

COMPARATIVE STUDY OF NORMAL CONCRETE MIXED DESIGN BASED ON SNI 03-2834- 2000 AND SNI 7656: 2012

by Agus Santoso , Slamet Widodo, Darmono, Faqih Ma'arif, Sumarjo H

ABSTRACT

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This study examines the design of normal concrete mixtures according to SNI 03-2834-2000 and SNI 7656: 2012. This research is done because SNI 7656: 2012 is an adoption of ACI 211 which requires a mixture considering its economic side. This study aims to determine the value of compressive strength and the price of each-m³ concrete unit with the calculation of normal concrete mix design according to SNI 03-2834-2000 and SNI 7656: 2012.

This research was conducted by experimental method in laboratory. In this study the specimens used are concrete cylinders with dimensions of 150 x 300 mm and the price of concrete manufacturing units obtained from the design mixtures that have been known material needs and material prices. Notation of test specimens include normal concrete BN, the second two digits are the code of SNI 2000 or 2012, and the two third digits are the compressive strength of the plan. The test specimen consists of 2 variants with one test data covering 2 sample specimens. Two variants of the test object are: normal concrete SNI 2000 (BN-00), and normal concrete SNI 2012 (BN-12). Each variant consists of 3 strong compressive specimen plans: 25 MPa, 30MPa, and 35 MPa.

Based on the test results, the compressive strength of SNI 2000 25MPa concrete (BN-00-25) was achieved at the age of 28 days was 27.24 MPa with the unit price per m³ Rp.806.485,66. For concrete SNI 2012 25 MPa (BN-12-25) at age 28 days is 31,43 MPa with unit price every m³ Rp.771.484,83. For concrete SNI 2000 30 MPa (BN-00-30) at age 28 day is 38.99 MPa with unit price every m³ Rp.863.604,04. For concrete SNI 2012 30 MPa (BN-12-30) at age 28 day is 36,54 MPa with unit price every m³ Rp.828.326,33. For SNI 2000 35 MPa (BN-00-35) concrete at 28 days old is 44,85 MPa with unit price every m³ Rp.926.534,25. For concrete SNI 2012 35 MPa (BN-12-35) at age 28 day is 39,76 MPa with unit price every m³ Rp.902.099,34.

Kata Kunci: *compressive strength, unit price, SNI 2000, SNI 2012*