

ABSTRACT

The reconstruction of the Luragung–Cibingbin road section, Kuningan Regency, West Java Province, uses flexible pavement construction with an Asphalt Concrete–Wearing Course (AC-WC) surface layer. Visual field observations found cracks at several points as well as indications of construction implementation issues that could potentially affect pavement quality, so this study aims to evaluate the quality of the AC-WC layer against the 2025 Bina Marga General Specification.

The evaluation was carried out through field and laboratory testing, including core drill sampling to determine layer density and thickness, asphalt extraction to determine asphalt content and aggregate gradation, aggregate abrasion testing, Marshall testing to determine mixture characteristics, and a Paper Test to evaluate the uniformity of tack coat distribution on the left and right lanes.

Core drill testing results showed an average field density of 2.244 gr/cm³ (left lane) and 2.250 gr/cm³ (right lane), with compaction of 99.37% and 99.66%, meeting the minimum requirement of 98%. Average layer thickness was 4.19 cm (left) and 4.26 cm (right). Average aggregate abrasion was 22.31%, well below the maximum limit of 40%. Average Marshall stability was 952 kg (left) and 966 kg (right), exceeding the minimum requirement of 800 kg. However, Paper Test results showed the average tack coat volume on the left lane was only 0.150 L/m², below the minimum limit of 0.20 L/m², while the right lane reached 0.384 L/m² and met the specification. This unevenness is presumed to be related to the use of a small tack coat distributor with a manual spray hose (hand sprayer). Overall, the AC-WC mixture quality on the Luragung–Cibingbin road section meets the 2025 Bina Marga General Specification, but tack coat application on the left lane did not meet the standard and is a potential cause of premature pavement damage.

Keywords: AC-WC, core drill, Marshall, tack coat.