

Commercial Heat Treating

Fabrications

Cutting Edges & Wear Parts

**TAKING
CARE OF THE
CUSTOMER**

**SINCE
1881**

TC Industries

DOING BUSINESS WITH TC INDUSTRIES

OVER 80 YEARS OF METAL FABRICATION/COMMERCIAL HEAT TREATING KNOWLEDGE AND EXPERIENCE

TAKING CARE OF THE MOST DEMANDING CUSTOMER REQUIREMENTS IN THE INDUSTRY

STRATEGICALLY LOCATED GLOBALLY TO TAKE CARE OF YOUR NEEDS WORLDWIDE

UTMOST QUALITY IN PRODUCTS AND SERVICES PROVIDED

ONE STOP SHOP FOR ALL YOUR NEEDS

ROBUST SUPPLY CHAIN SOLUTIONS





YOUR SOLUTIONS PROVIDER



TC Industries is the worldwide industry leading manufacturer of cutting edges, wear parts and fabrications as well as the premier commercial heat treat services provider. We are family owned and operated, with over 80 years of experience in the industry, taking care of some of the most demanding customer requirements. Our business is taking care of our customers by providing solutions to their problems with the utmost quality in both the products and services we provide. With locations in the United States, Canada and Europe, we are strategically located globally to meet our clients' needs.

FOCUSED ON:

Commercial Heat Treating
Cutting Edges, Wear Parts and Fabrications



TCI Production System

At TC Industries we say what we do and we do what we say. What we do is Take Care of the Customer for all the products and services we provide. We do that by utilizing our TCI Production System that is made up of Lean, ISO and 6 Sigma methodologies, tools, and systems. Our purpose is to eliminate waste and focus on continuous improvement to bring you, the customer, the highest levels of responsiveness, quality, delivery and competitive pricing while providing solutions to fulfill your business goals.



COMMERCIAL HEAT TREATING

We provide commercial heat treating for bars, tubes, flats, plates, squares, forgings and pup joints in carbon steels, alloy steels and stainless steels from our Crystal Lake, IL facility. We heat treat products in state of the art gas fired furnaces providing the utmost quality and repeatability. We have the equipment, capabilities, experience, and expertise to meet some of the most demanding specifications and requirements in our industry.

We are your one stop shop for commercial heat treating and value add processes.



QUENCH AND TEMPER

- Water, Oil and Polymer quenching
- Bars, Tubes, Flats, Plates, Squares, Forgings and Pup Joints
- Bars up to 12" diameter
- Tubes up to 12" outside diameter
- Plates up to 96 inches wide

We have the capability to quench and temper carbon, alloy, and stainless steels in water, oil, and polymer. We process rounds, square and flat bars, plates, and tubes.



ANNEALING

- LP Annealing
- Process Annealing
- Bars, Tubes, Flats and Squares

Process annealing results in mixed microstructures containing various amounts of lamellar pearlite and a fraction of spheroidite; it's used to restore ductility to material thereby improving its ability to be cold worked. LP annealing results in a predominant microstructure of lamellar pearlite; it's used to improve machinability.



STRESS RELIEVING

- Bars, Tubes, Flats, Squares, Forgings and Pup Joints
- Temperatures from 500 to 1275 degrees F

We provide stress relieving for material having residual internal stresses after thermal or mechanical processing. If stress relieving is required for material that has been heat treated, we require a detailed description of the previous heat treat cycle so we minimize any changes to the mechanical properties of the material.



STRAIGHTENING

- Bars, tubes, flats and squares
- Rotary straighten up to 3.125" diameter
- Hydraulic press straighten up to 14" diameter
- Lengths up to 45 feet

In the course of most heat treat cycles, the material undergoes some distortion. We have straightening capabilities for nearly any material size and shape that we heat treat. Rounds, structural shapes, and flat bar products are straightened using hydraulic presses or rotary straightening. If required by the specification or customer, subsequent stress relieving will be performed.

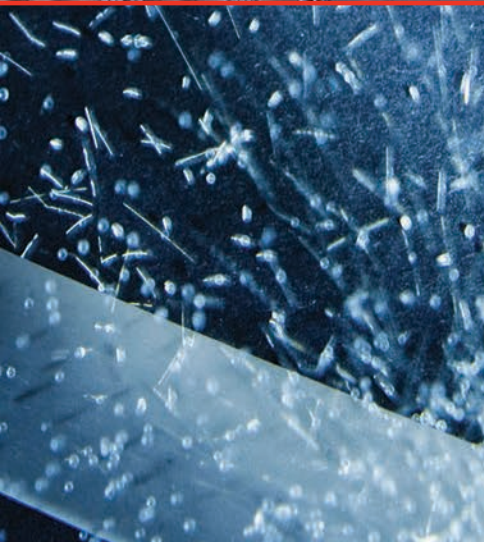
Bars of special straightness are furnished within a variation from a straight line of not more than 1/8" in any five feet and may not exceed 1/8" times number of feet of length divided by five.



DEMAGNETIZING

- Demagnetizing down to +/- 10 gauss
- Lengths up to 45 feet

Our bundle demagnetizing machine can reduce magnetism down to +/- 10 gauss. Subsequent rotary straightening can produce some residual magnetism in steels, typically between five and 25 gauss. If we have introduced magnetism in the bars during heat treating, we will demagnetize your material at no charge.



SHOT-BLASTING

- Thicknesses or diameters up to 12 inches
- Widths up to 70 inches
- Lengths up to 28 feet

We have the capability to provide mechanical descaling. Our shot blasting services are commonly used for:
The cleaning of iron, steel, non-cast parts and forgings | Mechanical cleaning of sheets, rods, coils and wire | Shot peening to alter mechanical properties | Preparing surfaces to be painted and/or coated.



RUST PREVENTATIVE

- Six months of indoor storage protection
- Lengths up to 25 feet

TC Industries offers a rust preventative liquid dip which provides oxide (rust) protection for up to six months of indoor storage without no residual oil film. This level of oxidation resistance is not designed for material that is subsequently stored outdoors.

CUTTING EDGES AND WEAR PARTS

We manufacture a wide range of cutting edges and wear parts utilizing state of the art equipment and manufacturing processes. These components are sold to customers worldwide and used on construction, mining, and earth moving equipment.

PRODUCTS



BACKHOE LOADER

Cutting edges | Wear plates



EXCAVATOR

General purpose cutting edges | Segments | Wear plates | Base edges | Base edge assemblies | Track shoes



SKID STEER LOADER

Cutting edges | Wear plates



TRACK SHOES

Dozer (single grouser shoes) | Hydraulic excavator (single, double, & triple grouser shoes)



WHEEL LOADER

Segments | Wear plates | Base edges | Base edge assemblies



PAVING

Cutting edges | Wear plates



SCRAPER

Cutting edges | Wear plates



MOTOR GRADER

Cutting edges (curved, flat, & serrated) | End bits | Overlays



DOZER

Cutting edges | End bits (flat & formed) | Track shoes

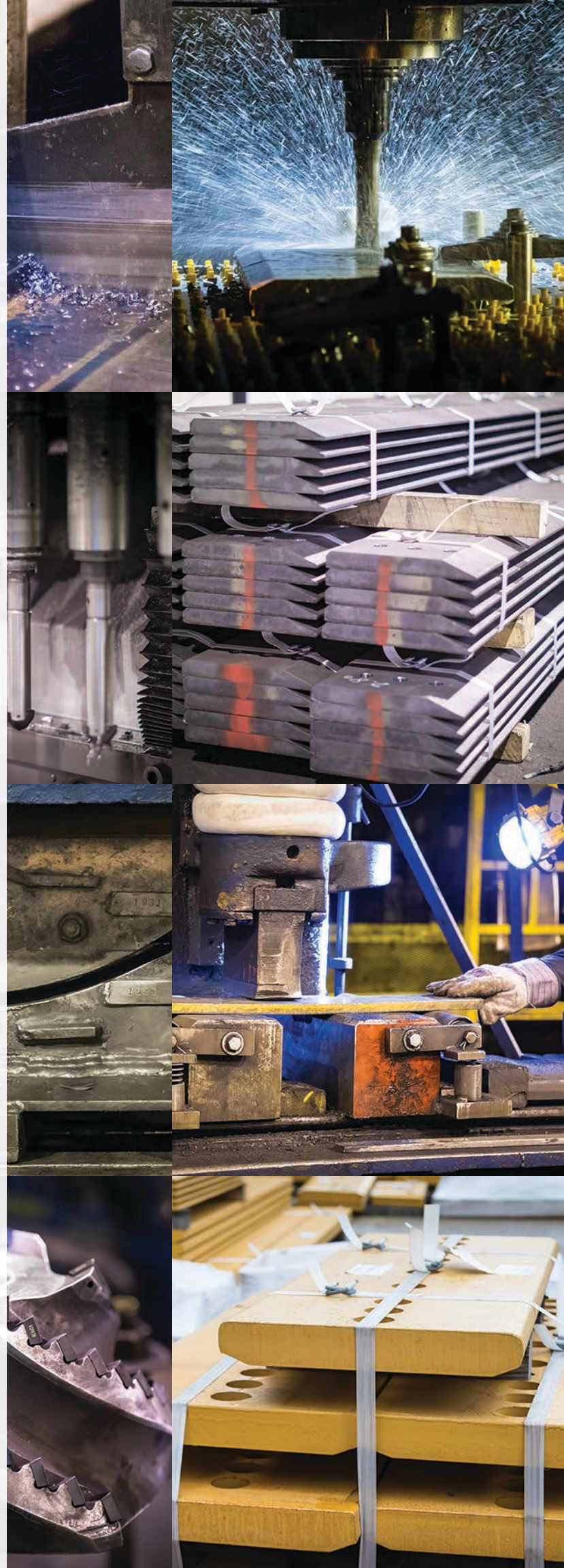


CAPABILITIES

Burn to length
Cut to length
Burn to shape
CNC Machining Centers
Drill & tap
Multi-spindle drilling machines
Heat treating furnaces
Punch presses
Forming presses
Straightening presses
Shot blasting
Milling machines
Carbide wear application

SOLUTIONS

Custom products program
Vendor managed inventory
Kanban
Kitting programs
Direct ship
Carbide wear components
Paint & packaging



WELDING/FABRICATIONS



MANUAL WELDING

TCI employs SMAW, GTAW, and semi-automatic GMAW-Spray, GMAW-Pulse, FCAW, and MCAW (Metal-Core Arc Welding) processes using calibrated, multi-process power supplies to provide value-added operations to our heavy-metal fabrications. Our personnel are experienced in welding, using strict requirements for interpass and maximum heat input temperature control, with various types of sequencing, for welding on heat treated and non-heat treated materials. Part positioners, capable of orienting assemblies weighing up to 50,000 lbs., are used for easy-accessible positioning.

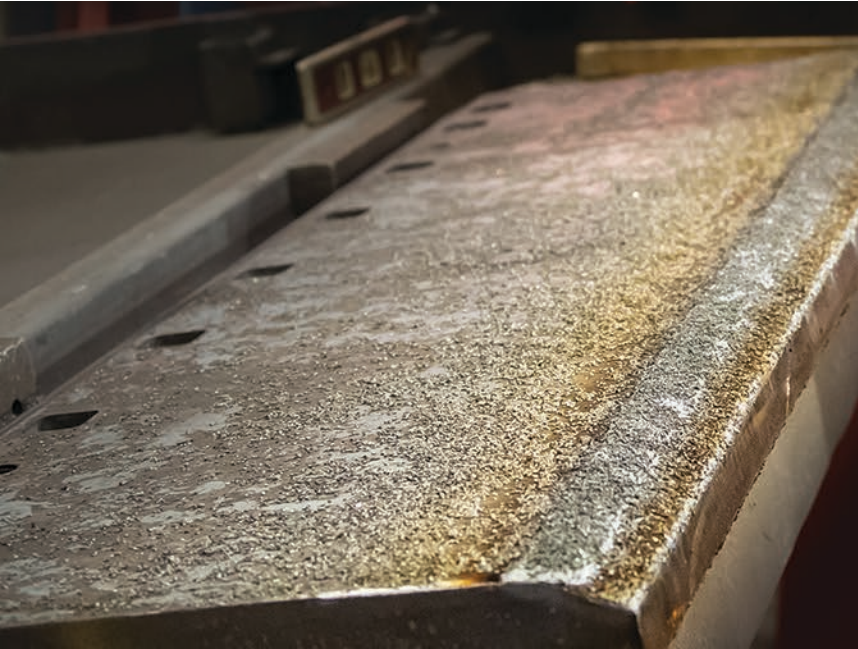
ROBOTIC WELDING

TCI has a 2-robot, 6-axis robotic welding cell, capable of using GMAW-Spray, or GMAW-Pulse processes, with a multi-axis positioner that uses quick change tooling technology for rapid loading/unloading of large assemblies. The robotic cell utilizes wire touch sensing, thru-the-arc seam tracking and has remote temperature sensing feedback capabilities, to monitor the part temperature during welding. TCI has a trained staff of robotic programmers, weld operator and maintenance technicians to support this cell. We also have several 2-axis mechanized GMAW cells, using modular track driven system technology with semi-automatic torch positioning for producing high quality, single-pass and multi-pass welds in long, straight line assemblies and for Cladding Overlay, Buttering and Hardfacing applications.



CARBIDE WEAR APPLICATION / COMPONENTS

TCI is equipped to apply tungsten carbide strips to parts over 3405mm in length and in varying patterns. The strips are applied through a welding process, below the surface of a component, for extreme wear life and durability. We can apply carbide wear strips to a wide range of products and create customize solutions to meet your needs.





TESTING SERVICES

The TC Industries Test Center provides materials testing services. The Test Center is accredited by the American Society for Laboratory Accreditation (A2LA). Accreditation is formal recognition of competence to perform specific types of tests and maintain a quality system that conforms to the requirements of ISO/IEC 17025. Maintaining our accreditation is an ongoing process through regular onsite inspections by accredited, highly knowledgeable and independent A2LA assessors. It requires strict adherence to written policies and test procedures.

Our Goal is to please the customer with a timely response to all testing needs that are fulfilled by accurate test results of the highest integrity.

The scope of our accreditation includes tensile testing, Charpy impact testing, Rockwell and superficial hardness testing, Brinell hardness testing and metallographic preparation.

Our services include, but are not limited to: mechanical testing, (tensile testing, charpy impact testing, hardness testing), metallographic analysis and nondestructive testing.



Testing Cert #1281.01

TC INDUSTRIES' PRODUCTION SYSTEM

Lean



ISO

6 Sigma



In Manufacturing, TC Industries has achieved ISO 9001:2008 accreditation for the development of a quality management system that meets or exceeds ISO standards. TC Industries has been ISO 9001 accredited since 2000.



In Environmental Management, TC Industries has achieved ISO 14001:2004 accreditation for the development of an environmental management system that meets or exceeds ISO standards. TC Industries has been ISO 14001 accredited since 2007.

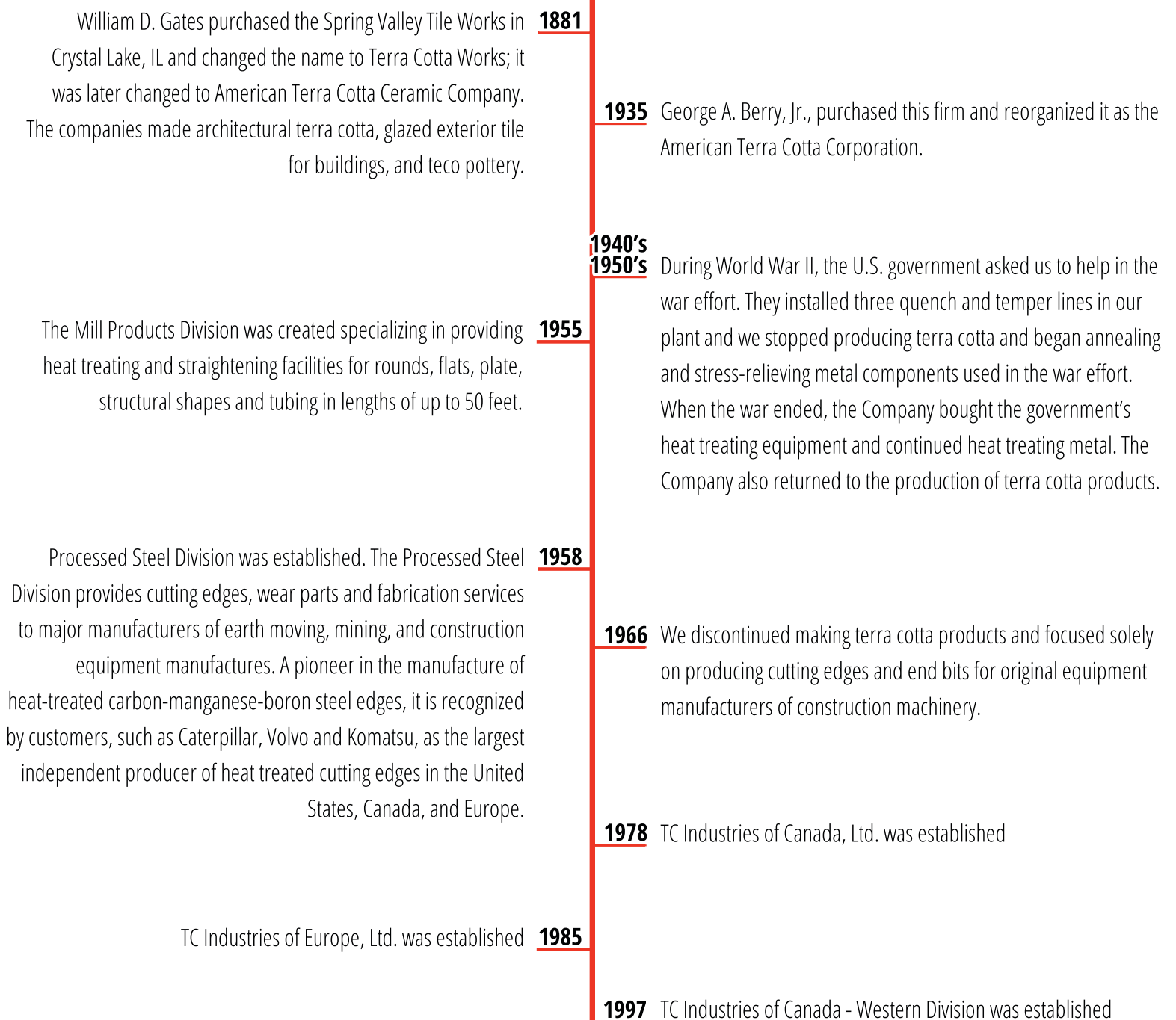


In Testing, TC Industries' Test Center in Crystal Lake, IL achieved ISO/IEC 17025:2004 accreditation for the development of testing system that meets or exceeds ISO standards in 2000.

TAKING CARE OF THE CUSTOMER SINCE 1881

TC Industries has been owned and operated by the Berry family since 1935. Bob and George Berry serve as the current Presidents and remain active in the day to day business. The 4th generation, George's children Sterling and Bert Berry, are poised to lead the company forward in the future. Today, TC Industries employs over 500 high-performing team members in the United States, Canada and the United Kingdom.

OUR HISTORY

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- 1881** William D. Gates purchased the Spring Valley Tile Works in Crystal Lake, IL and changed the name to Terra Cotta Works; it was later changed to American Terra Cotta Ceramic Company. The companies made architectural terra cotta, glazed exterior tile for buildings, and teco pottery.
- 1935** George A. Berry, Jr., purchased this firm and reorganized it as the American Terra Cotta Corporation.
- 1940's
1950's** During World War II, the U.S. government asked us to help in the war effort. They installed three quench and temper lines in our plant and we stopped producing terra cotta and began annealing and stress-relieving metal components used in the war effort. When the war ended, the Company bought the government's heat treating equipment and continued heat treating metal. The Company also returned to the production of terra cotta products.
- 1955** The Mill Products Division was created specializing in providing heat treating and straightening facilities for rounds, flats, plate, structural shapes and tubing in lengths of up to 50 feet.
- 1958** Processed Steel Division was established. The Processed Steel Division provides cutting edges, wear parts and fabrication services to major manufacturers of earth moving, mining, and construction equipment manufactures. A pioneer in the manufacture of heat-treated carbon-manganese-boron steel edges, it is recognized by customers, such as Caterpillar, Volvo and Komatsu, as the largest independent producer of heat treated cutting edges in the United States, Canada, and Europe.
- 1966** We discontinued making terra cotta products and focused solely on producing cutting edges and end bits for original equipment manufacturers of construction machinery.
- 1978** TC Industries of Canada, Ltd. was established
- 1985** TC Industries of Europe, Ltd. was established
- 1997** TC Industries of Canada - Western Division was established

TAKING CARE OF THE CUSTOMER WORLDWIDE



Selkirk, Manitoba Canada



Skinningrove, Cleveland England



Crystal Lake, Illinois USA



Guelph, Ontario Canada



W W W . T C I N D U S T R I E S . C O M

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