'First Case'

Laminate Stacking Sequence

Material Type	Lamina Thickness	Lamina Angle
1	25.000000E-03	0.0000
1	25.000000E-03	0.0000
1	25.000000E-03	0.0000
1	25.000000E-03	0.0000

NRANK= 10
Ri= 30.000000E+00

Material T300/5208 ENG
E1= 19.20E+06 E2= 1.56E+06 G12= 820.00E+03 PR12=0.2400
PR23=0.5900
alpha1= -0.43E-06 alpha2= 0.14E-04

epsx= 0.100000E-02
T= 0.000000E+00
Pin= 0.000000E+00
Pout= 0.000000E+00
delta T= 0.000000E+00

3D Stiffness Matrix C

0.1965E+08	0.9345E+06	0.9345E+06	0.0000E+00	0.0000E+00	0.0000E+00
0.9345E+06	0.2437E+07	0.1456E+07	0.0000E+00	0.0000E+00	0.0000E+00
0.9345E+06	0.1456E+07	0.2437E+07	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.4906E+06	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.8200E+06	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.8200E+06

Layer # 1
C Bar Matrix

0.20E+08	0.93E+06	0.93E+06	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.24E+07	0.15E+07	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.15E+07	0.24E+07	0.00E+00	0.00E+00	-0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.49E+06	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.82E+06	0.00E+00
0.00E+00	0.00E+00	-0.00E+00	0.00E+00	0.00E+00	0.82E+06

Off-axis CTE
1 -430.00E-09
2 13.60E-06

3 13.60E-06
4 0.00E+00
5 0.00E+00
6 -0.00E+00

Layer # 2
C Bar Matrix

0.20E+08	0.93E+06	0.93E+06	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.24E+07	0.15E+07	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.15E+07	0.24E+07	0.00E+00	0.00E+00	-0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.49E+06	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.82E+06	0.00E+00
0.00E+00	0.00E+00	-0.00E+00	0.00E+00	0.00E+00	0.82E+06

Off-axis CTE
1 -430.00E-09
2 13.60E-06
3 13.60E-06
4 0.00E+00
5 0.00E+00
6 -0.00E+00

Layer # 3
C Bar Matrix

0.20E+08	0.93E+06	0.93E+06	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.24E+07	0.15E+07	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.15E+07	0.24E+07	0.00E+00	0.00E+00	-0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.49E+06	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.82E+06	0.00E+00
0.00E+00	0.00E+00	-0.00E+00	0.00E+00	0.00E+00	0.82E+06

Off-axis CTE
1 -430.00E-09
2 13.60E-06
3 13.60E-06
4 0.00E+00
5 0.00E+00
6 -0.00E+00

Layer # 4
C Bar Matrix

0.20E+08	0.93E+06	0.93E+06	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.24E+07	0.15E+07	0.00E+00	0.00E+00	0.00E+00
0.93E+06	0.15E+07	0.24E+07	0.00E+00	0.00E+00	-0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.49E+06	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.82E+06	0.00E+00
0.00E+00	0.00E+00	-0.00E+00	0.00E+00	0.00E+00	0.82E+06

Off-axis CTE
1 -430.00E-09
2 13.60E-06
3 13.60E-06
4 0.00E+00
5 0.00E+00

6 -0.00E+00

Lamina Constants

Lamina	lamda	Gamma	Omega	Sigmahat	Psi
1	0.100000E+01	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00
2	0.100000E+01	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00
3	0.100000E+01	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00
4	0.100000E+01	0.000000E+00	0.000000E+00	0.000000E+00	0.000000E+00

Km Matrix

Rho & Elf Terms

Index	R	Elf
1	-0.5255E+02	-0.9345E+03
2	0.0000E+00	-0.0000E+00
3	0.0000E+00	-0.0000E+00
4	0.0000E+00	-0.0000E+00
5	0.0000E+00	-0.0000E+00
6	0.0000E+00	-0.0000E+00
7	0.0000E+00	-0.0000E+00
8	-0.5255E+02	-0.9345E+03
9	-0.3204E+03	-0.3710E+06
10	0.0000E+00	0.0000E+00

SOLUTION
Px= 0.362515E+06
gammaxt= 0.000000E+00

w(Ri)= -0.0071999999999687045

Lamina	r	epsilon r	epsilon t	gamma xt
1	0.300000E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
1	0.300125E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
1	0.300250E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
2	0.300250E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
2	0.300375E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
2	0.300500E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
3	0.300500E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
3	0.300625E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
3	0.300750E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
4	0.300750E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
4	0.300875E+02	-0.240000E-03	-0.240000E-03	0.000000E+00
4	0.301000E+02	-0.240000E-03	-0.240000E-03	0.000000E+00

Lamina	r	sigma x	sigma t	sigma r	tau xt
1	0.300000E+02	0.192000E+05	0.163493E-08	-0.150657E-12	0.000000E+00
1	0.300125E+02	0.192000E+05	0.163427E-08	0.514200E-12	0.000000E+00
1	0.300250E+02	0.192000E+05	0.163358E-08	0.120570E-11	0.000000E+00

2	0.300250E+02	0.192000E+05	0.163231E-08	-0.908496E-12	0.000000E+00
2	0.300375E+02	0.192000E+05	0.163165E-08	-0.243638E-12	0.000000E+00
2	0.300500E+02	0.192000E+05	0.163096E-08	0.447808E-12	0.000000E+00
3	0.300500E+02	0.192000E+05	0.162900E-08	0.662742E-11	0.000000E+00
3	0.300625E+02	0.192000E+05	0.162833E-08	0.729228E-11	0.000000E+00
3	0.300750E+02	0.192000E+05	0.162764E-08	0.798367E-11	0.000000E+00
4	0.300750E+02	0.192000E+05	0.162095E-08	-0.179096E-11	0.000000E+00
4	0.300875E+02	0.192000E+05	0.162026E-08	-0.109951E-11	0.000000E+00
4	0.301000E+02	0.192000E+05	0.161960E-08	-0.434652E-12	0.000000E+00

Row	Column	K(i,j)
1	1	0.389377E+07
1	2	-0.109015E+04
1	3	0.000000E+00
1	4	0.000000E+00
1	5	0.000000E+00
1	6	0.000000E+00
1	7	0.000000E+00
1	8	0.000000E+00
1	9	0.934505E+06
1	10	0.000000E+00
2	1	0.300250E+02
2	2	0.333056E-01
2	3	-0.300250E+02
2	4	-0.333056E-01
2	5	0.000000E+00
2	6	0.000000E+00
2	7	0.000000E+00
2	8	0.000000E+00
2	9	0.000000E+00
2	10	0.000000E+00
3	1	0.389377E+07
3	2	-0.108833E+04
3	3	-0.389377E+07
3	4	0.108833E+04
3	5	0.000000E+00
3	6	0.000000E+00
3	7	0.000000E+00
3	8	0.000000E+00
3	9	0.000000E+00
3	10	0.000000E+00
4	1	0.000000E+00
4	2	0.000000E+00
4	3	0.300500E+02
4	4	0.332779E-01
4	5	-0.300500E+02
4	6	-0.332779E-01
4	7	0.000000E+00
4	8	0.000000E+00
4	9	0.000000E+00
4	10	0.000000E+00
5	1	0.000000E+00
5	2	0.000000E+00
5	3	0.389377E+07
5	4	-0.108652E+04
5	5	-0.389377E+07
5	6	0.108652E+04
5	7	0.000000E+00
5	8	0.000000E+00
5	9	0.000000E+00
5	10	0.000000E+00
6	1	0.000000E+00
6	2	0.000000E+00

6	3	0.000000E+00
6	4	0.000000E+00
6	5	0.300750E+02
6	6	0.332502E-01
6	7	-0.300750E+02
6	8	-0.332502E-01
6	9	0.000000E+00
6	10	0.000000E+00
7	1	0.000000E+00
7	2	0.000000E+00
7	3	0.000000E+00
7	4	0.000000E+00
7	5	0.389377E+07
7	6	-0.108472E+04
7	7	-0.389377E+07
7	8	0.108472E+04
7	9	0.000000E+00
7	10	0.000000E+00
8	1	0.000000E+00
8	2	0.000000E+00
8	3	0.000000E+00
8	4	0.000000E+00
8	5	0.000000E+00
8	6	0.000000E+00
8	7	0.389377E+07
8	8	-0.108292E+04
8	9	0.934505E+06
8	10	0.000000E+00
9	1	0.881117E+07
9	2	0.000000E+00
9	3	0.881851E+07
9	4	0.000000E+00
9	5	0.882585E+07
9	6	0.000000E+00
9	7	0.883319E+07
9	8	0.000000E+00
9	9	0.370984E+09
9	10	0.000000E+00
10	1	0.000000E+00
10	2	0.000000E+00
10	3	0.000000E+00
10	4	0.000000E+00
10	5	0.000000E+00
10	6	0.000000E+00
10	7	0.000000E+00
10	8	0.000000E+00
10	9	0.000000E+00
10	10	0.139807E+11