

Reclaimed Tire and Carbon Black Mixture Effect on Mechanical Properties of Rubber Blends SBR/NR/BRcis Uses as Damping Materials

Authors : Samir Hassan AL-Nesrawy, Mohammed Al-Maamori, A. S. Hassani

Abstract : Rebound resilience for various elastomeric composites has been measured by Tripsometer devise, in order to investigate the effect of mix of C.B & Reclaim loading on elastomeric materials to absorb or damping vibration or shocks by fenders uses in the Iraqi berths. After having been certain about attaining the physical and mechanical properties of the new samples which are similar to the levels of their standard ones, damping properties for the new samples have been measured and compared with those of the standard fenders. The new samples included four rubber blends from (SBR/NR/BR-cis) and four loading levels of mix carbon black (type N-375) and reclaim to become sixteen compound contain SBR(100,60,60,60), NR(0,10,20,30), BRcis(30,20,10,0) and loading level for C.B, Reclaim (10,20,30,40). Damping measurements have been carried out by the method Free Vibration Resilience Pendulum method (by using Wallace R2-Dunlop Tripsometer) and from this Resilience Pendulum method, both the resilience percentage value (R%) and time decay (t₀) have been measured at 50oC. We found that the results of this method proved that the increment of C.B, Reclaim level in these robber composite lead to decreasing the resiliency (R%) and damping time.

Keywords : damping materials, carbon black mixture effect, mechanical properties, rubber blends SBR/NR/BRcis

Conference Title : ICAPM 2014 : International Conference on Applied Physics and Mathematics

Conference Location : Istanbul, Türkiye

Conference Dates : December 05-06, 2014