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STUDIES TO ESTABLISH KEY PROCESSES PARAMETERS FOR CONVERTING HIGH SULFUR RESIDUE INTO ON-GRADE BITUMEN

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ABSTRACT

Bitumen of improved performance have better load bearing and spreading ability at high temperatures and are not much stiff so as to crack at low temperatures, besides better adhesion and aging resistance compared to conventional binders. The objective of the study is to make improved quality bitumen through chemical modification/interaction by using air blowing approach using high sulfur feed stocks. The Short residue (SR) of high sulfur used in the study has 5% wt sulfur. For converting high sulfur SR into on grade bitumen, it is subjected to air blowing under varying conditions/processes parameters viz. temperature, duration and air rate. In this paper air blowing was carried out at two different temperatures and two different air rates. Penetration index of different bitumen binders was determined as it is a good parameter to define temperature susceptibility of bitumen. This paper describes how the finished product meets the desired specifications of BIS73-2006.

KEYWORDS: Air Blowing, Asphaltene, bitumen, Conventional Binder, Maltene, Short Residue