

Chatarina Niken Misalignment Saw Cutting Cracks.pdf

Chapter
The Mechanism of Misalignment of Saw Cutting Crack of Concrete Pavement
Chatarina Niken
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Abstract

Misalignment cracks are transverse cracks that occur not in the cutting line but that are shifted within less than 500 mm of the cutting line. This crack does not cross other segments. This paper describes the mechanism of the formation of misalignment cracks and the stresses that occur in concrete pavement under plastic and brittle condition. This paper was written based on observations of misalignment cracks on toll roads in Lampung Province, Indonesia. Bending strength of the concrete pavement is ± 4.5 MPa. This crack was found at the concrete age of 18–72 hours. This research is supported by observing deformation and inner temperature in the laboratory on a concrete plate with compressive strength of 60 MPa measuring 300 cm \times 160 cm \times 15 cm, which is placed on several supports. Observations were made every 15 minutes for 90 days. Misalignment cracks occur because cutting in concrete pavement is done in brittle conditions. Misalignment cracks were also found on one side, which dowel shift. In this phenomenon, misalignment cracks follow dowel shifting.

Keywords: concrete, crack, deformation, pavement, cutting, shrinkage

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1. Introduction

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