

***EFFECT OF ADDED GROLEN ON COMPRESSIVE  
STRENGTH, MODULUS OF ELASTICITY, POROSITY  
AND CHLORIDE PENETRATION IN CONCRETE  
F'c 25 MPA***

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***ABSTRACT***

*In extreme (corrosive) environmental conditions, the quality of reinforced concrete structures deteriorates faster than when in a normal environment. One of the causes of the decrease in the strength of reinforced concrete is the occurrence of chloride penetration.*

*The method used in this test is to make a concrete mixture using SNI 03-2843-2000 for the quality of 25 MPa concrete with grolen. In this study, chloride penetration testing was carried out, the chloride penetration process has been carried out using the Rapid Chloride Permeability Test (RCPT) method, which is to provide an electric flow of 60 volts to the test specimen using a DC power supply referring to ASTM C-1202.*

*The results showed that the use of Grolen had a significant influence on the compressive strength of concrete with a compressive strength value of 34.76 Mpa. The use of 1% Grolen with a 40% reduction in water in concrete provides a good combination of high compressive strength, low Porosity value of other concrete variations and better chloride penetration resistance of 1316.7 coulomb compared to other variations. The use of Grolen with inappropriate water reduction can also reduce the workability of concrete.*

***Key words:*** *Chloride penetration, compressive strength, porosity, elastic modulus, grolen.*