

Studies on the Mechanical Properties of blends of Natural rubber and Chloroprene rubber

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ABSTRACT

Recently, blending of polymers has become an impressively important area of research activity. Elastomers blending are based on many reasons such as lowering the compounding cost, processing ability and improving the performance of the industrial rubber. Natural rubber(NR) and polychloroprene(CR) have been blended for a long time for these reasons, In study, four different blends have been produced 20%CR/80%NR, 40%CR/60%NR, 60%CR/40%NR, 80%CR/20%NR in addition to 100%CR and 100%NR samples. The mechanical properties such as tensile strength, modulus 100%, modulus 200%, modulus 300%, elongation at maximum, elongation at break and hardness were studied. . The result shows that NR and CR were homogenously compactable. This is the evidence in the value of modulus increasing from 3.2MPa to 9.0MPa at 300% elongation. Hardness increased from 50IRHD to 70IRHD being the value known for many rubber application. It can be concluded that NR and CR are good elastomers-elastomer blends which gives overall good balance in terms of cost, process ability and Mechanical properties.