Nítra-Seal®
Nitrile-Advanced Vapor Barrier

Nitra-Seal Facilitates National Restaurant Chain Expansion into Growing Texas Market

Chemical Resistance, Installation Efficiency, and Cost are Key Factors in Choosing a Solution to Address Potential Vapor Intrusion Risk at Former Gas Station Property

Highlights

Petroleum Hydrocarbon Vapor Contaminants Effectively Mitigated

Solution Chosen Based on Best Combination of Chemical Resistance, Installation Efficiency and Price

Site Details

Site Type

Quick Service Restaurant

Contaminants of Concern

Petroleum Hydrocarbons

Mitigation Approach

Nitra-Seal®

Project Summary

An expanding quick-service restaurant (QSR) chain planned a new store in the rapidly growing central Texas market at a former gasoline station site. Although there was no active environmental incident associated with past use, it is common for petroleum hydrocarbons (PHCs) to remain in the subsurface, undiscovered at former gas station sites. Using their knowledge and experience in developing similar properties, the QSR client recognized the potential risk of petroleum hydrocarbon (PHC) vapor intrusion. To ensure their future associates' and guests' well-being, the Nitra-Seal® vapor mitigation system was installed as a preemptive measure to protect against PHC vapor intrusion. Nitra-Seal was chosen because it provided the best combination of chemical resistance, installation efficiency and price compared to other similarly priced vapor barrier systems. The Land Science certified applicator completed the installation according to manufacturer recommendations within aggressive time and budget constraints, allowing the restaurant to proceed toward its scheduled opening in the Fall of 2020.

Application

Nitra-Seal installation on this site was completed by HRT Construction, Inc., a Land Science Certified Applicator.

HRT CONSTRUCTION | Certified Applicator

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

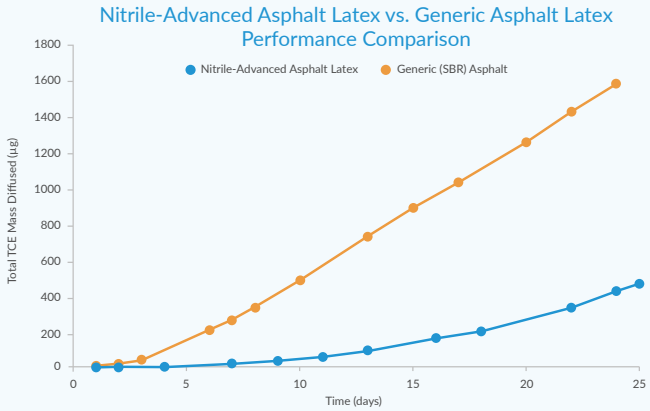
- Higher permeability increases risk of contaminant sorption
- Longer, slower application time
- Equipment requires petroleum-based solvents to clean

Technology

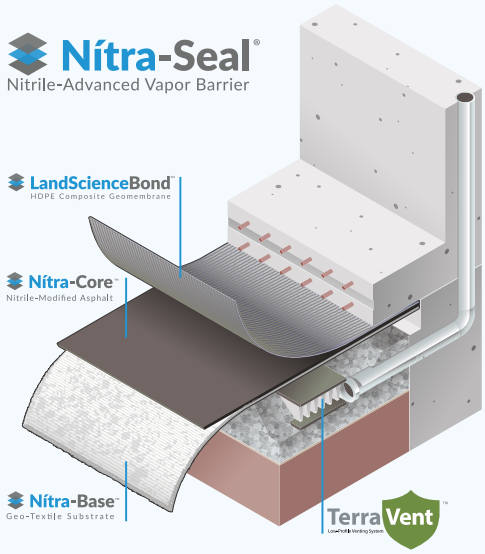
A Multi-Layer Base with Innovative Nitrile-Advanced Asphalt Latex Technology

Nitra-Seal is an update/improvement on current vapor barrier systems, providing a more chemically resistant spray-applied core material.[1] Nitra-Seal is a triple-layer system. 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 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 friction course between the Nitra-Base layer and the soil. The Nitra-Core layer is composed of a unique, nitrile-advanced asphalt latex 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.

1. U.S. and international patents pending.



TCE diffusion rates in Nitrile-Advanced Asphalt Latex barrier systems vs those utilizing Generic (SBR) Asphalt.



Results

Following the Nitra-Seal vapor barrier system's successful installation, the new restaurant building ensures safety from potential PHC vapors for future restaurant workers and guests.