



### THERMEX® COATINGS

Exline's Thermex® Thermal Spray Coating (TSC) Services can restore worn components to "better than new" condition in less time and at lower costs than may be required to obtain replacement parts.

Thermex® coatings add desirable surface characteristics such as abrasion resistance, lubricant retention, corrosion protection, and restores worn parts to original dimensions. While we make needed repairs, we can actually "redesign" for superior durability and product enhancement.



**Thermex®—Thermal Spraying**—Exline selects from hundreds of metallic and nonmetallic coating options and five thermal spray processes to achieve the surface characteristics you require, such as abrasion resistance, lubricant retention, and corrosion protection.

**Extend The Life of New Components**—Thermex® coatings are ideal for preventive maintenance. Many Exline customers request Thermex® coatings on new parts and machinery prior to installation to achieve superior performance right from the start.

**Reduce Manufacturing Costs**—Components restored with Thermex® wear-resistant coatings frequently outlast original parts by a wide margin for long-term savings.

**Enhance Machine Performance**—Exline's thermal spray expertise can help solve many of the repair and production problems you encounter by reducing down-time and enhancing machine performance in a variety of ways. Here is a sampling of applications.

- Impellers, Fans, Shafts
- Bearing/Seal areas
- Camshafts
- Main Bearing Saddles
- Compounding Vessels
- Steam Turbine Shafts
- Hydraulic Rams
- Cylinders
- Sewage Pump Pistons
- Pellet Dies
- Reclaim of Mis-machined Parts



**Bearing Mounting Sleeves**—Non-conductive coatings can be selected to insulate the inner bearing face from the sleeve and eliminate electrolytic action.

**Pump Plungers**—Exline engineers the process and coating based on the operating environment. Pump plungers are normally coated with carbides or ceramics. Exline also manufactures new plungers.

**Nonmetallic Surfacing**  
Components made from fiberglass or plastic can be thermal sprayed with conductive metals, such as aluminum, zinc, or copper, to help dissipate static electrical charges.

**Shafts and Spindles**—Inspect, straighten, Thermex® spray, and restore to your specifications.



**Pump Pistons, Impellers, and Housings**  
Inspect, repair, and Thermex® spray. Machine precision balanced impellers.

**Mechanical/Hydraulic Presses**—Complete rebuilding capability. Repair or replace worn component parts.

**Printing Press Cylinders**  
Repair cylinder surface and bearing surfaces.

**High-Intensity Mixing Vessels/Blades**  
Manufacture, repair, reline, and Duracoat® vessels. Manufacture, rebuild, and Duracoat® blades.

**Replacement Part Fabrication**—Build to qualified specifications with the added option of Thermex® coatings recommended for your application.

**Production Manufacturing**  
Large and small quantity production runs.

### STEAM TURBINE REPAIR

- Component and Case repairs
- Shaft repair or manufacture
- Field Services
- Precision Balancing
- Repair to "like new condition" at a greatly reduced cost

### DIAGNOSTICS AND ASSET MANAGEMENT

Exline's Diagnostics and Asset Management Services focus on providing the highest quality and most comprehensive machinery evaluation services available.

**Management Ready Information**  
The information provided gives decision makers the quantitative means for a company to deploy maintenance and production assets to optimize their resources.

**"A" Running Inspections**

Measures the mechanical condition and performance of engines, compressors, pumps, generators and provides a general performance evaluation of the control system and related auxiliaries.



**Field Reports & Final Reports**  
Includes recommendations, risk assessment, and economic evaluation of equipment.

### SAVE TIME AND MONEY WITH YOUR SINGLE SOURCE FOR REPAIR, REBUILDING AND MANUFACTURING

The repair services and components described in this brochure are only a sample of what Exline can do to keep your operation running smoothly and efficiently. For more information on our capabilities, access our website at [www.exline-inc.com](http://www.exline-inc.com) to download specific information

We invite you to visit our facilities in person to "Experience the Excellence" that Exline is famous for. We're dedicated to strong customer service and to working together with you as a team.

### PUT EXLINE KNOW-HOW TO WORK

Contact Exline whenever you need repair services or manufacturing assistance. Exline has pioneered ways to keep American industry running more proficiently since 1872. This is one of the many reasons, people from coast to coast who work in maintenance, engineering, and management, rely on Exline.

**Experience, quality, and service.**

Call 800-255-0111  
[www.exline-inc.com](http://www.exline-inc.com)

E-mail us: [sales@exline-inc.com](mailto:sales@exline-inc.com)  
3256 East Country Club Road, P.O. Box 1487  
Salina, Kansas 67402-1487  
Fax 785-826-4425



"Experience the Excellence"



# Industrial Manufacturing and Repair Services



FOUNDED 1872

[www.exline-inc.com](http://www.exline-inc.com) • Call 800-255-0111

# Advanced Technology in Experienced Hands

When you need manufacturing assistance or machinery repair, look to Exline first. Over a century of repair and manufacturing experience gives us special insight into your requirements. Our technical expertise and advanced coatings technology enables us to enhance the performance and service life of a wide range of equipment.

Exline manufactures hard-to-find or discontinued replacement parts. We can design and build to your specifications.

## Short-Run Manufacturing/Production

Let Exline help you build and test prototypes or manufacture standard components that don't fit into your current production schedule. Contact us when you have a production need without the production capability to match. Whether the problem is capability or capacity, you can depend on Exline any time you need an extra "hand" with production and Just-in-Time delivery.

Exline handles specific production steps, such as machining, grinding, heat-treating, and provides complete turnkey assistance. We work from bar stock, forging or castings right on through to final assembly. Our manufacturing experience combined with CNC equipment, large scale machine tools, and testing devices, is your assurance of our broad capabilities and the highest quality results.

## Specialized Repairs and Modifications

Experience in many industries enables Exline to handle complex repair and component modifications. When your production equipment shows signs of wear, don't risk unnecessary downtime, our machinists can fabricate replacement parts of almost any size from many grades of steel and special alloys.

- **Engineering and maintenance personnel call on us to improve machine performance and durability in fields from mining to manufacturing, from textiles to transportation, from printing to plastics to petro-chemicals.**
- **Exline's Thermex® industrial coatings play a major role in these modifications because they offer such a broad selection of useful surface characteristics. In fact, the thermal spray coatings are so effective at extending component life that treating even new equipment makes economic sense.**

**Production Work**—With Exline's CNC equipment, let us help you with your outsourcing requirements for manufactured and production parts.



## REPAIR AND MANUFACTURING SERVICES

Exline's 125,000 sq. ft. facility offers complete machine shop capabilities. We can accommodate almost any size work piece that can be transported. Equipped with large-scale lathe, milling, and grinding machines, as well as the latest CNC machining centers, we can handle virtually any repair project.

**Surface Cleaning/Preparation**—Steam, hot-dip caustic cleaning, as well as glass bead and grit blast surface preparation.



## Machining—Large-shop Capabilities

Turning and milling, CNC work centers, manufacturing support, and prototypes.



**Grinding and Finishing**—Large cylindrical grinding with diamond grinding, super finishing, and internal grinding.



**Thermal Treating**—Stress-relieve or thermal expansion for assembled components up to 10 ft. x 10 ft. x 14 ft. in our industrial furnaces.

**Balancing Rotating Components**—Impellers, shafts, rotors, large fans, and other rotating elements.

**Straightening**—Various sizes of shafts, rods, and spindles.

**Production Salvage**—Exline can build up undersized parts and correct many other production problems to minimize the costs you incur from faulty production runs.

## Welding, Straightening, Stress Relieving

Whatever machine shop services you require, Exline is equipped and staffed to get the job done. We offer extensive welding services, including MIG, TIG, plasma, bronze, and stick welding. We can straighten out-of-spec components and heat-treat or stress-relieve even very large parts in our industrial furnaces.



## FIELD SERVICES

Exline's Field Services Division has on-site services to keep your operation running smoothly and efficiently with a minimum of downtime. We can disassemble and repair major equipment at your location with minimum disruptions in your workflow.

Special machining equipment enables Exline's skilled technicians to complete an exceptionally wide range of repairs and modifications on-site to reduce your downtime and overall costs. This is just one example of what our special services people can do to provide you with comprehensive overhaul, maintenance, and downtime prevention services.



## Some of the On-Site Capabilities

**Printing Presses**—Rebuild bearing surfaces, resize shaft housings, restore cylinders, machine frame bearing fits.

**Mechanical Presses**—Minor/major rebuild of cylinders and pistons. Repair or replacement of worn parts. Extensive component restoration capabilities.

**Hydraulic Presses**—Inspection, disassembly, reassembly, and adjustments can be accomplished in the field. Major reconstruction, such as restoring tooling, rebuilding columns, cylinders, rams, and machining worn components, is performed in Exline's shop.

**Block Repair**—Repair cracks using "LOCK-N-STITCH" crack repair.

**Optics**—Measure alignment of motors, pumps and compressors.

- **Wire-line alignment**
- **Line boring**
- **Milling and boring**
- **Journal undersizing**

