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TECHNICAL DATA SHEET No. PPBZ-KNS-FRM-100150200

DATE: 06.03.2026

STANDARD: GRI GM13

HDPE GEOMEMBRANE – 1.0/1.5/2.0 mm

PRODUCT DESCRIPTION:

High-density polyethylene (HDPE) geomembrane manufactured in 1.0 mm, 1.5 mm and 2.0 mm thicknesses is a fully impermeable waterproofing material. Produced by modern extrusion technology, it offers high mechanical strength, flexibility, and resistance to chemical and biological effects as well as UV radiation. The geomembrane protects soil and water from contamination, retains its physical and chemical properties during long-term service, and serves as a reliable waterproofing and anti-filtration barrier in various engineering and geotechnical projects.

APPLICATION AREAS:

High-density polyethylene (HDPE) geomembrane in 1.0 mm, 1.5 mm and 2.0 mm thicknesses is used as a reliable waterproofing and anti-filtration barrier in municipal and industrial waste landfills, drainage and stormwater ponds, sludge and waste storage facilities, hydraulic structures (canals, dams, reservoirs), as well as oil depots, chemical storage facilities and industrial sites for protecting soil and groundwater from contamination. The material shows high resistance to solar radiation, aggressive environments and mechanical loads.

TECHNICAL DATA

Parameter	Value			
	1.0mm	**1.5mm**	**2.0mm**	Test method
Appearance	Conforms	Conforms	Conforms	EN 1850-2
Thickness (mm)	1.0 mm ±5%	1.5 mm ±5%	2.0 mm ±5%	ASTM D5199
Average measured thickness shall not be less than 95% of nominal.				
Tensile strength at yield	16 N/mm	24 N/mm	31 N/mm	ASTM D6693
Tensile strength at break	29 N/mm	43 N/mm	57 N/mm	ASTM D6693
Tear resistance (N)	180 N	220 N	275 N	ASTM D1004
Elongation at break (%)	950%	950%	950%	EN ISO 6259
Puncture resistance	356 N	534 N	712 N	ASTM D4833
Static puncture (kg)	50 kq	80 kq	100 kq	ASTM D4833
Linear dimensional change (%)	0.8%	0.8%	0.8%	ASTM D1204 (100 °C, 1 h)
Melt flow index	0.80	0.80	0.80	EN ISO 1133
Carbon black content (%)	2.1%	2.1%	2.1%	ASTM D1603 or D4218
Oxidative induction time	≥ 100 min	≥ 100 min	≥ 100 min	ASTM D3895 (200°C, pure O_2, 1 atm)
Low-temp brittleness	-77 °C	-77 °C	-77 °C	ASTM D746
Dimensional stability	±2 %	±2 %	±2 %	ASTM D1204
Density	0.945	0.945	0.945	ASTM D1505 or D792

TRANSPORTATION RULES:

Geomembranes shall be transported in rolls with special protective covering, secured horizontally in vehicles, and protected from mechanical damage, sunlight, and open flame. Sharp bending, puncturing or impact during transportation shall not be allowed.

STORAGE CONDITIONS:

The product shall be stored in a dry, cool, ventilated warehouse protected from direct sunlight. Rolls shall be placed horizontally on a smooth surface and protected from contact with sharp tools.

PACKAGING INFORMATION:

Products are packaged appropriately to ensure safety during transportation and storage. The packaging material protects the product from mechanical damage, dust, moisture and sunlight, and also facilitates handling and stacking of the rolls.