

MINDFUL MATERIALS: ARE INTERIOR FINISHES HARMING YOU?

OH NH₂
HO
CH₂
hord | coplan | macht

A GUIDE TO NAVIGATING MATERIAL TRANSPARENCY

Did you know that the materials surrounding you right now could contain toxins that might impact your health? PVC's (poly-vinyl-chlorides), petro-chemicals, and dioxins are known-carcinogens in the chemical makeup of common building materials that have increasingly been found in human blood, urine, and breast milk¹. Respiratory illnesses, chronic headaches, stomach aches and asthma are common health issues that are also directly related to the buildings where you spend a majority of your time. Material transparency is a tool that could help the building industry understand what chemical compounds are used in a product and the manufacturing process sequence from material extraction to end of life. Similar to our food labeling system, just because a candy bar has a nutritional label does not mean it is a healthy snack. The efforts manufacturers are making to provide us with these details is an initial step in reducing toxins within our environment.

Hord Coplan Macht is among architects and designers pushing manufacturers to be more transparent. HCM has a goal of providing a sustainable future for their clients through thoughtfully designed buildings and careful material selections.



KNOW YOUR MARKET

Occupants of a building come into contact with interior materials in a variety of ways. From infants crawling on the floor of an early childhood center to the older adult suffering from pneumonia in a hospital, the materials surrounding those within a building can positively or adversely affect the health of the individuals. Set goals for the project that make health and wellness a priority. By using online resources that outline harmful substances found in the built environment (such as the [Precautionary list](#) and the [Red list](#)) designers can begin to vet through the toxic elements that should be avoided to meet these goals.



RESEARCH THE MATERIALS

Consider the application, maintenance, durability and life-cycle of the interior materials being selected for projects. There are a handful of online databases that allow architects and designers to browse cataloged products that have full transparency of their chemical makeup. Initiatives like [mindfulMaterials](#) and [Pharos](#) give designers a one-stop-shop to access thousands of products from manufacturers that are clearly communicating what is in their products. Reach out to manufacturer's product representatives for additional information. In some cases, a 3rd party toxicologist or industrial hygienist can be hired to make qualified interpretations of found data.



IMPLEMENTATION & INSTALLATION

Finalizing material selections is just half of the equation in creating healthy building environments. Adhesives and installation methods are sometimes the most toxic. Architects and designers can work with a specification writer and manufacturer's representatives to select appropriate products and installation methods. Look for areas within the project where low to no-VOC products can be selected to minimize harmful fumes and toxins.



SHOULD YOU PURSUE CERTIFICATIONS?

When budgets allow, determine whether it is a project priority to pursue building certifications. Green building rating systems such as [LEED](#), the [WELL Building Standard](#), and the [Living Building Challenge](#) have pushed material transparency to a new level. For example, achieving credits for LEED v4 requires consideration of the entire life-cycle of a product, not just the immediate effects of a material, but the "extraction and manufacturing, to transport, operations, and maintenance and eventually the end of life²" for the interior materials selected. Toxins may be inert during the life a product within a building, but upon removal and disposal, chemicals can seep out affecting water tables, air quality, and the natural environment. If a project's budget doesn't allow for building certifications, continue to look for alternative materials that meet internal and project-specific goals for maintaining material transparency.



PROVE IT!

Manufacturers are beginning to provide Environmental Product Declarations (EPDs) and Health Product Declarations (HPDs) for their products. EPDs address the manufacturing process of products, what their chemical composition is, and the supply chain. HPDs provide architects and designers with the contents of a product. Building certification programs require designers to collect EPDs and HPDs for the majority of the building materials used. Online resources like [Declare](#) and the [HPD Collaborative](#) provide these documents. Engage manufacturer's representatives for additional information on their products and work with them to be proactive as the industry is moving towards full transparency. Every project is different, and each market and user needs to be considered when selecting materials. Discuss priorities and set achievable goals.



¹Healthy Building Network, Fact Sheet: Toxic Chemicals in Building Materials, May 2008.

²Holmes, Salina, LEED v4 Education: Materials and Resources, <https://www.usgbc.org/articles>, 2 June 2016.



ABOUT THE AUTHORS

Michelle L. Horn, ASID, LEED AP ID+C

Michelle is a visionary and results-driven certified interior design professional. She leads HCM's Denver Interior Design Studio and encourages her team to co-create with owners and other design professionals to provide inspired space for her clients. As an award-winning designer, Michelle strives to create healthy interior environments through a deep knowledge of materials and continued research in the industry.

Renee Fine, ASID, NCIDQ, LEED Green Assoc.

As the lead interior designer for PK-12 projects in the Denver office, Renee has dedicated her career to creating engaging environments for 21st century learning. Within HCM, Renee has been an advocate for healthy and sustainable materials, leading the cause for more transparency and awareness of what products we use in our schools.