



KANTAFLEX
TECHNOLOGY DECADE AHEAD



HIGH DENSITY POLYETHYLENE (HDPE) SHEET BUREAU OF INDIAN STANDARD: IS: 10889 – 1984

The geo-membranes are used for geo-technical engineering solutions in fluid containment requirements. The growing concern over contamination of valuable water resources and fluid migration to subsurface soils and ground water has results in the increasing awareness of, interest in, and demand for geo-membranes made from polymeric materials to replace more traditional porous liners such as concrete, clays and soils. The primary function of geo-membranes is to provide impermeable liquid or vapour barriers. They are usually made from continuous polymeric sheets that are very flexible. Continuous development is resulting in new product advances and new manufacturing technologies.

KANTAFLEX INDIA PVT LIMITED is pioneer in supplying the flexible membranes, have come out the best economical solution for fluid containment industry, by its vast experience and introduced HDPE geo-membranes.

HIGH DENSITY POLYETHYLENE (HDPE) geo-membranes are produced from prime high molecular weight resins resulting in a high quality premium grade, flexible geo-membrane, which is the most widely used product for lining of solid waste sites, mines and other fluid containment applications. It is preferred for sites requiring low permeability and exceptional chemical and ultraviolet resistance properties. Resistance to weather, ultraviolet rays, and chemicals makes its use an extremely cost effective alternative in reservoir construction. HDPE is also resistant to mold, mildew, fungus and chemicals normally found in soil. Kantaflex geo-membranes do not degrade from ultraviolet or other environmental factors and they do not get pre-mature ageing.

A PRODUCT FROM KANTA SYSTEM

PHYSICAL PROPERTIES

The physical properties are designed so as to function for long life and it is tested to relevant ASTM standards

PROPERTIES	TEST METHOD	REQUIRED VALUES				
Thickness, mm	ASTM D 5199	0.50	0.75	1.00	1.50	2.00
Density, gram/cc	ASTM D 1505	0.94	0.94	0.94	0.94	0.94
Melt flow index, gr/10min	ASTM D 1238	0.30	0.30	0.30	0.30	0.30
TENSILE PROPERTIES						
Strength at break, N/mm	ASTM D 638	14	21	28	41	55
Strength at yield, N/mm	ASTM D 638	09	13	17	26	34
Elongation at break, %	ASTM D 638	700	700	700	700	700
Elongation at yield, %	ASTM D 638	13	13	13	13	13
Tear Resistance, N	ASTM D 1004	67	98	133	200	267
Carbon content, %	ASTM D 1603	2 – 3	2 – 3	2 – 3	2 – 3	2 – 3
Puncture resistance, N	ASTM D 4833	160	240	320	480	641
Oxidative induction time	ASTM D 3895	100	100	100	100	100

APPLICATIONS OF HDPE SHEETS

RESERVOIRS & PONDS:

The HDPE geo-membrane acts as a pond liner to prevent contaminants from entering ground water sources or streams. Geo-membrane also prevents seepage loss. Typical applications include agricultural ponds, golf courses, resorts, and other recreational applications.

TUNNELING:

The HDPE geo-membrane provides smooth, uniform, flexible water proofing with excellent puncture, resistance. The result of lining HDPE membrane on tunnel is a continuously dry tunnel, lowering its maintenance cost and extending its useful life.

STORAGE TANKS:

The HDPE geo-membrane can be used on ring walls made from concrete to provide a low permeability, high chemical resistance, and flexible barrier to ensure against accidental chemical spills. It can be placed directly on the ground to prevent ground water contamination in the event of a spill. The deterioration of concrete structure and steel tanks containing potentially environmentally harmful products makes high density polyethylene the best choice as a secondary containment solution.

IRRIGATION CANALS:

The HDPE geo-membrane provides an excellent alternative to or supplements concrete and compacted earth in canal linings to reduce the substantial seepage. It offers an expedient method to repair existing deteriorated concrete linings.

LANDFILLS:

The HDPE geo-membranes, resistant to most wastes, is used as an impermeable flexible barrier to prevent interaction of landfill moisture with contaminated wastes.

In general HDPE geo-membranes are impermeable flexible liners and that are resistant to ground water sources from being contaminated by the toxic leachate produced by water percolation through solid wastes, impoundment cut off walls, gypsum stack fly ash municipal waste and spill containment system etc. HDPE geo-membranes are used in various applications of environmental engineering.