ERA Resource Guide

Over the past 50 years, a significant amount of data has been compiled regarding the performance of EPDM. The EPDM Roofing Association (ERA) website contains dozens of articles and reports on EPDM, and is a great resource for locating pertinent information when you need to present the case for this dependable material to a customer.

Below are direct links to relevant articles and reports located on the ERA website. The data is categorized by the four pillars of EPDM: Performance, Sustainability, Energy Efficiency and Innovation. There is also a fifth category for miscellaneous EPDM-related articles.

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Performance	
"It Came from Hail," May 2009	Summary of the JD Koontz Hail Testing Study of hail's effects on EPDM.
"Would You Like That Roof Supersized?" *Interface*, March 2009	Discusses the different thicknesses of EPDM membranes, EPDM Roofing Systems Life Cycle Costs, Recycling of EPDM, EPDM membrane resistance to hail and punctures. Also discusses RoofGardens and Photovoltaics.
Presentation of Hail Test Results from the International Roofing Expo, Feb. 2009	Powerpoint presentation on the summary of the JD Koontz Hail Testing Study of hails effects on EPDM on the effect of hail on EPDM.
"Challenging What's Cool," *Eco-Structure*, January–February 2009	Provides information on white membranes' effect on condensation and building masonry. Also provides information about a ballasted EPDM roof being "cool."
"Is Ballast Green?"	Report on the performance of ballasted EPDM roofing systems and how they are a cool roof. Discusses RoofGardens and the systems they are installed over. Also discusses the ease of recycling a ballasted EPDM roof.
Comparative Performance of EPDM Rubber Roofing Membrane as Protection Against Hail Damage	A report of the effects of hail on different roofing systems and EPDM's proven performance against hail. EPDM's adaptability to different installations and use of coatings. Discusses 30 year warranties availabile for EPDM.
"Standing Up To Hail," June 2007	A report of the effects of hail on different roofing systems.
"A Proposal for Uniformly Assessing Hail Damage to Roofs," *Interface*, October 2006	A report of the effects of hail on different roofing systems.
"Evaluating Ballasted Single-Ply Roof Systems," *RSI*, August 2006	Discusses the performance of a ballasted EPDM roof against wind events.
"EPDM Roofing Membranes and Long Term Performance," *Construction Specifier*, February 2005	Provides the history of EPDM and the physical properties testing that it undergoes.
"Impact of Hail on Rubber & Plastic Roofing Systems," the *Construction Specifier*, April 2004	A report of the effects of hail on different roofing systems.
A summary of a German study, "Evaluation of the useful life of EPDM roofing membranes."	Summary of field-aged EPDM testing.
"Exterior Fire Performance of Low-Slope Roof Assemblies," *Interface*, February 2004	Discusses fire performance of different roofing systems.
"Study: Rubber Roofing Performance on the Rise," *Rubber & Plastics News*, January 2004	Report on how EPDM roofing systems' maintenance costs have dropped dramatically.
EPDM Roof Membranes: Long Term Performance Revisited	Provides information on testing of aged EPDM membranes.

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Sustainability	
"EPDM Recycling: ERA Expands Recycling Capabilities Throughout the Country."	Provides information on the ERA recycling initiative in conjunction with Nationwide Foam Inc. Discusses several jobs where recycling has occurred and the recycling requirements of these areas.
"EPDM Roof Recycling."	Provides information on the ERA recycling initiative in conjunction with Nationwide Foam Inc. Discusses several jobs where recycling has occurred and the recycling requirements of these areas.
"A Success Story: The EPDM Industry Makes Progress with Recycling."	Provides information on the ERA recycling initiative in conjunction with Nationwide Foam Inc. Discusses several jobs where recycling has occurred and the recycling requirements of these areas.
ERA LCA Study	Outside study completed for ERA on the lifecycle costs of EPDM roofing systems.
ERA LCA Study Graphics	Supporting graphs/charts for the ERA LCA Study.
"EPDM Roof Recycling: Advancing Beyond Potential," *Roofing Contractor*, February 2010	Background on recycling EPDM that discusses the experience from a job where this took place.
"Why EPDM Is More Than Just a Black Membrane," Rubber Waterproofing Association, May 2009	Discusses the history, performance and longevity of EPDM roofing systems. Also discusses how an EPDM roofing system can help with a buildings energy savings.
"Would You Like That Roof Supersized?" *Interface*, March 2009	Discusses the different thicknesses of EPDM membranes, EPDM roofing systems' lifecycle costs, recycling of EPDM, EPDM membrane resistance to hail and punctures. Also discusses RoofGardens and photovoltaics.
"Is Ballast Green?"	Report on the performance of ballasted EPDM roofing systems and how they are a "cool roof." Discusses RoofGardens and the systems they are installed over. Also discusses the ease of recycling an EPDM ballasted roof.
"EPDM Group Champions Recycling"	Provides information on the recycling process of EPDM roofing systems.
"EPDM Recover Favors Insulation Options," *RSI*, April 2008	A roof recover allows you to add insulation and change the membrane color if it benefits the building.
"Evolution in the Repair and Restoration of Aged EPDM Roof Systems." *Interface*, November 2007	Discusses reroofing and recover options. Discusses the option to increase insulation and change the membrane color if it benefits the buildings. Also discusses roof coatings.
"An ERA recycling initiative," April 2007	Provides information on the recycling process of EPDM roofing systems, and two different projects where this occurred.
"Cool Roofing: A Ten Year Retrospective," February 2007	Information on the Cool Roof Calculator, and how it was developed in the 1990s as a sales tool. Provides information on LEED's definition of cool roofs; however, sustainability should be the determining factor for LEED. Information on the use of insulation and cool roof alternatives such as a ballasted EPDM roof, of roof coatings, RoofGardens, photovoltaics and wind power.
"A New Approach to Roof Life Cycle Analysis," January 2007	Compares the lifecycles and associated costs of various roofing systems.
"The EPDM Outlook," *Professional Roofing*, March 2005	Background on the testing that EPDM undergoes.
"Sustainability and Roofing: Its Time Has Arrived," *Professional Roofing*, March 2004	Discusses how programs should make roofs more sustainable and ways to accomplish this. Also discusses photovoltaics and RoofGardens. Comparison of the CRRC and Energy Star's reflective roofing testing differences.
Designing Sustainable Roof Systems	Information on how to design a sustainable roofing system.
"Study: Rubber Roofing Performance on the Rise," *Rubber & Plastics News*, January 2004	Report on how EPDM roofing systems maintenance costs have dropped dramatically.
"EPDM Roof System Performance: An Update of Historical Warranty Service Costs," *RCI*, September 2003	Discusses the low maintenance and costs of an EPDM roofing system.
EPDM Roof Membranes: Long Term Performance Revisited	Provides information on testing of aged EPDM membranes.

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Energy Efficiency	
"Not Just Black and White," *College Planning & Management*, April 2010	Focuses on the use of the DOE Calculator and the fact that geography is a primary factor for roof color. Also covers the role of insulation and the cool ballast option.
"Cool roofing doesn't always mean reflective roofing." *New York Real Estate Journal*, May/June 2009	Discusses the fact that a ballasted roofing system provides the same benefits of a cool roof.
"Why EPDM Is More Than Just a Black Membrane," Rubber Waterproofing Association, May 2009	Discusses the history, performance and longevity of EPDM roofing systems. Also discusses how an EPDM roofing system can help a building save energy.
"A White Roof Isn't Always The Right Roof," *Miller-McCune Magazine*, May 2009	Focuses on the use of the DOE Calculator and the fact that geography is a primary factor for roof color.
"Energy-Efficient Roof Designs with Single-Ply Roof Membranes," *Interface*, 2009	Compares reflective roofing versus the SPRI/ORNL cool ballast option. Also focuses on the different ASHRAE zone recommendations for insulation levels.
"Energy Efficiency: More than a simple black and white issue." American School and Hospital Facility, March 2009	Membrane color must be selected by location to optimize a building's energy performance.
"Challenging What's Cool," *Eco-Structure*, January–February 2009	Provides information on white membranes' effects on condensation and building masonry. Also provides information about a ballasted EPDM roof being cool.
"Energy Efficient Roofs," *School Planning & Management*, December 2008	Discusses use of the DOE Calculator and also a letter to a building owner in West Virginia that proves a dark-colored membrane would benefit the building more than a light-colored one.
"A Matter of Opinion"	Environmental concerns and the regulations adversely affecting roofing. Also discusses white versus black membranes, water-based adhesives, and FM fastening patterns.
"Is Ballast Green?"	Report on the performance of EPDM ballast roofing systems and how they are cool roofs. Discusses RoofGardens and the systems they are installed over. Also discusses the ease of recycling an EPDM ballasted roof.
"SPRI/ORNL Study Shows Ballast and Paver Systems Save as Much as a 'Cool Roof'"	The SPRI/ORNL study on cool ballast.
"New Ways of Defining Cool Roofs"	Introduction to the SPRI/ORNL study on cool ballast.
"Are Ballasted Roof Systems Cool?"	Introduction to the SPRI/ORNL study on cool ballast.
"Cool Roofing: A Ten Year Retrospective," February 2007	Information on the Cool Roof Calculator and how it was developed in the 1990s as a sales tool. Provides information on LEED's definition of cool roofs; however, sustainability should be the determining factor for LEED. Information on the use of insulation and cool roof alternatives such as a ballasted EPDM roof, roof coatings, RoofGardens, photovoltaics and wind power.
"Options to Consider for Title 24 Roofing," *Construction Specifier*, October 2006	Focuses on the use of the DOE Calculator rather than Title 24 standards. Building owners, architects, and specifiers should focus on the true lifecycle and energy costs of roofing systems.
Oak Ridge National Laboratory's Peak Demand Energy Analysis – Roof Reflectivity and Insulation R-Value	PowerPoint presentation on the summary of the SPRI/ORNL study of cool ballast.
"Cool Roofing Confusion", *RSI*, September 2005	Focuses on the use of the DOE Calculator, and the fact that geography is a primary factor for roof color. Also information on RoofGardens, urban heat islands, and necessity of cleaning reflective roofs.
"Roofing's Dirty Secret", *Professional Roofing*, April 2005	Focuses on the necessity of cleaning white roofs to maintain reflectivity, and how the cleaning affects warranties. Discusses roof life and absence of formal training, recommendations and regulations.
"Sustainability and Roofing: Its Time Has Arrived," *Professional Roofing*, March 2004	Discusses how programs should make roofs more sustainable and ways to accomplish this. Also discusses photovoltaics and RoofGardens. Comparison of the CRRC and Energy Star's reflective roofing testing differences.
"Cool Roofing: More Than a Black and White Debate", *RSI*, September 2003	Focuses on the amount of insulation in a roofing system rather than membrane color. Discusses the fact that commissions and agencies should adopt regional membrane recommendations.

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Innovation	
"Would You Like That Roof Supersized?" *Interface*, March 2009	Discusses the different thicknesses of EPDM membranes, EPDM roofing systems' lifecycle costs, recycling of EPDM, EPDM membrane's resistance to hail and punctures. Also discusses RoofGardens and photovoltaics.
EPDM Systems: "Where the Rubber Meets the Roof," *Roofing Contractor*, January 2008	Discusses the market shift in the 1970s from BUR to EPDM. Also discusses the advantages of current EPDM roofing systems.
"EPDM's Flash to the Future," *RSI*, February 2004	Introduction of ergonomic tools and Factory Applied Tape (FAT) for EPDM membranes.
"EPDM White Single-Plies: Meeting Market Trends," *RSI*, February 2004	Information on white EPDM membranes.

Miscellaneous	
"Challenging What's Cool," *Eco-Structure*, January–February 2009	Provides information on white membranes' effect on condensation and building masonry. Also provides information about a ballasted EPDM roof being "cool."
EPDM Systems: "Where the Rubber Meets the Roof," *Roofing Contractor*, January 2008	Discusses the market shift in the 1970s from BUR to EPDM. Also discusses the advantages of current EPDM roofing systems.
EPDM Membrane Production: Materials and Manufacturing Processes	How EPDM is manufactured and the raw materials involved in this process.
"EPDM Roofing Membranes and Long Term Performance," *Construction Specifier*, February 2005	Provides the history of EPDM and physical properties testing that it undergoes.
EPDM Attributes Technical Bulletin No. I: EPDM Continues to Perform	Highlights EPDM's physical properties, performance, versatility and ease of installation. Also discusses repair and restoration options and available warranties.
"Moving to the Top of the Class: Advances in EPDM's performance and cost-effectiveness promote managers to take notice," *Maintenance Solutions*, August 2003	Provides information on the benefits and innovations of EPDM.
"EPDM: A Flexible Choice for Today's Roofing Solutions," *RSI*, August 2003	Discusses the safety and ease of installation, technological advances, and available EPDM roofing systems. Also includes an introduction to ERA.

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