Advanced Nitrile Composite Barrier System

Nítra-Seal™

Nitrile-Advanced Vapor Barrier

www.nitra-seal.com

Introduction

Nitra-Seal™ is an update/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.

Nítra-Seal™
Nitrile-Advanced Vapor Barrier

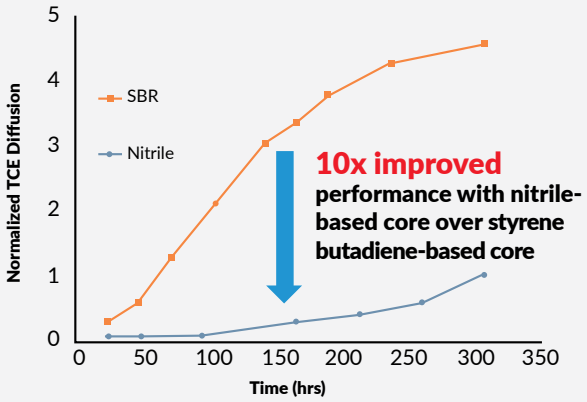
Nitra-Seal has been lab-tested and proven to be highly effective against VOCs like chlorinated solvents and petroleum contaminants, and methane.

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.

Nítra-Core
Nitrile-Modified Asphalt



Accelerated comparison of the TCE vapor resistance of Nitra-Core, a nitrile-modified spray applied asphalt layer, against spray-applied asphalt latex core, a styrene butadiene-modified asphalt layer. Both asphalt layers were sprayed to an identical thickness for the test.

Overview

Nitra-Seal is a composite barrier system that incorporates a nitrile spray-applied component significantly reducing the potential for indoor air exposure to sub-slab chemical vapors.

Land Science Bond

HDPE/Geotextile

10 mil high density woven scrim polyethylene sheet thermally bonded to a 3 ounce/square yard non-woven geotextile facing up so as to bond into concrete.

Nitra-Core

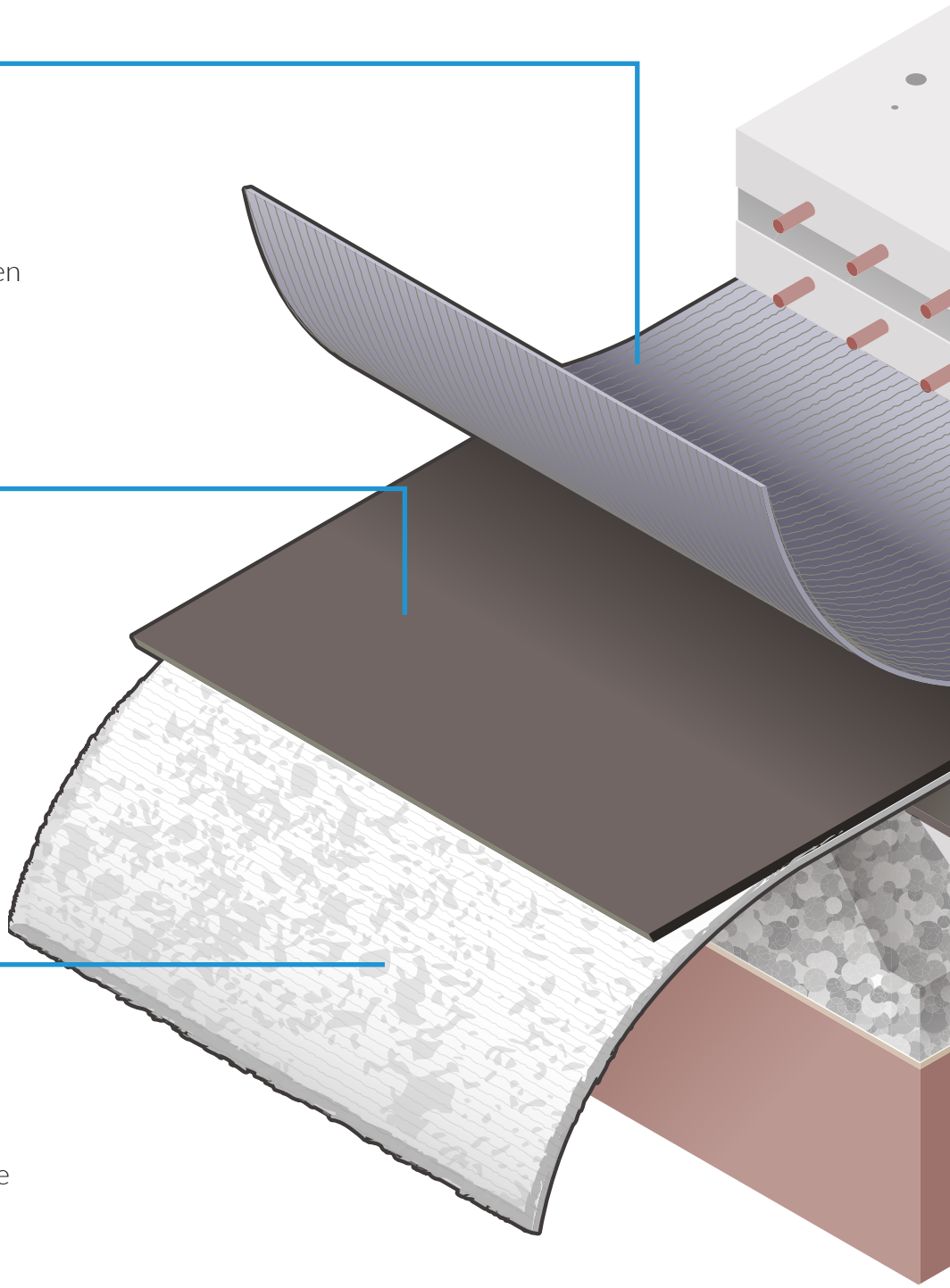
(Spray Applied)

Spray applied as a nitrile/ asphalt emulsion to form a chemically resistant layer with nominal thickness of 40 mils (dry).

Nitra-Base

(Spray Applied)

5 mil high density grey polyethylene (HDPE) sheet extruded to a 3-ounce/ square yard non-woven white geotextile facing down as a course-protection.



Nitra-Seal Triple-Layer System

Dual Chemical Resistant Layers

The Nitra-Base layer (bottom) and the Land Science Bond layer (top) are composed of a HDPE 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.

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.

Key Benefits of Nitrile

Chemical Resistance

The dual chemical resistant layers combined with the spray-applied Nitra-Core form a barrier highly resistant to a broad range of chemical pollutant vapors.

Enhanced Curing

Nitra-Seal is “construction friendly” as the reduced curing time of the Nitra-Core layer and the ability to apply it in cooler temperatures ensures quick installation and minimizes the impact on construction schedules.

Puncture Resistance

Nitra-Seal forms a highly puncture resistant barrier that greatly reduces the chance of damage occurring after installation and prior to the placement of concrete.

Additional Protection

TerraVent can be used in conjunction with Nitra-Seal to alleviate the buildup of vapors beneath structures as a result of vapor barrier implementation. Vapor-Vent can be utilized as an active or passive ventilation system depending on the requirements of the design engineer.

Key Product Benefits

- Puncture Resistant
- Excellent Constructability
- Chemically Resistant
- Competitively Priced

Certified Applicator Network

The application of Nitra-Seal and TerraVent can be performed by any one of many certified applicators throughout North America.

Service and Support

Land Science Technical Sales Managers are available to provide job and site-specific assistance. A local representative can ensure Nitra-Seal and TerraVent is installed as per the specification.

World Class Clients

Environmental consultants, engineers, and real estate professionals trust Land Science to produce results knowing our expertise and industry knowledge has been proven time and again at the job site. Our world class clients include leaders in the food, banking, government, and housing industries.

WE'RE READY TO HELP YOU FIND THE RIGHT SOLUTION FOR YOUR SITE

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Get Started Today

To recieve a custom vapor intrusion solution, please call 949.481.8118 or e-mail info@landsciencetech.com One of our Technical Solutions Managers will review your project details and provide you with a customized vapor intrusion solution designed to achieve your goals.

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