

PENGARUH PENAMBAHAN ZAT ADITIF NORMET TAMCEM 60 RA TERHADAP KUAT TEKAN BETON MUTU f'_c 50 MPa

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh penambahan zat aditif Normet TamCem 60 RA terhadap nilai slump dan kuat tekan beton mutu f'_c 50 MPa, serta membandingkan kuat tekan beton normal dengan beton yang menggunakan variasi dosis aditif. Penelitian dilakukan secara eksperimental menggunakan benda uji silinder berukuran 15×30 cm dengan empat variasi campuran, yaitu beton normal, serta beton dengan penambahan Normet TamCem 60 RA sebesar 0,5%, 1%, dan 1,5% dari berat semen. Setiap variasi diuji pada umur 7, 14, dan 28 hari. Pengujian yang dilakukan meliputi uji slump pada beton segar dan uji kuat tekan pada beton keras sesuai Standar Nasional Indonesia (SNI). Hasil penelitian menunjukkan bahwa penambahan Normet TamCem 60 RA meningkatkan nilai slump sehingga workability beton menjadi lebih baik. Selain itu, penambahan aditif juga meningkatkan kuat tekan beton pada seluruh umur pengujian dibandingkan beton normal. Kuat tekan tertinggi pada umur 28 hari diperoleh pada variasi penambahan 1,5%, yaitu sebesar 68,48 MPa, sedangkan beton normal mencapai 47,24 MPa. Dengan demikian, penggunaan Normet TamCem 60 RA terbukti efektif meningkatkan kemudahan pengerjaan dan kuat tekan beton mutu tinggi f'_c 50 MPa.

Kata kunci: beton mutu tinggi, Normet TamCem 60 RA, slump, workability, kuat tekan beton.

***THE EFFECT OF ADDING NORMET TAMCEM 60 RA
ADMIXTURE ON THE COMPRESSIVE STRENGTH OF 50 MPa
CONCRETE***

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ABSTRACT

This study aims to analyze the effect of adding Normet TamCem 60 RA admixture on the slump value and compressive strength of 50 MPa concrete, as well as to compare the compressive strength of normal concrete with concrete containing different admixture dosages. An experimental method was employed using cylindrical concrete specimens measuring 15 × 30 cm. Four concrete mixtures were prepared: normal concrete and concrete containing 0.5%, 1.0%, and 1.5% Normet TamCem 60 RA by weight of cement. Each mixture was tested at curing ages of 7, 14, and 28 days. The tests included a slump test on fresh concrete and a compressive strength test on hardened concrete in accordance with the Indonesian National Standards (SNI). The results showed that the addition of Normet TamCem 60 RA increased the slump value, indicating improved workability. Furthermore, the admixture enhanced the compressive strength of concrete at all testing ages compared to normal concrete. The highest compressive strength at 28 days was achieved with the 1.5% admixture dosage, reaching 68.48 MPa, while the normal concrete attained 47.24 MPa. Therefore, the use of Normet TamCem 60 RA is proven to be effective in improving both the workability and compressive strength of high-strength concrete with a design strength of 50 MPa.

Keywords: high-strength concrete, Normet TamCem 60 RA, slump, workability, compressive strength.