

Composite Tubes



Excellence
in composites

Comrod France at a glance

- Former name : LERC
- More than 65 years of experience
- Design & production of Composite Tubes wound by :
 - Filament Winding
 - Fabric Wrapping
 - Additional capabilities : machining, bonding...
- Main target : to give added-value to our customer by
 - High-quality products
 - On-time delivery
 - Continuous improvement



Composite Material



Comrod Composite Tubes use a material based on a matrix reinforced with long fibre.

Fibre :

- Carbon
- Glass
- Aramid



Matrix :

- Thermoset resin (Epoxy)



Composite Material



Depending on your application, you can rely on specific qualities of our Composite Tubes

Physical characteristics :

- Lightweight
- Shock absorption
- Withstand mechanical fatigue
- Flexibility



Chemical & Thermal characteristics :

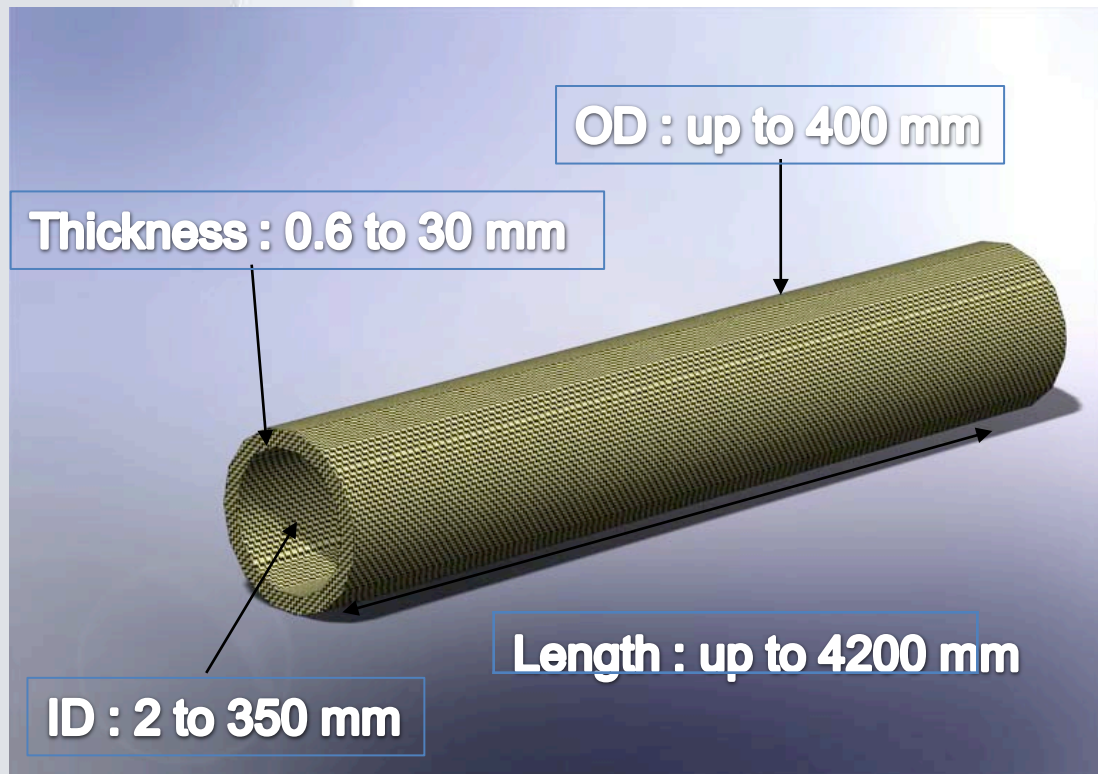
- Low Temperature conditions (cryogenic use)
- High Temperature use
- Chemical Resistance (acid etc)



Electrical characteristics :

- Electrical insulation
- Radio frequency transparency

Geometric Capabilities



Composite Tubes and much more...

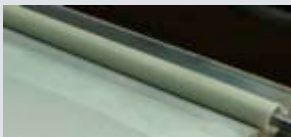
In order to provide you a complete solution, Comrod Composite Tubes combines a high competence in composite with additional technologies

- **Excellence in Composite:**

- Filament Winding
- Fabric Wrapping / Draping
- Pultrusion

- **Additional technologies:**

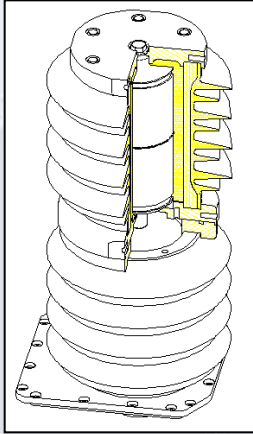
- Machining
- Assembly/Bonding
- Painting / Varnishing
- Rubber injection
- Electronic integration



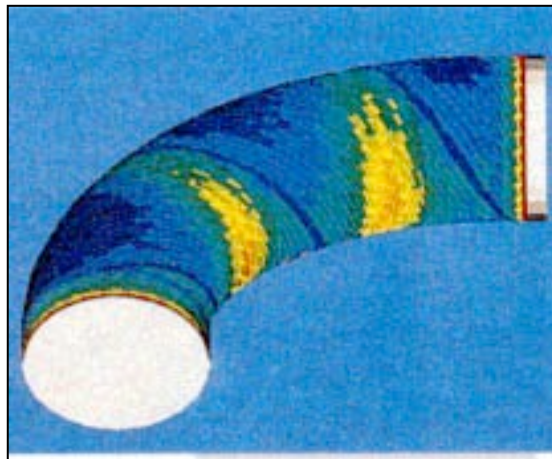
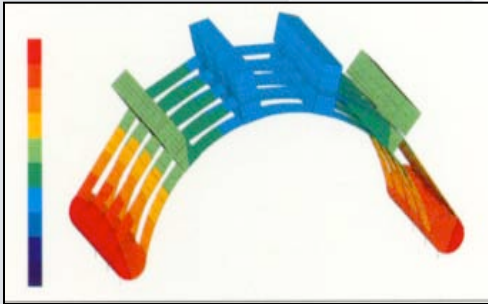
Excellence in
composites



Engineering Tools



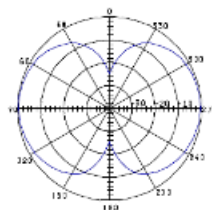
- Project management
- 3D CAD
- Finite element calculation
- Filament winding simulation



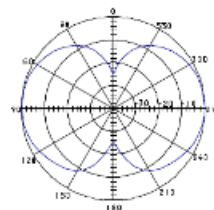


Laboratories

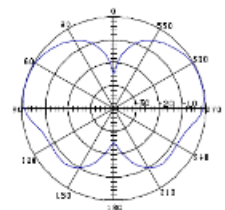
- Mechanical controls: up to 30 tons
- Physical and chemical controls: glass transition, aging
- Phased-array ultrasonic controls
- Electrical testing
- Radio-electrical controls : RF measurements



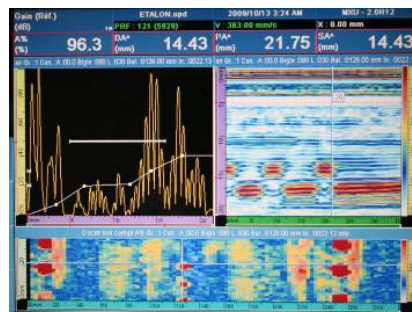
30MHz



60MHz



88MHz



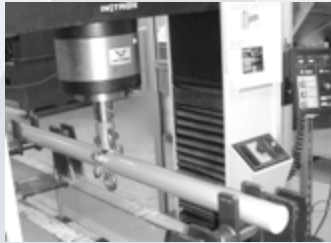
Markets



- Oil & Gas
- Defence
- Space
- Transport : aeronautics, railways & marine
- Nuclear
- Mechanical applications
- Electromechanical applications.



Quality Control



Comrod Composite Tubes utilises dedicated quality services based on modern systems, tools & laboratories

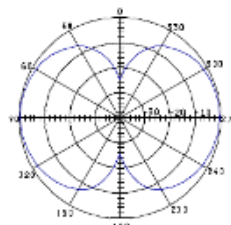
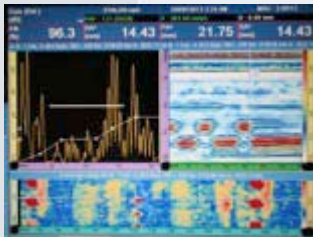


Quality :

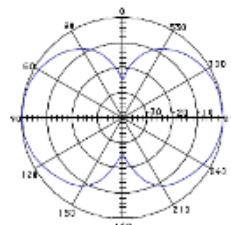
- ISO 9001 v. 2008
- QRQC
- Problem solving methods : 8D, 5 Why...

Controls :

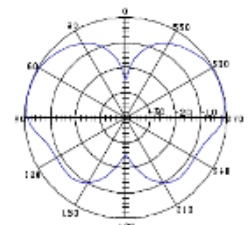
- Mechanical testing : Instron 30T
- Electrical
- Thermal : TA controls
- Phased-Array Ultra sonic controls
- Radio-electrical



30MHz



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88MHz