



MECHANICAL PROPERTIES OF BLENDS WITH POLYPROPYLENE

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The objective was to study mechanical properties of polypropylene (PP) by introducing cycloolefine copolymer (COC). Our PP/COC blends were prepared by injection moulding. Rheology and phase morphology of the blends with the ratio 70/30 in wt. % was characterized. The fibrous morphology of the PP/COC blends was observed. As COC was expected to enhance mechanical properties of the blends, their microhardness, modulus, yield strength and tensile strength were measured using an microhardness tester and tensile tester. Two different models were applied in the analysis of mechanical properties, namely (i) the rule of mixtures for short fibre composites and (ii) the equivalent box model for isotropic blends. Fibres oriented in the injection direction acted as a reinforcing component, which was proven.