



# Technical Specification– Winding Guru.

**4 Axis Filament Winding Software**



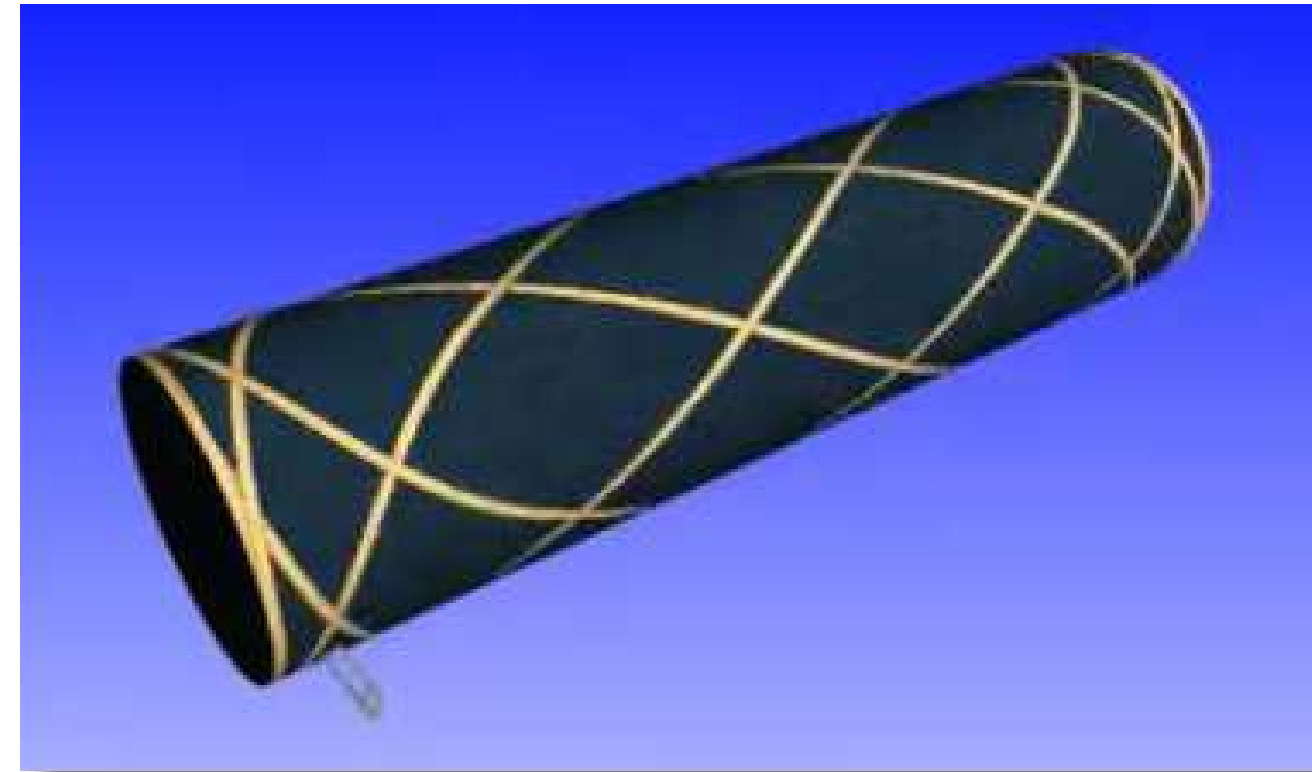
## Winding Guru - Features

### Features of Winding Guru Software:

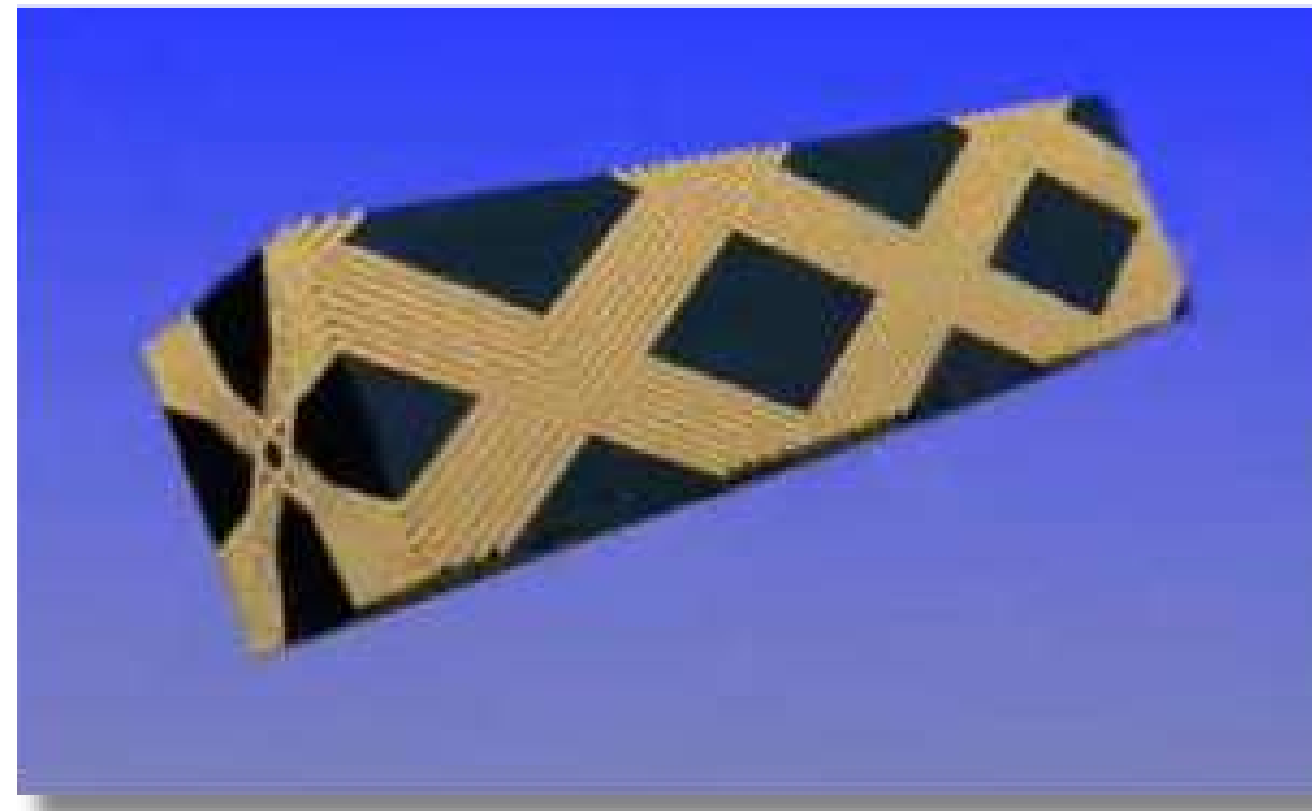
- Helical Winding on cylindrical parts, e.g. pipes, drive shafts
- Hoop winding and multi-stage hoop winding on cylinders parts
- Helical winding on cylinders with dome ends. (Dome, Elliptical, Tori-spherical)
- Mandrel Model Generator (Circular cross section mandrels)
- Winding simulation and pattern calculations –
  - Physical modeling
  - List of all possible winding angles
  - Variable winding angle
  - Friction modeling
- Filament path generation and Feed Eye Path generation
- Output for control system in G-Code format
- G-code optimization for filament winding machine
- **The computer to run the software is not included with the machine.** A copy of the filament winding software and a dongle used to authenticate the system will be provided.

# Dome Geometries : Hemisphere, Elliptical, Tori-spherical, Disc

Supported  
Geometries :  
Cylinder with  
Dome.



**Cylindrical Pipes**

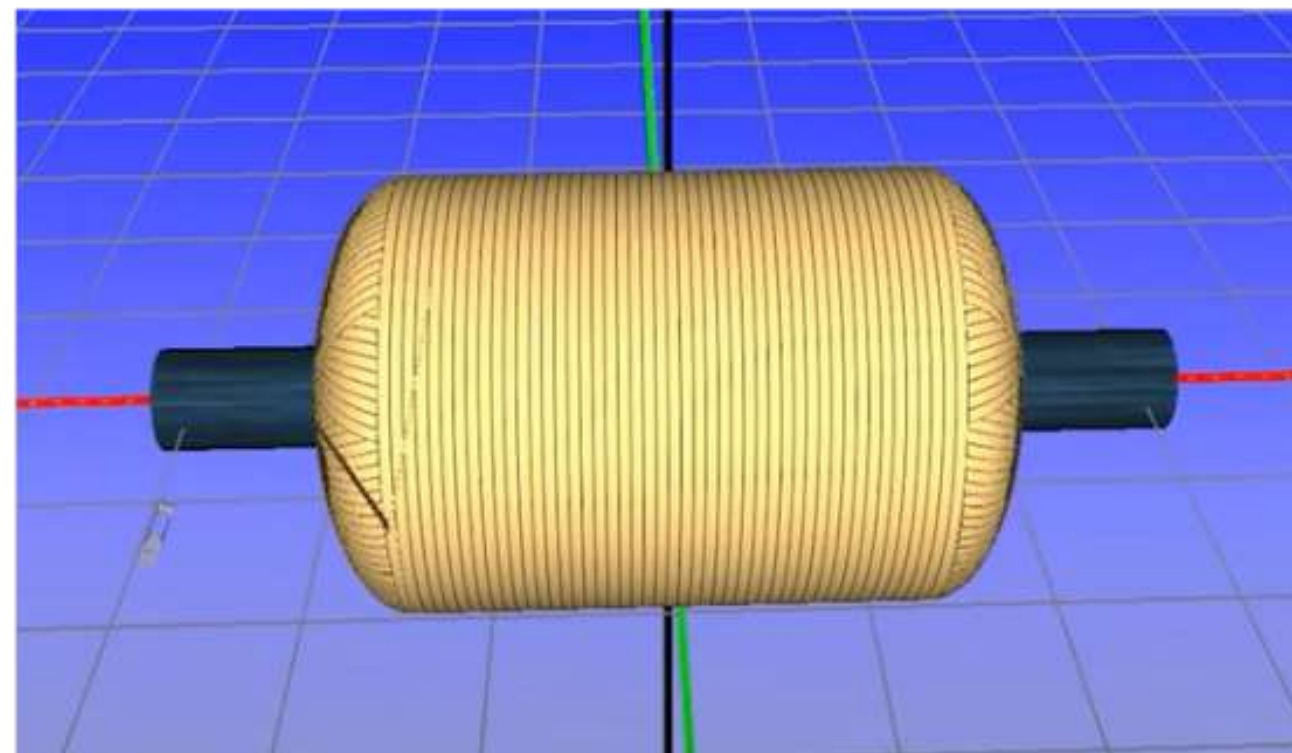


**Rectangular Pipes**



# Equal opening on both sides.

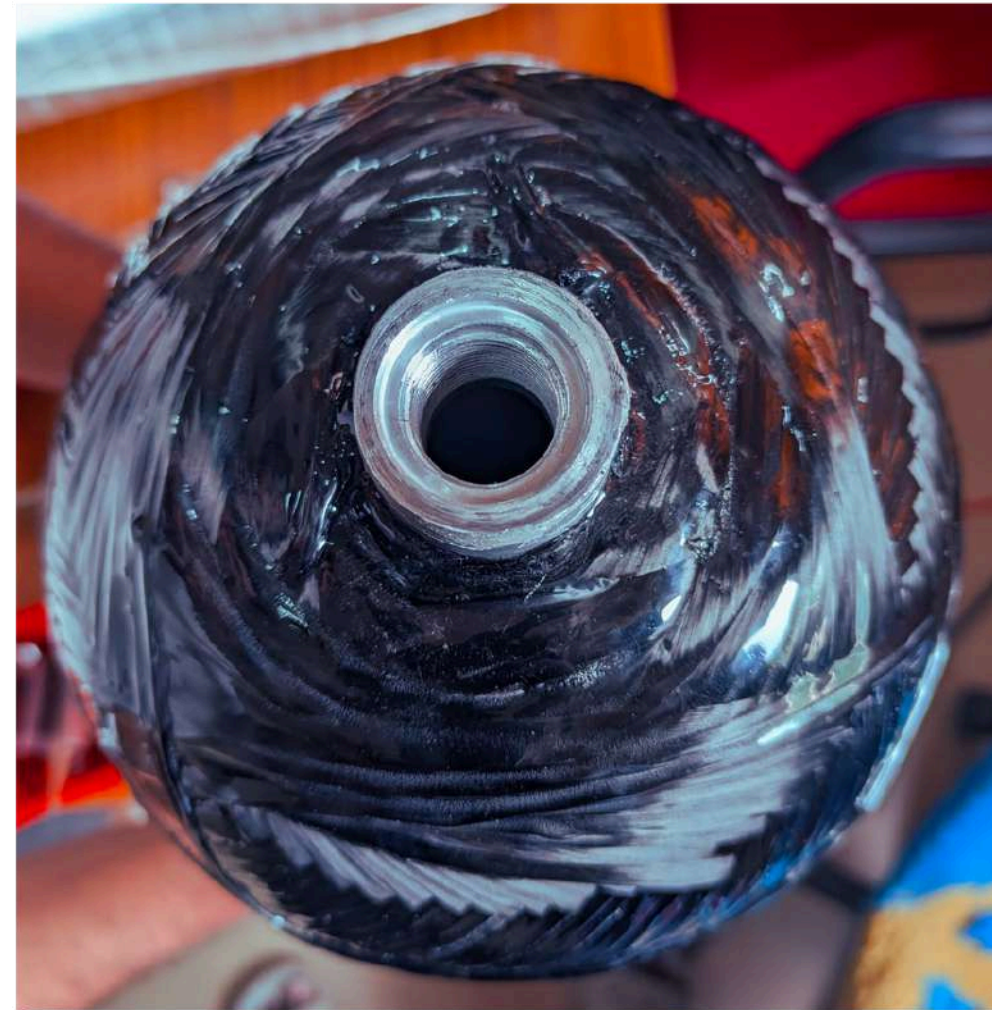
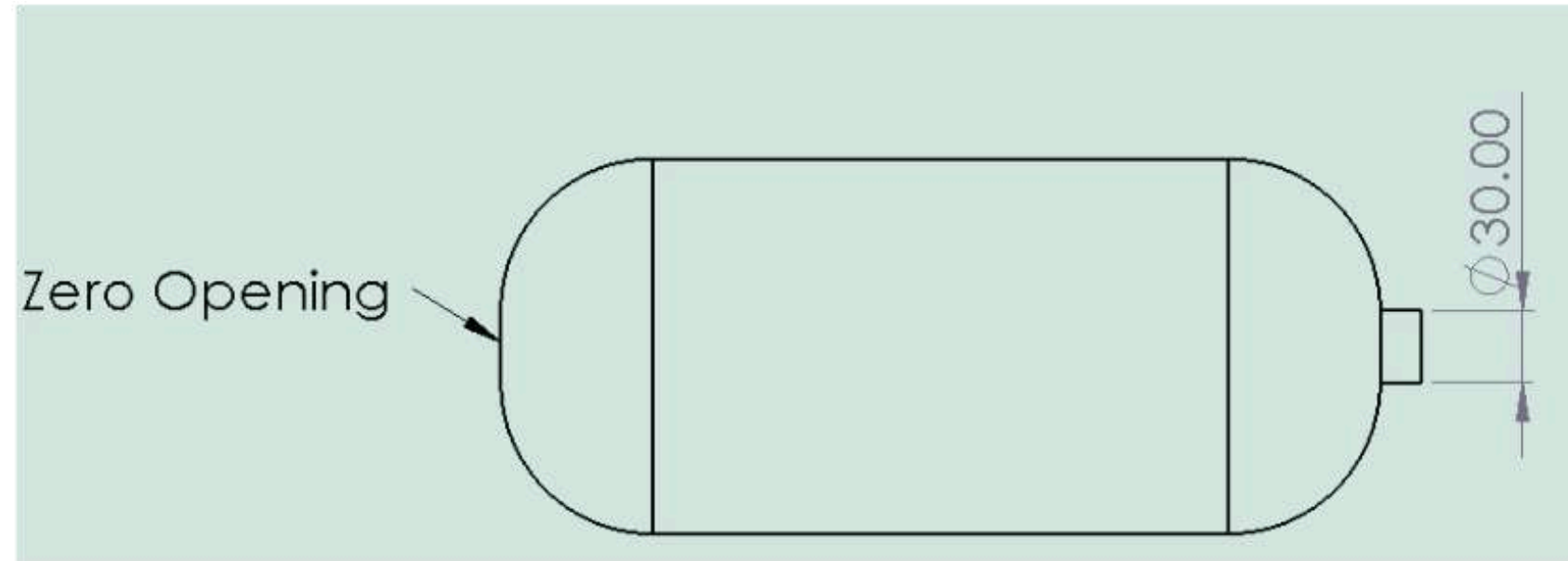
## Supported Geometries





# Unequal opening on both sides.

Supported  
Geometries





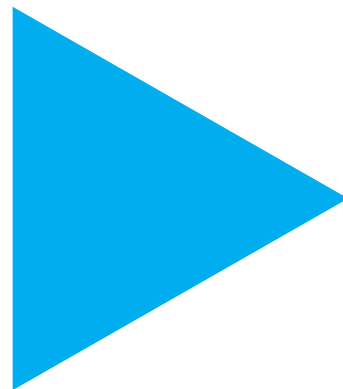


- IIT JAMMU, India
- CIDETEC, Spain.
- DATUM Composites, India.
- Shapoorji Pallonji, India
- TC Rolls and Covers Spain.

## Our Past Installations

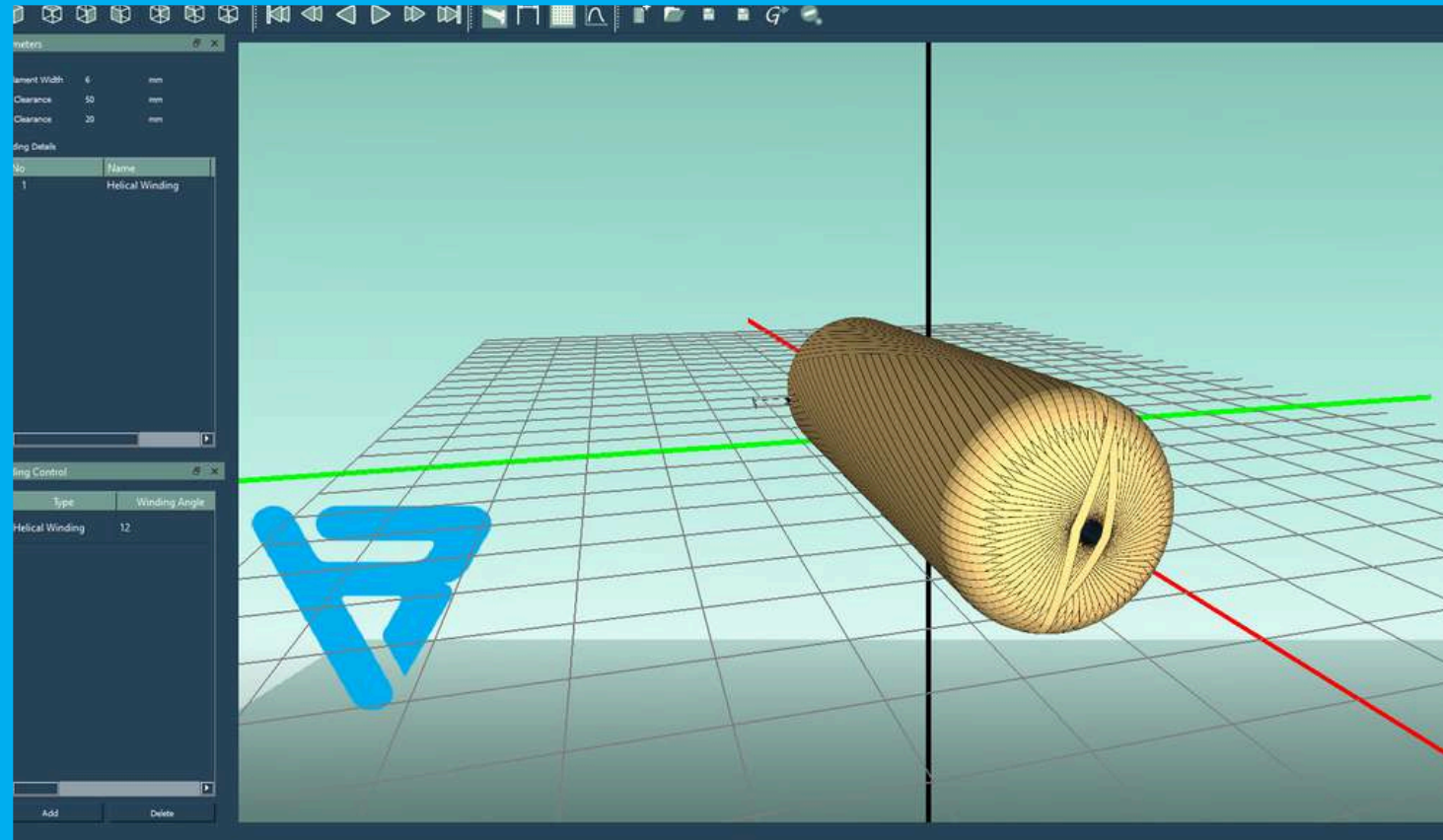
- **Click here** for filament winding of Cylindrical tubes.
- **Click here** to see filament winding of **Type IV** pressure vessel.
- **Click here** to see filament winding of **Type III** pressure vessel.

**CARBON CHAKRA  
& WINDING GURU**



**Click  
here**

**WATCH  
NOW**



Vashishtha  
Research

THANK YOU

