

**KAJIAN KUAT TEKAN BETON DENGAN PENAMBAHAN LIMBAH
BATUAN JENIS ANDESIT SEBAGAI PENGGANTI AGREGAT KASAR
TERHADAP KUAT TEKAN BETON**

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui kekuatan beton menggunakan campuran limbah batuan jenis andesit di laboratorium batuan PUSLITBANG SDA, Kota Bandung sebagai campuran beton pengganti agregat kasar. Manfaat penelitian ini dapat meminimalisir pembuangan bahan sisa batuan andesit dari suatu kegiatan industri. Batuan andesit adalah suatu jenis batuan beku vulkanik, ekstrusif, komposisi menengah, dengan tekstur afanitik hingga porfiritik.

Pada penelitian ini pembuatan beton campuran limbah batuan andesit variasi substitusi agregat kasar yaitu sebesar 20%, 40%, 60%, 80% dan 100% dilakukan di Laboratorium Universitas Sangga Buana YPKP Bandung. Dengan pengujian yang dilakukan berupa *slump test* (uji slump) dan uji kuat tekan beton pada umur 7 hari dan 14 hari. Hasil uji kuat tekan penelitian ini, nilai kuat tekan tertinggi diperoleh pada beton dengan substitusi agregat kasar limbah batuan andesit 100% pada sampel beton campuran umur 14 hari yaitu mencapai 22,50 MPa. Sedangkan hasil uji kuat tekan beton terendah dari beton dengan substitusi agregat kasar limbah batuan andesit 20% pada sampel beton campuran 7 hari yaitu mencapai 11,44 MPa.

Kata Kunci : Batuan Andesit, Substitusi, Kuat Tekan

***STUDY OF CONCRETE PRESSURE STRENGTH WITH ADDITION OF
ANDESITE STONE WASTE AS A REPLACEMENT FOR RUDE
AGGREGATES IN CONCRETE STRENGTH***

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ABSTRACT

This study aims to determine the strength of concrete using a mixture of andesite rock waste in the PUSLITBANG SDA rock laboratory, Bandung City as a concrete mixture to replace the coarse aggregate. The benefits of this research can minimize the disposal of waste material from andesite from an industrial activity. Andesite is a type of volcanic igneous rock, extrusive, intermediate composition, with an ananitic to porphyritic texture.

In this study the manufacture of concrete mixtures of andesite rock waste variation of coarse aggregate substitution that is equal to 20%, 40%, 60%, 80% and 100% carried out in the Laboratory of the University of Sangga Buana YPKP Bandung. With testing conducted in the form of slump test (slump test) and concrete compressive strength test at the age of 7 days and 14 days. The results of the compressive strength test of this study, the highest compressive strength value was obtained in concrete with a substitution of coarse aggregate of 100% andesite rock waste in a 14-day mixed concrete sample which reached 22.50 MPa. Whereas the results of the compressive strength test of the lowest concrete from concrete with coarse aggregate substitution of andesite rock waste of 20% in 7-day mixed concrete samples reached 11.44 MPa.

Keywords : *Andesite rocks, Substitution, compressive strength*