



INTERMODAL MATERIÉL  
AND  
NAUTICAL/NUCLEAR ANALYSIS  
**IMANNA**  
LABORATORY INC.

# CERTIFICATION TEST REPORT

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TEST REPORT  
16634-2  
MECHANICAL STRENGTH TESTS  
ON  
SURFACE MOUNT FOLDING CLEATS  
WITH NO VISIBLE SCREW HOLES (STUD MOUNT)  
FOR  
ACCON MARINE, INC.

**CUSTOMER:**

ACCON MARINE, INC.  
13665 AUTOMOBILE BLVD.  
CLEARWATER, FL 34622

**MANUFACTURER**  
**OF TEST ARTICLE:** ACCON MARINE, INC.  
CLEARWATER, FL 34622

**REPORT NO.:** 16634-2  
**IMANNA JOB NO.:** 16634  
**CUSTOMER P.O. NO.:** N/A  
**CONTRACT:** N/A  
**PAGES IN REPORT:** 3

**DATE:** Oct. 11, 2004

**STATE OF FLORIDA**

ROBERT L. WHITE, being duly sworn, deposes and says: The information contained in this report is the result of complete and carefully conducted tests and is to the best of his knowledge true and correct in all respects.

*Robert L. White*

SUBSCRIBED and sworn to before me this 11th day of October, 2004

*David H. Hudgins*



**David H. Hudgins**  
Commission # DD 010632  
Expires May 3, 2008  
Bonded Thru  
Atlantic Bonding Co., Inc.

Imanna shall have no liability for damages of any kind to person or property, including special or consequential damages resulting from Imanna's providing the service covered by the report.

IMANNA LABORATORY, Inc.  
TEST BY  
Mark A. Evans  
PROJ. ENGINEER

1. TEST ARTICLE

Three samples of two of Accon Marine's stainless steel Surface Mount Folding Cleats were received for test.

2. MODEL NUMBER / DESCRIPTION

334 – 4     4 1/2" Folding Cleat with no visible screw holes (stud mount)

334 – 6     6"     Folding Cleat with no visible screw holes (stud mount)

3. REQUIREMENTS

The requirements for this effort are to perform side pull tests on the received samples. The test is to be continued until the breaking strength of the cleats has been determined.

4. PROCEDURES

Each cleat was mounted to a 3/4" thick steel plate in the manner it would be mounted on a boat. The cleats were then subjected to an increasing side load to determine the point of significant bending and/or ultimate load capability (whichever occurs first) in the direction of pull.

5. RESULTS

The following table contains the values obtained during the tests. In addition to the failures each of the tested samples also experienced some deformation as a result of the tests.

<b>4 1/2" Cleats</b>		
SAMPLE #	MAX LOAD (lbs)	FAILURE MODE
1	9,300	MOUNTING STUDS BROKE
2	9,100	MOUNTING STUDS BROKE
3	9,100	MOUNTING STUDS BROKE
AVERAGE	9,167	
<b>6" Cleats</b>		
SAMPLE #	MAX LOAD (lbs)	FAILURE MODE
1	12,250	MOUNTING STUDS BROKE
2	12,000	MOUNTING STUDS BROKE
3	12,900	MOUNTING STUDS BROKE
AVERAGE	12,383	



**Figure 1. 4 1/2" Folding Cleat; typical failure mode (mounting bolt failure).**



**Figure 2. 6" Folding Cleat; typical failure mode (mounting bolt failure).**



**Figure 3. typical deformation experienced during tests**

6. OBSERVATIONS AND COMMENTS

The results presented herein apply only to the test article as prepared and as tested. All equipment used in the performance of these tests was calibrated to standards traceable to the N.I.S.T.