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A sandbag microstructure was constructed in polyamide 6 (PA6)/ethylene– propylene–diene terpolymer (EPDM)/nanometer calcium carbonate (nano-CaCO₃) ternary composites by the addition of maleinated EPDM (EPDM-g-MA) to reduce the interfacial tension between EPDM and PA6 and EPDM and nano-CaCO₃. Scanning electron microscopy observation and differential scanning calorimetry analysis revealed that the microstructure of the ternary composites evolved from the initially separated EPDM and nano-CaCO₃ dispersion structure to the sandbag structure and finally to the separated dispersion structure again with the increase of EPDM-g-MA content in the elastomer

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phase. The mechanical results showed the composites with the sandbag microstructure exhibited excellent toughness and stiffness.

Keywords:



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