IS 9271 : 2004 Unplasticized Polyvinyl Chloride (UPVC) Single Wall Corrugated Pipes for Drainage — Specification (*first revision*)

IS 9271 : 2004 specifies the requirements for unplasticized polyvinyl chloride (UPVC) single wall corrugated pipes used for drainage. These pipes are designed for use in various drainage systems including underground irrigation, sprinkler irrigation, lift irrigation, drip or trickle irrigation, and subsurface farm drainage.

These pipes need to be strong and durable to withstand the pressure of underground installation and water flow. They must be resistant to chemicals present in the sub-soil and groundwater. Additionally, they should be resistant to UV radiation to ensure longevity under intense sunlight. The pipes also need to be designed with efficient water inlet areas to ensure effective drainage.

IS 9271 addresses these expectations in several ways. The standard specifies the material composition, requiring the pipes to be made from UPVC conforming to IS 10151, with additives that enhance strength and durability without compromising safety. The standard also mandates the inclusion of UV stabilizers to protect the pipes from degradation due to sunlight. Furthermore, IS 9271 outlines specific dimensions and tolerances for the pipes, ensuring uniformity and compatibility. It defines minimum stiffness requirements for different pipe sizes, ensuring they can withstand the expected loads. The standard also specifies the size, placement, and maximum area of perforations to optimize water inflow. Finally, the standard includes tests for impact strength, elongation, and bending to ensure the pipes' resilience and prevent cracking or breakage.