

Description

MonoShield[®] is a single-layer, underslab contaminant vapor barrier offering superior chemical resistance, durability, and ease of installation versus traditional sheet membranes. The patented MonoShield system is composed of an innovative metalized composite geomembrane, MonoBase™, that is seamed together during installation with Nitra-Core™, a spray-applied, nitrile-modified asphalt. MonoShield is an optimal mitigation solution to reduce liability for large, slab-on-grade buildings where installation speed is critical, for sites with a low-level vapor intrusion (VI) risk, or for use in conjunction with active sub-slab venting systems.

Advantages

Chemically Resistant

The metalized geomembrane, MonoBase provides superior resistivity to VOC intrusion in a single-layer advanced composite layer.

Low Cost

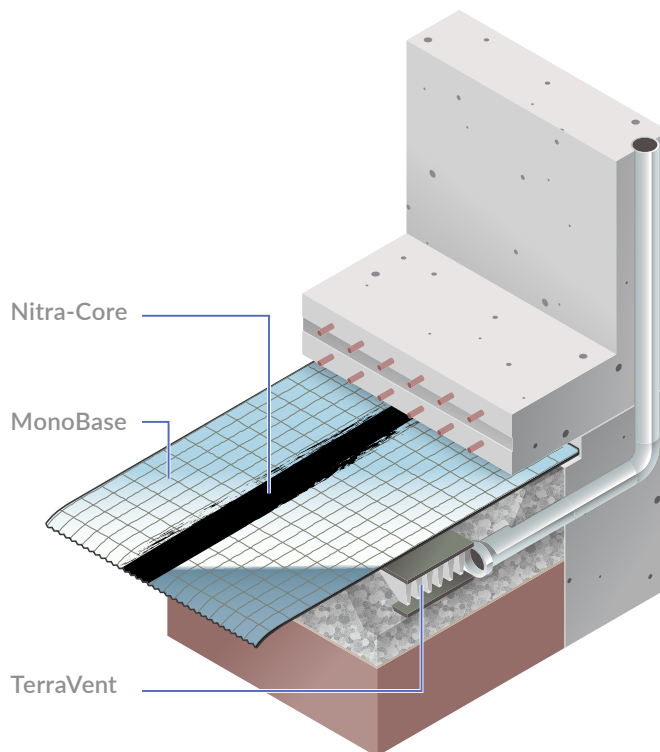
Rapid installation compared to traditional sheet membranes results in significant installation cost savings. Installation times can be reduced by up to 40% compared to taped or welded membranes.

Durable

The MonoBase geomembrane is comprised of multiple layers, including a bonded geotextile and reinforcing grid to offer exceptional strength and durability during installation to minimize the potential for damage. The metalized film layer within MonoBase is fully encapsulated by layers of polyethylene to inhibit corrosion.

Reliable

The MonoShield system is installed by Land Science certified applicators and is smoke tested for quality assurance.



MonoShield System Summary

System Thickness: 30 mil

Components: Venting System¹ Base Layer Seams Top Layer¹

Product Name: TerraVent MonoBase Nitra-Core LS Protection Fabric

Component Thickness: 1" 30 mil 60 mil on seams 60 mil (Approx.) (8 oz/sy)

1. Top layer and Venting system are optional system components

MonoShield System Properties

Property	Test Method	Typical Value
Tensile Strength ¹	ASTM D751	242 lbs
	ASTM D7004	257 lbs
Elongation ¹	ASTM D751	51%
	ASTM D7004	20%
Puncture Resistance	ASTM D4833	68 lbs
Tear Resistance ¹	ASTM D5884	28 lbs
Water Vapor Transmission	ASTM E96 ³	0.012 grains/(hr-ft ²)
Water Permeance	ASTM E96 ³	0.019 US Perms
Methane Gas Permeance	ASTM 1434 ⁴	<11 mL(STP)/(m ² ·d·atm) ⁴
Benzene Diffusion Coefficient	GeoKinetics ²	2.1 x 10 ⁻¹⁸ m ² /s
PCE Diffusion Coefficient	GeoKinetics ²	2.9 x 10 ⁻¹⁷ m ² /s

1. Values are an average of the machine direction and the transverse direction test results.

2. A method comparable to ISO 15105-2, performed by GeoKinetics, Inc., Irvine, CA.

3. Reported by equivalent method, EN1931.

4. Test results were below the method detection limit.

Design Considerations

MonoShield is commonly implemented at sites with a low vapor risk, or as a preemptive or voluntary mitigation technology to reduce owner liability. Site conditions, project objectives, and regulatory requirements will dictate which mitigation solution is appropriate. Please contact your Land Science representative for mitigation system recommendations, design support, or budgetary estimates.

Optional additions to the MonoShield system include TerraVent™ as a sub-slab, low-profile vapor collection system, and Land Science Protection Fabric™ to provide even further durability. Please contact Land Science to discuss whether these are recommended for your site.

Service & Support

Land Science representatives are available for site data analysis, mitigation system recommendations, barrier and venting design support, and budgetary estimates. Site conditions, project objectives, and regulatory requirements will dictate which mitigation solution is appropriate.

Weather Limitations

- Nitra-Core should be sprayed at temperatures >45°F. Contact Land Science for requirements in colder temperatures.
- Nitra-Core should not be sprayed when raining or during weather conditions that create ponding water on the membrane.
- Any ponding water on the surface of MonoBase needs to be removed prior to applying Nitra-Core.

Warranty

Land Science offers industry-leading warranty options for the full suite of vapor intrusion barrier systems. All installations come with a 1-year material warranty free of charge. To qualify for extended warranty terms, the project must be reviewed and approved by Land Science prior to any product installation by a Land Science Certified Applicator.

MonoShield extended warranty options include material and system warranties up to 5 Years. Contact Land Science for more information to meet your site's warranty requirements.