

UNDERSTANDING HIGH MOISTURE TOLERANT ADHESIVES IN RESILIENT FLOORING APPLICATIONS

Acrylic and Latex-Based Adhesives

The increasing popularity of **high moisture tolerant adhesives (HMTAs)** in the flooring industry has prompted the need to clarify their proper use, especially in environments with elevated concrete moisture and pH levels. This bulletin provides the official stance of **Lighthouse Adhesives** on these products.

What Are High Moisture Tolerant Adhesives?

High moisture adhesives are designed to maintain bond integrity **even in extreme conditions**, tolerating **concrete relative humidity (RH) levels as high as 99%** and **alkalinity up to pH 12**. These adhesives ensure that flooring materials remain securely adhered even when exposed to significant moisture vapor and surface alkalinity.

⚠ Important Clarification:

While these adhesives resist breakdown in moist or alkaline environments, **they do not block moisture**. Vapor will still pass through the adhesive and reach the floor covering above. HMTA is not a moisture barrier and should not be installed/treated as such. This adhesive is not a substrate moisture sealer and does not form a protective barrier and is only warranted to maintain an adhesive bond.

What HMTAs *Cannot* Do

Despite their durability in harsh subfloor conditions, high moisture adhesives **do not act as moisture barriers**. Moisture will continue to migrate through the concrete slab, pass through the adhesive layer, and may affect the performance of the finished floor covering.

If the flooring material is not rated for high moisture exposure, issues can arise—even if an HMTA is used. Problems may still occur even when using moisture-resistant flooring, due to how vapor interacts with the system.



(continued)

Observed Field Issues Include:

- **Efflorescence** appearing around the edges of vinyl tile, caused by mineral salts rising with the moisture vapor.
- **Vinyl plank edges lifting**, often accompanied by visible ridges of white alkaline salts beneath the plank seams—caused by condensation and re-evaporation cycles at the perimeter.
- **Liquid water pooling** at joints between tiles or planks. Despite full adhesion and a flat installation, moisture collects and condenses beneath the surface.

These cases demonstrate that while the adhesive remained functional, the flooring system still failed, leading to product claims and costly issues.

Best Practices for High Moisture Conditions

- Assess each project individually when high RH concrete substrates are involved.
 - Understand that **HMTAs are not a replacement for a true moisture vapor barrier or sealer.**
 - Do not confuse these adhesives with reactive, film-forming moisture mitigation systems, which are designed to prevent moisture transmission when applied to 100% of the flooring's backing or substrate.
 - Verify flooring manufacturer specifications to ensure compatibility with high-moisture environments
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⚠ Note:

This document is for general reference only. While the information provided is based on the industry's best practices, Lighthouse Adhesives does not accept responsibility for any errors or liabilities resulting from the use or interpretation of this guidance.

