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Sasobit-Modified Asphalt Binder Rheology

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Abstract: This research discusses the effect of Sasobit on asphalt binder rheology and how different percentages of Sasobit affect its performance. Evaluation is performed according to the Superpave test specifications. Tests include the rotational viscosity (RV), the dynamic shear rheometer (DSR), and the bending beam rheometer (BBR). Several rheological parameters are investigated: the dynamic viscosity (?), the complex modulus (G), the phase angle (?), the creep stiffness (S), and the m-value. The behavior of modified asphalt binder is investigated at a wide range of temperatures (?6?160?C). Results show an improvement of the asphalt binder performance at high temperatures, but adverse effects on asphalt binder performance at the low temperatures are observed. The optimum percentage of Sasobit is found to be 2% by mass of the asphalt binder; higher percentages are not recommended.