

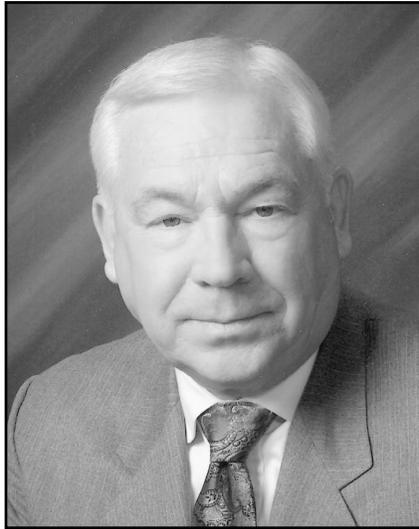
Bill Benjamin, President, Benjamin Mfg. Co.

Bill moved from Ohio to California in 1959 and began working in the plastics industry. In 1967, he started Benjamin Mfg. Co. in Downey, CA. Bill began thermoforming parts on thermoforming machinery he designed and built himself since the type of machinery that he imagined using was not available for purchase. Bill continued to design and build several more of these machines. These original machines are still in use at his plants in California and Georgia. Bill also designed and built a two-station biforcator thermoformer. Bill has six patented products and has three trademarks. His first registered trademark is for his "Lustre-Lav" which was made from the forerunner of DR Acrylic ABS material. This material is a big part of the spa and plumbing industries today. In 1980, the second plant was opened in Lithia Springs, Georgia.

In 1968, Bill thermoformed acrylic and ABS materials, backed with fiberglass, for his products. Since fiberglass is such a labor intensive, messy and environmentally unfriendly process, Bill longed for something better and continued working on developing a better material. Some of Bill's early products include a line of sanitary ware: Lustre-Lav sinks, Switch-Hitter bathtubs, tub and shower enclosures and tub protectors. These products were all thermoformed on Bill's machinery.

The tub protector was Bill's first patented product. This bathtub liner needed to follow the inside shape of the bathtub but also have a large flat skirt that is bent down to protect the tub's exterior. Additionally, it had to accommodate the laminating of a foam sheet on the bottom of the tub portion of the liner. Bill's machinery allows for part of the sheet to be heated and also the lamination of the foam to occur in the same thermoforming cycle.

ABS sheet, in the 60's, left a lot to be desired. Much of the original material contained die lines, gels and other defects. Bill requested that his sheet be run in specific directions so that the lines would not be as visible, but that was just the start. Wanting to eliminate



fiberglass altogether from his products, but at the same time keep the high gloss look of acrylic, Bill continued to develop and test various materials.

Bill began working with Jim Armor of Alchem Plastics to develop a better quality material resulting in a better quality product. An extrusion die block was developed to help flow the acrylic onto the ABS more evenly; thus an Acrylic/ABS co-extruded sheet was developed. Bill developed more products, thermoformed out of this material, and eventually trademarked this material as "Akralac." Today, you see the result of Bill's work; acrylic and ABS have become commercial standards in both the plumbing and spa industries as well as in the automotive, marine, and recreational vehicle industry. Benjamin Mfg. Co. still specifies the direction of the extrusion to best suit the needs of the products to be thermoformed.

Over the past thirty-six years, Bill has developed, patented and trademarked many products. Some of these products include:

Switch-Hitter Bathtub. (1977) This design enables the vacuum formed bathtub to be manufactured and installed with the drain on either the right or left side. It also allows easy access to the pump on a whirlbath system. Many major bathtub manufacturers use this today.

Nipple Tray. (1991) This product is part thermoformed and part fabricated

from plastic sheet. Plumbers can now carry an assortment of different size pipe nipples to the job site.

Glue Carrying Tray. (1992) This tray is for the modern plumber who now uses glue for plastic pipe. The plumber can carry both PVC and ABS glues.

Cut-Mate. (1993) This food preparation system was inspired by Bill's early days, in Ohio, as a meat cutter. The Cut-Mate preparation board fits easily onto the top lip of a thermoformed tray. The Cut-Mate comes in several sizes and can be used by the backyard BBQ'er to professional chef.

Color Spot. (1993) A color plug is inserted into a food cutting board that tells the chef which food item is to be cut on that specific board. This color plug system helps eliminate cross contamination of foods.

Metal Surfaced Plastic Water Heater Pans. (1999) These thermoformed pans are used under water heaters to eliminate water damage from leaking water heater tanks. This metal skin meets the builder code requirements.

Capstone Surfaced Outdoor Patio Tables and Accessories. (2000) Acrylic particled co-extruded cap on ABS. This Weatherable plastic has the look of granite.

Through the years, Benjamin Mfg. Co. has also manufactured paper bathtub protectors, closet bend protectors, shower protectors, sewer and dryer vent hoses, photographic developing trays, tote trays, chrome and vacuum-metalized thermoformed plastic cleanout cover plates to name just a few. Benjamin Mfg. Co. also manufactures a line of outdoor furniture, thermoformed from weatherable material. The company also has a very large custom forming business.

Bill is still active in his company and continually strives to improve product quality and design new products. His two sons, Jeff and Rick, work alongside him at his California plant. Bill has always believed that it's not the degrees you hold but the commitment you bring to the industry that make for a successful line of thermoformed products. ■