NOTES

At the contractor's option, metal rail may be either aluminum or galvanized steel. In accordance with the requirements of the General Notes and the following specifications for the particular material, the contractor will be required to use the same rail material on all structures on the project, and no metal rails as illustrated.

**ALUMINUM RAILS**

Material for posts, caps, and rails, expansion bars, and clamp bars shall be ASTM 6061-T6 or AL 6351-T5. Material for posts shall be ASTM 6061-T6 or AL 6351-T5. Expansion bars shall be standard button head and one-point cold driven as per drawing.

The use of rail posts or any other aluminum surface in contact with concrete shall be thoroughly cleaned with an aluminum impregnated caulk that contains no acids or alkalis. Material for items to be ASTM 6061-T6 alloy aluminum in accordance with AWS F593.

**GALVANIZED STEEL RAILS**

Material and galvanization are to conform to the following specifications:

For screws and bolts on expansion bars and clamp bars, seeing with grade 250 structural steel - galvanized to standard.

Review, rivets shall meet the requirements of ASTM A576 for grade 1 rivets.

The use of galvanized steel welding after getting smooth shall be used two coats of zinc-rich paint meeting the requirements of Federal Specification TT-P-641 for type I or type II of Federal specification.

Stainless steel shall meet the requirements of ASTM A576 for grade 200 or grade 55 for grade 3 and shall be galvanized in accordance with AWS F593.

**GENERAL NOTES**

Railings shall be continuous from end post to end post of ribs. Each joint in rail length shall be located in front of panel length of rail shall be attached to a minimum of three posts.

For end of rail to clear face concrete and end post dimension, see standard No. 036.

Rail caps shall be ASTM A536 alloy 304 stainless steel. Steel washers shall meet the requirements of ASTM F844 except they shall be made from ASTM A576.

Rail caps, rail caps shall meet the requirements of ASTM A570M for Grade 230 or A611 for Grade C and shall be galvanized in accordance with AWS F593.

Certified mill reports are required for rails and post shop inspection is not required.

**MATERIAL AND GALVANIZING**

Material for rails to be ASTM A576 alloy 304 stainless steel.

Material for Post, post bases, rails, expansion bars, and clamp bars shall be ASTM A536 alloy 304 stainless steel - galvanized to standard.

Material for rails to be ASTM A576 alloy 304 stainless steel.

Material for bolts shall be ASTM F593 alloy 305 stainless steel.

Washers shall meet the requirements of ASTM A654.

**SHIMS**

Shims shall be used as necessary for post alignment.

Shims shall be certified mill reports for rails and post shop inspection is not required.

Shims shall meet the requirements of ASTM A570M for Grade 230 or A611 for Grade C and shall be galvanized in accordance with AWS F593.

**RAILING OF CONSTRUCTION**

Rail caps may be manufactured for alloy clamps to comply with the requirements of the General Notes and the following specifications for the particular material. The contractor shall be required for all designs where applicable.

Shims shall be used as necessary for post alignment.

Shims shall be in compliance with details of metal rail will be considered. Details of such variations if desired and provided with a note in the elevation and or other views of the project for which metal rail is designated.

Metal rail joint shall be located at a joint of a rail at 750mm expansion joints. No contraction joints will be required for segments less than 250mm in length.

**ALUMINUM RAILS**

Material for posts, caps, and rails, expansion bars, and clamp bars shall be ASTM 6061-T6 or AL 6351-T5. Material for posts shall be ASTM 6061-T6 or AL 6351-T5. Expansion bars shall be standard button head and one-point cold driven as per drawing.

The use of rail posts or any other aluminum surface in contact with concrete shall be thoroughly cleaned with an aluminum impregnated caulk that contains no acids or alkalis. Material for items to be ASTM 6061-T6 alloy aluminum in accordance with AWS F593.

**GALVANIZED STEEL RAILS**

Material and galvanization are to conform to the following specifications:

For screws and bolts on expansion bars and clamp bars, seeing with grade 250 structural steel - galvanized to standard.

Review, rivets shall meet the requirements of ASTM A576 for grade 1 rivets.

The use of galvanized steel welding after getting smooth shall be used two coats of zinc-rich paint meeting the requirements of Federal Specification TT-P-641 for type I or type II of Federal specification.

Stainless steel shall meet the requirements of ASTM A576 for grade 200 or grade 55 for grade 3 and shall be galvanized in accordance with AWS F593.

Certified mill reports are required for rails and post shop inspection is not required.

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Material for rails to be ASTM A576 alloy 304 stainless steel.

Material for bolts shall be ASTM F593 alloy 305 stainless steel.

Washers shall meet the requirements of ASTM A654.

**SHIMS**

Shims shall be used as necessary for post alignment.

Shims shall be certified mill reports for rails and post shop inspection is not required.

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