In [4]:
```
run mech530_main.py
```

```
The laminate is given by the following plybook where the highest ply number '14
' indicates the top layer, while the first ply number '1' indicates the bottom
layer.

Unique Ply #, Fiber/Matrix, Orientation, Thickness
                              (degrees)      (mm)
    14           AS/H3501        90         0.125
    13           AS/H3501        90         0.125
    12           AS/H3501        40         0.125
    11           AS/H3501       -40         0.125
    10           AS/H3501        20         0.125
     9           AS/H3501       -20         0.125
     8           AS/H3501         0         0.125
     7           AS/H3501         0         0.125
     6           AS/H3501       -20         0.125
     5           AS/H3501        20         0.125
     4           AS/H3501       -40         0.125
     3           AS/H3501        40         0.125
     2           AS/H3501        90         0.125
     1           AS/H3501        90         0.125

PLIES AND THICKNESSES
-Total number of plies in the laminate: 14
-Total thickness of laminate is: 1.750 mm
-There is no core in the laminate (Zc = 0 mm)
-Laminate contains 1 Fiber/Matrix combination. The material properties for this
 combination shall be listed below.

RESIN/MATRIX 1 of 1: For AS/H3501, the given material properties are:

-Stiffness and Strength:

Ex = 138.0 GPa, Ey = 8.96 GPa, Es = 7.10 GPa and nu_x = 0.30

Xt = 1447 MPa, Xc = 1447 MPa, Yt = 51.7 MPa, Yc = 206 MPa and Sc = 93 MPa.

-The 'on-axis' matrices are given by the following:

 S_on =
[[ 7.246e-03 -2.174e-03        0.0]
 [-2.174e-03  1.116e-01        0.0]
 [       0.0        0.0  1.408e-01]] [1/GPa]

 Q_on =
[[ 1.388e+02  2.704e+00        0.0]
 [ 2.704e+00  9.013e+00        0.0]
 [       0.0        0.0  7.100e+00]] [GPa]
```