



**STANDARD 4'-0" TOEPLATE:**

1. ATTACH TOEPLATE BRACKETS #49F-8 TO END POST FLANGE. USE FLANGE MOUNTING ANCHOR, SUPPLIED BY OTHERS. HAND TIGHTEN ONLY.
2. INSERT 1/4"-20 x 3/4" LG. CARRIAGE BOLTS INTO SLOT ON TOEPLATE. INSERT THRU HOLES IN BRACKETS.
3. ATTACH WITH 1/4"-20 LOCKNUT. HAND TIGHTEN ONLY.
4. POSITION ASSEMBLY ON POST, 1/4" GAP MAXIMUM, FROM TOEPLATE TO WALKING SURFACE.
5. TIGHTEN ALL HARDWARE.

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NO.	REVISIONS	DATE	APPROVED
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PROJECT	CUSTOMER
STRAIGHT RAIL TOEPLATE 4'-0" c/c POST 42" HIGH RAIL	

DESCRIPTION
MODULAR RAIL SECTION DRAWINGS

DESIGNER	APPROVED BY	DATE
GG	BW	1-15-12
PROJECT NO: 92380	SCALE: NTS	
MILL		7067-S



**The Hollaender Mfg. Co.**  
 Originators and Manufacturers of:  
 Speed-Rail®  
 Nu-Rail®  
 Rackmaster®  
 Mend-a-Rail®  
 Interna-Rail®  
 Speed-Rail II®  
 Bumble Bee Safety Rail®



**Aluminum Modular Railing Kit**  
 Specifications & Test Data

**Material Specifications**

Posts: ASTM B221, 6005-T5 Aluminum Pipe, 1 ½” IPS, Sch. 40 wall  
 Rails: ASTM B221, 6063-T6 Aluminum Pipe, 1 ½” IPS, Sch. 40 wall  
 Fittings and Flanges: 535 Aluminum Magnesium Sand Cast Alloy, per ASTM B26  
 Finish: Architectural Mill

**Test Data**

Code of Federal Regulations Title 29 Subtitle B-Regulations Relating to Labor Chapter XVII – Occupational Safety and Health Administration, Department Of Labor

**Part 1910 Occupational Safety and Health Standards**

1910.212 (a) Machine Guarding  
 (1) Types of Guarding – One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by points of operation, ingoing nip points, rotating parts, flying chips and sparks. I.e. barrier guards, guardrail, etc.....  
 1910.23 (e) Railings, toe boards and cover specifications.  
 (iv) The anchoring of the posts and framing of members for railings of all type shall be of such construction that the completed structure shall be capable of withstanding a load of at least **200 pounds applied in any** direction at any point on the top rail.

**Product Test Data**

*Test Sample:* Standard Bumble Bee® Safety Rail Post mounted using #45SBC Base Flange.  
*Load Criteria:* All loads were applied 41” (*Center of top rail*) above the mounting surface.  
 • A pre-load of 100 lbs. was applied to eliminate any residual deflection in the test system.  
 • A point load of 200 lbs. was applied 41” above the mounting surface and the deflection was recorded.  
 • The load was reduced to the original 100 lbs. and the permanent deformation was recorded.

*Maximum Allowable Deflection and Permanent Deformation per ASTM E985:*

All dimensions in inches, to be measured at top of post.  
 Allowable Deflection:  $D_a = 3.4$   
 Allowable Permanent Deformation:  $D_p = .5$

<i>Test Results:</i>	Test No.	$D_a$	$D_p$	Pass
	SFTDXXX1	.63	.26	√
	SFTDXXX2	.58	.22	√
	SFTDXXX3	.68	.28	√

Based on the above stated test results and the performance criteria set forth by ASTM, this product meets the structural load requirements specified by the Occupational Health and Safety Administration.