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PortalWall Endorsement

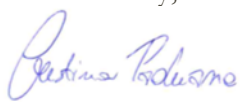
August 11th , 2025

To whom it may concern:

The façade industry faces challenges like energy efficiency, condensation control, fire safety, and structural integrity. PortalWall® offers a single integrated solution. Its effectiveness makes it an obvious choice for future builds.

After being introduced to the PortalWall® system, developed by Yonatan Margalit during our meeting at the GreenBuild Trade EXPO in Philadelphia in 2024, I have noted its innovative method for addressing thermal management in buildings gaining optimal thermal performances while controlling potential risk such as interstitial moisture issues through enhanced airflow within key wall areas. This advancement represents a noteworthy progression in the field. I fully support this initiative, and I am committed to contributing to its development and implementation.

Your sincerely,



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ISSUE DATE: August 11, 2025 - SUMMARY BY YONATAN ZVI MARGALIT

Berkeley Lab findings:

The Problem: Dampness & Water Intrusion in U.S. Buildings
Moisture intrusion is one of the most persistent and costly failures in the built environment. It damages structures, degrades indoor air quality, and drives up maintenance and health costs.

Key Facts:

Nearly 1 in 2 U.S. homes show signs of dampness or mold.

9.9% have water damage from exterior leaks; 8.1% from interior leaks.

Prevalence is higher in older and urban housing, with some regions reporting over 60% of homes affected.

Commercial buildings are no exception—a U.S. EPA survey found:

85% of offices had past water damage

45% had active leaks

Schools are similarly affected: 30% with plumbing problems, 27% with roof problems—both major moisture sources.

Why It Matters:

Health: Dampness and mold are strongly linked to asthma, allergies, and other respiratory issues—especially in children.

Cost: Repairs, remediation, and health impacts cost billions annually.

Risk: Water intrusion accelerates structural decay, reduces asset value, and increases insurance claims.

The Gap:
Despite the scale, there is no national system tracking or preventing dampness and mold. Most interventions are reactive—addressing damage after it’s visible, rather than preventing it.

Opportunity:
A proactive, durable building enclosure system that prevents water intrusion, manages moisture, and resists mold growth would address a massive unmet need across residential, commercial, and institutional markets.

Prevalence of Building Dampness

In 2009, 9.9% of U.S. homes had water damage from exterior leakage, while 8.1% had water damage from interior leakage based on data from the American Housing Survey of the U.S. Census. However, the survey did not cover dampness or mold. There is otherwise no national database on the prevalence of dampness and mold in U.S. houses; however, Table 1 below compiles data from studies that reported prevalence of various moisture-related conditions in U.S. houses.

There is considerable variation in the prevalence estimates for each of the indicated moisture categories. For the "any dampness or mold category", four of the studies report the prevalence to be 50% or more, while three report prevalence values below 50%. The largest study (Spengler, 1994) reports prevalence of dampness and mold in 50% of the homes. Excluding the Freeman study because it only included bathrooms, the population weighted average prevalence of dampness or mold from these studies is 47% in the U.S.

Table 1. Reported prevalence of dampness and mold in U.S. houses.

Author	**Location**	**Population (housing units)**	**Prevalence**			
			Mold or mildew	Water damage or dampness	Basement water	**Any dampness or mold**
Brunekreef 1989 [1]	6 U.S. cities	4625	30%	17%	32%	**55%**
Chiaverini 2003 [2]	Rhode Island	2600		18%		**23%**
Freeman 2003 [3]	New Jersey	4291 (Hispanic)				**17% (in bathroom)**
Hu 1997 [4]	Los Angeles & San Diego	2041	8%			
Maier 1997 [5]	Seattle	925	54%	20%	22%	**68%**
Slezak 1998 [6]	Chicago	910 (Head Start)				**16%**
Spengler 1994 [7]	24 cities in U.S. & Canada	12,842	36%	24%	20%	**50%**
Stark 2003 [8]	Boston	492	38%	34%		**52%**
Population weighted average			33%	22%	23%	**47%***

* Population weighted average excludes Freeman (2003) because it only considered bathrooms

Much less data are available on the prevalence rates of dampness in other types of buildings. The largest identified data set for dampness in offices is from a survey by the U.S. Environmental Protection Agency of 100 representative public and commercial U. S. office buildings. Table 2 provides data on the prevalence of past water damage and current water leaks from this survey [9]. Eighty five percent of buildings had past water damage and 45% had current water leaks. For U.S. schools, a survey by the General Accounting Office reported that 30% of schools had plumbing problems and 27% had roof problems [10]; however, the nature of the problems were not described so the prevalence of associated dampness and mold cannot be determined. Many small studies have documented dampness problems in schools [11].

Table 2. Prevalence of past water damage and current water leaks from a survey of 100 representative U.S. office buildings [9].

	Total Prevalence	Basement	Roof	Mechanical Rooms	Occupied Space
Past Water Damage	85%	28%	50%	17%	71%
Current Leaks	45%	13%	15%	3%	34%

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7) Spengler, J.D., et al., *Respiratory symptoms and housing characteristics.* Indoor Air, 1994. 4(2): p. 72-82. https://dx.doi.org/10.1111/j.1600-0668.1994.t01-2-00002.x.
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10) GAO, *School facilities: condition of America's schools*. 1995, General Accounting Office: Washington, D.C. Available from: https://www.gao.gov/products/HEHS-95-61.

11) Mudarri, D. and W.J. Fisk, *Public health and economic impact of dampness and mold.* Indoor Air, 2007. **17**(3): p. 226-235. https://dx.doi.org/10.1111/j.1600-0668.2007.00474.x.