VfVmrhoc

Computes volume fractions for the fiber and matrix as well as the density of the lamina

Inputs

rhof - Density of fiber
rhom - Density of matrix
Wf - Weight fraction of lamina

Outputs

Vf - Volume fraction of fiber
Vm - Volume fraction of matrix
rhoc - Density of lamina

Calling the Function

```
[Vf,Vm,rhoc]=VfVmrhoc(rhof,rhom,Wf)
```

Testing File

Click here to see a testing file for using the function VfVmrhoc

Example

Inputs:

```
Fiber Density: 2.5
Matrix Density: 1.2
Weight Fraction: 0.829384
```

Outputs:

Lamina Density/Volume Fractions

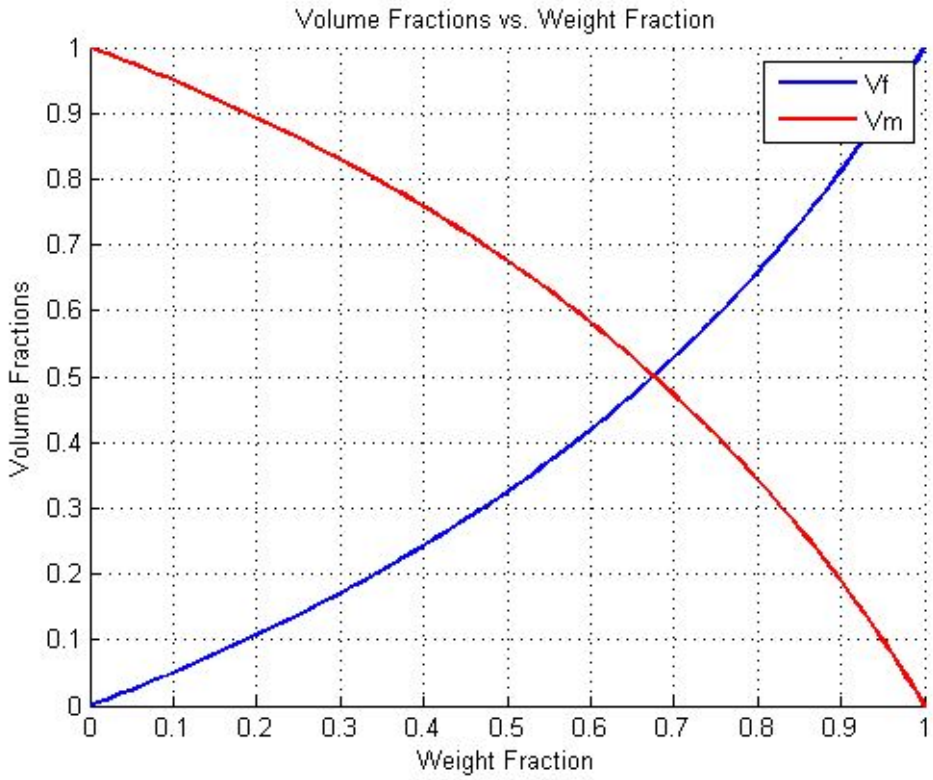
Vf	0.7
Vm	0.3
rhoc	2.11

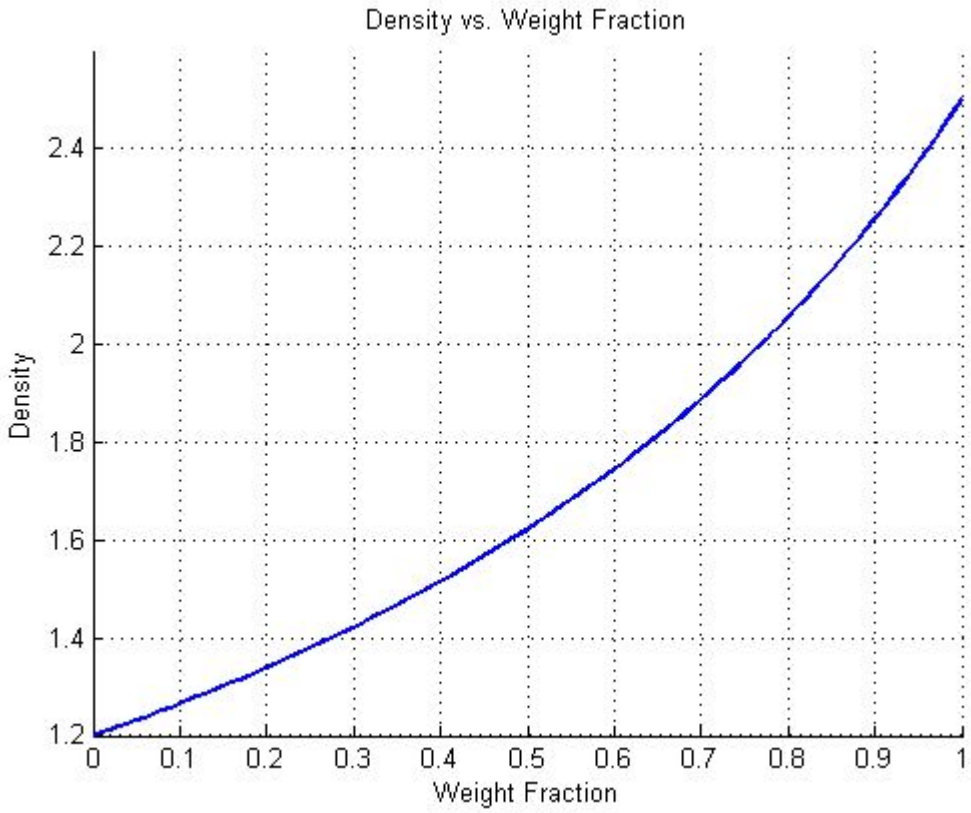
Table:

Lamina Coefficient of Thermal Expansion

Wf	Vf	Vm	rhoc
0.00	0.000000E+00	1.000000E+00	1.2
0.10	5.063291E-02	9.493671E-01	1.26582
0.20	1.071429E-01	8.928571E-01	1.33929
0.30	1.706161E-01	8.293839E-01	1.4218
0.40	2.424242E-01	7.575758E-01	1.51515
0.50	3.243243E-01	6.756757E-01	1.62162
0.60	4.186047E-01	5.813953E-01	1.74419
0.70	5.283019E-01	4.716981E-01	1.88679
0.80	6.575342E-01	3.424658E-01	2.05479
0.90	8.120301E-01	1.879699E-01	2.25564
1.00	1.000000E+00	0.000000E+00	2.5

Graphs:





Description

Outputs volume fractions of the fiber and matrix as well as the density of the lamina