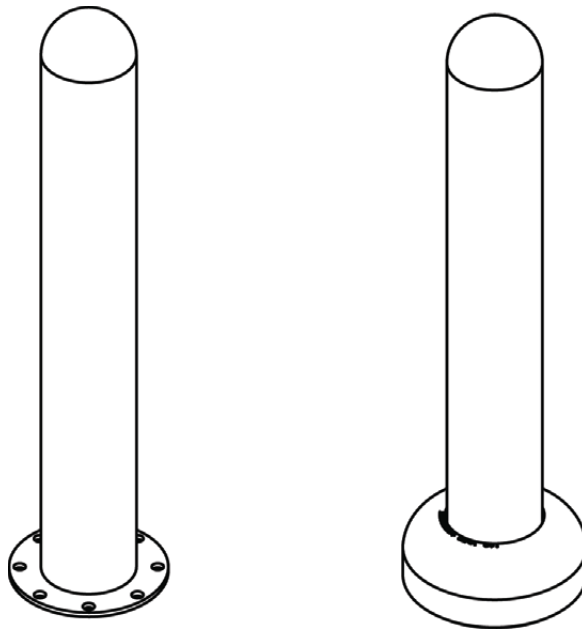


DSB
Version 3.0



Installation Instructions

Alvarado Manufacturing Company, Inc.
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Before You Begin

PRECAUTIONS Read this installation guide in its entirety before installing any bollards.

- DSB bollards are shipped from the factory ready-for-installation. The document assumes that you are installing an unmodified bollard using the provided wedge anchor package.
- Bollards must be installed on level concrete.

Materials Included

- DSB bollard
- Wedge anchor package
- Bollard base cover (optional)

Tools Required

- Hammer drill
- 3/8" concrete drill bit
- Ratchet with a 9/16" socket
- Torque wrench
- Shop vac
- Pencil

Support

Contact the Alvarado Technical Support department Monday–Friday from 7:00 AM to 4:00 PM Pacific time

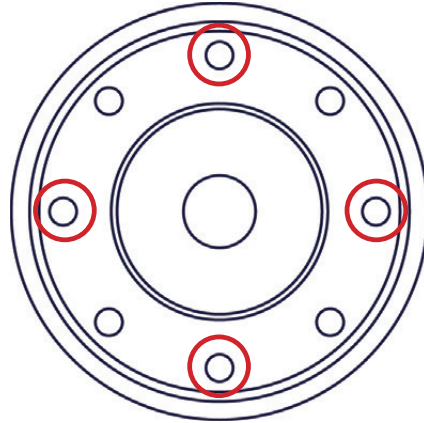
Email: support@alvaradomfg.com

Phone: 909-591-8431



Installation

1. Remove the red shrink-wrap from the pallet.
2. Remove the DSB bollard, the base cover (if applicable), and the wedge anchor package from their packaging.
3. Place the DSB bollard where you want to install it and use the pencil to mark the locations of four outside anchoring holes. Remove the bollard and put it to the side.

**NOTE**

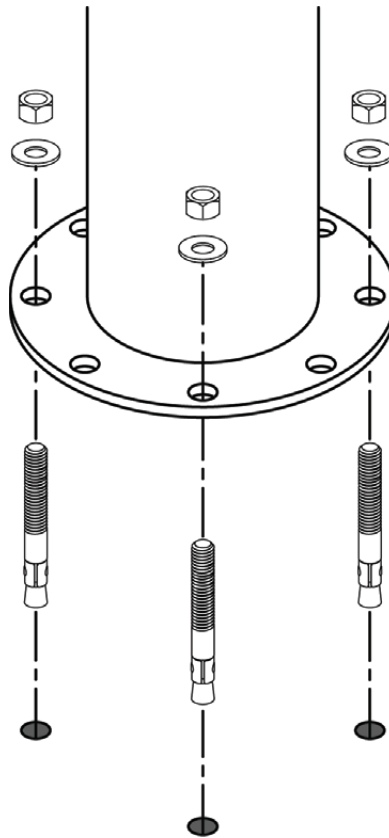
Bollards can also be installed using all eight anchoring holes. This requires an additional wedge anchoring package per bollard.

4. Use the impact drill and the 3/8" concrete drill bit to drill out the four anchoring locations. Each hole must be 1-3/4" to 2" deep.
5. Use the shop vac to vacuum all dust and debris from each hole.
6. Insert a wedge anchor, thread-side up, into each hole. Remove the flat washer and nut from each anchor and set them to the side.



1. Align the bollard's anchor holes with the anchors.
2. Place the flat washer and nut on each anchor. Use the 9/16" socket wrench to tighten the nuts to 20 foot-pounds of torque.

Alvarado recommends shimming as needed while tightening the nuts to keep the bollard plumb and level.



3. If applicable, slide the base cover over the bollard and adjust over the flange.



Maintenance

- Use a soft, damp cloth to clean the powder coat finish on the bollard.
- Any deep scratches or chips should be touched up to prevent rust. If rust goes untreated, it will spread under the surface of the powder coat finish.
- Replace any bent or broken components immediately.
- Tighten any loose anchor nuts.

Warranty

Alvarado Manufacturing Co., Inc. warrants the equipment being sold against defects in material and workmanship for a period of one year from the date of purchase, providing recommended installation and maintenance procedures are followed. This warranty is void if damage was due to improper installation, maintenance, or use. The manufacturer is not responsible for any shipping or labor charges incurred in the removal or replacement of defective parts.

**Revision History**

Revision	Creation Date	Author	Revision History/Description
1.0	11/10/2006	T Preusch	Original Document
2.0	3/24/2017	D Bohannon	Updated to current formatting. Updated for changes to anchoring hardware.
3.0	8/2/2021	D Bohannon	Updated concrete drill bit size and hole requirements.



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