

**PENGARUH KADAR AIR TERHADAP
MUTU BETON 25 MPA DENGAN
TAMBAHAN ZAT ADITIF MASTER RHEOBUILD 6**

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ABSTRAK

Beton merupakan salah satu material konstruksi yang paling umum digunakan dalam pembangunan infrastruktur. Beton memiliki kuat tekan yang tinggi, tahan terhadap beban, serta memiliki daya tahan yang baik terhadap cuaca dan lingkungan. Salah satu yang mempengaruhi kualitas beton adalah kadar air yang digunakan dalam campuran beton. Penelitian ini bertujuan untuk menganalisis pengaruh kadar air terhadap kuat tekan beton mutu 25 MPa dengan menggunakan zat aditif Master Rheobuil 6.

Metode penelitian yang digunakan adalah eksperimen laboratorium. Benda uji berupa silinder beton dengan diameter 10 x 20 cm. Variasi kadar air yang digunakan adalah pengurangan 5%, 10%, 15% dan penambahan 5%, 10%, 15% dengan dosis aditif Master Rheobuil 6 sebesar 1,5% dari berat semen. Pengujian kuat tekan dilakukan pada umur beton 7 hari, 14 hari, dan 28 hari.

Hasil penelitian menunjukkan bahwa semakin tinggi kadar air, maka semakin rendah kuat tekan beton yang dihasilkan. Pada pengurangan air 10%, kuat tekan beton mencapai 33,22 MPa. Sementara pada pengurangan air 5% dan 15%, kuat tekan beton masing-masing sebesar 17,11 MPa dan 30,31 MPa. Sedangkan pada penambahan air 5% kuat tekan beton mencapai 24,16 Mpa sementara pada penambahan 10% dan 15% kuat tekan beton masing-masing sekitar 23,82 Mpa dan 15,38 Mpa. Penggunaan zat aditif Master Rheobuil 6 mampu mempertahankan slump beton tanpa menambah kadar air secara berlebihan.

Kata kunci: beton, kadar air, kuat tekan, zat aditif, Master Rheobuil 6

***EFFECT OF WATER CONTENT ON CONCRETE
QUALITY 25 MPA WITH ADDITIONAL ADDITIVE
MASTER RHEOBUILD 6***

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ABSTRACT

Concrete is one of the most commonly used construction materials in infrastructure development. Concrete has high compressive strength, is resistant to loads, and has good resistance to weather and the environment. One thing that influences the quantity of concrete is water concrete mixture. This research aims to analyze the effect of water content on the compressive strength of 25 MPa quality concrete using the Master Rheobuild 6 additive.

The research method used is laboratory experimental. The test object is a concrete cylinder with a diameter of 10 x 20 cm. The variations in water content used were a reduction of 5%, 10%, 15% and an addition 5%, 10%, 15% with a Master Rheobuild 6 additive dosage of 1,5 of the cement weight. Compressive strength tests were carried out at 7 days, 14 days and 28 days of concrete.

The research results show that the higher the water content, the lower the compressive strength of the concrete produced. At 10% water reduction, the compressive strength of concrete reaches 33,22 MPa. Meanwhile, at 5% and 15% water reduction, the compressive strength of concrete is 17,11 MPa and 30,31 MPa respectively. Meanwhile with the addition of 5% water, the compressive strength of the concrete reached 24,16 MPa, while with the addition of 10% and 15%, the compressive strength of the concrete was around 31,82 MPa and 15,38 MPa respectively. The use of the additive Master Rheobuild 6 is able to maintain the slump of the concrete without increasing the water content excessively.

Keywords : concrete, water content, compressive strength, Master Rheobuild 6