

COMPARISON OF ROCK COMPRESSIVE STRENGTH TEST VALUES ANALYSIS USING UNIAXIAL COMPRESSIVE STRENGTH AND SCHMIDT HAMMER ANALYSIS ON IGNEOUS ROCKS OF THE LEMBANG FAULT. BANDUNG – INDONESIA

Koko Hermawan^{1*}, Antonina Pri Martireni², Arifan Jaya Sahbana³, Khori Sugianti⁴,
Sukristiyanti⁵, Adrin Tohari⁶, Eko Soebowo⁷, Sunarya Wibawa⁸, Suryadi⁹, Dwi Sarah¹⁰,
Moch Himi¹¹, Zulfami¹², Sukristiyati¹³, Yudhidya Wicaksana¹⁴, Simon Heru Prasetyo¹⁵

^{1,2,3,4,5,6,7,8,10,11,12,13}Researcher Center for Geological Disaster, National Research and
Innovation Agency (BRIN), Indonesia.

⁹Researcher Center for Fotonik, National Research and Innovation Agency (BRIN),
Indonesia.

^{14,15}Departement of Mining Engineering, Bandung Institute of Technology, Indonesia

*Corresponding author: koko.hermawan03@gmail.com

ABSTRACT

The Uniaxial Compressive Strength Test (UCS) is a commonly used laboratory test to obtain rock compressive strength values. UCS requires sample preparation with certain criteria that must be met to obtain accurate data. Using tools with large dimensions causes UCS not to be used directly in the field. The index test is another approach used to obtain rocks' compressive strength. Schmidt Hammer (SH) rebound number (R_L) is one of the index tests commonly used in obtaining rock compressive strength values. R_L is the most commonly used approach to obtain compressive strength values. Schmidt Hammer tools have smaller dimensions than UCS and are relatively easier to use. Schmidt Hammer can be used directly in the field because of its easy and practical use. This study analyzed the relationship between compressive strength resulting from UCS and Schmidt Hammer. To determine the rock strength parameters in UCS samples, laboratory tests were carried out on drill core rock samples with a diameter of 5.5 cm - 6.1 cm, while Schmidt Hammer was measured directly in the field through intact rock suppression. Rock characteristics using Schmidt Hammer are used to analyze rocks in the Lembang Fault area to obtain R_L -appropriate compressive strength value.

Keywords: uniaxial compressive strength test; schmidt hammer; laboratory tests; intact rock; lembang fault