

HISTORY OF PLASTICS

The plastics industry started about 1909 and the first “plastic” was *phenol formaldehyde* (Bakelite, or phenolic).

During the 1930’s the plastic industry began to “bloom”. The chemistry for nylons, urethanes and fluorocarbons (Teflon) plastics were developed; the production of cellulose acetate, melamine and styrene molding compounds began. The industry also began to develop the machinery to perform molding and vacuum forming.

During World War II, the plastics industry expanded to include things like **PVDC** and **Acrylic**.

PVDC

In 1933, Ralph Wiley, a Dow Chemical lab worker accidentally discovered **polyvinylidene chloride** or Saran. Ralph, a college student who cleaned glassware in a Dow Chemical lab, came across a vial he couldn't scrub clean. He called the substance "eonite", after an indestructible material in the comic strip "Little Orphan Annie." Dow researchers made Ralph's "eonite" into a greasy, dark green film, which Dow called "Saran". The military sprayed it on fighter planes to guard against salty sea spray and carmakers used it for upholstery. Dow later got rid of Saran's green color and unpleasant odor.

After World War II, it was approved for food packaging, and it was prior sanctioned in 1956 (Society of the Plastics Industry). PVDC was cleared for use as a food contact surface.

Saran films are best known in the form of **Saran Wrap**® film, the first cling wrap designed for household (1953) and commercial use (1949), introduced by the Dow Chemical Company. Saran Wrap® brand plastic film is marketed today by S. C. Johnson.

ACRYLIC

Acrylic (Plexiglas®) was also widely used during the second world war for aircraft windows. Today, acrylic is produced in a wide variety of colors, sheet sizes and patterns.

The post war era saw the production of vinyl resins, molded acrylic taillights, back lighted signs, and printed circuit boards.

Due to the newness of the materials, the properties and behaviors of the plastic materials were not completely understood. Many products were introduced that failed. Creating a negative impression about plastics in the public’s mind.

Occasionally, plastics are still improperly used and draw negative comments. The thousands of successful applications that contribute to the quality of our life are seldom noticed and are taken for granted.

In 1946 Cope Plastics Inc. and Dwight Cope got in on the ground floor of the plastics industry.