



APPLICATION CASE STUDY

SHIPPING RACK: TRUCK BUMPER DUNNAGE

SUMMARY:

Thermoset urethane vibration dampening boots eliminated the need for two nesting posts and the damaging effects of dislodged bumpers during transit while reducing labor costs for unloading and providing the automotive OEM with \$550,000.00 in dunnage savings.

- Custom Rack Dunnage
- Cast Urethane

APPLICATION:

The Client's shipping container is a steel rack frame with plastic nesting posts. Truck bumpers are loaded into the rack and seated over the black plastic posts, but left unrestrained in the rack. The manufacturer ships the bumpers by truck and rail to several assembly plants.

PROBLEM:

During truck and rail shipments, the bumpers climbed off the nesting post and dislodged from the rack. The dislodged bumpers were scratched or damaged and often collided with other bumpers in the rack. The loose bumpers complicated the unloading of truck and railcar shipments. The rack was due for retrofit to accommodate a new bumper design. All bumper nest posts would be removed during the rack conversion and replaced with new posts.

SOLUTION:

Poly Flex Products through its dunnage engineering developed the blue boot to fit the frame contour of the current bumper and the new bumper. Instead of having two separate nesting posts, PFP engineers designed one boot to accommodate both bumpers. The material is a vibration dampening thermoset urethane. The boots reduce the vibration and movement of the bumpers and eliminated the problem of the bumper becoming dislodged. The slip-on boot design allowed for easy installation and reduced the overall cost of the rack conversion.

COST SAVINGS/BENEFITS:

- **Eliminated part damage**
- **Eliminated ergonomic issues and reduced labor when unloading racks**
- **Slip-on design reduced labor cost of rack conversion by 60%**
- **Total estimated project savings \$550,000**

