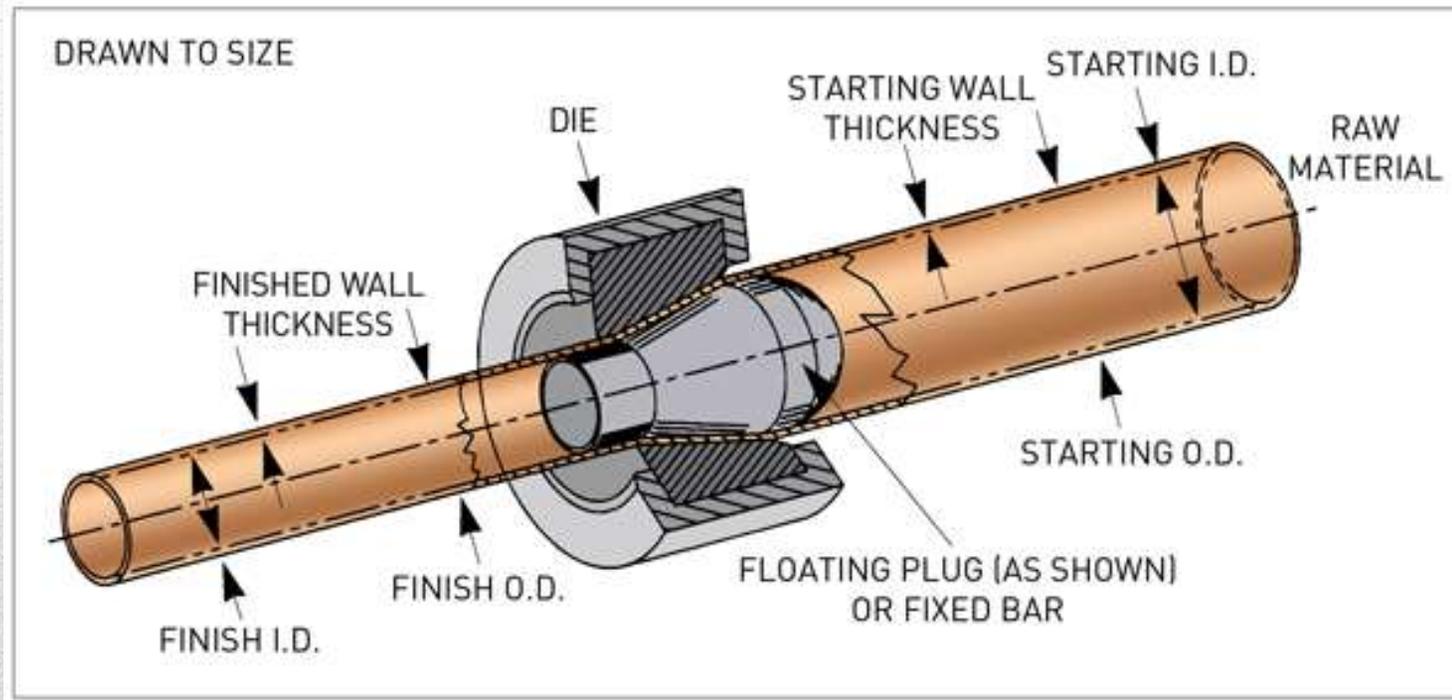
**Smallest
Die/Plug**

**Largest
Die/Plug**



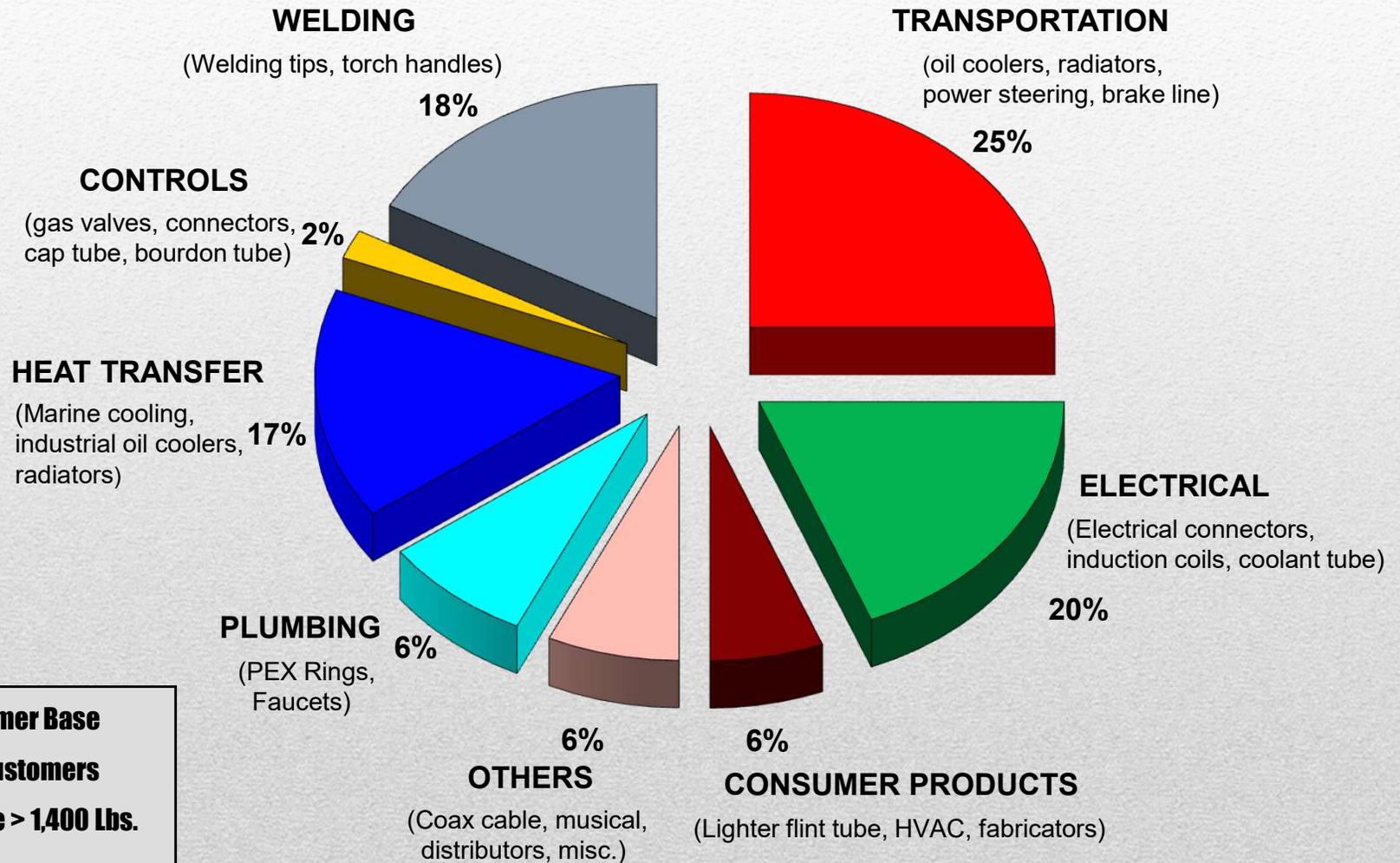
The Essence of Tube Drawing

- How *Cold Work* is applied





STP Served Markets



- **Diversified Customer Base**
- **Over 880 Active Customers**
- **Average Order Size > 1,400 Lbs.**



Examples of Shapes

Hourglass/Figure 8



Keyhole



D-Shape



B-Shape



Doghouse



Brushholder

Mailbox

I-Shape

More than 1,000 different shapes and sizes!

Leak Detector Tube



Duplex

**Oval-Shaped,
Fluted OD**



Fluted OD/Round ID

Square/Round



Square OD and ID

Rectangle



Straight Length Packaging



Bundle Pack Options



**Wooden End
Cardboard Boxes**



All Cardboard Boxes



All Wood Boxes



Coil Forms and Packaging

Bunch or Pancake Coils in Octagon-shaped cardboard box



Smaller coil diameter bunch or pancake coils in square cardboard box



Large Level Wound Coils packed in cardboard box or shrink wrapped



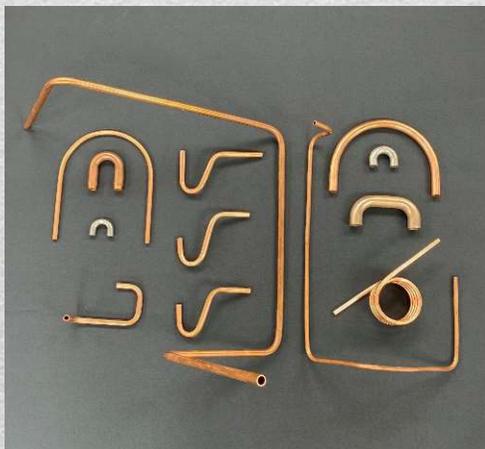


Tube Fabrication

- **All Copper Alloys, Brasses, Bronzes, Copper Nickels**
- **Dedicated Fabrication New Product Development Engineer**

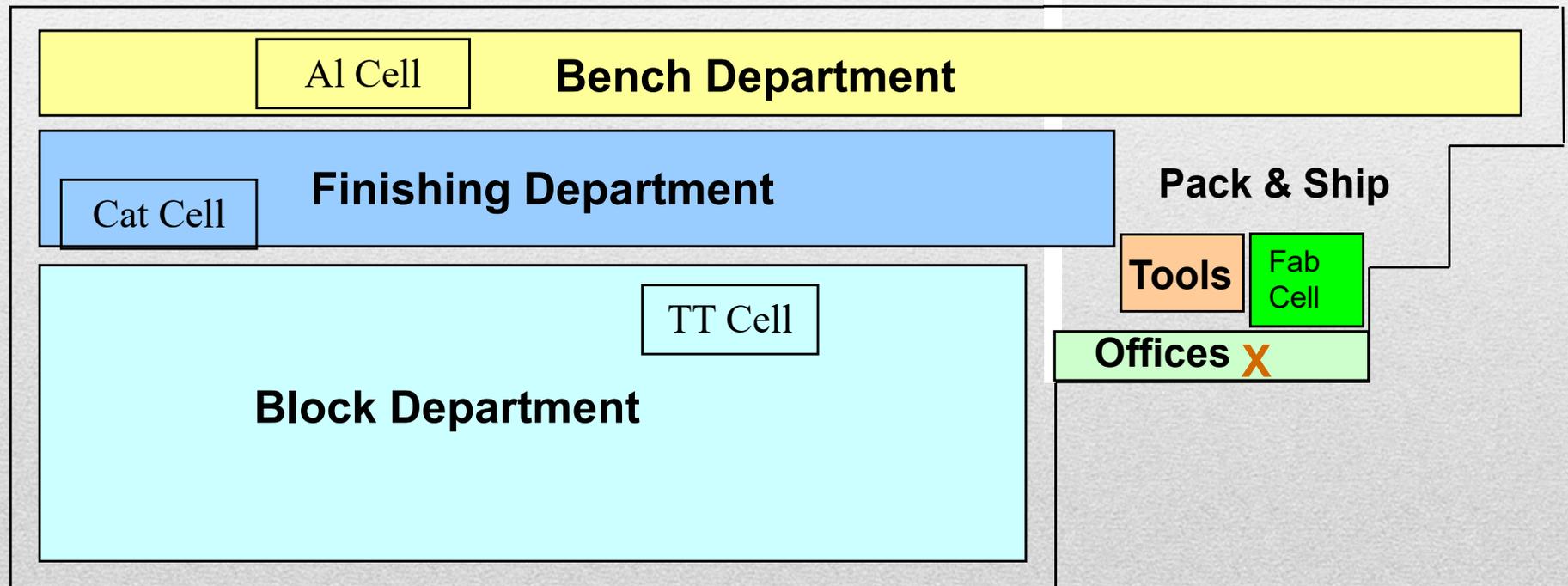


**Bending, Expanding, Swaging,
Counterboring, Spinning, Incising,
beading, special coiling, as well as
other fabrications**





Plant Floor Layout





Product Display

