

**Effect of Anti-Stripping Agents on Asphalt-Aggregate Interactions**  
Mohammad Nahid Siddiqui, Mohammad Farhat Ali and Mirza Ghouse Baig  
*40th IUPAC Congress, Innovations in chemistry*  
Beijing, China, 2005

**Abstract:** Premature deterioration of asphalt pavements of highways in Saudi Arabia had considerably reduced the service lives of the pavements, sacrificed rider comfort and increased maintenance costs. These adverse effects cause premature road failure and waste of valuable resources. The physicochemical phenomena as well as the long-range effect of the interstitial asphalt on the asphalt-aggregate bond plays a vital role in determining the stripping properties of aggregates. The purpose of using anti-stripping agent is to enhance the bonding strength between asphalt and aggregates. The following three anti-stripping agents, POLYRAM L 200, CECABASE 260 and INTERLENE IN/400-S were purchased locally and used. The results indicate that adsorption of Riyadh asphalt on the Riyadh aggregates has increased to maximum with all three anti-stripping agents. The Taif aggregates have also shown a substantial increase in their adsorption behavior using anti-stripping agents than the EP aggregate. Similarly, the amount of RT asphalt remained adsorbed after aggregates coated with anti-stripping agents were found to be significantly higher than uncoated aggregate samples. The anti-stripping agents were found to promote stronger bonding, resulting in less asphalt desorption by water. This study provided important information regarding the effect of anti-stripping agent on the adsorption and desorption behavior of neat asphalts and asphalt-aggregate system. The overall results are interpreted with regard to their usefulness in finding solutions to pavement damage problems.