

Transparency Improves Design

An industry shift toward product declarations enhances holistic decision making



By Sean O'Keefe

Design improves lives and people improve design. Linda Clark knows it. She is an architect and interior designer with the post-nominal letters to prove it. From AIA and NCARB to NCIDQ, IIDA, and WELL AP, licensed and certified, Linda specializes in designing creative, inclusive, healthy learning environments for users of all ages.

"We spend a significant amount of our lives inside of a building. Architecture and interiors need to be healthy and inspirational," says Clark, an associate at Mid-Atlantic architecture practice, Grimm + Parker Architects. A firm of roughly 100 operating out of three offices in Maryland and Virginia, Grimm + Parker's portfolio includes more than 80 LEED Certified projects and more recently several buildings boasting a Zero Energy Certification.

"Grimm + Parker specializes in public buildings including education, residential and healthcare, areas where wellness and sustainability intricately intertwine to compel holistically healthier places where people learn, work, live or heal," continues Clark. "Sustainability has long been the basis of good design because of the obvious benefits sustainable choices have on a building's operational performance and environmental impact. Now, we are investigating how product and design choices impact the personal health and wellbeing of the people who occupy our buildings."

In seeking to give meaning to educational environments, Grimm + Parker finds value at the intersection of education and community engagement and strives to infuse their designs with dual purposes.

Among recent successes, Clark is proud to have her hands on a milestone accomplishment in both sustainability and wellness for Baltimore City Public Schools.

"We developed a new prototype K-8 school that was built in two Baltimore communities about three blocks from one another," says Clark. Graceland Park - O'Donnell Heights Elementary/ Middle School and Holabird Academy are Baltimore City School's first net-zero energy schools and were designed explicitly around project-based learning, sustainability as a teaching tool, and distinct community identities.

Utilizing the sites as incubators for encouraging environmental stewardship, the schools include rooftop solar labs, living green roofs, outdoor classrooms, and student gardens to nurture, engage, and empower the whole child. Not only are these schools sustainable, but they were specifically designed to allow evening access to the library, gymnasium, and media lab to securely spread the benefits of these incredible facilities to others in the community.

"Taking a net-zero approach opens opportunities for design innovation," says Clark of the invitation to push the envelope. "We've incorporated a ground source heat pump HVAC system, dedicated demand-controlled ventilation, insulated concrete form exterior wall construction, integrated bio-retention site design, solar systems, and careful control of size and location of windows for daylighting. Once we reduced the building's utility load, we turned our attention to carefully selecting the right building materials."

For Clark and the team at Grimm + Parker, collaboration and transparency are at the heart of all their efforts. Like many in the design and construction industry, Clark is delighted to see an uptick in transparency among product manufacturers. Noteworthy among the materials chosen on the Baltimore City Schools was Bio-based tile from Armstrong Flooring. Made from a polymer that contains bio-based rapidly renewable ingredients, Bio-based tiles are a sustainable alternative to PVC tiles that reduce reliance on fossil fuels.

Amy Costello is a Sustainability Manager at Armstrong Flooring and works across the entire enterprise to drive sustainability into their plans, plants, products, and people in pursuit of a better world.

"Armstrong is more than 150-years old, and innovation around sustainability has been at the core of everything we have done for the majority of that legacy," says Costello, who has been with Armstrong for 15 years. As a licensed professional engineer, LEED AP, and a WELL AP, Costello has a few post-nominal certifications of her own and takes pride in her role as a change agent for a well-established industry leader in Armstrong Flooring.

"We believe in fostering a circular economy. In 1909, the Armstrong Cork Company began recycling cork waste to produce corkboard insulation and cork flooring tiles," Costello shares. "In 1993, Armstrong was a founding member of the U.S. Green Building Council, and presently we are proud to be promoting product transparency as an emerging industry standard of great merit."

Since 2014 Costello and the Armstrong Flooring team have been developing Environmental Product Declarations (EPD) to give designers like Clark genuine insight into their products' life-long environmental impacts. An EPD declares each product's specific material ingredients, manufacturing process, environmental concerns during their lifecycle, and end-of-life practices and consequences.

"Today, Armstrong Flooring is providing third-party verified EPDs on all of our products," continues Costello. "We encourage people selecting products for architecture and interiors to insist on similar transparency in every decision they make. Knowing what's in it, where it comes from, how it performs, and how it's disposed of are all critical components of conscientious design."

Taking a step further, in addition to a thoughtful analysis of a material's environmental impact, reporting around wellness impacts is now being communicated by Health Product Declarations (HPD). Incorporated as a tool in several building certification programs including LEED v4 and WELL, an HPD communicates the individual chemicals that make up a product and possible health risks such as carcinogens or mutagens. Armstrong's Bio-based tiles used in the Baltimore City Schools will not emit any harmful environmental pollutants, a fact certified by FloorScore®, which assures that products support healthy indoor environments by meeting strict chemical emission limits for volatile organic compounds. Without industry-wide transparency, designers will continue to unknowingly specify potentially harmful products when non-harmful alternatives are readily available.

"Transparency through third-party verified EPD and HPD documents provide a universal standard of measuring impact that is quantitatively understood by designers around the world. These standards also help Armstrong Flooring measure our own performance as we push toward ever-greater sustainability in everything we do," finishes Costello. "These documents provide clarity and



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enable us to make the next generation of products better."

Linda Clark agrees and is encouraged by manufacturers like Armstrong Flooring facilitating conversations around the transformational issue of product transparency.

"Learning environments are complex. Inviting colors, flexible furnishings, daylit spaces, durable surfaces, and community pride are all important aspects of creating inspirational, engaging, operationally-efficient schools," says Clark in conclusion. "Knowing everything we can about the materials we use to make all of this happen is vitally important to the long-term health and wellness of the next generation of learners and educators." **LBD**

Photos Courtesy of CAM Construction and Alain Jaramillo Photography.