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**EXPERIMENTAL CORRELATION AMONG SOME MECHANICAL
PROPERTIES OF UPVC PIPES**

A PROJECT REPORT PRESENTED BY

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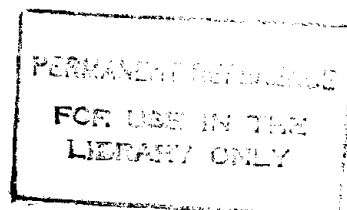
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EXPERIMENTAL CORRELATION AMONG SOME MECHANICAL PROPERTIES OF UPVC PIPES

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Unplasticized polyvinyl chloride (uPVC) water pipe is a very important thermoplastic product to the day to day life of the customer. uPVC pipes have achieved a strong competitive market position in the water industry, essentially based on long-term performance, cost effectiveness, durability and resistance to corrosion. Presently manufacturers are producing different types and sizes of uPVC water pipes with different brand names to the local market. Assessing the quality of this product becomes a very important factor with the increasing demand. The Sri Lanka Standard for uPVC pipes for potable water supplies, SLS 147:1993 specifies the quality requirements as dimensional and physical, mechanical properties. To ensure the quality of uPVC water pipes following mechanical properties need to be assessed.

- Longitudinal reversion test
- Internal hydrostatic pressure test
- Tensile test
- Impact resistance at 0 °C

The objective of the project is to build up a correlation among the vital mechanical properties. It is shown that, while there are general trends in the relationship between all these properties, large difference in actual values are observed depending on the processing conditions. However under same processing conditions three linear relationships are found between hydrostatic pressure and longitudinal reversion, hydrostatic pressure and tensile strength and tensile strength and longitudinal reversion. Further, it can be concluded that there is no linear relationship between tensile strength and elongation.