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APPENDICES

Mechanical Properties of MMA-g-HDPE/Silk Blends

Table A1 Effect of fiber loading on tensile modulus of MMA-g-HDPE/silk blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Tensile modulus (MPa)	
	Reactive blending	Two-step blending
0 (Pure HDPE)	1285.574 \pm 21.626	1285.574 \pm 21.626
10	1353.956 \pm 60.758	1308.523 \pm 65.080
20	1451.040 \pm 40.328	1353.956 \pm 50.376
30	1498.641 \pm 28.880	1486.548 \pm 30.251

Table A2 Effect of fiber loading on tensile yield strength of MMA-g-HDPE/silk blends with 10,20,30 %SF.

Volume fraction of silk fiber (%)	Tensile yield stress (MPa)	
	Reactive blending	Two-step blending
0 (Pure HDPE)	25.507 \pm 0.281	25.507 \pm 0.281
10	24.216 \pm 0.845	22.337 \pm 0.864
20	25.396 \pm 0.533	25.235 \pm 0.418
30	27.007 \pm 0.300	25.729 \pm 0.224

Table A3 Effect of fiber loading on flexural modulus of MMA-g-HDPE/silk blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Flexural modulus (MPa)	
	Reactive blending	Two-step blending
0 (Pure HDPE)	790.145 \pm 41.639	790.145 \pm 41.639
10	729.257 \pm 43.864	630.534 \pm 42.547
20	800.107 \pm 54.275	744.107 \pm 48.553
30	1198.303 \pm 68.442	1120.303 \pm 64.358

Table A4 Effect of fiber loading on flexural strength of MMA-g-HDPE/silk blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Flexural stress (MPa)	
	Reactive blending	Two-step blending
0 (Pure HDPE)	26.194 \pm 0.580	26.194 \pm 0.580
10	25.386 \pm 1.338	23.386 \pm 1.426
20	27.149 \pm 1.347	26.149 \pm 1.377
30	32.508 \pm 1.795	32.008 \pm 1.732

Table A5 Effect of fiber loading on impact resistance of MMA-g-HDPE/silk blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Impact Strength (k/m ²)	
	Reactive blending	Two-step blending
0 (Pure HDPE)	19.48 \pm 1.47	19.48 \pm 1.47
10	8.02 \pm 2.25	6.26 \pm 2.03
20	9.26 \pm 1.68	9.43 \pm 1.54
30	11.47 \pm 1.72	10.65 \pm 1.56

Mechanical Properties of Untreated HDPE/Silk Blends

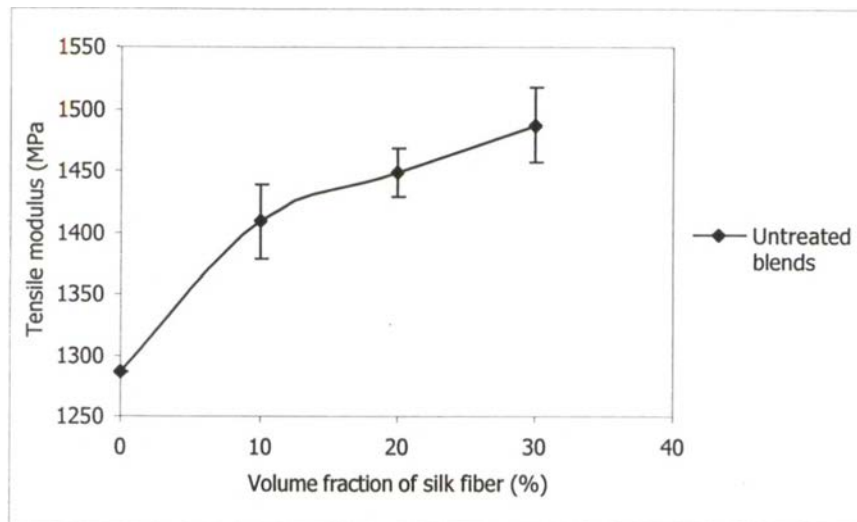


Figure A1 Effect of fiber loading on tensile modulus of HDPE/silk untreated blends with 10,20,30 % SF.

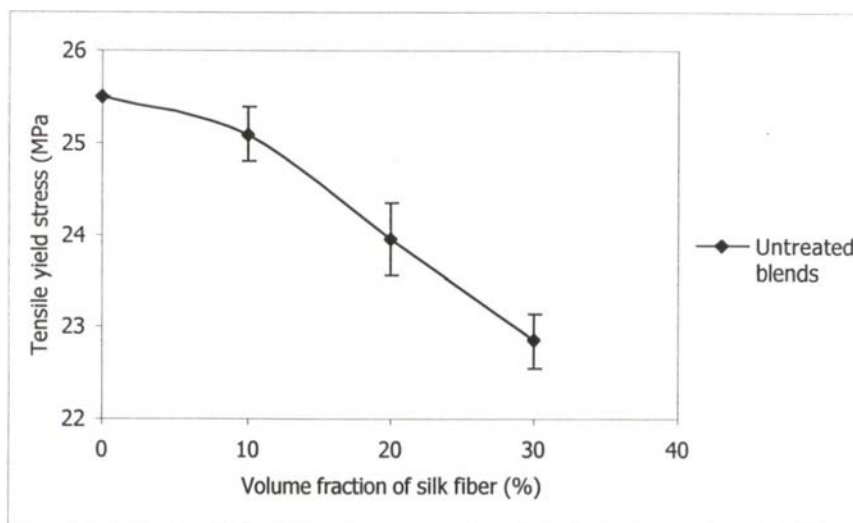


Figure A2 Effect of fiber loading on tensile yield strength of HDPE/silk untreated blends with 10, 20, 30 % SF.

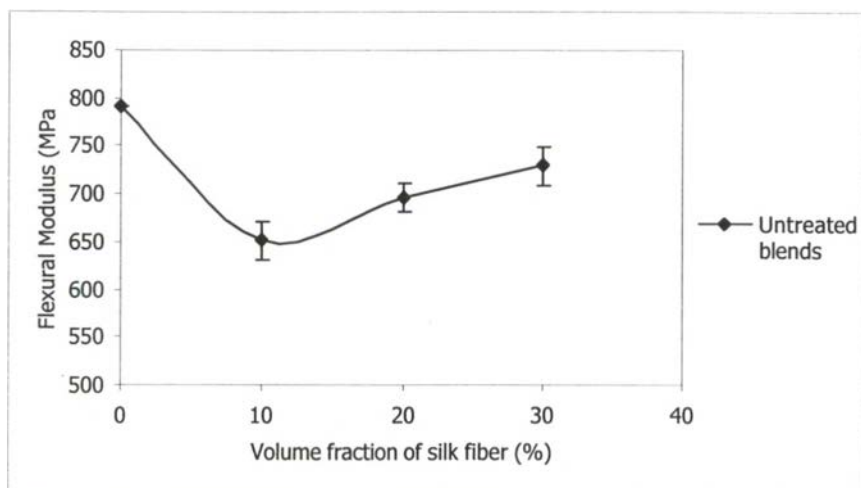


Figure A3 Effect of fiber loading on flexural modulus of HDPE/silk untreated blends with 10, 20, 30 % SF.

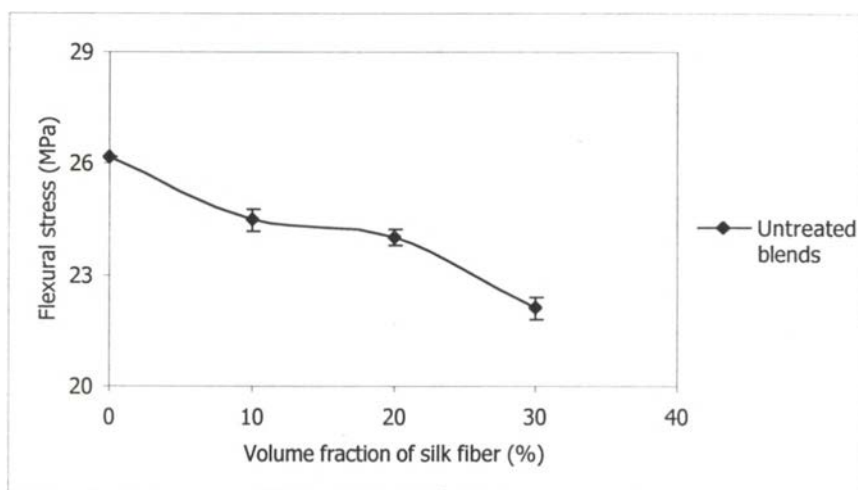


Figure A4 Effect of fiber loading on flexural strength of HDPE/silk untreated blends with 10, 20, 30 % SF.

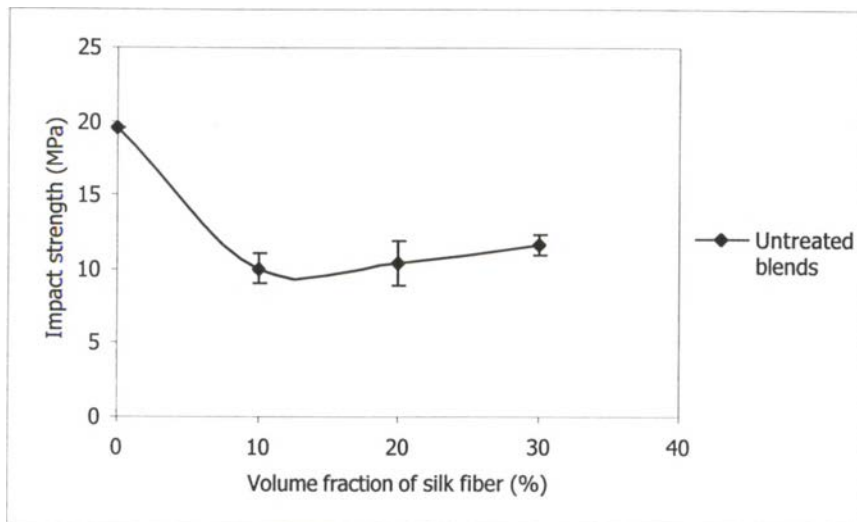


Figure A5 Effect of fiber loading on impact resistance of HDPE/silk untreated blends with 10, 20, 30 % SF.

Table A6 Effect of fiber loading on tensile modulus of HDPE/silk untreated blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Tensile modulus (MPa)
0 (Pure HDPE)	1285.574 \pm 21.626
10	1408.523 \pm 50.455
20	1448.461 \pm 40.236
30	1486.548 \pm 50.848

Table A7 Effect of fiber loading on tensile yield strength of HDPE/silk untreated blends with 10,20,30 %SF.

Volume fraction of silk fiber (%)	Tensile yield stress (MPa)
0 (Pure HDPE)	25.507 \pm 0.281
10	25.091 \pm 0.319
20	23.948 \pm 0.447
30	22.842 \pm 0.325

Table A8 Effect of fiber loading on flexural modulus of HDPE/silk untreated blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Flexural modulus (MPa)
0 (Pure HDPE)	790.145 \pm 41.639
10	651.466 \pm 20.334
20	695.296 \pm 15.873
30	729.261 \pm 19.265

Table A9 Effect of fiber loading on flexural strength of HDPE/silk untreated blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Flexural stress (MPa)
0 (Pure HDPE)	26.194 \pm 0.580
10	24.48 \pm 0.345
20	24.02 \pm 0.253
30	22.10 \pm 0.314

Table A10 Effect of fiber loading on impact resistance of HDPE/silk untreated blends with 10,20,30 % SF.

Volume fraction of silk fiber (%)	Impact strength (k/m ²)
0 (Pure HDPE)	19.480 \pm 1.470
10	10.005 \pm 0.876
20	10.405 \pm 1.344
30	11.630 \pm 0.784

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