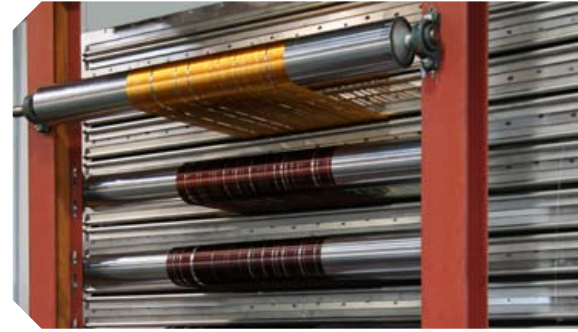


◆ **Carbon Fiber Oxidation Oven**
Center-to-end airflow for optimal temperature uniformity in a more compact design.



Oxidation is considered to be one of the most important process steps, yet is also considered the process step that still has the greatest improvement potential.

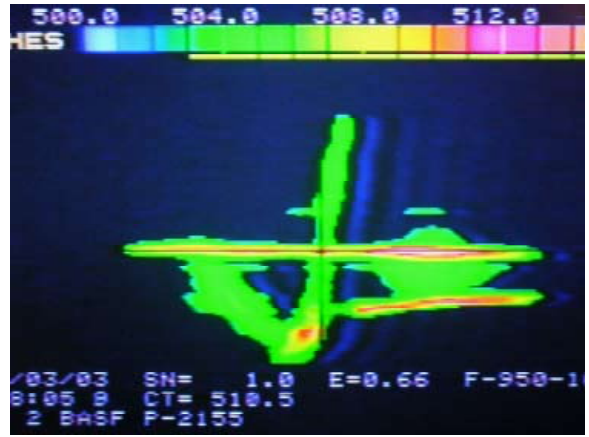
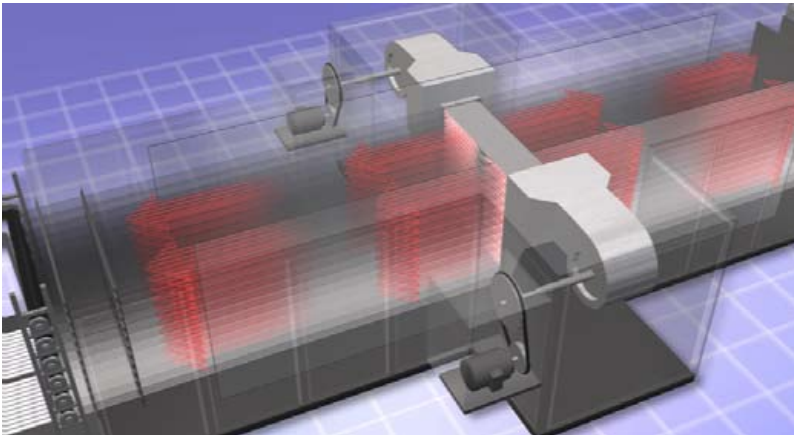
Since oxidation is an exotherm process, uniform, consistent airflow to uniformly remove heat from all tows across the web is a critical success factor. The Despatch Carbon Fiber Oxidation Oven produces a uniform airflow over the tows allowing the process to be operated closer to the “exotherm”, increasing the chemical reaction rate. Airflow turbulence is minimized to prevent cosmetic damage to fiber tows. Consistency of process results in no skinning (uncured core) and more uniform densification. Center-to-end airflow delivers up to 30% faster oxidation than conventional cross-flow ovens.

FEATURES AT A GLANCE

- ◆ Center to end airflow
- ◆ Superior temperature uniformity means higher throughput and more consistent quality material than for either cross flow or vertical down flow
- ◆ Optimal temperature uniformity
- ◆ End mounted returns & vestibules reduce impact of aspirated air migration
- ◆ Compact design
- ◆ Tight temperature uniformity enables operating temperatures closer to the exotherm and higher line speeds
- ◆ Utilizes fans with higher static pressures and increased flow velocities
- ◆ Easy access for periodic cleaning of work zone and supply and return system
- ◆ Insulated vestibules and airflow discharge velocities
- ◆ Air baffles reduce inward migration of cold air and maximizes heated zone size to increase yields



CENTER TO ENDS AIRFLOW DESIGN



Through extensive research and testing at Despatch's Innovation Center, we have identified center-to-ends airflow directionality as the most effective type of airflow

Testing shows us the rate of temperature rise under various airflow conditions

TECHNICAL SPECIFICATION SUMMARY	CTE R&D System	CTE 1500	CTE 2000	CTE 3000	CTE 3500
Web width	.3 meter	1.5meter	2.0 meter	3.0 meter	3.5 meter
Airflow Discharge velocities	up to 4 meter/sec	2.5 meter/sec	3.5 meter/sec	3.5 meter/sec	3.5 meter/sec
Temperature Uniformity	±5°C (Trapezoidal Uniformity), ±2°C Discharge Velocities, ±1°C Side/Side Average				
# of passes per zone	4 zones 4 passes each zone	11 upper zone, 12 lower	11 upper zone, 12 lower	11 upper zone, 12 lower	11 upper zone, 12 lower
Product width	1400mm – 2000mm				
Heated zone length	5 meter	7.3 meter	12.2 meter	12.2 meter	15 meter
Roll Diameter	6in (150mm)	8in (200mm)	8in (200mm)	8in (200mm)	8in (200mm)
Vertical stacking	yes	2	2	up to 3	3
Temperature Uniformity	±5°C (Trapezoidal Uniformity), ±2°C Discharge Velocities, ±1°C Side/Side Average				
Rolls/Roll Stands	Yes				
Heater Capacity	330Kw/zone (typical)				
Heating Method	Electric or LNG				
Operating Temperature	Up to 300°C (typical)				
End Vestibules	Yes				
Fire Suppression	H2O or CO2				

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