

CASE STUDY

Aerospace Company

High-Capacity Drive-Through Paint Booth for Aerospace Components

Sector: Aerospace

Project Overview

An aerospace company engaged Duroair to engineer a high-performance paint booth solution to support spray operations in Florida. The booth would be used to coat large steel aerospace structures with a multi-layer protective system: zinc-rich base coat, two-part epoxy intermediate coat, and a final protective topcoat. Both vented and recirculating options were evaluated due to the conditioned facility air and operational flexibility requirements.

The Challenge

- Accommodate oversized aerospace steel structures requiring multi-layer coating systems
- Deliver 100,000 CFM airflow capacity for complete coverage of large components
- Integrate drive-through access for efficient part handling and throughput
- Incorporate fire suppression system compliant with aerospace facility requirements
- Engineer flexibility between vented and recirculating operational modes

The Solution

Duroair engineered a custom retractable DuroRoom™ enclosure measuring 29'H x 30'W x 40'L, paired with a 100,000 CFM DuroCap™ vented exhaust system. The booth features full drive-through configuration, an integrated fire suppression system installed by Duroair's crew, and three-phase electrical power. Notably, this aerospace company has recently re-engaged Duroair to support the decommissioning and recommissioning of the enclosure at a new facility nearby demonstrating the long-term mobility and lifecycle flexibility of the DuroRoom™ system.

System Specifications

Enclosure	29'H x 30'W x 40'L DuroRoom™ Retractable Drive-Through
Filtration	100,000 CFM DuroCap™ Vented System
Filtration Design	Two-stage customizable filtration
Fire Suppression	Integrated and installed by Duroair crew
Electrical	Three-phase configuration
Future	Enclosure relocation to nearby facility in progress (Duroair managed)

The Result

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| ✓ | Safe containment of zinc, epoxy, and topcoat multi-layer aerospace coating systems |
| ✓ | 100,000 CFM airflow supporting full coverage of large steel aerospace structures |
| ✓ | Drive-through efficiency streamlined part loading, positioning, and removal |
| ✓ | Fire suppression compliance achieved for aerospace manufacturing environment |
| ✓ | Relocation support demonstrating long-term mobility of Duroair retractable systems |
| ✓ | Ongoing partnership Customer re-engaged Duroair for decommission and recommission |

Why This Project Matters

This installation demonstrates Duroair's ability to:

- Engineer large-scale aerospace paint enclosures for demanding high-performance environments
- Deliver high-capacity 100,000 CFM airflow systems for oversized component coverage
- Integrate drive-through access and fire suppression into custom booth designs
- Support facility relocations and demonstrate long-term lifecycle flexibility

