

IS 16352 : 2020 Geosynthetics — High Density Polyethylene (HDPE) Geomembranes for lining — Specification (first revision)

High density polyethylene geomembranes, are very low permeability synthetic liners used to control fluid or gas migration within soil, rock, earth or any other geotechnical material, as integral part of a manmade product, structure or system. The HDPE geomembranes are used majorly canals, ponds, reservoirs, water features (bodies) for seepage control, for lining of landfills, hazardous waste management, solid waste management and industrial effluent for waste containments and for water proofing of large underground civil structures, basement, road underpasses, tunnels, foundation, roofs / terrace.

Due to very critical lining applications of HDPE geomembranes, BIS first published IS 16352 to cover the seven varieties of smooth geomembranes having thickness ranges from 0.50 mm to 3.00 mm in the year 2015. This standard has been revised in 2020 to also incorporate the six varieties of textured geomembranes (single or double sided) having thickness ranging from 0.75 mm to 3.00 mm.

IS 16352 covers the constructional, physical and mechanical requirements of HDPE geomembranes to be used for linings such as Tensile characteristics, Tear resistance, Puncture resistance, Crack resistance and Hydrostatic resistance etc. along with their test methods specified in Annexures. It also specifies the carbon black content to address environmental considerations.. This standard also prescribed the marking and sampling criteria for conformity of HDPE geomembranes in brief.

Recognizing the importance of HDPE geomembranes in lining applications, the Government of India issued a Quality Control Order mandating BIS certification for HDPE geomembranes used in lining applications in compliance with IS 16352, effective from January 2024."