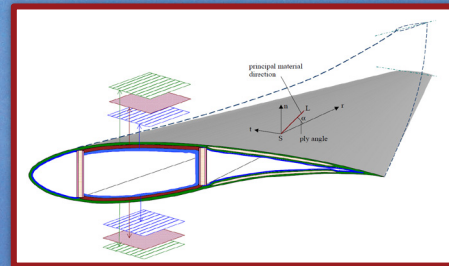




Structural Analysis and
Optimization Software



Wind Turbine Blade Design, Analysis, and Optimization

HyperSizer software automates the analysis methods and design practices for the wind turbine blade industry for increased safety, life, performance, and reduced recurring and non-recurring cost. To increase the power generating capability of a wind turbine, the blades must grow in length. As they grow, HyperSizer keeps the blade design as light and manufacturable as possible.

Optimize Blades & Nacelles

- Blade skin and spar cap load sharing
- Composite nacelles
- Balsa core and engineered core sandwich
- Explore new panel concept constructions
- Compute optimum laminate thicknesses and ply orientation stacking
- Optimum hybrid glass/carbon laminates
- Less laminate transitions and ply drops
- Define laminate sequencing
- Reduce structural weight by 20%

Automate Processes

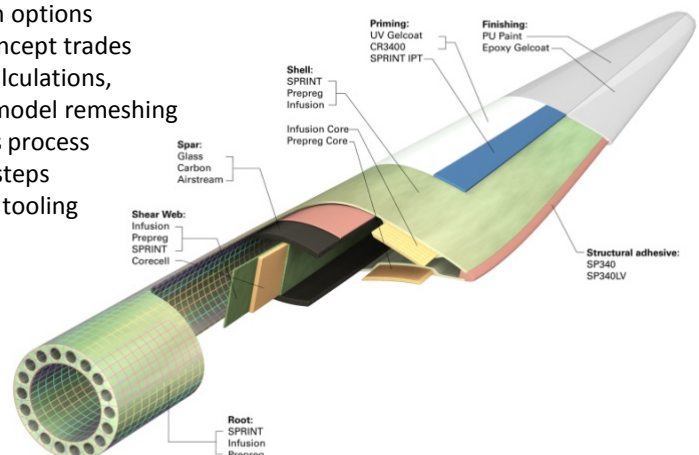
- Automatic iteration with FEA
- Supports Nastran, Abaqus & ANSYS
- HyperFEA® load path convergence
- Laminate data exchange between analysis and design CAD software
- Global ply tracking of part numbers
- Safety factor reporting
- Integrated test data database
- Integrated materials database

Improve Reliability and Life

- Environment effects (temp, moisture)
- Prevent potential failures
- Damage tolerant strength
- Fatigue strain, tip deflection limits
- Interlaminar shear stresses
- Facesheet and core failures
- Bonded composite joint
- Advanced panel buckling analysis
- Compression and shear postbuckling

Lower Fabrication & Engineering Cost

- Faster analysis and design turnaround
- Explore more design options
- Blade layout and concept trades
- Eliminate manual calculations, spreadsheets, and model remeshing
- Standardize analysis process
- Reduce fabrication steps
- Reduce part time in tooling



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