

# Tough Metal Liners for Composite Tubes



## Nanovate™

Lightweight protection of the inside of composite tubes is now possible using a **tough, seamless, impermeable metal liner**

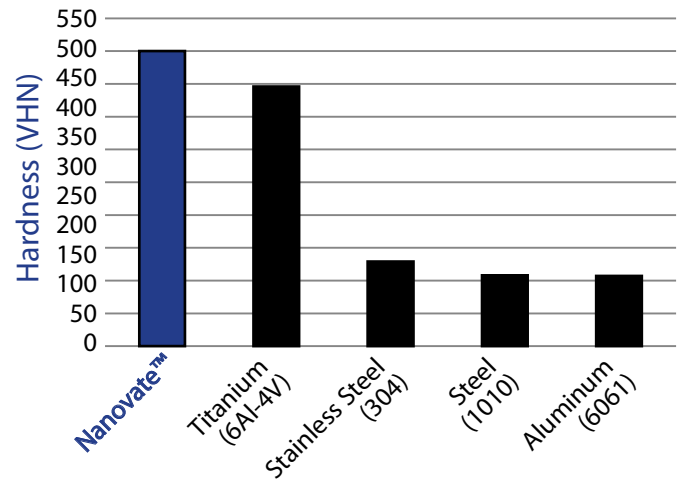
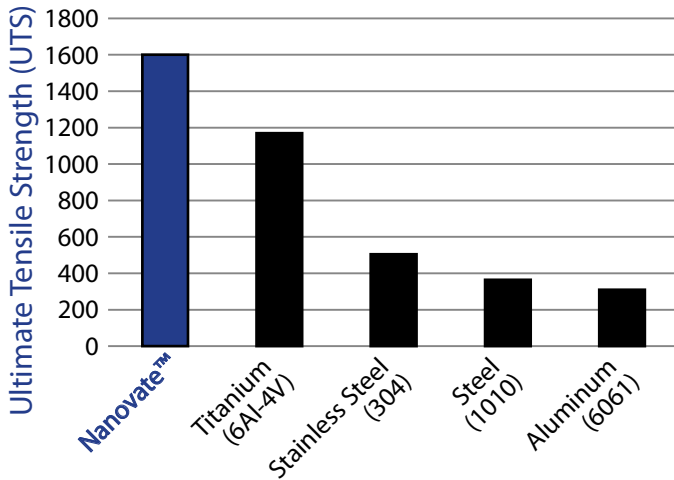


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THE NEXT GENERATION OF HIGH PERFORMANCE MATERIALS

## High Strength and Durability



## Other Features and Benefits

- ▶ NASA program testing shows Nanovate™ liner increases burst strength of carbon composite tube by ~30%
- ▶ Liners easily integrated into current tube manufacturing process
- ▶ Nanovate™ liners are constructed with no seams
- ▶ Ultra-thin liners are available as low as 0.002"

### Available As...



Nanovate™ Liner ready for your overwrapping



Finished Nanovate™ Lined Tube

### Applications for Nanovate™ Lined Cylinder or Tube



Lightweight Hydraulics/shocks



Durable Launch Tubes



Lightweight Actuators



Impermeable Pressure Vessels