

EPDM Recycling

WRITTEN BY **GEORGE EVANKO**

ERA EXPANDS RECYCLING CAPABILITIES THROUGHOUT THE COUNTRY

The Washington, D.C.-based U.S. Environmental Protection Agency estimates 40 percent of total landfill waste comes from construction and demolition debris—one-quarter of which is generated by roofing materials. Therefore, the roofing industry is facing an ongoing challenge to increase the level of recycling of its products. In addition to landfill-space concerns, hot-button issues, like urban-heat-island effect and climate change, have sparked a rising number of laws and regulations requiring recycling in commercial projects.

For example, the state of Wisconsin has announced all EPDM roofing membrane and insulation removed from state buildings must be recycled. The Denver Public Schools system specifies all materials removed during reroofing projects be recycled. Although there currently are no such regulations in the Carolinas, it doesn't mean they won't eventually be adopted.

In addition, the industry has seen a growing emphasis on "green" building and environmental responsibility. Many cities now require new building construction and major renovations achieve specific LEED certification levels. (LEED is a green-building rating system established by the U.S. Green Building Council, Washington.) To achieve required certification levels, LEED points may be earned for waste diversion and recycling.

In August 2007, the state of North Carolina enacted a law formally granting permission to cities and counties to encourage green-building practices in their jurisdictions through the use of reduced permitting fees or partial rebates for construction projects that achieve LEED or other green-building certification. In December 2007, Mecklenburg County added a Green Building Rebate Program to its County Fee Ordinance, offering permit fee rebates to projects with proof of LEED certification.

Fortunately, many manufacturers of roofing products have initiated efforts to recycle their products on a system-

atic basis. One such effort is from the Bethesda, Md.-based EPDM Roofing Association, or ERA, a trade association solely representing the manufacturers of EPDM single-ply roofing products and their leading suppliers.

RECYCLING EFFORTS

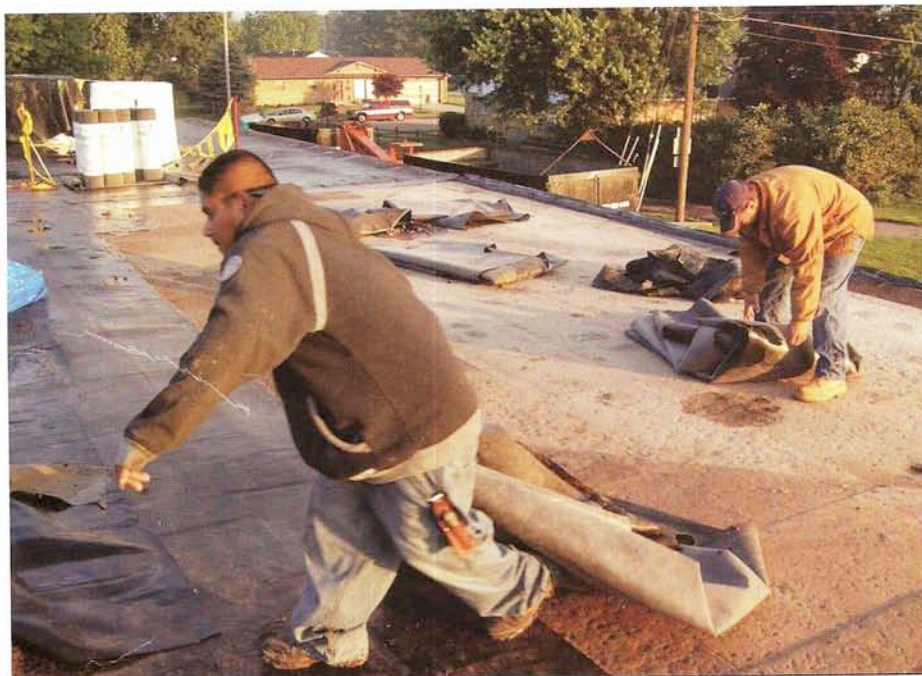
ERA initiated its recycling effort in 2006. At that time, the association, in conjunction with Indianapolis-based Firestone Building Products and Carlisle, Pa.-based Carlisle SynTec, sought pilot locations and partners for the program. Those contractors and companies assisted in removing, transporting and recycling the material.

The recycling program reached a significant milestone at the beginning of 2010.



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→ **MORE THAN 80 PERCENT OF PROJECTS IN THE ERA RECYCLING PROGRAM FOUND RECYCLING EPDM IS A LESS EXPENSIVE OPTION THAN DISPOSAL.**





To ensure the growth of ERA's recycling program, the association is actively seeking companies interested in becoming an Affiliate Member and participating in recycling EPDM. To find out more about the Affiliate Member category, the Recycling Council or the recycling program, visit www.epdmroofs.org or call (301) 654-5090.

→ IN THE CAROLINAS, 19,500 POUNDS OF EPDM ALONG WITH 32,700 SQUARE FEET OF INSULATION BOARDS HAVE BEEN RECYCLED AND KEPT OUT OF LOCAL LANDFILLS.

Nearly 5 million square feet of post-consumer EPDM roof membrane have been recycled in the past three years, making it the leading recycled commercial roof membrane material in North America. In all, approximately 1.25 million pounds of reclaimed EPDM membrane have been diverted from landfills since 2006.

The recycling program expanded beyond its pilot phase thanks in large part to the creation of a Recycling Council, including ERA Affiliate Members. ERA created the Affiliate Member category for any company, corporation or other enterprise not eligible for regular or associate membership but engaged in any aspect of the business of recycling EPDM or other single-ply roof membranes. The first two Affiliate Members are Nationwide Foam Inc., Framingham, Mass., and West Development Group, LaGrange, Ohio.

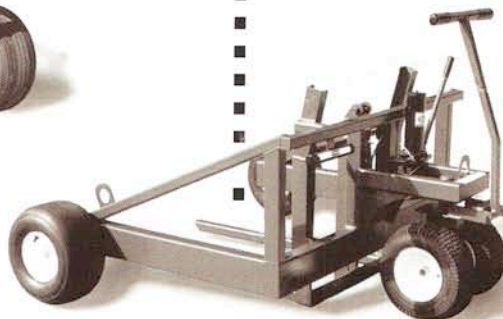
NFI is a large foam-insulation-board recycler and brings more than 20 years of recycling experience to the Recycling Council. The company operates on a national scale, collecting and hauling rooftop materials, including insulation board and

roof membranes, for commercial flat-roof repair and replacement projects of all sizes. Through its nationwide network, NFI has created an easy-to-use EPDM roof recycling program that has been used in 48 U.S. states, including the Carolinas, and several provinces in southern Canada.

WDG is a key partner in the EPDM recycling process because it makes direct use of the recycled material. It specializes in silicone and polyurethane-foam technologies used in the roofing industry and uses recycled EPDM material to add UV stability to and enhance the physical properties of its silicone products. WDG processes the EPDM and blends it into WDG solvent-free silicone membrane for new roofing projects. WDG accepts material from throughout the country for use in its products.

The addition of Affiliate Members enabled the recycling program to make significant strides in scope and cost efficiency, leading to the recent milestone achievement. These Affiliate Members provide nationwide reach, enabling far more interested parties to participate in the recycling process.

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For example, in the Carolinas, NFI has completed six separate recycling jobs, including several grade schools, an office building, two government facilities and the University of North Carolina at Greensboro. In total, these projects contributed the equivalent of 19,500 pounds of EPDM along with 32,700 square feet of insulation boards all of which was kept out of local landfills. UNC Greensboro accounted for more than 5,500 square feet of recycled material and 9,100 pounds of EPDM.



EASY AND BENEFICIAL

ERA's recycling program is available for low-slope ballasted and mechanically attached non-reinforced EPDM membrane

tear-offs. It offers jobsite collection and direct transportation to a recycling center. ERA Affiliate Members, such as NFI, also collect and recycle polyiso, EPS, XPS, composite-board foam insulation and concrete roof pavers. In addition, the ballast from a roof often can be cleaned and recycled, making the recycling process more cost efficient in many cases.

No special equipment is required for the roofing crew to recycle EPDM. On the rooftop, crews start the process by removing ballast; sweeping the rooftop clean; and then cutting the EPDM panels into large sections, making certain to avoid fasteners and areas covered with bonding adhesive. After cutting, the EPDM sections are folded into bundles, stacked on pallets and set aside until a truck arrives—typically within one day—from the program's contracted companies. The EPDM then is transported to a grinding facility.

Many building owners and roofing contractors have expressed sincere enthusiasm and support for the concept of recycling and the actual practice even when it is not mandatory. They are discovering that recycling now makes financial sense. More than 80 percent of projects in the ERA recycling program found recycling EPDM is a less expensive option than disposal.

In addition, some contractors have found that recycling EPDM membrane along with the insulation offered a 30 percent cost savings compared to traditional disposal. When combined with the desire to "do the right thing," these financial rewards are becoming a major driver in the push to recycle.

FUTURE OF EPDM RECYCLING

The next challenge in ERA's recycling program is to make recycling available on an even wider scale and within reasonable expectations of cost efficiency to create a viable, ongoing recycling network.

Evidence indicates that recycling is a viable option for any project of more than 250 squares. There currently is more than 20 billion square feet of EPDM installed on more than 500,000 warranted roofs; therefore, a large amount of EPDM obviously can be recycled once the material reaches the end of its usefulness on a rooftop. The existing recycling infrastructure through ERA has already simplified the process and made it economically viable for roofing contractors and building owners to recycle EPDM.

ERA and its partners are now focusing their efforts on expanding the network to ease the logistics of recycling and find more end-use applications of recycled materials. A steady supply of material entering the pipeline will enhance the value of recycled EPDM to potential users. Given the continuing value of EPDM, it is likely a significant percentage of the buildings involved in the recycling process will feature new EPDM as the replacement for the "old" EPDM, ensuring the cycle will repeat in the future. △



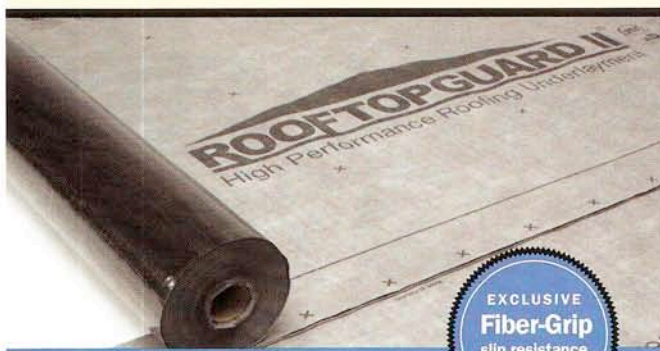
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