

QUALITY-CONTROL PROCEDURE FOR DRY-PROCESS RUBBERISED ASPHALT MASTICS

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ABSTRACT

Crumb Rubber (CR) can be incorporated into asphalt mixes using the dry process by directly adding CR into the mixer together with other asphalt mixture's components, or with the wet process where the CR is used as a bitumen modifier. While the wet process allows an accurate monitoring of the interaction between CR and bitumen, the lack of control represents a main issue in the dry process. In fact, in the latter the CR particles keep swelling during hauling and possibly also after paving operations, often causing workability issues and premature failures. This study aims to provide a methodology that could help quality control procedures of bitumen/filler/rubber systems during mixing, hauling and paving operations. Different systems and different CRs have been investigated and results, which are based on real-time viscosity measurement, demonstrated that mastics with ambient CR keep swelling, while specific pre-treatment of CRs allows terminating the swelling process already during hauling procedures.