THE FUTURE OF THERMOFORMING

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As we look forward to the future development of the thermoforming industry, we must realize that the industry has now emerged from its infancy stage and is beginning to toddle along. The growth of the industry is totally dependent on the volume that can be developed in new applications.

Increased application of thermoforming in the future will be dependent on these basic factors:
Development of new materials
Development of new machinery
Economic factors
Assuming the realization of these developments, we can only suggest some areas of future thermoforming applications.

First, we must assume that the volume applications of thermoforming (use in poundage of materials) will be almost exclusively in the captive operations. This, in effect, means the entrance into the thermoforming field by companies with little skill in thermoforming, but with other diversified skills such as those used in paper technology, metalworking, and construction. By combining the skills in their respective fields with the new and sophisticated thermoforming machinery being developed, we can hazard a guess which might indicate some of the future paths the thermoforming industry might take.

Materials are being developed for the building and construction industries of the future. We already have clear materials for use in skylights and glazing. Scuffproof clear materials in development and coated high-strength materials are now available for building facades.

The next step is a 20 x 20 foot formable sheet with foam in the center and high-strength, self-extinguishing, weather-resistant, colorfast, and high-temperature properties. Then, both building shells and inside walls can be formed in one piece. Architects have already designed a complete one-piece wall unit formed with shelves, cabinets, designs, and compound curves. A rotary thermoforming machine is available, capable of forming an 18 x 26 foot unit.

At the other end of the spectrum, we can see super-thin, super-strength clear materials for packaging and containers in which foods can be cooked or kept fresh on an indefinite basis. The food container tray industry is growing by such leaps and bounds that major corporations are setting up to produce on a captive basis. Material consumption for this application represents a major portion of the total plastics consumption. But, suppose a new super material was developed. It would increase application and consumption one-hundred fold.

A foreseeable problem will be the disposal of used containers. A way must be found to dispose of plastic refuse without producing contaminating smoke and gases which will further pollute the atmosphere.

The future of thermoforming has no boundaries in volume, variation, or widening application.

ROTATIONAL MOLDING

Rotational molding, or rotocasting as it is more commonly called, has an almost unlimited future. Within the last 6 or 7 years, rotocasting has graduated from a static casting process to the present state of the art. In that brief period of time, the industry has progressed from toys, tote pans, and traffic markers to shells for airplane flight simulators, 500-gallon tanks and liners, tables, military packaging containers, and gasoline tanks.

In this short period of time, some progress has been made in the development of molding compounds specifically tailored to rotocasting; but, much more work remains to be done in this area to provide a wider selection of materials. Up to now, the mainstay of the rotocasting industry has been low-density, injection-grade polyethylene. Some high-density polyethylene is being used along with vinyls, ABS, etc. New materials are required which contain fillers and reinforcements to give the finished product a much needed increase in