

# RELIABILITY OF PRE-STRESSED ELECTRICAL CONCRETE POLES FOR CONSIDERING MANUFACTURING DEFECTS

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**T**here are many precast concrete structures such as pile, box, and poles. High quality control is possible because most of them are manufactured at the factory and also, concrete structures with manufacturing defects can be eliminated by quality inspections. However, in spite of thorough quality inspections, many defective products are used. Therefore, unexpected collapses often occur. In this study, the reliability of electrical concrete poles was studied considering manufacturing defects. For this, electrical concrete poles were manufactured with different pre-stressing forces. Strain gauges were installed on the tendons to check for changes in pre-stresses. Flexural strength tests were also performed. After the tests, the poles were cut to check the position of the tendons and reinforcement steel. In addition, analysis of the electrical poles was performed. Based on the analysis and test results, manufacturing defects such as pre-stresses and steel positions must be considered in the design of the electrical poles.

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