



PermaGuard

Product Name

Cart Bumpers – Model PermaGuard

Manufacturer

Alvarado Manufacturing Co., Inc.

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Product Description: The PermaGuard is a steel cart bumper with a replaceable aluminum front rail. A stainless steel peg support attached to each PermaGuard post is inserted into an anchoring sleeve for easy installation and removal. In addition to the straight sections of PermaGuard, 90° and 135° angled sections are available.

Materials: All tubing and sheet metal materials meet the appropriate ASTM Standards.

Mechanical Components:

- The **PermaGuard Bumper** is a fully welded assembly constructed of a 2.25" diameter x 16 gauge cold rolled steel tube supported by 1.75" diameter x 16 gauge cold rolled steel vertical tubes. The vertical tubes are notched and welded to the horizontal bumper. The ends of the horizontal bumper are sealed with pressure fit zamac caps. The bottom of the vertical tubes are welded to a 3.54" diameter flange. A 3/4" diameter x 3-1/4" long stainless steel peg is welded to each flange.

- The **PermaGuard Rail** is made of 0.25" thick hard-anodized aluminum. The rail is 2" in height. The rail is attached to the horizontal bumper tube with black neoprene spring rubber with an outer diameter of 1-3/8" and an inner diameter of 1/2". The spring rubber is 3/4" thick and is placed between the rail and the bumper. The bumper and rail are attached through the spring rubber with 1/2-13 x 1 FHSCS (Flat Head Socket Cap Screw) and 1/2-13 short rivnuts.
- The **Anchoring Sleeve** is a 4" long stainless steel sleeve. The sleeve has a 1" outer diameter and a 0.870" inner diameter.

Finishes: The PermaGuard is available in the following finishes:

- **High Polished Chrome** – All external fabricated materials except the front rail are composed of cold rolled chrome plated steel and mirror polished.
- **Powder Coat** – All external fabricated materials except the front rail are composed of cold rolled steel and powder coated in one of many available colors.

Size: The PermaGuard has an overall height of 6-3/8" when installed. The bottom of the tube is 4-1/8" above the finished floor when properly installed. The PermaGuard bumper has an overall depth of 3" from the front of the rail to the back of the bumper tube. The PermaGuard is available in lengths of 1' to 6' in 1' increments, as well as 8' and 10' lengths.

Shipping: The PermaGuard is shipped fully assembled. Each PermaGuard includes anchoring sleeve hardware to mount the unit to a standard, level concrete floor. Alvarado ships products throughout the world.

Installation: All PermaGuard bumpers must be installed on level concrete. Installation should be performed by a skilled installer following the manufacturer's directions and instructions (supplied with the product).

Options:

The following is a list of options that are available for the PermaGuard:

- **90° PermaGuard** – The PermaGuard bumper and rail is bent to a 90° angle with a 4" radius. The 90° PermaGuard provides approximately 9" of case protection coverage on each side of the bend.
- **135° PermaGuard** – The PermaGuard bumper and rail is bent to a 135° angle with a 4" radius. The 135° PermaGuard provides approximately 9" of case protection coverage on each side of the bend.

Warranty: Alvarado Manufacturing Co., Inc. warrants the PermaGuard from defects in material or workmanship, for the period of ONE YEAR from date of shipment. Complete details of the warranty are available from Alvarado by request.