

Rubber & Plastics News[®]

A Crain Publication

©Finite contents copyright 2004 by Crain Communications Inc. All rights reserved

January 26, 2004

The Rubber Industry's International Newspaper

\$79 per year, \$4.50 per copy

Study: Rubber roofing performance on the rise

By Brad Dawson

Rubber & Plastics News Staff

ALEXANDRIA, Va.—The performance of EPDM roofing has improved dramatically over the past 20 years, according to a study examining the warranty records of the industry's largest rubber roofing manufacturers.

The study—"EPDM Roof System Performance: An Update of Historical Maintenance Costs"—was done to determine the extent to which the EPDM rubber roofing membrane has improved its long-term life cycle costs, according to the EPDM Roofing Association. This most recent report is an update of a previous one conducted in 1998.

The process delved into the warranty records of Firestone Building Products Co. and Carlisle SynTec Inc., the major U.S. EPDM roofing manufacturers. The database used covered more than 3 billion square feet of EPDM roofs installed on more than 150,000 buildings from 1982 into 2003, the study said.

The records included, along with warranty information, the type of roofing construction performed, the roofing system type, the location of the project and the installing contractor. They also contained details regarding the timing, cost and type of maintenance performed or authorized by the manufacturer during the warranty period.

"Because warranty service records also identify when a roof was installed and when maintenance was performed, they can provide an accurate chronology of roof performance," said Jim Hoff, author of the study and vice president of marketing and technology for Firestone Building Products.

"Based on the maintenance records assessed during this study, the improvement in performance of EPDM over the past 20 years makes the costs of maintaining an EPDM roof for 10 years almost negligible."

For example, when looking at the maintenance costs for EPDM roofs as a percentage of original installed costs over the first 10 years of service, the ratios have fallen considerably over time. For a roof installed in 1985, maintenance costs of an adhered EPDM roof were 9.4 percent of the original cost, but that figure fell to 2.4 percent for a 1990 roof and 1.3 percent for 1993, the study said.

Similarly, maintenance costs for a ballasted roof installed in 1985 were 6.7 percent of the original cost, but the percentage dropped to 2.4 percent for 1990 and 1.1 percent for 1993, the study said.

There's a direct correlation between reduced maintenance costs and the technology upgrades from the mid-1980s on, Hoff said. Specifically, there have been some major system improvements as opposed to changes in the actual EPDM membrane, which has stayed essentially the same, he said.

Some of the technologies introduced from 1985 through 1993 included butyl-based splice adhesives (replacing neoprene-based adhesives), EPDM-based wall flashings (replacing neoprene-based flashings), tape laminates (replacing adhesive seams at roof edges and battens) and seam tape with high-solids primer (replacing adhesive seams).

The improvements have been most significant in the case of EPDM systems used in re-covers over existing roofs, as opposed to re-roofing projects involving tear-offs.

"Given the escalating costs associated with roof tear-offs and the ever-present financial constraints on building owners, a roofing designer certainly can

take comfort knowing a properly selected EPDM re-cover system may provide an acceptable service life at a reasonable cost," Hoff said in his paper discussing the results of the study.

Hoff cautioned that the study's results didn't endorse using re-covers in all situations: existing roofs saturated with water or deteriorating are the best candidates for tear-offs. But EPDM re-cover systems installed over a suitable roof "will provide many years of acceptable service with minimal maintenance expense," he said.

