

5150000 METAL PEDESTRIAN/BICYCLE RAILINGS, GUIDERAILS, AND HANDRAILS
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

Dean Perkins
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Comments: (9-22-15)

515-5.3 Third paragraph: Recommend revising, as follows: Post tolerance from plumb is plus or minus one inch, measured at 42 inches above the foundation. Rails must form a smooth continuous line, unobstructed by joints, fittings or knuckles, and without hills or dips greater than 1/2 inch between any three posts or side sway greater than 1/2 inch between post assemblies.

Response: The fittings or knuckles would be for Handrails only, the horizontal rails cannot meet that criteria. Handrail requirements are covered in PPM Volume 1, Chapter 8.7 and SDG 6.8.1
No change made.

Question: Is there a specification for the strength of the railing? I.e., "Railing must withstand a horizontal or vertical point load of 200 lbs., or a continuous load of 50 lbs. per linear foot."

Response: See the IDS and SDG 6.8.3 No change made.

Maria Connolly
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Comments: (9-23-15)

Under Section 515-1 Description, recommend changing "... shall meet the requirements of 105." to "... shall meet the requirements of Section 105."

Response: Change made.

Ervin Sterling
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Comments: (9-23-15)

515-3.3.2 Steel Railing uses the term "Hot-dip galvanized. There seems to be varying industry opinions about what exactly is meant by "hot-dipped galvanized steel" vs. "galvanized steel" (loose use of the terms "hot-dipped", "galvanized", "electrogalvanized", "electroplated", etc.) which may lead to a product which has the much inferior zinc-electroplated finish. Hot-dipped galvanization is a form of galvanization, but may not provide the corrosion protection you seek. Spec 630-3 Installation Requirements, third paragraph, first sentence, allows "rigid galvanized metal conduit" as an option. Please use the term "rigid galvanized metal conduit" in lieu of "hot-dipped galvanized steel".

Response: Disagree, Section 630 is for electrical conduit not structural steel. Hot-dip galvanize in accordance with Section 962 which covers your listed concerns and "after fabrication" also.
No change made.

Dan Hurtado

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Comments: (9-24-15)

1. 515-1: Producers seeking inclusion on the list shall meet the requirements of "Section" 105

Response: Change made..

2. 515-3.2.1 "splices may be ER4303"... You need to state the specifying entity (AWS, AISI, ASTM, etc.)

Response: Noted, see Section 965. No change made.

Steve Duke
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Comments: (9-24-15)

Section 515-3.2 Should state that All welding shall be inspected in accordance with the appropriate welding code AWS D1.2 Aluminum or D1.1 Structural Steel. As presently worded not even visual inspection would be required as this is a non-destructive test method.

Response: Same as the Standard Note in 800 Series Standard Indexes since inception (approx. 15 years). No change made.

Mike Irwin
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Comments: (10-1-15)

I would recommend that the shop drawing requirements listed in 515-4 add the anchor attachment details including anchor embedment. The proper embedment has been an issue on past projects. Besides the fact that anchor embedment is critical to the design and functionality of the rail, the inclusion of this information in the shops will increase the quality of the work, inspection and verification.

Response: The shop drawings are intended for fabrication of the railings for delivery to the project site. The information relating to the location of expansion joints and the presence of terminal treatments is necessary to correctly fabricate the railing for delivery to the contractor and has been included in the general specification language. However anchor bolt installation is not a fabrication issue, nor do they necessarily need to be supplied by the railing fabricator. Furthermore many railing systems have a single anchor bolt length regardless of location, so the information would be redundant and an unnecessary duplication of information already provide in the Contract Documents. Where anchor bolt length requires advanced drawing interpretation and rational judgment this additional requirement can be added to the specific railing shop drawing requirements, as has been done for the picket railings in the (850 and 860 series) as a follow up to DCE 10-07 (<http://www.dot.state.fl.us/construction/memos/2007/DCE10-07.pdf>) No change made.

FDOT, D3 (via Barbara Stickland)

Comments: (10-8-15)

D3 Construction Operation Office: Consider adding language indicating the Contractor is responsible for any issues encountered while drilling the core holes. This has been an issue when the Contractor has hit the rebar.

Response: See Section 416-4. No change made.

D3 Design: This proposed change addresses aluminum and steel guiderail no reference is made to railings constructed of PVC. The BOE lists PVC as an acceptable material.

Response: Only Handrails (attached to the railings) can be made of PVC. Handrails are an ADA requirement (see SDG or PPM for more details) and standard designs have been established for attaching Handrails to Standard Guiderails and Pedestrian/Bicycle Railings (Steel or Aluminum). PVC would need to be designed and specified on a per project basis. No change made.

Brian Hermany (via Deborah Ihsan)
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Comments: (10-20-15)

Regarding the coating process. The basic 2605 process may not be adequate for the fluoropolymer coating. Please see if 2605-13 would better suit the Department needs.

Response: Noted; we do not generally add the year to codes, the default is the latest version at the time the project was let. No change made.

Jeffrey Leclaire (via Deborah Ihsan)
FDOT, D4
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Comments: (10-20-15)

Section 515-3 Construction Requirements. ...maintain a uniform spacing with reasonable consistency. Need to define what is reasonable and who decides if the spacing is reasonable.

Response: Locations of posts, splices, and expansion joints are included in the shop drawings; thus the EOR would make that determination. No change made.
