

# Pros and Cons of Product

Jane Martinsons, MR Editor

Transparency is a common theme in construction these days, and product disclosure is quickly becoming a key issue for the building materials industry. Increasingly, the findings of environmental product declarations (EPDs), health product declarations (HPDs), and corporate sustainability reports (CSRs), such as those published by Johns Manville and Firestone Building Products, are playing a more prominent role in how materials are chosen for projects.

Recently, Jim Hoff, DBA, of the Center for Environmental Innovation in Roofing discussed these tools in a webinar featured by *Architectural Roofing & Waterproofing* magazine. Speaking primarily to material manufacturers and building designers, Dr. Hoff noted that the concept of product disclosure is growing rapidly in the construction marketplace and is being driven by several market forces, including the Green Building Press, green data aggregators, and leading architecture-engineering firms participating in a disclosure campaign.

Product disclosure shows up in building standards and codes as well, including LEED, ASHRAE 189.1, and the International Green Construction Code. “Although the concept of disclosure is relatively new, material disclosure has or will be adopted in every major green building standard and code, and it is being introduced at an almost unprecedented pace,” he said.

Dr. Hoff later told *Midwest Roofer* that roofing contractors should be aware that these new disclosure tools “are being driven by the architectural community into the construction industry.” The use of EPDs and HPDs will start with new “showcase” construction projects, then move on to more run-of-the mill new construction, and then, finally, to retrofit projects, including reroofing, he said.

“The average roofing contractor probably won’t see many of these new tools unless the contractor is involved in high-visibility new projects this year. Like a lot of other concepts, EPDs and HPDs will eventually filter down to reroofing, but it likely will take some time,” he said. “MRCA members should start talking to their material suppliers to see how they plan on dealing with EPDs and HPDs.”

## EPDs

Dr. Hoff explained that EPDs help disclose well-known environmental impacts (e.g., global warming and ozone depletion) using established metrics and standardized processes. “It’s a very quantifiable process based on good science,” he said, emphasizing that EPDs use a well-vetted, standardized format based on global ISO consensus standards and a scientific approach over the entire product life cycle. They also provide quantitative measures of key environmental impacts.

“Of course, these benefits come at a certain price,” he said.

“In fact, price itself is a primary limitation of EPDs today. In my consulting practice, I’ve been involved in the development of several life-cycle assessments and EPDs. The order of magnitude for typical roofing material could easily be in the six figures by the time all is said and done.”

Hoff further noted that EPDs are complicated, pose difficulties in integrating products with varying service lives, fail to address energy efficiency contributions, and fail to address health impacts. There are also challenges with limited underlying data, which may lead practitioners to obtain different results, he said.

## HPDs

Dr. Hoff also noted several benefits and limitations of HPDs, and even looked beyond to newer, alternative documents. First, however, he described an HPD as a document that helps identify product ingredients and contents and then screens them through a hazard review using authoritative sources, such as the recently developed HPD Open Standard, or other hazard lists. He noted that an HPD takes a qualitative, rather than a quantifiable, approach to declaration—meaning that rather than identify the level, rate, or even the probability of hazard or risk occurring, it identifies the potential for hazard.

Dr. Hoff said that, although an HPD document itself is relatively inexpensive compared to the EPD and is as simple and straightforward as a material safety data sheet (MSDS), it

- uses little or no formal consensus review. “As a building-envelope researcher and a longtime participant in standards processes throughout the world, I believe it is certainly a limitation to have an ad hoc development process, created outside a recognized consensus standard,” he said. “The development process does not include all stakeholders that are typically included in ANSI and ASTM processes. For example, building material manufacturers are not included in specific decision-making committees,” he said.
- identifies hazard without assessing risk
- identifies chemicals of concern using many different sources with varying thresholds. Dr. Hoff cited examples of hazard warnings, such as the U.S. Environmental Protection Agency’s (EPA) list of known or likely carcinogens, but also pointed to what he considers “less authoritative” warnings. For example, “California Proposition 65 includes many chemicals [that are] hazardous only as precursors or during manufacturing,” he said. “When you’re looking at materials that are key ingredients in many



Hoff

# Disclosure Tools

common roofing materials [e.g., titanium dioxide, carbon black, wood dust, and bitumen], they are not generally considered to be hazardous in their finished form.”

Dr. Hoff stressed that other, newer alternative documents may offer better information than the HPD. “There is a whole new generation of MSDSs expected in 2014 that are based on a very, very rigorous, globally harmonized system, now endorsed through international treaties, and endorsed and integrated by the U.S. EPA.” The new MSDSs offer hazard information in a very similar methodology to HPDs and will be available much more rapidly, he said.

Another new product is the product transparency declaration (PTD), which addresses risk as well as hazard assessment. “PTDs take a look at threshold levels and paths for exposure that are important in many products,” he said. Developed by the Resilient Floor Covering Institute, and proposed to become an ASTM standard, the PTD could be available for a wide variety of products, Dr. Hoff said.

## CSRs

CSRs, which are included in LEED v4, are part of identifying levels of corporate responsibility toward public health and the environment. They can be self-declared or third-party

certified, and use established reporting options such as the global reporting initiative or ISO 26,000 series of standards.

According to Dr. Hoff, CSRs are based on established global standards. On the upside, they provide a comprehensive approach that addresses all areas of corporate responsibility, foster disclosure and transparency, and are a powerful incentive for continuous improvement. However, they also tend to become complicated, making comparisons difficult.

“I’m pleased to see that corporations are publishing these reports,” Hoff said, “but as a researcher and scientist in the building envelope arena, I would be very hesitant to use those reports for a basis of comparison at this time, especially in picking specific materials, products, and designs.”

As for overall observations, Dr. Hoff says that “increased product transparency is good because it provides a better understanding of ingredients and supply chain impacts that products have on our lives and environment, and it provides a very strong incentive for continuous improvement.” He encourages others to be proactive in developing product disclosure but remain patient and cautious with the results, and to avoid oversimplification, especially if it would lead to very sweeping changes in product selection.

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