

THE integrated intelligence for composite pressure vessels  
Design, Simulation & Manufacturing

## WoundSim 2026 Major Release Notes

WoundSim 2026 GA \*

HOME LAYOUT PRE-DESIGN FEA MANUFACTURING HELP

COPVS MANUFACTURING RESULTS

Attributes Compute Path Compute Pattern Export

Layer 4  
Layer 5  
Layer 6  
Layer 7  
Layer 8  
Layer 9  
Layer 10

Assembly Instances (1)  
COPV-1-1

Pre-design Model

FEA Model

Manufacturing Model

COPVs (1)  
COPV-1

Attributes

Laminate (11)  
Layer 1  
Connector 1  
Layer 2  
Layer 3  
Layer 4  
Layer 5  
Layer 6  
Layer 7  
Layer 8  
Layer 9  
Layer 10

Half\_2D > COPV-1 > LAYER 2

Thickness Cylinder: 1.0

Angle Cylinder 1: 20.0

Angle Cylinder 2: 20.0

Resin Mass: 0.00025

Fiber Mass: 0.00066

Total Mass: 0.00092

### Laminate Table

	End Position	Angle Cylinder	End Radius	End X	Path Start WA	Path End WA	Path Start X	Path End X	Friction Strategy
1	By-Angle	13.17					0		
		13.17			13.17	20	0	200	Geodesic & Interpol...
2	By-Radius	20.0	48.8				200		Variable
3	By-Angle	27.14					0		
4	By-X-Coorc	89.0		250.0					
5	By-Angle	32.17					0		
6	By-Angle	12.64					0		

### Layer Parameters

Fiber Path Coverage Pattern

Half\_2D > COPV-1 > LAYER 2

Compute Patterns Clear Patterns

Available Patterns

	Skip Index	N Circuits	N Turns	Mandrel Rotation	Overlap	Coverage	Deviation	Wind Angle	All Circuits Length
1	1.00	73.00	-	-	-	98.16	-28.85	9.27	0.00
2	-68.00	69.00	-	-	-	92.78	-28.79	9.29	0.00
3	-36.00	73.00	-	-	-	104.61	5.76	22.17	0.00

### Global Results

Total Thickness Cylinder	Total Composite Mass	Total Resin Mass	Total Fiber Mass	Total Fiber Length	Total Composite Cost	Total Production Time
-	-	-	-	-	-	-

Mandrel Section Layout Section Path View Pattern View

Layer 2 - Pattern 8

## WoundSim 2026 Major Release Notes

### ➤ New comprehensive and user-friendly GUI



The WoundSim GUI is now organized by modules:

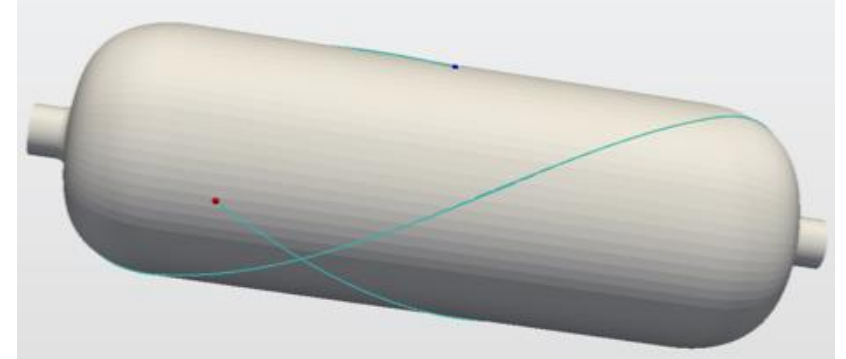
- Layout Module: To compute the composite thickness buildup, fibers orientations and layers overlap
- Pre-Design Modul: Dedicated for initial assessment of the COPV cylindrical region response against a given pressure and temperature
- FEA Module: Dedicated to generate and compute detailed FEA model of the COPV, covering static and dynamic load cases and failure measures
- Manufacturing Module: A fully new module created to support designers to assess the manufacturability of each layer of the COPV

### ➤ New Manufacturing Capabilities:

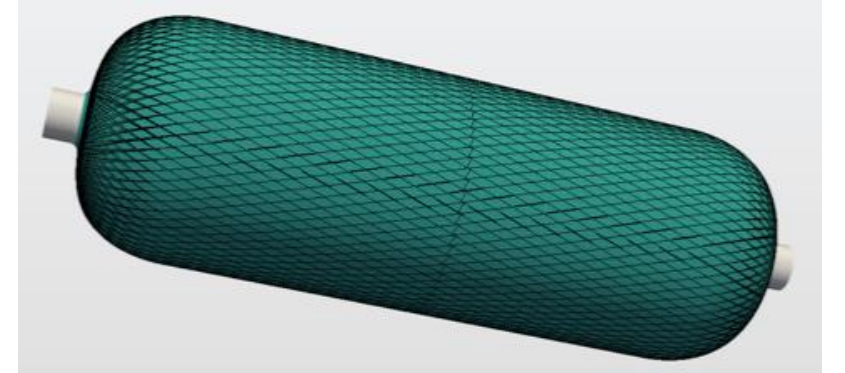
Integration of latest manufacturing (CAD Winding) capabilities including:

- Path Computation:
  - Circuit trajectory computation for helical, hoop and connector layers
  - Exact circuit trajectory computation for helical non-geodesic layers using numerical integration
  - Friction potential computation to access the layer or connector feasibility
- Patterns Computation:
  - Computation of all feasible patterns for each layer
  - Computation of coverage, deviation, circuits numbers and path lengths for each pattern
  - Assessment of the layer feasibility and possibility of the final wind angle optimization
- Design-Manufacturing Interoperability:
  - Transfer of layout module data (laminate table and layout results) to manufacturing module

Connector Path



Layer Circuits



### ➤ New Abaqus Translator

The 2026 version of the WoundSim Abaqus translator allows a compatibility with Abaqus 2025 and Abaqus 2026 versions including updates delivering enhancements to streamline your simulation workflows and accelerate design analysis:

- Output Request on user-defined Abaqus steps
- COPV Cylindrical Element Remeshing
- Liner Cylindrical Element Remeshing
- 3D Mandrel Creation
- 2D Liner Creation from 3D Part
- 3D Liner Creation from Sketch
- Meshing improvement

