ABSTRACT

The existence of a discontinuous field bedding plane in the rock often encountered. The existence of this bedding plane will affect the strength of the rock mass. But sometimes the rock samples tested in the laboratory is generally not noticed a bedding plane is formed. Therefore, to determine the effect of bedding plane in the form of discontinuous fields is necessary to do the laboratory research.

The study sample of Tuff Stone taken from Kedungpring Hamlet, Bawuran Village, District Pleret, Bantul Regency, Special Province Yogyakarta. Tuff stone has discontinued field a bedding plane is clearly defined. Bedding plane that will do the research to have a slope of 0° (perpendicular to the main voltage), 30^o, 60^o, and 90^o.

Based on the test results, obtained a value of rock fill weights 0^o by 1,5 gr/cm^3, 30^o by 1,41 gr/cm^3, 60^o by 1,45 g/cm^3, and 90^o by 1.48 gr/cm^3. Water content of rocks 0^o by 14,94%, 30^o by 21.94%, 60^o by 16,09% and 90^o by 15,62%. The degree of saturation of rocks of $0^o$by 38,77%, $30^o$by 60,66%, $60^o$by 45,82%, and $90^o$by 45,16%. The rock porosity of $0^o$by 18,38%, $30^o$by 27,01%, $60^o$by 20,03%, and $90^o$by 19,51%. Pore figures rocks of $0^o$by 0,24, $30^o$by 0,37, $60^o$by 0,25, and $90^o$by 0,22.The value of rock fill weights, water content, degree of saturation, porosity and pore figures of rockwill affect the value of uniaxial compressive strength.

The rocks that have great content then the weight of the solid rock, so that the value of a uniaxial compressive strength and quickly creep wave will be even greater. The value of ultrasonic wave on the vines fast rock tuff test results obtained maximum value at an angle of 90˚ = 1937.8 m/s and at an angle of minimum value obtained 30˚ = 1814.7 m/s. While the value of a uniaxial compressive strength of rock tuff of 0^0 = 9,03MPa, 30^0 = 7,89MPa, 60^0 = 8,39MPa and 90^0 = 9,10MPa. With the value of uniaxial compressive strength under 25MPa that included soft rock (ISRM 1979) and according to Bieniawski (1973) & Tamrock (1988) tuff stone that included very soft rock.

Based on changes in the value of a uniaxial compressive strength of previously research seen that metamorphic and igneous rocks with uniaxial compressive strength value by 37 MPa – 146 MPa changes the value of uniaxial compressive strength by 80,14%, while the tuff stone with uniaxial compressive strength value under 10 MPa or rather 9 MPa showed that changes the value of uniaxial compressive strength by 12.2%. On soft rock (less than 10 MPa) and hard rock (37 MPa-146 MPa) shows the influence of discontinuity.