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LABORATORY REPORT

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Report Number: D10041503
Login Date: 04/30/2010
Report Date: 05/25/2010
PO Number: 042810

Ultimate Load Testing of Bow & Stern Eyes

Background

Ten (10) samples were submitted for ultimate load testing. The samples were identified as noted in Table 1 below.

Table 1. Sample Description	
Part Name	Part No.
Bow & Stern Eyes	BOSTSW1/2C5.25X3.3437

Results

Load Testing

General conformance to ASTM A 370-09a^{e1}

A fixture was fabricated to secure the Bow and Stern Eyes for testing in the three orientations defined by the client, i.e. "straight tensile", "edge tensile", and "side tensile". Each of the samples was assembled to the test fixture using calibrated torque wrench Proto 6121A; serial number 0301602524. Each of the two ½ - 13 NC nuts were installed using a 45 ft-lbs torque. The test samples and their associated fixtures are depicted in Figures 1 through 4 prior to tensile load testing in the Baldwin Universal Test Machine.

Three samples were tested in a "straight tensile" direction with the load averaging 29,953 lbs. Three samples were tested in a "side tensile" direction with the load averaging 24,373 lbs. And three samples were tested in an "edge tensile" direction with the load averaging 18,380 lbs. Raw load test data is summarized in Table 1. Post test photographs of each group are provided in Figures 5, 6, and 7.

Test results relate only to the items tested. This document shall not be reproduced, except in full, without the written approval of Sherry Laboratories of Indiana LLC. A2LA Certification #0174-01 & 0174-02, Chemical and Mechanical. PRI Nadcap – Materials Testing Laboratory, Certification #122524. The recording of false, fictitious, or fraudulent statements or entries on this document may be a punishable offense under federal and state law. When applicable, measurement uncertainty estimates are available upon request.

Load Testing (continued)

Table 2.			
Test Number	Load, lbs.		
	Straight Tensile Test	Side Tensile Test	Edge Tensile Test
1	29,330	23,680	17,100
2	29,890	24,480	19,160
3	29,560	24,960	18,880
Average	29,593	24,373	18,380

Remnants will be returned via common carrier.

Sherry Laboratories reserves the right to invoice for any subsequent services, including but not limited to testing or consulting, in support of this failure investigation.

Approved by: ROB NORDYKE
Rob Nordyke
Test System Design Specialist

Figures and Diagrams



Figure 1. Straight Tensile - Test Setup



Figure 2. Side Tensile – Test Setup



Figure 3. Side Tensile – Test Setup



Figure 4. Edge Tensile – Test Setup

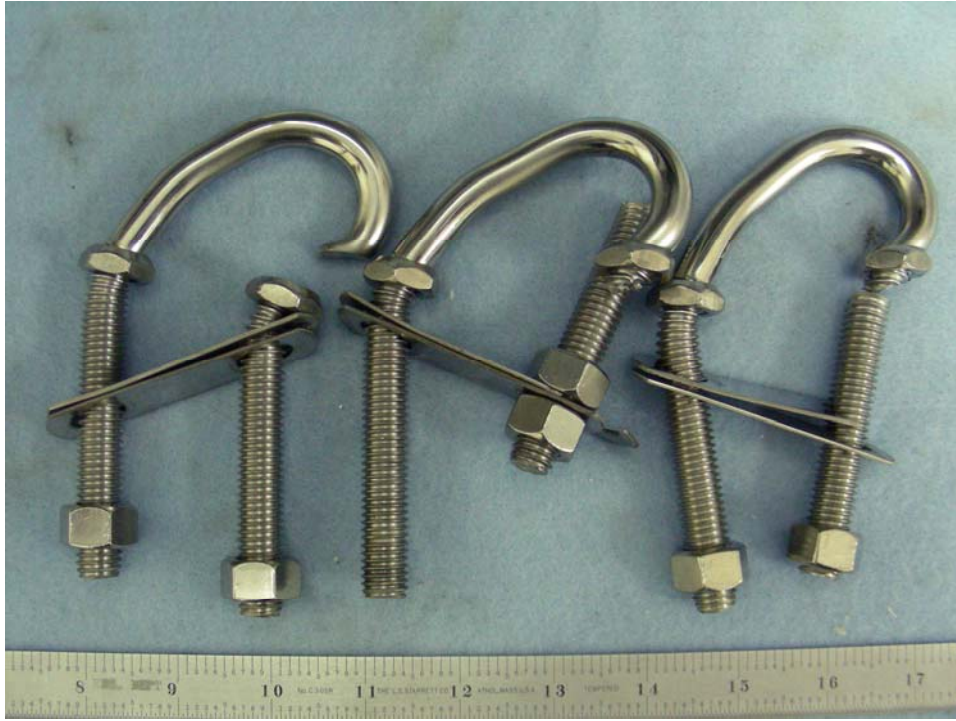


Figure 5. Edge Tensile – Post Test



Figure 6. Side Tensile – Post Test



Figure 7. Straight Tensile – Post Test