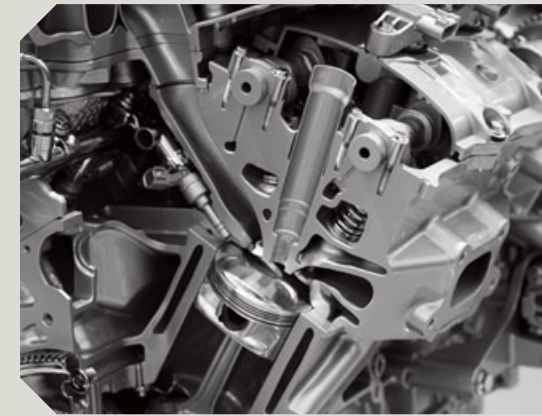
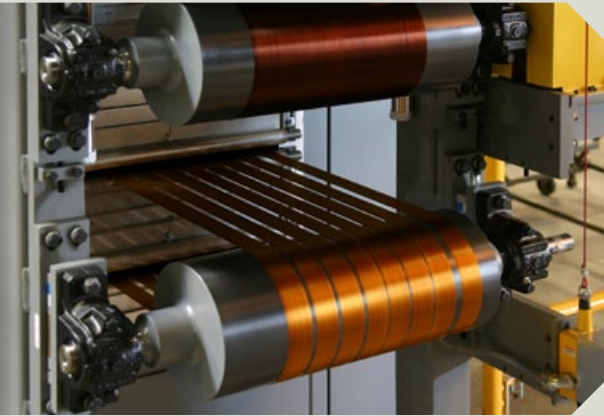


INSPIRED INNOVATION

**Despatch**  
INDUSTRIES

# THERMAL PROCESSING OF MATERIALS

THERMAL PROCESSING TECHNOLOGY FOR MATERIALS MANUFACTURING



## Materials Applications

**Aluminum** • 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 50 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 WALK-IN 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.

## PWE WALK-IN OVENS

The PWE Series is designed for high temperature industrial process versatility and dependability. Typical applications include aging, bonding, curing and heat treating.

The PWE Series is great for higher temperature custom and modified applications with a max temperature of 454°C (850°F). For applications that include flammable solvents or large amounts of moisture removal, we offer a Class A option. The Class A option is specifically designed to meet NFPA 86 requirements and includes a pressure relief panel, purge timer and exhaust fan.

## FCH FURNACE

The FCH Furnace features horizontal recirculating airflow to ensure exceptional temperature uniformity throughout the furnace. These high-performance ovens deliver temperatures up to 732°C (1350°F) and are great for such processes as annealing, aging, drying and heat treating applications.

The Class A version is specifically designed to meet NFPA 86 requirements for applications that include flammable solvents or large amounts of moisture removal.

## 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. These ovens provide extremely consistent and repeatable process results at temperatures up to 260°C (500°F). There are several standard models available and they can be customized to meet your specific needs.

## 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.

Despatch's next generation Split-Zone™ Oxidation Oven with Novariance™ Technology allows you to aggressively push the oxidation rate, reduce oxidation cycle time, and lower the cost of high quality oxidized fiber.

The elimination of variance along with split-zone control allows you to safely accelerate the rate of oxidation by up to 25% without losing control of the exothermic reaction.

# 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.

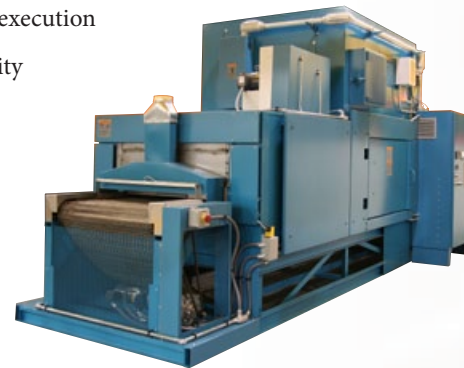
**Carbon Fiber Line Integration:** Leading carbon fiber manufacturers rely on us for integration and optimization of the small and large tow production lines.

# Customized 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.

Despatch partners with customers to deliver complex thermal processing solutions. Our Innovation Resource clients enjoy direct access to highly skilled Despatch engineers for process and product development and evaluation. Customers are provided cost-effective solutions up front—before equipment design begins or purchase commitments are made. This proven approach significantly reduces purchase risk, speeds production, ensures process integrity and saves time and money.

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



## SERVICE AND TECHNICAL SUPPORT

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

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**Despatch**  
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8-15 MATERIALS