

CONSIDERATION OF TECHNOLOGICAL DEVELOPMENT IN THE FIELD WITHIN THE SCOPE OF NATIONAL STANDARD SPECIFICATION FOR CONCRETE NON-PRESSURE PIPES

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Standardization plays an important role in the manufacturing of a product. It enables industries to produce large runs of component parts that are guaranteed to be compatible and interchangeable. The first publication of national standard for concrete non-pressure pipes was in 1979 and it has not been updated ever since. This study aims to identify the new technologies, testing methods and enhancement of concrete non pressure pipes and introduce and include findings in Sri Lankan standard specification for concrete non pressure pipes.

Concrete non pressure pipes are widely used in irrigation, sewer discharges, drainages and culverts. As a material, concrete is strong and lasts for years with zero maintenance and the steel structure as reinforcement gives good strength to use in heavy-duty application. The basic materials of concrete non pressure pipe are fine and coarse aggregate, ordinary Portland cement, steel bars and wires, water and admixture. These materials are combined in a systematic way, using quantities and proportions specially designed for each product. Cement are mixed with aggregates, water and admixture to provide a concrete mix which is formed into pipes by a process known as the dry cast process. Centrifugal methods and vertical vibration methods are used to dense and pack concrete throughout the pipe mould.

The data would be collected by referring the existing national standards, journals, overseas standards, technical documents which are related to concrete non pressure pipes. Information from related parties to identify the developing consumer requirements, safety requirements and national regulation requirements within the past three decades will be considered as primary data. The collected data would be analyzed to prepare the revision of Sri Lankan Standard Specifications for concrete non pressure pipes. According to analyzed data, size classes and strength classes determined by using computational method (Mathematica Programing) and new internationally accepted testing methods also introduced to the specification.

The findings of this study will assist the quality and cover all the important requirements of the concrete non pressure pipes manufacturing in Sri Lanka.

Keywords: Concrete non pressure pipe, Specification, Sri Lanka Standard, Testing