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Abstract	:	The integration of compatibilisers with thermoplastics has revolutionised the field of polymer composites, enhancing their mechanical, thermal, and rheological properties. This study investigates the synergistic effects of incorporating SEBS-g-MAH on the mechanical, thermal, and rheological properties of polycarbonate/acrylonitrile-butadiene-styrene/graphene oxide (PC/ABS/GO) (PAGO) and the properties of polycarbonate/acrylonitrile-butadiene-styrene/graphene oxide (PC/ABS/rGO) (PArGO) composites through the melt blending method. The synergistic effects on thermal stability and processability were analysed by using thermogravimetry (TGA), melt flow index (MFI), and Fourier-transform infrared spectroscopy (FTIR). The addition of SEBS-g-MAH improved the elongation at break (EB) of PAGO and PArGO up to 33% and 73%, respectively, compared to the uncompatibilised composites. The impact strength of PAGO was synergistically enhanced by 75% with the incorporation of 5 phr SEBS-g-MAH. A thermal analysis revealed that SEBS-g-MAH improved the thermal stability of the composites, with an increase in the degradation temperature (T80%) of up to 17% for PAGO at 1 phr SEBS-g-MAH loading. The compatibilising effect of SEBS-g-MAH was confirmed by FTIR analysis, which indicated interactions between the maleic anhydride groups and the PC/ABS matrix and GO/rGO fillers...see more.