

STYROFOAM® Brand Inventor Ray McIntire Named to National Inventors Hall of Fame

Nowhere is the power and promise of the Human Element more prominently on display than at the National Inventors Hall of Fame in Akron, Ohio. The Hall was founded in 1973 by the U.S. Patent and Trademark Office and the National Council of Intellectual Property Law Associations. Here, visitors can ponder the achievements of nearly 400 Americans who helped elevate the human condition with inventions that transformed lives and future horizons. Inductees to the Hall include Henry Ford, Thomas Edison, Alexander Graham Bell, the founder of our company, Herbert Henry Dow, and, as of May 3, Ray McIntire, inventor of STYROFOAM® Brand extruded polystyrene.

“McIntire’s invention of STYROFOAM® Brand extruded polystyrene during World War II triggered the development of many indispensable insulation products used to enhance the energy efficiency of homes, offices and other buildings around the world today,” said Torsten Kraef, Dow Building Solutions vice president and general manager. “We are very pleased and honored that his achievement will be recognized by induction into the National Inventors Hall of Fame this year.”



Ray McIntire

STYROFOAM®: From Discovery to a Leading Brand

Born in 1918, Otis Ray McIntire graduated from the University of Kansas in 1940 with a B.S. degree in engineering. He went to work immediately as a research engineer for The Dow Chemical Company, which soon found its research and development focus being driven by wartime shortages and priorities. With natural rubber in short supply, McIntire’s work focused on developing a rubber-like substance that could be used as a flexible insulator. In an experiment in which he combined styrene with isobutylene, McIntire added more isobutylene than originally intended. The result was a unique material that was solid yet flexible due to the tiny bubbles formed by isobutylene within the styrene.

Patented in 1944 as STYROFOAM®, this new material was lightweight but also durable, and exhibited outstanding thermal and moisture-resistant properties. The first application was by the U.S. Coast Guard as an “unsinkable” buoyancy billet in their six-man life rafts. Before the end of the war, both the Coast Guard and the Navy were using unsinkable STYROFOAM® billets in a wide range of watercraft for their insulation properties and buoyancy.

By the 1950s, STYROFOAM® Brand products started making a significant impact in the construction market, replacing cork in various low-temperature applications, and as a thermal barrier in the walls and roofs of institutional and commercial buildings. Pretty soon, the residential construction sector was using this indispensable

material for below-grade insulation in the foundations and perimeters of slab-constructed homes.

Nearly 65 years after it was first patented, STYROFOAM® Brand Insulation is one of the leading brands of extruded polystyrene insulation in the world, easily recognized by its unique trademarked BLUE® color. Installed for its exceptional insulation properties from rooftops to basement walls in millions of residential and commercial applications around the world, STYROFOAM® Brand Insulation products are estimated to reduce energy costs by more than \$10 billion annually. Other applications range from the original marine buoyancy billets to floral, art and craft products.

Dow continues to leverage its extensive research and development infrastructure to build upon the flagship STYROFOAM® Brand and expand its portfolio of innovative solutions. Dow Building Solutions is an acknowledged leader in the global building industry, and demonstrates its ongoing commitment by combining technical know-how and a deep understanding of market needs to help customers solve their toughest construction challenges. STYROFOAM® Brand products also play an integral role in helping Dow achieve its 2015 Sustainability Goals related to



energy efficiency and reducing global carbon emissions.

The Human Element

“Ray McIntire’s recognition is timely since one of the key requirements for election to the Hall of Fame is that the nominee’s invention must have contributed to the welfare of society and promoted the progress of science and the useful arts,” said Kraef. “When you consider that one square foot of properly installed STYROFOAM® Brand Insulation can save up to one

ton of CO₂ emissions over the life of a home, most of us would agree that McIntire’s contribution to our common welfare has been enormous.”

McIntire remained at Dow for his entire career. He was promoted to research director, and later worked in the company’s consumer and venture capital divisions. He retired in 1981 as Dow’s director of technology and acquisition, and died in 1996 at the age of 77.

It should be noted that the STYROFOAM® Brand name is sometimes misused by the general public as a generic term for disposable foam products such as coffee cups, coolers and packaging materials. These materials are made from expanded polystyrene, and do not have the insulation value, compressive strength or moisture resistant properties of STYROFOAM® Brand extruded polystyrene insulation. Ironically, it was one of Ray McIntire’s Dow colleagues,

John Grebe, who invented expanded polystyrene.

Ceremonies for the 18 inventors being inducted into the National Inventors Hall of Fame this year took place on May 2 and 3 in Akron, Ohio.

For more information on STYROFOAM® Brand Extruded Polystyrene Insulation go to www.dowbuildingsolutions.com. For more information on the National Inventors Hall of Fame go to www.invent.org/2008induction.



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