Agro textiles – Laminated high density polyethylene (HDPE) woven geomembrane for water proof lining – Specification (second revision)

Geomembrane liners are used in the ponds, canals and reservoirs to form an **impermeable layer** between the water and the soil. These liners are woven fabric of PP and HPDE material having surface coating. Geomembrane liners are effectively used for **water conservation** as well as **environmental protection**.

When geomembranes are used in ponds and reservoirs, they limit **water loss due to seepage**. This helps to maintain a steady water level, which in turn contributes to the conservation of water. To prevent **groundwater contamination**, geomembrane liners also serve as a barrier that acts as a protective barrier between the water and the soil layer. This barrier prevents groundwater from becoming contaminated. Because of the impermeable layer that exists between the water and the soil, they are also excellent for **aquaculture** since they keep the pH of the water at a constant level.

Liners made of geomembrane must to be lightweight in order to facilitate their handling and installation. It is necessary for them to be flexible in order to easily handle a variety of pond shapes. Therefore, in order to prevent the geomembrane liner from failing and water loss due to seepage, it is necessary for them to have a high level of **puncture resistance**. Additionally, the liner should not be affected by sunlight UV exposure in order to ensure its long-term durability.

IS 15351 : 2015 Standard specifies the requirements for laminated high-density polyethylene (HDPE) woven geomembranes, designed for use as lining in canals, ponds, and reservoirs. This standard specifies four types of geomembranes, categorised by thickness: 0.25 mm, 0.50 mm, 0.75 mm, and 1.00 mm. Additionally, standard also specifies the requirement for puncture resistance, **hydrostatic resistance** and **UV resistance** to ensure the durability of geomembrane liners in all types of terrains and climatic conditions.