
MOLDED MATERIALS INTRODUCES NEW VERSATILE INJECTION MOLDED AUTOMOTIVE SEAT PALLET THAT EASILY RECONFIGURES TO HANDLE DIFFERENT SEAT MOUNTING DESIGNS

New pallet design aimed at becoming the “seat pallet of the future”.

Automotive seats are one of those components in a vehicle that have a tendency to be extremely dynamic throughout product design and final assembly. Seats typically vary in design and application including manual, power, bench and bucket. As a result, there are large numbers of individual components, particularly with respect to seat mounting details. Ideally, seat manufacturers like to have a pallet that can be used in the manufacturing process with auto load/unload and sequencing capabilities, as well as a shipping pallet that can be easily loaded in and out of trucks from supplier to OEM. Molded Materials Inc., a leading designer and manufacturer of injection molded dunnage and trays, has developed a new seat pallet design that addresses those specific needs and is successfully in production today in its first application at one major OEM manufacturer.

Tom Elkington, vice president operations for Molded Materials says, “ In the past ten years, we have been involved with a variety of seat pallet developments. The current evolution is our new universal standard seat pallet system, Fig. 1, a unique design that uses individual injection molded nylon mounting and clamping pods that are snapped in place on a pallet base, securely fastened with special clips, Fig. 2, and through a manually-actuated lever system clamp two seats to the 56 x 28.75x 2.25-inch injection molded nylon pallet base.”

Elkington adds, “The complex design of the base makes the pallet look complicated, when in fact the design is very simple and extremely versatile. To build strength and dimensional accuracy into a pallet of this size and configuration, with a maximum weight requirement of only 40-lbs, demands a great deal of design, strength and wear of materials, and



Fig. 1
New Molded Materials, Inc. universal seat pallet system is helping automotive OEMs and seat manufacturers solve design flexibility problems as they relate to manufacturing and assembly.

injection molding experience and know-how. We worked closely with the customer's material handling and AS/RS engineers to insure that the pallet design was both automation and truck friendly. Durability was paramount, but dimensional stability was equally important. For example, the pallet base is manufactured from high-impact nylon with a bottom surface variation of .032-inches within any 6-inches of running length and .016-inches within any 4-inches of running width. The bottom surface tolerance is .000 to .300-inches maximum over the entire length. This level of accuracy is significant for a injection molded part of this size.”

Fig. 2
The unique geometry of the latching clips allow the user to simply snap them into place to lock pod details into proper position.



In the current seat application, seats are loaded onto the pallet pod details in the “in-car” position, over a series of locating pins that align with mounting holes in the seat framework. When properly in position, a manual lever that is built into the pod arrangement, is rotated counterclockwise, actuating the built-in control rod linkages that rotate four hold down clamps that lock the seat in position on the pallet. Reversing the sequence unlocks the seats from the pallet for easy removal.

“What’s great about this concept,” Elkington adds, is that high-impact nylon is a very durable material and the base pallet can be used over and over again for both current and future programs. Only the pod details require changing, minimizing overall pallet investment and providing the user with the kind of flexibility needed to handle the

frequent design and processing changes that normally occur with seat designs.”

Molded Materials Inc. provides custom engineered plastic products for material handling, process manufacturing and assembly. Molded Materials markets to a variety of manufacturing industries with a focus on automotive, process equipment, automation equipment and transportation.