

When APS push buttons are installed the contract documents call for the use of a specific threaded inserts (rivet nuts). Approved threaded inserts can be found on MnDOT’s APL for signals at the following URL:



Figure 18-3: Rivet Nut

<http://www.dot.state.mn.us/products/index.html>

When installing threaded inserts, the contractor must use a manufacturer approved rivet nut crimping tool.



Figure 18-4: Approved Crimping Tool

18.1.2 APS PUSHBUTTON MOUNTING SPACER

Spacing devices are required when installing the APS buttons on signal head pedestal shafts to ensure that the pushbutton is in compliance with ADA reach requirements.

When ordering the spacers for a particular project, the contractor needs to identify the manufacturer of the APS button to obtain the correct number of spacers required and the associated hardware kits.

See the installation instructions in the Appendix for additional information.



Figure 18-5: APS Pushbutton Mounting Spacer

18.1.3 INSTALLATION TECHNIQUES

The contractor must install APS pedestrian push buttons in accordance with contract documents.

The mounting height must be 42 inches above the concrete sidewalk area. Refer to the contract documents for details. APS push buttons must be easily accessible to pedestrians and be installed in accordance to contract documents. Failure to install pedestrian ramps and APS buttons in accordance with the contract documents may require the contractor to remove and reinstall the ramps and APS buttons as required in the contract at the contractor’s expense.

When installing an APS push button station shaft, securely tighten the pedestrian shaft into the APS base before tightening the set screws. Check the APS button direction before drilling the required mounting holes. These are good rules to follow to ensure that the button directionality is correct and the station will be sturdy.



Figure 18-6: APS 42 Inch Mounting Height

Care must be taken when installing the pedestrian station stainless steel anchor rods.

Installation of the anchor rods with epoxy in the pre-drilled holes must be in accordance with the epoxy manufacturer's installation requirements. Figure 18-8 shows the consequences of not following epoxy installation requirements.

The pre-drilled hole must be properly cleaned prior to installation of the anchor rods.

Ensure that only the epoxy listed on MnDOT's APL for signals is used. Check the epoxy itself prior to use to ensure that the shelf life of the product has not been exceeded. If the expiration date has passed, properly discard the old epoxy and use material that has not exceeded its expiration date. Ensure the epoxy is properly mixed according to the manufacturer's installation instructions prior to application.

The approved epoxies used to hold the anchor rods have a minimum installation temperature. Three of the four epoxies must be installed at temperatures of 41°F or above. One of the epoxies can be installed down to a temperature of 0°F. When the ambient temperature and concrete temperatures are below 41°F, use the approved epoxy rated for installation at temperatures down to 0°F.

Additionally, proper curing time must be allowed for the epoxy prior to installing the pedestrian push button station. Allow extra curing time in colder temperatures.

Pedestrian station epoxy installation instructions are shown in Figure 18-8. Note the manufacturers warning that the instructions must be followed.



Figure 18-7: Improper Epoxy Installation

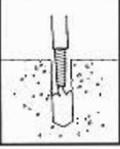
	<p>1. Drill 1/16" oversize diameter holes for 1/4"-1/2" diameter threaded rods and #3 rebar. Drill 1/8" oversize diameter holes for 5/8"-1-1/4" diameter threaded rods, #4 rebar, grout filled blocks and brick pinning. Clean out hole from bottom with forced air. Complete hole preparation with brush and repeat cleaning with forced air (leave no dust or slurry).</p>
	<p>2. When starting new cartridge or new nozzle, dispense and discard enough adhesive until uniform grey color is achieved. Insert the nozzle into the bottom of the hole and fill to 1/2 the hole depth.</p>
	<p>3. Insert rod slowly by hand into the bottom of the hole with a slow twisting motion. This insures adhesive fills voids and crevices and uniformly coats the anchor rod.</p>
	<p>4. See table for working times and curing times. After the suggested cure time is met, install and tighten fixture into place.</p>
<p>⚠ WARNING: Instruction Insert enclosed in carton to be distributed with each cartridge</p>	
<p>⚠ WARNING: Manufacturer instructions must be followed</p>	

Figure 18-8: Epoxy Installation Instructions

Pedestrian crossing may be banned on one or more legs of the intersection. In these cases, the contractor will be required to install the regulatory R9-3 sign.

The sign must be mounted a minimum of 7 feet from ground level.

Refer to the contract documents for complete details.



Figure 18-9: No Pedestrian Crossing R9-3 Sign

All ADA project compliance documentation must be submitted through SharePoint.

<http://www.dot.state.mn.us/ada/design.html>

The document shown below is the electronic form found on the SharePoint web page.

ELECTRONIC SUBMISSIONS ONLY – DO NOT SUBMIT HAND-WRITTEN AND/OR SCANNED COPIES



MnDOT ADA Compliance Checklist for APS

SP: ? City: District:

Intersection: ? Quadrant: ?

Construction Year: ?

Attach a photo of the completed quadrant by clicking here ->
[DO NOT use Safari on iPads to upload files]: (6MB max) Click here to attach a file

1) Are push button stations placed and push button faces oriented in accordance with standards? Yes No

2) Is there a minimum 4' x 4' landing adjacent to each push button? Yes No

3) Distance from crosswalk edge to push button face (ft): ?

4) Distance from the push button to the back of curb: (measured in the direction of the pedestrian travel in ft) ?

5) Distance between push buttons (ft): ?

6) Push button height (inches): ?

7) Push button side reach (inches): ?

8) Is APS system fully compliant? ? Check

If **NO**, check one of the following reasons why. Explain why the component(s) didn't meet compliance (see ADA Compliance Checklist Guidance for additional directions and attach pages if needed). ?

Topography Structure(s) Utilities Contractor MnDOT

Click here to attach a file

9) Has a 6' maintenance access route (MAR) been maintained? Yes No

10) Are push buttons situated at least 2' away from both the back of walk and ramp grade break? Yes No

11) Are all newly constructed hand-hole(s) located outside of pedestrian access route (PAR)? Yes No

12) Push buttons placed according to the plan details? Yes No

If NO, please explain:

Printed Name: Date (mm/dd/yyyy):

I certify that the information entered on this form is accurate to the best of my knowledge and that I fully understand the checklist standards and am qualified to carry out the inspection.

Redo? Submit to SharePoint Library Pg. 1

NOT FOR REDISTRIBUTION – USE SHAREPOINT SITE. SCANNED OR HAND-WRITTEN SUBMISSIONS WILL NOT BE ACCEPTED BY MnDOT

Figure 18-10: Sample ADA Electronic Form

18.2 Chapter 18 Resources

- MnDOT Accessibility Office offers many helpful checklists (Figure 18-4) and additional useful information on their website.

<http://www.dot.state.mn.us/ada/>

- Signal Sample Plan
- MnDOT's Approved/Qualified Products List