

***Comparison of Coarse Aggregates Using 10 mm Stone Chippings and
10 mm Crushed Stone on the Compressive Strength of f'_c 20 MPa
Concrete***

Name : M. Amru Saputra
Student ID : 4103230014
Advisor : Indriyani Puluhalawa, ST., M.Eng

ABSTRACT

This study aims to analyze the comparison of compressive strength of concrete using 10 mm chipping stone and 10 mm crushed stone as coarse aggregates in concrete with a design strength of f'_c 20 MPa. The background of this research is based on the importance of selecting appropriate coarse aggregates in concrete mixtures, as it significantly affects the strength and quality of the resulting concrete. The research method used is an experimental approach by preparing cylindrical test specimens in accordance with applicable standards. The concrete mix is designed with a target strength of f'_c 20 MPa, and compressive strength tests are conducted at the ages of 7, 14, and 28 days. The variable used in this study is the type of coarse aggregate, namely 10 mm chipping stone and 10 mm crushed stone, with the same mix proportion applied to each variation. The results of this study are expected to show the differences in compressive strength values between the two types of aggregates and to determine which type produces optimum concrete strength. Furthermore, this research is expected to provide useful information and references for selecting effective and efficient coarse aggregate materials in concrete construction.

Keywords: Concrete, coarse aggregate, 10 mm chipping stone, 10 mm crushed stone, compressive strength, f'_c 20 MPa.