

<b>TITLE</b>	IMPROVEMENT OF MECHANICAL PROPERTIES OF POLYOLEFINIC THERMOPLASTIC ELASTOMER WITH PINEAPPLE LEAF FIBER
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<b>ABSTRACT</b>	<p>Uniaxial composite systems of pineapple leaf fiber (PALF) and Santoprene, a thermoplastic elastomer, were studied. PALF filled Santoprene composites were prepared by melt processing on a two-roll mill at various PALF contents. The molten mixture was sheeted out using a narrow nip with some stretching to give prepreg with PALF preferentially aligned along the machine direction. Wide angle x-ray scattering patterns revealed that the prepregs had matrix orientation and the matrix orientation still remained after moulding at 175°C but not at 195°C. Secant modulus at 10% strain and tear strength in the longitudinal direction increased significantly with increasing PALF content of up to 15%, while tensile strength and elongation at break decreased. The effect of PALF content was less significant in the transverse direction. To improve the compatibility of PALF with the Santoprene matrix, two compatibilizers including maleic anhydride grafted polypropylene (MAPP) and maleic anhydride grafted styrene-ethylene/butylene-styrene (MASEBS) were used. The mechanical properties increased with increasing compatibilizer content. In addition, PALF surface was also modified with various chemical methods. Modified PALF resulted in composites with lower tensile properties due to poor interfacial adhesion between the PALF fiber and Santoprene matrix.</p>