



Cycletime Tips - Automotive

Volume 1: Plasticized PVC Alternatives

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When we look at the alternatives to PPVC, we tend to look toward thermoplastic elastomer (TPE), thermoplastic urethane (TPU), and modified olefin-based (TPO) products. As an individual who has a vivid understanding of the various idiosyncrasies within these families the level of optimism isn't high.

The first area of concern is within processing. Based on the several attempts to "drop-in" these products to existing PPVC molds and extrusion dies, all cases revealed that design rules surrounding vinyl don't apply to the alternatives. Based on this, primary extrusion and injection molding efforts leave the materials engineer disappointed.

Depending on the industry to which you belong, the approach moving forward will range from an engineering-based strategy with an emphasis on virtual simulation or technology acquisition, to an obsolete mold and a skilled tooling person with a welding device. Again, depending on the industry with which we are involved, the burden of the responsibility will be conveyed to the processor on the floor to "make the best of it" with the cheapest product. In other areas it will revolve around the effort to generate a mold or die that is effectively designed for the alternate material. The decision is left to management and they will make the decision that they deem appropriate, but it's critical to know the facts.

When evaluating alternatives, please look at the big picture. Does the candidate require pre-drying? Will the prospect meet the application requirements? Will existing mold, die, and/or machinery need to be modified to successfully process the material? The responsible decisions made will mean the difference between survival and failure. Please consult with your General Polymers Technical Service Representative should questions arise.