FEMPLY Pro 3.1

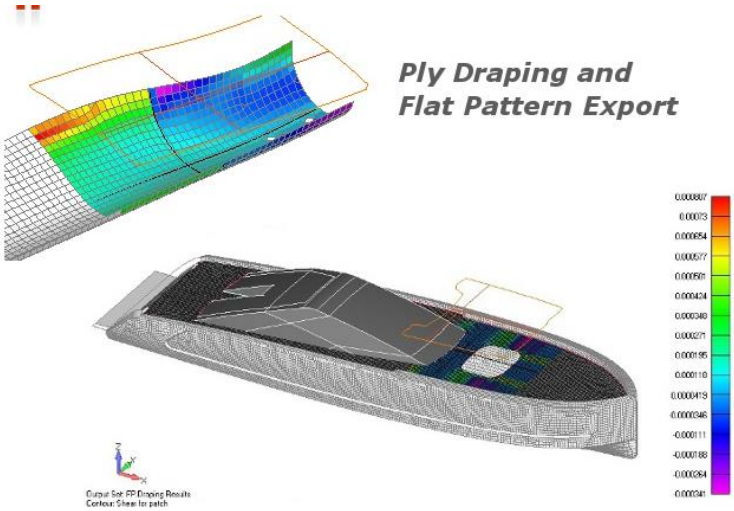
FEMPLY is a Composite Ply-Based Modelling tool fully integrated into Siemens' FEMAP Pre/Post-processor offering fast, efficient and simple definition of complex component layups.

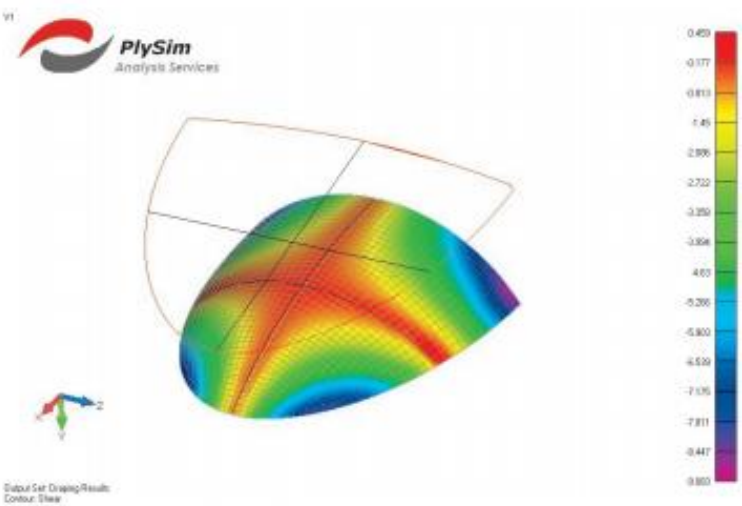
Developed by PlySim, FEMPLY is a versatile tool developed and used by Composite Engineers on real-world projects in a wide range of markets.

Perpetual Node-locked and Network Floating licenses are available. Extensive help files and examples are packaged with FEMPLY.

General

1. Simple, intuitive user interface.
2. Edit multiple plies in one operation.
3. Completely integrated into FEMAP. No exporting to external programs required.
4. A single definition of Laminate Properties, Failure Theorem and Offsets can be applied all Composite Property sets.
5. Geometry Independent.
6. Automatically re-map existing plies onto a new mesh or after mesh refinement.
7. Import Plies, Materials and Properties from other FEMPLY layup files.
8. Ply definitions are unrestricted by interior holes etc.
9. FEMPLY Layup Files can be easily read, modified or written by in-house programs.
10. FEMPLY uses FEMAP's Global Ply functionality for easy post-processing.
11. Import Global Plies from legacy models.





Draping

1. Accurately account for fibre angle deviation during the manufacture process.
2. Verify planned production processes.
3. Reduce the need for modifications or redesign late in the manufacturing process.
4. Directly extract 2D CAD ply shapes for use in ply booklets or cutting patterns.
5. Enhance the accuracy and reproducibility of the component.
6. Plies draped at depth in the ply stack.

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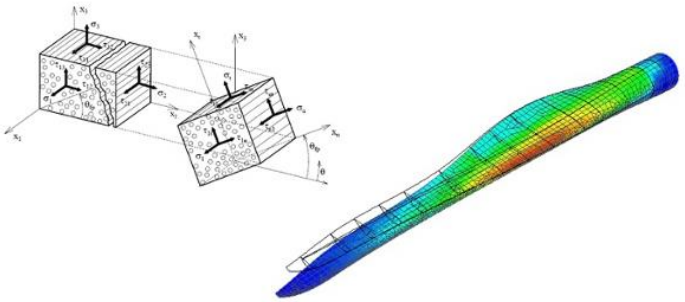
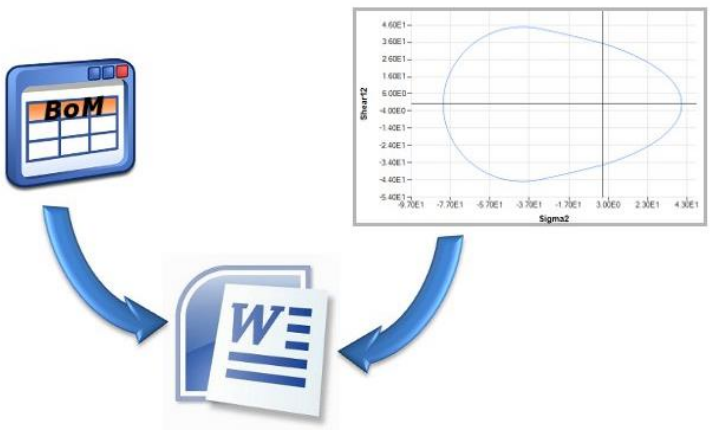
Failures calculations

1. Robust Post-Processing to Hill, Hoffman, Tsai-Wu, Max Stress, Max Strain, Puck and LaRC02 failure theorems.
2. Output vectors by Layer, Global Ply and Maximum.
3. Critical Ply and Fibre Angle output vectors to quickly and easily identify critical areas.
4. Sandwich Stability Calculations for Skin Wrinkling, Shear Crimping and Honeycomb Dimpling.
5. User Defined Failure Theorems.
   Failure Envelope Charting.
7. Inverse Reserve Factors are calculated.

Post-Processing to Advanced Composite Failure Theorems



Automated Layup, Bill of Materials and Failure Calculation Reporting



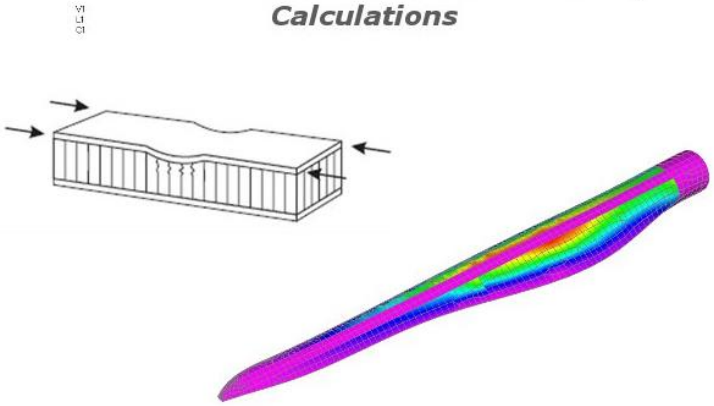
Reporting

1. Automated Microsoft Word reporting of Failure Theorems, Failure Envelopes, Failure Indices and Critical Results
2. Bill of Material, Layup, Ply and Material Summary Reports including layup and ply application region images.
3. Sandwich Stability Reports including Failure Theorem summary, Failure Indices and Critical Results.

Fatigue

1. A Miners damage summation with calculation of linear fatigue failure indices.
2. Results by Layer and Global Ply.
3. Results for longitudinal, transverse and shear stress components.
4. Critical Ply, Component and Fibre angle vectors.

Sandwich Panel Stability Calculations



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