

# Production Tooling Composites & Metals

Janicki Industries builds quality production tooling at a competitive price. Janicki has a team of highly experienced engineers and project managers that will work with you to select the right product and material to meet your program requirements. At Janicki, customer support is a high priority and we are committed to your program success.

Description	Use Temp	Expected Cycles
Carbon/JBXA Lay-up Mold	360°F	100+
Carbon/BMI Lay-up Mold	360°F	200+
Invar Lay-up Mold	360°F	1000+
Steel Lay-up Mold	350°F	1000+
Aluminum Lay-up Mold	250°F	250



Design/Build Program Management

## Integrated Design/Build Program Management

Janicki utilizes integrated design/build teams with agile program management to deliver on cost, quality and schedule.

- ▶ Complete Tool Design
- ▶ CATIA / Unigraphics NX
- ▶ Stress Analysis
- ▶ Finite Element Modeling
- ▶ Reverse Engineering
- ▶ SAP Integrated Production Schedules
- ▶ Tool leak testing w/Helium/Autoclave



Large-scale Carbon Fiber Production Tool

## Composite Tools Benefits

- ▶ Low weight
- ▶ Reduced cure duration
- ▶ Complex Contours

## Metal Tools Benefits

- ▶ Durable (High Cycles)
- ▶ Higher Cure Temps
- ▶ Affordable per part cost



High-tolerance Invar Production Tooling



Accredited  
**Nadcap**<sup>TM</sup>  
 Composites

Nadcap AC7118 CERTIFIED

ISO 9001:2008 CERTIFIED

AS9100C CERTIFIED

AWS D1.1, D1.2 and D17.1 CERTIFIED

ASME Section VIII and IX CERTIFIED  
 (for Pressure Vessels)

Boeing Digital Product Definition  
 Approved Supplier

Boeing approved processor to  
 D1-4426 requirements

# Production Tooling

## Capabilities | Experience | Equipment

Janicki invests in facilities and equipment to optimize fabrication of large and accurate composite and metal tools. Janicki has the capabilities and experience to build production tooling for major OEMs, Tier 1 and Tier 2 suppliers across several industries.

### Capabilities

- ▶ Engineering Design & Analysis
- ▶ 5-Axis NC Milling (+/- 0.005")
- ▶ Large-scale Facilities
- ▶ R&D Lab
- ▶ Metrology
- ▶ Tool leak testing w/ Helium / Autoclave



Carbon Fiber Lay-up



Annealing Furnace

### Program Experience

- ▶ Large collapsible Fuselage Mandrels for Aerospace OEM
- ▶ Complex Wing-to-Body Fairing Tools
- ▶ 80 ft carbon fiber lay-up mold for a commercial jet wing
- ▶ Fuselage molds for drones
- ▶ Long, curving stringer & beam molds
- ▶ Fuselage molds for helicopters

### Equipment

- ▶ 9 Large 5 Axis CNC Mills (100' x 20')
- ▶ Machine Shop (4 & 5 Axis Mills & Lathes)
- ▶ Ovens (100' x 24' x 14')
- ▶ Weld Shop (Certified Welders)
- ▶ Water & Plasma Cutter (14' x 42')
- ▶ Autoclave (12' x 50')
- ▶ Annealing Furnace (24' x 72')
- ▶ 25 Ton Overhead Cranes
- ▶ Grit Blasting & Paint Booth (60' x 16' x 10')
- ▶ 1,100 Ton Forming Press



Forming Press



Large-Scale, Precision 5-Axis NC Mill



12' X 50' Autoclave

our  
**quality** promise

- ▶ Dedicated Continuous Improvement
- ▶ Deliver Quality Products
- ▶ Exceed Customers' Requirements

**Sedro-Woolley, WA**  
117,000 ft<sup>2</sup>

**325**  
Employees

**Hamilton, WA**  
164,000 ft<sup>2</sup>

**361**  
Employees

**Layton, UT**  
100,000 ft<sup>2</sup>

**50**  
Employees



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