

Appendix I

Properties of IM7/977-3 graphite/epoxy

Property	Value
Fiber Areal Weight	0.215 kg / m^2
Min. thickness of prepreg	1.9812e-4 m
Resin mass fraction	0.32
Density of resin	1309.44 kg / m^3
Density of fiber	1779.01 kg / m^3
C_p - Resin	1.256e3 $J/k .K$
C_p - Fiber	7.1176e2 $J/kg K$
Thermal conductivity for resin	0.1525 $W/m K$
Thermal conductivity for fiber	11.8025 $W/m K$
E_{m_i} - initial	3.31934e6 Pa
E_{m_f} - final	3.31934e9 Pa
ν_{12_m}	0.35
ν_{23_m}	0.35
α_{1_m}	5.76e-5 $1/C$
α_{2_m}	5.76e-5 $1/C$
E_{f_1}	2.6366e11 Pa
G_{12_f}	2.758e4 MPa
G_{23_f}	6.894e3 MPa
ν_{12_f}	0.2
α_{1_f}	-9.00e-7 $1/C$
α_{2_f}	7.20e-6 $1/C$