

Stress
units are
MPa

	Max stress at 1 mm cantilever end displacement			Max stress at 5 mm cantilever end displacement		
Volume Fraction	Holes	Mat A	Mat B	Holes	Mat A	Mat B
0.1	347.613	310.234	291.05	1738.07	1551.17	1455.25
0.15	359.08	256.346	293.229	1795.4	1281.73	1466.15
0.2	454.594	247.325	299.539	2272.97	1236.63	1497.7
0.25	305.303	282.48	296.22	1526.51	1412.4	1481.11
0.3	337.884	272.717	308.474	1689.42	1363.58	1542.37
0.35	589.65	343.193	308.453	2948.25	1715.97	1542.26
0.4	520.482	334.245	302.148	2602.42	1671.22	1510.74
0.45	532.067	286.829	315.039	2660.34	1434.15	1575.19
0.5	396.119	394.028	313.111	1980.59	1970.14	1565.56
0.55	377.361	294.543	325.115	1886.8	1472.21	1625.58
0.6	208.163	405.615	333.695	1040.81	2028.08	1668.48
0.65	212.252	387.345	327.577	1061.26	1936.73	1637.89
0.7	162.654	458.921	359.343	813.269	2294.6	1796.72

Cantilever beam with dimensions: 100mm*20mm*1mm

Beam Material: E=80 GPa, nu=0.33; Mat A: E=10 GPa nu=0.34; Mat B: E=150 GPa and nu=0.4

Also, collect microstructure images at maximum stress in a separate folder. Submit link to folder as part of homework 1.

Displacement
units are mm

	Displacement at cantilever end at 100 N end load			Displacement at cantilever end at 500 N end load		
Volume Fraction	Holes	Mat A	Mat B	Holes	Mat A	Mat B
0.1	-0.738961	-0.735191	-0.63744	-3.6948	-3.67595	-3.1872
0.15	-0.855521	-0.723759	-0.63121	-4.27761	-3.61879	-3.15605
0.2	-0.848818	-0.750971	-0.61675	-4.24409	-3.75458	-3.08375
0.25	-0.85245	-0.774226	-0.614885	-4.26225	-3.87113	-3.07442
0.3	-0.985932	-0.833196	-0.596528	-4.92966	-4.16598	-2.98264
0.35	-1.24567	-0.899816	-0.592495	-6.22836	-4.49908	-2.96247
0.4	-1.41912	-0.977682	-0.575703	-7.09561	-4.88841	-2.87851
0.45	-1.6689	-0.9663	-0.577702	-8.34452	-4.8315	-2.88851
0.5	-2.15893	-1.10828	-0.558918	-10.7947	-5.54139	-2.79459
0.55	-2.7256	-1.19047	-0.535038	-13.628	-5.95235	-2.67519
0.6	-9.34404	-1.35998	-0.507666	-46.7202	-6.7999	-2.53833
0.65	-16.4879	-1.40595	-0.509413	-82.4393	-7.02977	-2.54706
0.7	-233.186	-1.55324	-0.474383	-1165.93	-7.76622	-2.37192

Cantilever beam with dimensions: 100mm*20mm*1mm

Beam Material: E=80 GPa, nu=0.33; Mat A: E=10 GPa nu=0.34; Mat B: E=150 GPa and nu=0.4

Also, collect microstructure images at maximum stress in a separate folder. Submit link to folder as part of homework 1.