The Effects of Tensile and Morphological Properties of Styrene Butadiene Rubber/Recycled Chloroprene Rubber (SBR/CRr) Blends

The effects of tensile and morphological properties of styrene butadiene rubber/virgin chloroprene rubber blends (SBR/CRv) and styrene butadiene rubber/recycled chloroprene rubber blends (SBR/CRr) were investigated. The range size of CRr used in this study was 0.3 0.7 mm. Both SBR/CRv blends and SBR/CRr blends were prepared using two roll mill at room temperature with blend ratios 95/5, 85/15, 75/25, 65/35 and 50/50. It can be observed that, the tensile strength and elongation at break of SBR/CRr blends show higher value than SBR/CRv blends particularly up to 15 phr of CRr in the blends. However, SBR/CRr blends shows higher value of tensile modulus (M100) than SBR/CRv blends at all blend ratios. The scanning electron microscopy (SEM) of tensile fracture surface of SBR/CRr blends at 50 blend ratios illustrated a better adhesion and dispersion in comparison with SBR/CRv blends.

Keywords: chloroprene rubber, recycled chloroprene rubber, styrene butadiene rubber, tensile properties, SEM