

KARAKTERISTIK ANDESIT DAERAH BANJARSARI DAN SEKITARNYA, KECAMATAN SAMIGALUH, KABUPATEN KULON PROGO DAN PEMANFAATANNYA UNTUK INDUSTRI KONSTRUKSI

SARI

Daerah penelitian terletak di Desa Banjarsari dan Sekitarnya, Kecamatan Samigaluh, Kabupaten Kulon Progo. Desa Banjarsari dan sekitarnya memiliki litologi berupa andesit dengan struktur *sheeting joint* yang memiliki potensi tersendiri untuk dimanfaatkan dalam industri konstruksi. Penelitian ini dilakukan untuk mengetahui kualitas andesit serta memberikan rekomendasi pemanfaatan yang sesuai dengan SNI 03-0394-1989 dan SK SNI S-04-1989-F. Penelitian dilaksanakan dengan melakukan pemetaan geologi permukaan skala 1:12.500, identifikasi petrologi melalui analisis petrografi dan identifikasi sifat keteknikan melalui uji fisik (densitas, daya serap air) dan uji mekanik (ketahanan aus, ketahanan geser dan kuat tekan). Hasil dari identifikasi tersebut kemudian dianalisis untuk mengetahui karakteristik petrologi dan sifat keteknikannya serta kualitasnya sebagai bahan bangunan.

Andesit pada daerah Banjarsari dan sekitarnya merupakan lava andesit bertekstur porfiritik yang didominasi oleh mineral plagioklas, ortopiroksen, klinopiroksen dan mineral opak. Dengan nilai densitas sekitar 2618,1 Kg/m³ - 2812,5 Kg/m³, daya serap air sekitar 0,5% - 0,93%, ketahanan aus 0,026 mm/menit - 0,0499 mm/menit, ketahanan geser 83,07% - 83,32% dan kuat tekan 997,9 Kg/cm² - 2030,1 Kg/cm². Berdasarkan nilai kuat tekan, andesit di daerah penelitian termasuk dalam klasifikasi *High Strength Rock* (Bienawski, 1973). Berdasarkan Standar Mutu Batu Alam untuk Bahan Bangunan (SNI 03-039-1989), andesit di daerah penelitian dapat dimanfaatkan sebagai Batu Hias atau Batu Tempel, Penutup Lantai atau Trotoar, Pondasi Bangunan (Ringan - Berat) dan berpotensi untuk dimanfaatkan sebagai Agregat Beton (Mutu Rendah - Mutu Tinggi) berdasarkan Spesifikasi Bahan Bangunan Bagian A (SNI S-04-1989-F).

Kata kunci: andesit, Desa Banjarsari, sifat keteknikan, kuat tekan, bahan bangunan

ANDESITE CHARACTERISTICS IN BANJARSARI AND SURROUNDING AREAS, SAMIGALUH SUBDISTRICT, KULON PROGO REGENCY AND ITS UTILIZATION FOR THE CONSTRUCTION INDUSTRY

ABSTRACT

The research area is located in Banjarsari and its surroundings, Samigaluh Subdistrict, Kulon Progo Regency. Banjarsari and its surroundings have a lithology in the form of andesite with a sheeting joint structure which has its own potential to be utilized in the construction industry. This research was conducted to determine the quality of andesite and provide recommendations for utilization in accordance with SNI 03-0394-1989 and SK SNI S-04-1989-F. The research was carried out by conducting surface geological mapping on a scale of 1: 12,500, identifying petrology through petrographic analysis and identifying engineering properties through physical tests (density, water absorption) and mechanical tests (wear resistance, shear resistance and compressive strength). The results of the identification are then analyzed to determine the characteristics of the petrology and its engineering properties and its quality as a building material.

Andesite in the Banjarsari area and its surroundings is andesite lava with a porphyritic texture which is dominated by plagioclase, orthopyroxene, clinopyroxene and opaque minerals. With a density value of around 2618.1 Kg / m³ - 2812.5 Kg / m³, water absorption around 0.5% - 0.93%, wear resistance around 0.026 mm / minute - 0.0499 mm / minute, shear resistance around 83.07% - 83.32% and compressive strength around 997.9 Kg / cm² - 2030.1 Kg / cm². Based on the compressive strength value, andesite in the study area is classified as High Strength Rock (Bienawski, 1973). Based on the Natural Stone Quality Standards for Building Materials (SNI 03-039-1989), andesite in the study area can be used as decorative stones or stick stones, floor or sidewalk coverings, building foundations (light - heavy) and has the potential to be used as Concrete Aggregates (Low Quality - High Quality) based on Building Material Specifications Part A (SNI S-04-1989-F).

Keywords: *andesite, Banjarsari, engineering properties, compressive strength, building materials*