Chapter 73

Acrylonitrile-Butadiene-Styrene Copolymer/Polyvinyl Chloride Alloy

General Discussion of Joining Techniques

A. Schulman: Polyman

Polyman alloys provide close molding tolerances and retain their as-molded properties over a range of temperature and environmental conditions and time. A wide range of fastening and assembly techniques can be successfully used with confidence.

For mechanical assembly, Polyman alloy characteristics are especially suited to the use of induction heat insertion of metal inserts or Dodge expansion inserts. The use of finger engagement snap-in fits frequently found in automotive connectors are also excellent design solutions for a Polyman alloy part assembly. Molded-in inserts, while the strongest fastening technique, involve longer cycle times and should be reserved for situtations where part loading demands superior joint integrity. When self-tapping screw joining is used, screws should be of the type normally used for ABS plastics with deeper threads than those designed for polycarbonate plastic. Ultrasonic insertions and ultrasonic welding are other practical and frequently used assembly solutions to which Polyman alloys are well suited.

When employing adhesive and solvent welding techniques, the use of solvent systems such as tetrahydrofuran and methyl ethyl ketone (MEK), or cyclohexanone and perchloroethylene will take advantage of the vinyl- and ABS- like chemical properties of most Polyman alloys.

Reference: *Polyman*, supplier design guide - A. Schulman Inc.