

The feasibility of using plastic wastes to improve the properties of natural asphalt

Bashar Abdulazeez Mahmood, **Yasir Al-Ani**, Khalid Awadh Mohammed
,Saadoon O. Eyada

Abstract

The industrial importance and application of asphalt in different fields such as pavement, roofing, and water proofing, etc. was a certain reason for this study. Many improvement processes have been applied in this research on Heet natural asphalt at Al-Anbar governorate to use it for industrial purposes. The natural Heet asphalt was modified by using solid plastic wastes represented by a disposed plastic cans. Recycled wastes were used for improvements to achieve two aims, its use in asphalt improvement and ridding the environment of the accumulation of being classified as contaminated materials. Performance of modifying process involved the addition of polyvinyl chloride (PVC) powder which used as a recycled waste to improve the properties of Heet asphalt. An old PVC pipes were crushed and transformed to powder feature which finally added to Heet asphalt in different ratios (10, 20 and 30) gram of PVC powder to gram of Heet asphalt. The physical characterization of the new mixture was analyzed using penetration and softening point tests while the chemical properties have been characterized using (UV) and (IR) waves tests to study the changes in the rheological properties. The results revealed the importance of using recycled (PVC) powder to improve the properties of Heet asphalt and to reduce the adverse effect of these waste on environment.