



**SLESSER ENGINEERING, INC.**

STRUCTURAL ENGINEERS

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**REPORT OF TEST OBSERVATION**

**WireCrafters Guardrail Test**

**Purpose of Test:** To determine if the WireCrafters Protective Guardrail Assembly can withstand the impact from a 10,000 pound forklift traveling at a minimum constant speed of 4 mph, with both rails being impacted simultaneously.

**Date of Test:** February 16, 2007

**Location of Test:** 6334 Kenjoy Drive  
Louisville, Kentucky

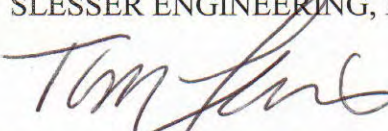
**Guardrail Assembly Set-Up:** WireCrafters standard Double Rail Guardrail was used for the test. Two, 9 foot 8 inch long rail sections (part number PR10) were mounted between two, 4 inch x 4 inch double rail run posts (part number PRDRRP), using the product's standard height configuration. (The lower edge of the bottom rail was located 8 3/4 inches above the floor and the lower edge of the top rail was located 2 feet 1 5/8 inches above the floor.) The end of each rail section was bolted to each post with two 1/2 inch diameter, grade 5 bolts spaced at 9 inches on centers. A washer was used under each nut and bolt head at the connection of the rail section to the post. Each post was bolted to a concrete slab on grade with four 3/4 inch diameter Simpson Strong Tie Wedge-All wedge anchors, embedded approximately 3 inches into the concrete floor slab. The posts were located 10 feet center to center.

**Forklift Information:** The fork lift used was a Clark Model CGC 30. The weight of the forklift is listed as 10,315 pounds and the weight of the driver was approximately 250 pounds, for a total moving weight of 10,565 pounds.

**Test Procedure:** Two 4 inch x 4 inch wood members were mounted to the front of the forklift at 16 inches on-center. The wood members were mounted vertically and plumbed to assure that both the top and bottom rail sections were impacted simultaneously. The forklift was driven, at a constant speed, for a distance of 50 feet, where it impacted the Guardrail assembly at the centerline of the rail sections between the two posts. The time required to travel the 50 feet (prior to impact) was measured to be 7.43 seconds, which calculated to be an average speed of 4.59 mph.

**Test Results:** The WireCrafters Guardrail Assembly successfully withstood the impact of the forklift without failure. The Protective Guardrail did experience a permanent lateral deflection as a result of the impact from the forklift. The deflection of the top rail section was measured to be 6 5/8 inches and the deflection of the bottom rail section was measured to be 7 inches.

Test Observed by  
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