

# Adhesive Bonding of Composites and Metals

## 5 DAY COURSE

### COMPOSITES

Abaris Training Resources, in cooperation with FlightSafety International is pleased to offer a wide variety of Composite Training Options for today's Aircraft Maintenance Technicians. These programs include: Engineering / Design, Manufacturing, and Repair classes to meet your composites education requirements.

This course is designed to provide students with a fundamental understanding of the science of adhesion and the practical processes necessary to producing quality adhesive bonds.

The course contains a balance of theory and practical application, with much of the time spent in the lab performing various types of surface preparations and testing of several types of bonded specimens. Discussions involve control of materials, processes, and

### THEORY COURSE MODULES

- Fundamentals of structural adhesive bonding
- Joint designs and forces on bonded joints
- Theory of surface adhesion
- Bondline integrity and durability
- Failure modes – adhesive vs cohesive
- Contamination Issues – effect of moisture
- Liquid, paste, and film adhesives – application and cure cycles
- Surface preparation of metals vs composites
- Bondline control media and methods
- NDI (non-destructive inspection) of bonded joints
- Destructive testing methods and practices

### PRACTICAL COURSE MODULES

- Aluminum surface preparation
- ASTM D-3762 wedge coupons
- Environmental conditions and analysis of effect on wedge specimens
- Preparations of composite surfaces for bonding
- Introduction to plasma surface treatment
- Lap-shear coupon fabrication and testing
- Use of bondline control media
- Bonded sandwich panel fabrication and testing
- Vacuum bagging and curing of test coupons
- Destructive testing and analysis of specimens

**Total Days ..... 5.0**

### APPROVALS AND LIMITATIONS

#### FAA IA renewal Accepted

Accredited for IA refresher training under Title 14 CFR part 65, § 65.93(a)(4)

**FOR MORE INFORMATION, CONTACT:** +1 201.528.0170 or [sales@flightsafety.com](mailto:sales@flightsafety.com)

Internal Use Only:  
304247

### TRAINING LOCATIONS

Wichita, Kansas