
beta_gtol

Computes coefficients of moisture expansions in x, y, and z directions

Inputs

angle - Angle of ply in degrees
beta12 - [beta1;beta2;beta12]
 beta1 - Local longitudinal coefficient of moisture expansion
 beta2 - Local transverse coefficient of moisture expansion
 beta12 - Local in-plane coefficient of moisture expansion

Outputs

betaxy - [betax;betay;betaxy]
 betax - Global coefficient of moisture expansion in x-direction
 betay - Global coefficient of moisture expansion in y-direction
 betaxy - Global in-plane coefficient of moisture expansion in x-y plane

Calling the Function

```
[betaxy]=beta_gtol(beta12,angle)
```

Testing File

Click [here](#) to see a testing file for using the function beta_gtol

Example

Inputs:

Longitudinal Coeff. of Moisture Expansion: 0
Transverse Coeff. of Moisture Expansion: 0.6
Angle of Lamina: 60

Outputs:

Lamina Coefficient of Moisture Expansion

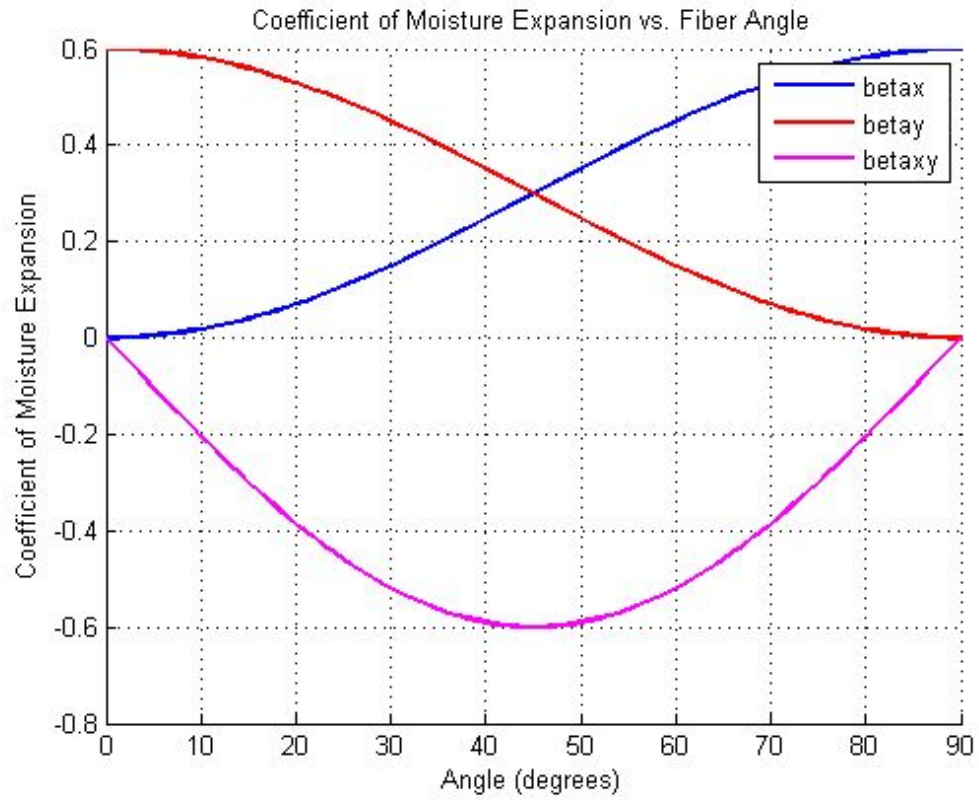
betax		0.45
betay		0.15
betaxy		-0.519615

Table:

Lamina Coefficient of Moisture Expansion

angle	betax	betay	betaxy
0	0.000000E+00	6.000000E-01	0.000000E+00
5	4.557674E-03	5.954423E-01	-1.041889E-01
10	1.809221E-02	5.819078E-01	-2.052121E-01
15	4.019238E-02	5.598076E-01	-3.000000E-01
20	7.018667E-02	5.298133E-01	-3.856726E-01
25	1.071637E-01	4.928363E-01	-4.596267E-01
30	1.500000E-01	4.500000E-01	-5.196152E-01
35	1.973940E-01	4.026060E-01	-5.638156E-01
40	2.479055E-01	3.520945E-01	-5.908847E-01
45	3.000000E-01	3.000000E-01	-6.000000E-01
50	3.520945E-01	2.479055E-01	-5.908847E-01
55	4.026060E-01	1.973940E-01	-5.638156E-01
60	4.500000E-01	1.500000E-01	-5.196152E-01
65	4.928363E-01	1.071637E-01	-4.596267E-01
70	5.298133E-01	7.018667E-02	-3.856726E-01
75	5.598076E-01	4.019238E-02	-3.000000E-01
80	5.819078E-01	1.809221E-02	-2.052121E-01
85	5.954423E-01	4.557674E-03	-1.041889E-01
90	6.000000E-01	0.000000E+00	0.000000E+00

Graph:



Description

Outputs global coefficients of moisture expansion in matrix form:
[betax,betay,betaxy]