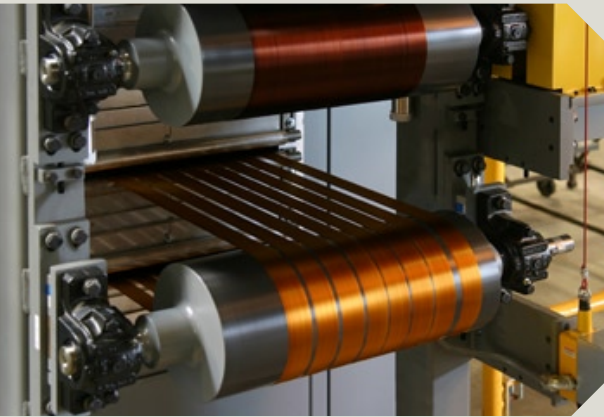


INSPIRED INNOVATION

**Despatch**  
INDUSTRIES

# THERMAL PROCESSING OF MATERIALS

THERMAL PROCESSING TECHNOLOGY FOR MATERIALS MANUFACTURING



## Materials Applications

**Aluminum** • Solution heat treating and aging for airplane body and engine parts and automotive parts including wheels, aluminum suspension and engine components

**Polymers** • Curing and annealing of thermoset plastics and adhesives

**Composites** • Drying, debinding, curing, and heat treating a wide range of fibers, woven and non-woven materials, pre-preg and composite materials

**Carbon Fiber** • Oxidizing of carbon fiber pre-cursor • Drying and curing carbon fiber composite subassemblies

**Industrial Applications** • Castings, sand cores, industrial material processing and heat treatment

# THERMAL TECHNOLOGY

Thermal processing of materials is a critical step in manufacturing quality products. The world's top manufacturers rely on Despatch for annealing, curing, bonding, drying, aging and heat treating of a wide variety of materials including polymers, composites, rubber, textiles, ceramics and aluminum. Despatch laboratory ovens are used for research and testing of these materials. Despatch manufactures large batch ovens and conveyor ovens for complex, high-volume production – ovens that deliver consistent, reliable results.

Over the past 100 years, Despatch has influenced the world's greatest innovations. We are committed to partnering with our customers to provide custom solutions to unique materials processing challenges. For more than 40 years, carbon fiber manufacturers have utilized our world-leading oxidation technology to produce the highest quality and most uniform fiber. Despatch provides high quality aluminum solution heat treating systems to the demanding automotive and aerospace industries. Our product specialists have extensive experience with applications that require clean processing, special atmospheres and Class A standards for processing combustible materials. No one has more proven success in partnering with customers to deliver complex thermal processing solutions.





## LBB CONVECTION OVEN

The Despatch LBB oven features a combination of horizontal and vertical airflow that offers excellent temperature uniformity at a moderate price. It is recommended for a variety of laboratory and production applications including drying, curing, annealing and materials testing.

The LBB is designed and manufactured to provide years of dependable service. The fan and heater are top-mounted to prevent damage from spills. When spills do occur, the corrosion-resistant stainless steel interior and nickel plated shelves clean up easily.

## LAC HIGH-PERFORMANCE BENCH-TOP OVENS

These ovens use horizontal recirculating airflow to ensure uniform temperatures throughout the oven. A high-volume fan circulates air through perforated, stainless steel walls to create a constant horizontal airflow across all sections of the oven. The result is proven reliability in demanding production and laboratory applications such as curing, drying, sterilizing, aging and other process-critical procedures.

## RA/RF SERIES OVENS

The RA/RF reach-in ovens feature horizontal recirculating airflow and exceptional temperature uniformity. The result is proven reliability in demanding production and laboratory applications, such as curing, drying, sterilizing, aging, and other process-critical applications.

For applications that include flammable solvents we offer the RF series. These Class A ovens are specially designed to meet NFPA 86 requirements.

## TA/TF SERIES OVENS

The TA/TF truck-in/walk-in oven is designed for industrial process versatility and dependability. Typical applications include aging, bonding, curing, drying, baking, heat treating, annealing and stress-relieving. The TA oven is ideal for applications involving tight tolerances that do not include the use of any flammable solvents or volatiles.

The TF Class A oven is specifically designed to meet NFPA 86 requirements for applications that include flammable solvents or large amounts of moisture removal. These Class A ovens are complete with a pressure relief panel, purge timer, and exhaust fan.

## S-OVEN LARGE WALK-IN OVEN

The Despatch line of walk-in ovens is designed for industrial process versatility, dependability and economical utilization of facility space. Typical applications include aging, curing, bonding, annealing, drying, baking and heat treating. Despatch's design integrity, manufacturing experience and overall emphasis on quality and innovation ensure your exact requirements will be met. S-Ovens offer customers a variety of beneficial features, including vacuum ports, lift doors, and tight temperatures.

S-Ovens also include uniflow air circulation. On S-Series Walk-In Ovens, uniflow airflow delivers heated air from both sides of the chamber for highly uniform operating temperatures. This air moves horizontally and vertically through the work chamber to be reheated and recirculated through the system.

## PC SERIES CONTINUOUS OVENS

The PC Series model ovens achieve superior temperature uniformity in all interior parts due to high-volume, vertical down air flow. Typical applications include pre-heating, curing, bonding, drying and heat treating. There are several standard models available and they can be customized to meet your specific needs.

## SOLUTION HEAT TREAT FURNACE

Despatch Drop Bottom Solution Heat Treat Furnaces are designed to economically change the mechanical properties of aluminum parts. This is accomplished by heating the parts to elevated temperatures, in order to dissolve the alloying elements into the aluminum lattice structure, creating a homogenous "solid solution" part.

Despatch is a proven supplier of solution heat treat furnaces to military, aerospace and automotive industries with over 160 installations including some of the largest units built.

## CARBON FIBER OXIDATION OVENS

Despatch is the carbon fiber processing technology expert. A critical step in making carbon fiber is the oxidation process, and Despatch provides the finest oxidation technology available in the world today.

These high performance ovens offer industry leading production ratings and consistent high quality carbon fiber. Despatch Industries patented center to ends design yields tight temperature uniformity for 1k to 320k tons.

# Capabilities

**Rapid heat-up and cool-down:** Several of our products feature special options that provide exceptionally fast heat-up and cool-down rates, allowing you to benefit from shorter cycle times, higher throughput, and more efficient operations.

**Inert atmosphere:** For processes requiring low oxygen atmosphere conditions, our batch ovens can also be equipped with inert atmosphere capabilities. Maintaining a nitrogen or argon atmosphere can reduce oxidation when heating materials susceptible to oxidation.

**Class A (NFPA 86):** Specially designed "Class A" ovens are required for processing products with flammable solvents, volatiles or combustible materials. Despatch ovens can be configured to meet or exceed NFPA 86 requirements.

**PC Networks:** Multiple batch ovens can easily be linked together in a communications network for centralized control and monitoring.

**Custom trucks and dollies:** Despatch designs equipment to meet your material handling needs.

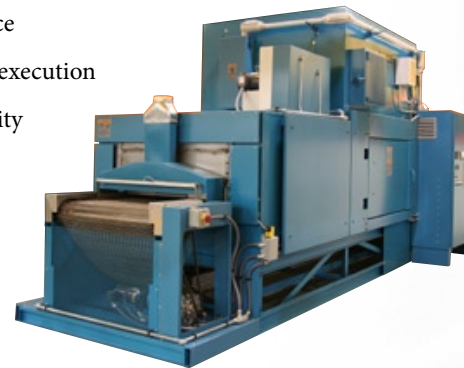
**Moisture Removal:** Increased fresh air exhaust capabilities for faster moisture removal in drying applications.

**Carbon Fiber Line Integration:** Leading carbon fiber manufacturers rely on us for integration and optimization of the small and large tow production lines.

# Custom solutions

If you have a unique application, Despatch engineers can address your custom requirements for heat-up times, cool-down times, temperature uniformity, instrumentation, record keeping, space requirements, and other special concerns. In an increasingly competitive marketplace, the process used to create a product is often as important as the uniqueness of its design. That's why when it comes to evolving an existing application or implementing a first-of-its-kind process, more businesses choose Despatch Industries. No one has more proven success in partnering with customers to deliver complex thermal processing solutions for research and development, product testing and manufacturing. Most important, our innovative designs are backed by seasoned engineering, manufacturing and project management teams with decades of experience bringing large projects in on time and on budget.

- Innovative designs
- Proven experience
- Superior project execution
- World-class quality



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## SERVICE AND TECHNICAL SUPPORT

**Service parts:** 1-800-473-7373

**International service/main:** 1-952-469-8230

**Service fax:** 1-952-469-8193

service@despatch.com

## GLOBAL HEADQUARTERS

**Phone:** 1-888-DESPATCH (1-888-337-7282)

**International/main:** 1-952-469-5424

**Fax:** 1-952-469-4513

sales@despatch.com www.despatch.com

8860 207th Street West  
Minneapolis, MN 55044 USA

**Despatch**  
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7-10 MATERIALS