

Electronic Supplementary Information

From carbon nanotubes and silicate layers to graphene platelets for polymer nanocomposites

Table S1 Comparison of ours with previous studies of toughening epoxy using clay and carbon nanotubes.

Materials with optimum fraction	Filler concentration	Modulus increase (%)	Maximum K_{Ic} increase (%)	Maximum G_{Ic} increase (%)	Maximum T_g increase (%)	Ref.
Epoxy/graphene	1.0–2.0 vol%	11.8%	167.4%	573.0%	6.9%	Ours
Epoxy/clay	2.5 wt%	16.7%	58.5%	114.9%	6.4%	[1]
Epoxy/clay	3.5–7.0wt%	2.8%	67.1%	158.3%	N/A	[2]
Epoxy/MWCNT	0.3–0.5 wt%	6.9%	23.1%	N/A	N/A	[3]
Epoxy/MWCNT	0.2–0.5 wt%	12.4%	42.0%	67.7%	-2.0%	[4]

References

- [1] I. Zaman, Q. Le, H. C. Kuan, N. Kawashima, L. Luong, A. Gerson and J. Ma, *Polymer*, 2011, **52**, 497–504.
- [2] A. S. Zerda and A. J. Lesser, *J. Polym. Sci. Pol. Phys.*, 2001, **39**, 1137–1146.
- [3] F. H. Gojny, M. H. G. Wichmann, B. Fiedler and K. Schulte, *Compos. Sci. Technol.*, 2005, **65**, 2300–2313.
- [4] T. H. Hsieh, A. J. Kinloch, A. C. Taylor and I. A. Kinloch, *J. Mater. Sci.*, 2011, **46**, 7525–7535.