

Thermoplastic Polymer Modified Bitumen

H.M.L.U. Ranasinghe, R.D. Madushanka, and N.M.V.K. Liyanage

Performance of Bitumen modified with thermoplastics based on natural rubber(NR) and Low density polyethylene(LDPE) was investigated. Blending of NR and LDPE in different ratios was done by using a plastic extruder at 150⁰C and the resultant material was referred as TPNR . Two types of TPNRs were made, with and without di-cumyl peroxide(DCP),which was used as the compatibiliser. Blending of TPNRs into 60-70 grade bitumen and 80-100 grade of bitumen was affected at 163⁰C by using a mixer fabricated in the laboratory at a speed of 1500 rpm. TPNR modified bitumen was tested for penetration, softening point, Ductility etc by using the specific testing equipments located at different laboratories. Marginal improvements in certain properties could be observed.