About EPS

Polystyrene is one of the most widely used kinds of plastic. It is a polymer made from the monomer styrene, a liquid hydrocarbon that is commercially manufactured from petroleum by the chemical industry. Polystyrene is a thermoplastic substance, it melts if heated and becomes solid again when cool.

Polystyrene is most commonly found in three forms. Rigid Polystyrene (PS), Expanded Polystyrene (EPS) and Extruded Polystyrene (XPS).

Rigid polystyrene has many applications including disposable cutlery, cd cases, video/casette casings, components for plastic model toys as well as some margarine and yoghurt containers. Extruded polystyrene foam has good insulating properties making it important as a non-structural construction material. XPS is sold under the trademark Styrofoam by Dow Chemical, however this term is often used informally for other foamed polystyrene products.

History

In 1839, a German apothecary Eduard Simon discovered polystyrene. Although Simon was able to isolate the substance from natural resin, he did not know what he had discovered. It wasn't until 80 years later that organic chemist Hermann Staudinger, realised Simon's discovery, comprised of long chains of styrene molecules, was a plastic polymer.

In 1922, Hermann Staudinger published his theories on polymers, stating that natural rubbers were made up of long repetitive chains of monomers that gave rubber its elasticity. He went on to write that the materials manufactured by the thermal processing of styrene were similar to rubber. They were the high polymers including polystyrene. In 1953, Hermann Staudinger won the Nobel Prize for Chemistry for his research.

In 1930, the scientists at BASF developed a way to commercially manufacture polystyrene in a pellet form. In 1937, the Dow Chemical company introduced polystyrene products to the U.S. market.

In 1951, BASF developed and patented Expanded Polystyrene (EPS) known as Styropor®.

Today, EPS is one of the most versatile and cost effective materials for both packaging and building/construction applications because of its benefits in product, performance and recycling.