COMPARISON OF CONCRETE QUALITY F'C 40 *USING ADDITIVE TYPE* F *VISCOCRETE* 8670 MN *AND* TAMCEM 60 RA

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ABSTRACT

Concrete is a primary material in construction that requires high quality to ensure its strength and durability. This study compares two types of Type F superplasticizers—Viscocrete 8670 MN and Tamcem 60 RA—on the quality of concrete with a target compressive strength of f'c 40 MPa. The method used is a laboratory experiment with an admixture dosage of 0.4% of the cement weight. Tests were conducted to measure slump value, unit weight, setting time, and compressive strength at the ages of 3, 7, 14, and 28 days. The results showed that concrete with Viscocrete 8670 MN achieved the highest slump value of 21 cm, compared to 20 cm for Tamcem 60 RA. The highest unit weight was also achieved by Viscocrete 8670 MN at 2463.83 kg/m³, higher than Tamcem 60 RA at 2415.58 kg/m³. The initial setting time for Viscocrete was 212 minutes, while for Tamcem it was 242 minutes. In terms of compressive strength, Tamcem 60 RA performed better at 3 days with 32.88 MPa, whereas Viscocrete 8670 MN reached the highest strength at 28 days with 42.71 MPa. These results indicate that Viscocrete is more effective for achieving high final strength, while Tamcem is preferable for early strength gain.

Keywords:*Compressive Strength, Slump, Tamcem 60 RA, Viscocrete 8670 MN, Workability*.