

## INTISARI

Salah satu daerah potensi breksi pumis di Sleman adalah Daerah Klumpit dan sekitarnya, Kalurahan Wukirharjo, Kapanewon Prambanan, Kabupaten Sleman, DIY. Namun, hingga saat ini penelitian terkait geologi dan karakteristik breksi pumis di Daerah Klumpit dan sekitarnya masih sedikit. Penelitian ini bertujuan untuk mengetahui kondisi geologi daerah penelitian, karakteristik breksi pumis baik petrologi maupun keteknikan di daerah penelitian serta memberikan rekomendasi pemanfaatan breksi pumis sebagai bahan bangunan. Pengambilan sampel hanya dilakukan pada singkapan besar atau tambang rakyat dengan mengambil yang masih segar. Jumlah sampel yang dianalisis sebanyak lima sampel dengan tujuan untuk mengetahui karakteristik petrologi dan keteknikan breksi pumis sehingga dapat menentukan rekomendasi pemanfaatan yang sesuai.

Geomorfologi daerah penelitian tersusun oleh tiga yaitu, satuan perbukitan lereng landai, satuan perbukitan lereng agak curam dan satuan perbukitan lereng curam. Litologi daerah penelitian tersusun oleh empat satuan dari tua ke muda yaitu, satuan batupasir tufan, satuan breksi andesit, satuan lapili tuf dan satuan andesit. Struktur geologi yang ditemukan berupa kekar gerus yang intensif. Karakteristik breksi pumis di daerah penelitian yaitu tekstur klastika, warna abu-abu, memiliki ukuran butir fragmen 1-45 mm dan matriks <1 mm, bentuk butir agak menyudut, sortasi buruk, tingkat konsolidasi agak kompak, dengan komposisi mineral yaitu plagioklas, piroksen, pumis, litik dan gelas vulkanik.

Secara keteknikan, breksi pumis di daerah penelitian memiliki densitas berkisar antara  $1,344 \text{ gr/cm}^3$  –  $1,580 \text{ gr/cm}^3$ , penyerapan air berkisar antara 19,468% – 33,162%, kuat tekan berkisar antara  $51,3 \text{ kg/cm}^2$  –  $67,0 \text{ kg/cm}^2$ , ketahanan aus berkisar antara 56,36% – 83,68% dan kekekalan bentuk berkisar antara 14,26% – 78,31%. Berdasarkan SK SNI S-04-1989-F, breksi pumis di daerah penelitian dapat dimanfaatkan sebagai bahan baku bata tras kapur pejal maupun berlubang mutu I, II dan III. Berdasarkan SNI 03-0349-1989, breksi pumis di daerah penelitian dapat dimanfaatkan sebagai bahan baku bata beton pejal maupun berlubang mutu II, III dan IV.

**Kata kunci:** breksi pumis, Wukirharjo, geologi, keteknikan, bahan bangunan

## ABSTRACT

*One of the potential pumice breccia areas in Sleman is the Klumprit area and its surroundings, Wukirharjo Village, Prambanan District, Sleman Regency, Special Region of Yogyakarta. However, until now this research is related to the geology and characteristics of pumice breccia in the Klumprit area and its surroundings still a little bit. This study aims to determine the geological conditions of the study area, pumice breccia's characteristics both petrological and engineering properties in the study area as well provide recommendations on the use of pumice breccia as building materials. Taking samples are only carried out on large outcrops or people's mines by taking the ones still fresh. The number of samples analyzed was five samples with the aim of know the petrological characteristics and engineering properties of pumice breccias so that they can determine recommendations for appropriate use.*

*The geomorphology of the study area is composed of three units, namely, sloping hills unit, moderately steep sloped hills unit and steep sloped hills unit. Lithology the study area is composed of four units from old to young, namely, tuffaceous sandstone unit, andesite breccia unit, lapilli tuff unit and andesite unit. The geological structure found are intensive shear joints. Characteristics of pumice breccia in the research area is clastic texture, gray color, has 1-45 mm fragment and <1 mm matrix grain size, subangular grain shape, poorly sorted, moderately compact degree of consolidation, with a mineral composition of plagioclase, pyroxene, pumice, lithic and volcanic glass.*

*Technically, pumice breccias in the study area have densities ranging from 1,344 gr/cm<sup>3</sup> – 1,580 gr/cm<sup>3</sup>, water absorption ranged from 19,468% – 33,162%, compressive strength ranged from 51,3 kg/cm<sup>2</sup> – 67,0 kg/cm<sup>2</sup>, wear resistance ranged from 56,36% – 83,68% and soundness ranged from 14,26% – 78,31%. Based on SK SNI S-04-1989-F, pumice breccia in the research area can be used as raw material for lime tras brick both solid and perforated quality level I, II and III. Based on SNI 03-0349-1989, pumice breccia in the research area can be used as a raw material for concrete brick both solid and perforated quality level II, III and IV.*

**Keywords:** *pumice breccia, Wukirharjo, geology, engineering, building materials*