**MECH530 – Assignment 1**

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Interface output:

CHOSEN MATERIAL: kevlar\_epoxy

================= MATERIAL PROPERTIES =================

Modulus Parameters

E\_x : 76000.000 MPa

E\_y : 5500.000 MPa

E\_s : 2300.000 MPa

nu\_x : 0.340 none

nu\_y : 0.025 none

m : 1.008 none

Strength Parameters

X\_t : 1400.000 MPa

X\_c : 235.000 MPa

Y\_t : 12.000 MPa

Y\_c : 53.000 MPa

S\_c : 34.000 MPa

h\_o : 0.125 mm

rho : 1460.000 kg/m^3

================= GEOMETRY PARAMETERS =================

Layer Number Layer Type Thickness (mm) Orientation (degrees)

-----------------------------------------------------------------

1 ply 0.125 90

2 ply 0.125 90

3 ply 0.125 0

4 ply 0.125 90

5 ply 0.125 30

6 ply 0.125 -30

7 ply 0.125 90

8 core 150.000 N/A

9 ply 0.125 90

10 ply 0.125 -30

11 ply 0.125 30

12 ply 0.125 90

13 ply 0.125 0

14 ply 0.125 90

15 ply 0.125 90

================= ON-AXIS MATRICES =================

Matrix [S] (in MPa^-1):

1.316e-05 -4.474e-06 0.000e+00

-4.474e-06 1.818e-04 0.000e+00

0.000e+00 0.000e+00 4.348e-04

Matrix [Q] (in MPa):

76641.164 1885.776 0.000

1885.776 5546.400 0.000

0.000 0.000 2300.000