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New Life Cycle Data Shows Outstanding EPDM Performance In Reducing Environmental Impact

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Data Now Available in Athena® Impact Estimator Reports Significantly Lower Environmental Impact for EPDM than Previously Reported

The EPDM Roofing Association (ERA) announced that new data regarding the life cycle impact of EPDM demonstrates it produces a significantly lower environmental impact than previously recorded in public databases. The data also indicates that both black and white EPDM perform better than many other single-ply and bitumen-based membrane materials in key categories such as global warming, acidification and smog generation. The data was reviewed by the ATHENA® Institute, an international non-profit organization that evaluates the environmental impacts of new and existing buildings through life cycle assessment (LCA). The new EPDM data is now available on the ATHENA Impact Estimator for Buildings 4 building software.

The study, conducted by the GreenTeam Inc. of Tulsa, Okla. and reviewed and analyzed by TEGNOS Research, found that the global warming potential (GWP) of a black EPDM or white TPO roofing membrane was approximately half that of a white PVC or un-surfaced SBS membrane.

The findings also suggest that roof system service life may be a critical factor in determining a material's overall environmental impact. As an example, the non-EPDM systems studied would require up to 54 years to produce an equal annual distribution of the initial embodied GWP impact that EPDM systems achieve in only 15 to 20 years.

"The data in this study corrects previous misconceptions about the life cycle assessment of EPDM," said Mike DuCharme, director of product marketing, Carlisle SynTec, and chairman of the board for the EPDM Roofing Association. "It also produces new evidence that the long service life and durable performance of EPDM provides environmental as well as economic benefits."

The study provides an overview of LCA as applied to low-slope roofing systems used widely throughout North America. LCA is a scientific approach to evaluating the environmental impact of a product or system throughout its life cycle. The objective of the study was to establish up-to-date life cycle data based on a critical review of previous LCA studies and new life cycle inventory data acquired from industry and public sources. The study examined roofing systems employing a variety of roofing membranes, including EPDM, TPO, PVC and SBS modified bitumen, installed via a number of common roof system attachment methods, including ballast, fully adhered and mechanically attached.

"This study not only corrects what appeared to be inaccurate data on the life cycle performance of EPDM, it provides a thorough comparison of other leading roof systems," said Bill Tippins, EPDM marketing manager for Firestone Building Products and a member of the ERA Technical Committee, "We believe these results confirm EPDM's leadership in this category through detailed, third-party analysis."

"It would be prudent for building design professionals to fully incorporate the data produced by this study into their research methods," said TEGNOS Research founder Dr. Jim Hoff, a 25-year veteran and executive from the building materials industry. "Now available through the Athena Impact Estimator, it will also be important for other public sources of LCA information to consider this data and make any necessary updates to accurately reflect the environmental impact of EPDM," noted Hoff, a consultant to public agencies, trade associations and private equity investors, including ERA.

The GreenTeam is a strategic environmental consulting firm specializing in building industry issues. Its founding principles are nationally and internationally recognized design professionals and are active in many building industry-related organizations and associations. Mr. David Reisdorf of the GreenTeam is a Life Cycle Assessment Certified Professional (LCACP) as recognized by the American Center for Life Cycle Assessment.

The Athena Institute Impact Estimator is a whole building, environmental life cycle based decision support tool for use by building designers, product specifiers and policy analysts at the conceptual design stage of a project. The Impact Estimator provides a cradle-to-grave Life Cycle Inventory profile for a whole building over its expected life, and is capable of simulating over 1,200 different assembly combinations for approximately 95% of the building stock in North America.

With nearly 50 years of success as a roof system of choice for low slope applications, EPDM is the leading roofing choice of architects, roof consultants and contractors for both new construction and replacement roofing projects. To date, more than 20 billion square feet of EPDM roof systems have been installed on more than 500,000 warranted rooftops.

To find out more about the LCA data, go to www.epdmroofs.org.

The EPDM Roofing Association (ERA) is the first trade association solely representing the manufacturers of EPDM single-ply roofing products and their leading suppliers. ERA provides technical and research support to the public and the construction industry, and communicates the longstanding attributes, consistency and the value proposition of EPDM rubber membrane roofing materials.