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RECYCLED PE/PET/COCONUT POWDER COMPOSITES: INFLUENCE OF CLAY ON THE THERMAL STABILITY AND FLAMMABILITY

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In this work, the influence of the addition of the commercial clay, Cloisite 20A, on thermal stability and flammability of the recycled PE/PET/coconut powder composites was evaluated. The blend was processed by direct extrusion, in a co-rotating twin-screw extruder equipped with mixing elements, operating at 150-200°C/150- 250rpm. The mixtures thus obtained were injection molded at 150-220°C; mold temperature was kept at 20-40ºC, the thermal stability and the flammability of the systems were investigated by thermogravimetry and UL-94HB standard, respectively. The clay presence in the composite increased the degradation temperature in relation to the pure composite. The flammability test showed that the addition of clay in the reduced the burning rate, indicating an improved flammability resistance of the composites.