

Utilisation of Low Cost Waste Leather Shavings as Filler in Rubber Soles

Abstract

Leather shavings wastes from the chrome tanning process were used as filler in natural rubber soles. The main purpose of leather shavings was for reinforcement of silicon dioxide. The shavings were ground to a powder and used as filler in rubber compounding. Particle size, zeta potential before and after adding zinc oxide was determined. The soles produced were then characterized by standards tests such as rheological properties, tensile strength, and elongation at break, abrasion resistance, shore hardness, acid resistance and short term aging. The results showed that the formulation containing 8% (w/w) leather shavings could be satisfactorily used to make certain types of soles that are light weight, comfortable and flexible.