

Table 1: Pros and Cons of HDPE Liners and Polyurea Sprayed Geotextiles

Aspect	HDPE Liner Pros	HDPE Liner Cons	Polyurea Geotextile Pros	Polyurea Geotextile Cons
Durability & Strength	Puncture/tear resistant; 20–50 yr life; UV/weather stable [8, 13].	Stress cracking; stiff, fails in irregular shapes [4, 13].	Tensile strength (29.4 MPa), 2.5–10x puncture/tear resistance; flexible [2, 14].	Varies by geotextile; tears in light fabrics [14].
Impermeability & Chem. Resistance	Resists hazardous substances; low permeability; potable safe [6, 7, 3].	Degrades with harsh chemicals [1].	Low permeability (10^{-10} cm/s); resists salt water, wastewater [14, 15, 11].	Needs topcoats for extreme chemicals; adhesion issues [15].
Installation & Maintenance	Weldable; recyclable; established tech [13, 7].	Heavy, stiff; high shipping costs; needs welding [13, 4].	Seamless; fast-curing; reusable panels; suits retrofits [5, 15, 16, 11].	Needs special equipment, skilled applicators; humidity-sensitive [14, 16].
Env. & Cost Factors	Eco-friendly; low long-term cost; ecosystem-safe [13, 9].	High initial costs [9, 10].	UV stable; recyclable; no VOCs; some NSF-approved [15, 12].	Geotextile absorption; high initial costs [14].

References

References

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