



▲ AUTOMATED CLEANING

PAR's automated cleaning systems provide customized, high-tech solutions to maximize your productivity. The increasing use of composites across industries means that layup tool cleaning is a critical factor to keep up with increasing production rates. Automating cleaning of these tools provides consistent high quality results to better support higher production rates. PAR specializes in proven cleaning processes including laser ablation, CO₂ blasting, and plasma surface activation.

BENEFITS OF AUTOMATED CLEANING

- Significantly improves cycle time, reduces costs and improves productivity
- Produces more consistent quality, part to part
- Improves health and safety conditions in a manufacturing environment
- With multi-part loading, different parts can be cleaned more efficiently by combining common processes
- Multi-function processes can be combined to include scanning, cleaning, and painting to eliminate manual change over between processes and maximize manufacturing floor real estate
- PAR provides total management of the system for highly reliable operations



TECHNICAL INFORMATION

Methods

- Laser Ablation
 - No blast media and no chemicals
 - Can be used for cleaning and activation
 - Non-contact
 - Low process forces
 - CO₂ or YAG Lasers
- Dry Ice Blasting
 - Utilizes recycled CO₂
 - Can be used for cleaning and surface activation to enhance bond strength
 - Adjustable aggressiveness based on blast pressure, pellet size, angle of attack
- Plasma
 - Utilizes room temperature argon plasma
 - Excellent for surface activation to enhance bond strength

Materials

- Metal layup tools
- Tooling dies
- Metallic parts
- Composite parts

Supporting Technologies

- Scan/measure part to determine as built condition
- Adjust tool paths to match actual; part contours and address part uncertainty
- Automated spray application of mold release material for tool cleaning applications
- Automatic calibration
- System enclosures
- Integrated safety systems
- Integrated robotic deployment systems

INDUSTRIES SERVED



General Industrial,
Structures and Bridges



Research, prototyping &
development



Transportation



Medical Device



Aerospace



Automotive



Space



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