

LIFE-CYCLE ASSESSMENT AND THE LEED® GREEN BUILDING RATING SYSTEM

PRESENTATION BY JAMES HOFF, DBA • REPORTED BY BRIAN GARDINER, RRC, CCS



James Hoff, DBA

RCI convention attendees were taken back to the '70s by Dr. James ("Jim") Hoff. He related how the recent rush to develop new green building technology may result in a similar learning curve experienced during

the oil embargo of the 1970s. He identified Life Cycle Assessment (LCA) as a possible way to avoid the same type of building construction product mistakes made during that tumultuous period.

Dr. Hoff described how LCA is a better measure of a product's "cradle-to-cradle" and true long-term economic and environmental value than traditional Life Cycle Costing (LCC). Giving credit to durability along with its environmental impact, he related that LCA could result in a better appreciation of products initially considered not as environmentally friendly as other choices that are perceived as "green." Discovering truly "green" products through

LCA would ultimately be in building owners' and public's best interests.

USGBC's (U.S. Green Building Council) current LEED rating program appears to give inadequate value to long-term performance of building products vs. apparent environmental benefits. Dr. Hoff stated that this is a similar approach to that of the 1970s, when a rush to adopt new, unproven technologies resulted in some product failures. He did indicate that USGBC is responding to industry concerns by incorporating LCA into the LEED program. He urged the building envelope industry to participate in the process, including environmental product certification programs, to discover truly sustainable products. Dr. Hoff stated that if the building envelope industry does not step forward, the consequences could seriously affect our industry, and ultimately, the performance of our buildings.

FLUID-APPLIED FLASHINGS FOR BITUMINOUS ROOF SYSTEMS

PRESENTED BY DOUGLAS STIEVE, RRC, AIA • REPORTED BY HELENE HARDY PIERCE, FRCI

Cold, fluid-applied waterproofing membrane systems have evolved for use as flashing options for difficult and irregular penetrations through roofing systems, and Douglas Stieve presented a thorough discussion of the materials and methods for this emerging product offering. Stieve first explained the history of fluid-applied waterproofing membranes and their performance track record and he then described how this technology is finding purchase as a solution for flashing difficult details commonly found on rooftops.

Most cold, fluid-applied flashing systems available in the U.S. utilize a polyester fabric for reinforcement and either a polymethylmethacrylate, polyurethane resin, or an aliphatic polyurethane for the waterproofing component. These systems are seamless and self-terminating, resist hydrostatic pressure, and often do not require the use of a counterflashing such as a rain hood. While their attributes may make them desirable, Mr. Stieve cautioned that they do have limitations and application requirements that must be met in order to perform

as expected.

Mr. Stieve provided straightforward guidelines for the installation of these types of flashings, complete with cautions of mistakes to avoid. Surface preparation is vital to providing a watertight flashing system that will perform, and there are published guidelines available that provide excellent resources for the roofing consultant and roofing contractor. In addition, training of the applicator presents its own requirements, since this type of application requires a skill set possessed more often by painters or those used to working with coatings.

Due to the availability of many different chemical formulations and differences in their application specifications, Stieve cautioned that the best way to mitigate installation problems is to adhere to the specific manufacturer's installation instructions. That being said, a review of typical installation steps and recommendations was provided with tactical advice on each key step. In

summary, these flashing membrane options can provide superior performance for difficult flashing details when the proper material is used over a properly prepared substrate and is installed correctly.



Douglas Stieve, RRC, AIA