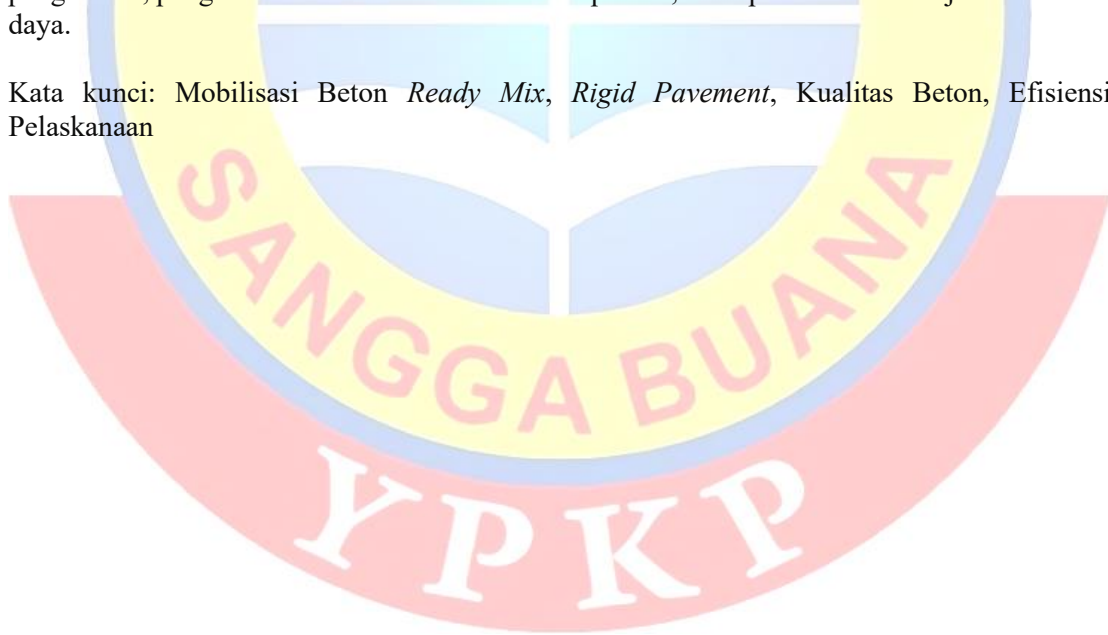


ABSTRAK

Pembangunan jalan tol menuntut mutu konstruksi yang terjamin serta efisiensi pelaksanaan di lapangan. Mobilisasi beton *ready mix* dari *batching plant* ke lokasi proyek merupakan tahapan krusial dalam pelaksanaan pekerjaan *rigid pavement*. Kualitas beton sangat dipengaruhi oleh jarak tempuh, waktu pengiriman, dan kondisi lapangan selama mobilisasi. Penelitian ini bertujuan untuk menganalisis dampak mobilisasi beton *ready mix* terhadap mutu beton, termasuk perubahan nilai *slump*, suhu, dan *setting time*, dan kuat lentur serta mengevaluasi efisiensi pelaksanaan pekerjaan *rigid pavement* berdasarkan penggunaan material, alat berat, dan tenaga kerja. Studi kasus dilakukan pada Proyek Jalan Tol Serang–Panimbang Seksi 2, menggunakan pendekatan deskriptif kualitatif. Data dikumpulkan melalui observasi lapangan, wawancara, pengukuran teknis, serta dokumentasi proyek. Mobilisasi beton *ready mix* berjarak sekitar $\pm 6,5$ km menggunakan 6 unit *dump truck* kapasitas 10 m³ dalam 22 ritase. Hasil penelitian menunjukkan adanya penurunan nilai *slump* dan peningkatan suhu beton saat tiba di lokasi. Uji kuat lentur memperlihatkan perbedaan hasil antara dari lapangan dan *batching plant*, di mana pada umur 7 hari nilai kuat lentur di lapangan mencapai 90% sedangkan pada umur 28 hari meningkat menjadi 123%, yang masih sesuai dengan standar. Dari sisi efisiensi, penggunaan material mencapai 99,2%, alat berat menunjukkan *idle time* akibat ketidakteraturan interval pengiriman, dan efisiensi tenaga kerja tercatat hingga 99%. Penelitian ini memberikan rekomendasi untuk meningkatkan efisiensi melalui pengaturan ritme pengiriman, pengawasan mutu beton selama transportasi, dan optimalisasi manajemen sumber daya.

Kata kunci: Mobilisasi Beton *Ready Mix*, *Rigid Pavement*, Kualitas Beton, Efisiensi Pelaksanaan



ABSTRACT

The construction of toll roads requires guaranteed construction quality and efficient implementation in the project site. The mobilization of ready mix concrete from the batching plant to the project site is a crucial stage in the implementation of rigid pavement work. Concrete quality is greatly influenced by travel distance, delivery time, and field conditions during mobilization. This study aims to analyze the impact of ready mix concrete mobilization on concrete quality, including changes in slump value, temperature, and setting time, as well as flexural strength, and to evaluate the efficiency of rigid pavement work based on the use of materials, heavy equipment, and labor. A case study was conducted on the Serang–Panimbang Toll Road Project Section 2, using a qualitative descriptive approach. Data were collected through field observations, interviews, technical measurements, and project documentation. Ready-mix concrete was mobilized over a distance of approximately ± 6.5 km using 6 dump trucks with a capacity of 10 m^3 in 22 trips. The results showed a decrease in slump value and an increase in concrete temperature upon arrival at the site. Flexural strength tests showed differences between the field and the batching plant, where at 7 days of age the flexural strength in the field reached 90%, while at 28 days of age it increased to 123%, which was still in accordance with the standard. In terms of efficiency, material utilization reached 99.2%, heavy equipment showed idle time due to irregular delivery intervals, and labor efficiency was recorded at 99%. This study provides recommendations to improve efficiency through delivery rhythm management, concrete quality control during transportation, and resource management optimization.

Keywords: Ready Mix Concrete Mobilization, Rigid Pavement, Concrete Quality, Implementation Efficiency.