



Advanced Nitrile Composite Barrier System

 **Nitra-Seal**[®]

Nitrile-Advanced Vapor Barrier



Introduction

Nitra-Seal® is an improvement on current vapor barrier systems. Originally, passive vapor barrier systems were waterproofing systems adapted for use as contaminant vapor barriers. An acknowledged weakness in these systems is in the penetration and perimeter termination locations, where spray-applied core material composed of Styrene-Butadiene (SBR)- modified asphalt is used. While excellent at repelling water, aggressive chemicals such as petroleum solvents and chlorinated volatile organic compounds (VOCs), will permeate into the SBR-modified asphalt at a relatively high rate, particularly in sensitive areas of the building construction such as barrier seams, slab penetrations and perimeters. Nitra-Seal offers a substantial upgrade as it employs a more chemically resistant nitrile latex instead of the more susceptible SBR material. Nitrile is recognized throughout the environmental engineering industry as being more chemically resistant than rubber or SBR and is often used in personal protective equipment when working on hazardous waste sites (e.g. nitrile gloves).

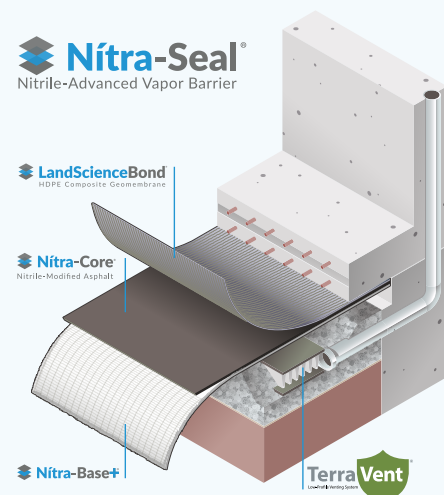
Nitra-Seal is a composite system creating the ideal blend between constructability and chemical resistance by using both high density polyethylene (HDPE) and nitrile-advanced, spray-applied asphalt core.



The Ideal Blend Between Constructability and Chemical Resistance

Dual Chemical Resistant Layers

The Nitra-Base layer (bottom) and the Land Science Bond layer (top) are composed of a polyethylene material bonded to a geo-textile on the out-facing side. HDPE is known for chemical resistance, high tensile strength, excellent stress-crack resistance and for highly reliable subsurface containment. The geo-textile which is physically bonded to the chemical resistant layer accomplishes two goals; it allows the Land Science Bond layer to adhere to the slab, and provides a friction course between the Nitra-Base layer and the soil.





Key Product Benefits



Puncture
Resistant



Excellent
Constructability



Chemically
Resistant



Competitively
Priced



Spray-Applied Nitra-Core Layer

The Nitra-Core layer is composed of a unique, nitrile-modified asphaltic membrane which also provides additional protection against vapor transmission. Nitrile has been proven to offer exceptional chemical resistance in a wide range of applications. This layer creates a highly-effective seal around slab penetrations and eliminates the need for mechanical fastening at termination points.



Nitra-Seal has been lab-tested and proven to be highly effective against VOCs like chlorinated solvents and petroleum contaminants, and methane.



Nitra-Seal is a significant improvement over all other composite vapor barriers on the market due to the use of chemically resistant Nitrile instead of typical spray applied barriers.

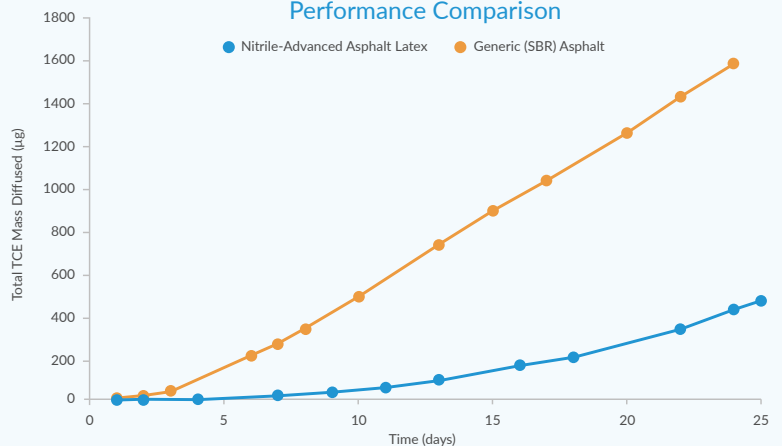


Nitra-Core is laboratory tested to be 10x more effective than typical spray-applied SBR modified asphalt material.



Land Science Certified Applicators ensure barriers are properly installed, reducing risk.

Nitrile-Advanced Asphalt Latex vs. Generic Asphalt Latex Performance Comparison



Accelerated comparison showing relative TCE flux through Nitrile-Advanced Asphalt Latex vs. Generic SBR Asphalt

Nitrile-Advanced Asphalt Latex Compared to Generic SBR Asphalt Latex

Nitrile-Advanced Asphalt Latex

- ✓ Lab-proven to provide 10x higher chemical resistance
- ✓ Easier and faster to apply
- ✓ Equipment requires only soap and water to clean

Generic SBR Asphalt Latex

- ✗ Higher permeability increases risk of contaminant sorption
- ✗ Longer, slower application time
- ✗ Equipment requires petroleum-based solvents to clean



 **Nitra-Core**[®]
Nitrile-Modified Asphalt

Nitra-Core is a nitrile-advanced asphalt latex that is spray applied to a thickness of 40 mils. It is applied to the TerraBase layer and provides a seal around seams, penetrations, and perimeter terminations.

 **Nitra-Base+**[®]

Nitra-Base+ is comprised of a 15 mil white polyethylene (PE) sheet bonded to a polyester reinforced grid which is thermally bonded to a 3-ounce/square yard white geotextile facing down as course-protection.

 **LandScienceBond**[®]
HDPE Composite Geomembrane

Land Science Bond is a 5 mil grey high density polyethylene (HDPE) sheet bonded to a 3 ounce/square yard non-woven geotextile facing up so as to bond into concrete.

TerraVent[®]
Low-Profile Venting System



TerraVent is a low-profile trenchless, flexible, sub-slab vapor collection system used in lieu of perforated piping. It consists of a heavy duty 3D, high flow, polypropylene dimpled core which is then wrapped and bonded with a non-woven geotextile to prevent penetration; and made from 100% post-industrial/pre-consumer polypropylene regrind material.



Are You Planning a Vapor Intrusion Mitigation Project? Contact us today for a free estimate.

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