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Abstract
This paper reports the effects of polypropylene-graft-maleic anhydride (PP-g-MA) and graphene nanoplatelet (GNP) on tensile stress of various PLA/PP weight ratio. The PLA/PP blends prepared with the ratio 70/30, 80/20, and 90/10 with the addition of PP-g-MA (1 to 5 phr) and GNP (1 to 3 phr) by using an injection molding machine. The tensile stress (MPa) was analyzed based on 11 runs of full factorial design. The results showed that the tensile stress of PLA/PP blends gradually increased after the addition of PP-g-MA and GNP. There is a relationship between PP-g-MA and GNP which causes a positive impact on the mechanical properties of PLA/PP blends. The optimum tensile stress of 50.06 MPa achieved at the ratio of 90/10 blends with 5 phr of PP-g-MA and 3 phr of GNP. © 2021, Gadjah Mada University. All rights reserved.

Author Keywords
Graphene nanoplatelets (GNP); Poly(lactic acid)(PLA); Polypropylene (PP); Tensile stress

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