

Inflatable Dunnage Bag Design Innovations

Reduce Freight Shipment Damage, Improve Stability

Protecting truck freight from damage during transit is critical to supply chains. Each year, money and merchandise are lost because of failures in preventing shifting, colliding and breaking up of freight during transit.

To address these concerns, the industry has typically turned to a variety of dunnage materials and methods including plywood, matting, strapping and load bars to stabilize and secure truck loads during transportation. However, some of these options can be problematic for shippers, and billions of dollars are still lost annually due to products damaged as a result of inadequate dunnage.

This is causing the industry to consider dunnage solutions to fill the empty spaces, such as advanced inflatable truck dunnage bags that can be inflated to precise pressure levels during the loading process, which better stabilize truck freight. Designed for single trip use, air bags offer the advantage of being configurable and effective freight stabilizers for voids of up to 24 inches between pallets. Air bag design has continued to advance with improvements that lower overall costs and improve performance for freight loaders and haulers.

“The material used to make the bag and other subtle – yet important - design features can add considerable value to this type of dunnage,” says Mitch Tschantz, owner of Inflatable Packaging Incorporated (IPI), a Connecticut-based inflatable packaging and dunnage solutions provider founded in 1993.

The company, for example, has developed a transparent air bag solution for truck dunnage bags that is made of a fully recyclable polyethylene material. Unlike woven, paper or vinyl materials, the dunnage bags are made of a transparent film, which gives the bags lower weight and handling advantages. The film can stretch and expand (unlike inflatable air bladders with covers), which makes it adaptable at varying altitudes.



Inspections are expedited because the material is clear, not opaque like other dunnage materials, which facilitates international shipments.

“With a bright light, inspectors can see through the material all the way to the bulkhead of the trailer to ensure there is no smuggled contraband or illegal border crossers,” explains Tschantz.

The polyethylene bags can be pre-positioned in the warehouse prior to loading, or in the trailer, using double-sided adhesive labels. The inflation valve can be either at pallet top or bottom for easy inflation. For forklift operators, pre-attaching bags to pallets in the warehouse can expedite the loading process by 25-30%.

The surface of the polymer bags is also treated with a charge of electricity so it clings to the stretch-film used to stabilize goods on pallets. Other types of bags, including those with paper covers, are known to migrate out of position as a result of bouncing and shifting during transit.

“Truck dunnage has advanced well beyond simply filling voids inside boxes and between pallets,” concludes Tschantz. “Smart design and customized solutions are improving efficiencies, better protecting goods, and reducing costs in supply chains.”

For more information on Inflatable Packaging visit their website at www.inflatablepackaging.com or call (203) 426-2900.