

FUERZA G-BRANE

HIGH-PERFORMANCE HDPE GEOMEMBRANE LINER FOR CHEMICAL-RESISTANT CONTAINMENT APPLICATIONS

FUERZA G-BRANE is a **high-density polyethylene (HDPE) geomembrane lining system** widely utilized for large-scale containment applications due to its excellent **chemical resistance, UV and ozone stability, durability, and cost efficiency**. It is particularly suited for demanding installations in **landfills, mining facilities, wastewater treatment lagoons, and animal-waste containment systems**. Supplied in large rolls with a standard width of **3 m**, the membrane is installed by **qualified technicians using controlled heat-welding techniques**, producing continuous, secure, and test-certified seams. Available in thicknesses from **0.8 to 3.0 mm**, FUERZA G-BRANE provides a reliable and economical lining solution for both exposed and buried applications requiring long-term environmental protection and containment performance.

PRODUCT FEATURES & PERFORMANCE CHARACTERISTICS

- **Exceptional Impermeability:** Provides an extremely low water-vapour permeability coefficient of $\leq 1.0 \times 10^{-13}$ g-cm/(cm²·s·Pa), delivering superior seepage control compared with conventional waterproofing materials.
- **Superior Chemical Resistance:** Exhibits excellent chemical stability and resistance to acids, alkalis, salts, asphalt, oils, tar, and more than 80 aggressive chemical media, making it suitable for sewage treatment facilities, chemical containment systems, and landfill applications.
- **Excellent Durability & Weather Resistance:** Offers outstanding anti-ageing, UV resistance, and resistance to oxidative degradation, allowing reliable performance in exposed installations and long-term environmental containment systems.
- **Root & Puncture Resistance:** Demonstrates high resistance to plant-root penetration and mechanical puncturing, providing enhanced protection in landscaping, agricultural, and environmental containment applications.
- **High Mechanical Performance:** Delivers a tensile strength at break of ≥ 28 MPa and elongation at break of $\geq 700\%$, providing excellent flexibility, tensile capacity, and resistance to substrate movement.
- **Efficient Installation:** High flexibility and availability in various thicknesses and configurations facilitate rapid installation across diverse project geometries. Hot-wedge/hot-melt welding technology produces high-integrity seams with reliable weld strength.
- **Environmentally Compatible:** Manufactured from non-toxic, environmentally compatible materials and functions primarily through physical impermeability without generating harmful substances, making it suitable for environmental protection, aquaculture, and water-retention applications.

APPLICATION SCOPE

FUERZA G-BRANE is engineered for impermeable containment, seepage control, chemical isolation, and environmental protection across a wide range of civil, industrial, and infrastructure applications:

- **Environmental & Sanitary Facilities:** Landfills, wastewater treatment facilities, hazardous-waste disposal areas, industrial-waste containment, and leachate collection systems.
- **Water-Resources Infrastructure:** Canal and reservoir lining, seepage prevention, hydraulic structures, vertical cut-off walls, reinforcement systems, and slope protection.
- **Municipal & Civil Engineering:** Highways, metro systems, underground structures, roof tanks, roof gardens, and sewage pipeline lining.
- **Landscape & Recreational Facilities:** Artificial lakes, ponds, golf-course water features, and landscape slope protection.
- **Petrochemical Facilities:** Chemical plants, refineries, fuel-storage areas, service stations, chemical reaction tanks, sedimentation tanks, and secondary containment systems.

- **Mining & Mineral Processing:** Heap-leach pads, tailings facilities, ash ponds, evaporation and dissolution ponds, sedimentation tanks, process-water storage areas, and mine-waste containment systems.
- **Transportation Infrastructure:** Road subgrade protection, foundation reinforcement, culvert lining, and seepage-control systems.
- **Agricultural & Water-Storage Facilities:** Reservoirs, irrigation systems, drinking-water reservoirs, agricultural storage ponds, and water-retention structures.
- **Aquaculture Facilities:** Fish farms, aquaculture ponds, shrimp ponds, and associated containment systems.
- **Specialized Containment & Protection:** Applications requiring anti-seepage, anti-corrosion, leak prevention, structural reinforcement, leachate containment, temporary containment structures, and prefabricated impermeable components.

S/N	Index	Value						
		0.75mm	1.00mm	1.25mm	1.50mm	2.00mm	2.50mm	3.00mm
1	Density (g/cm ³)	Min 0.939						
2	Tensile property							
	Yeild strength (N/mm)	11	15	18	22	29	37	44
	Breaking strength (N/mm)	20	27	33	40	53	67	80
	Yeild strength elongation rate %	12						
	Breaking strength elongation rate %	700						
3	Angular tearing strength (N)	93	125	156	187	249	311	374
4	Puncture strength (N)	240	320	400	480	640	800	960
5	Environmental stress crack resistance (ESCR)	300						
6	Carbon black							
	Carbon black volume %	2.0~3.0						
	Carbon black dispersity	Grade A, test point 10						
7	Oxidation induction time (OIT)							
	Standard OIT (MIN)	100						
	High pressure (MIN)	400						
8	Oven aging of 85 °C (Min mean)							
	901 d, standard OIT retain rate %	55						
	901 d, high pressure OIT retain rate %	80						
9	Anti UV strength							
	1600Hrs standard OIT retain rate %	50						
	1600Hrs high pressure OIT retain rate %	50						
10	Embrittlement Performance at -70 °C	Qualified						
11	Water vapor penetration g. cm(cm2.s. pa)	$\leq 1.0 \times 10^{-13}$						
12	Dimension steability %	± 2						

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