

July 22, 2011

Project Number: P11-1310

Mr. Steve McDonough Sakk Safety S469 912 102nd Street Pleasant Prairie, WI 53158

Dear Mr. McDonough:

We have completed the evaluation of the Sakk Mat submitted to us recently. This work was done according to your various discussions with our staff. This work was done according to your acceptance of Anderson Laboratories, Inc. Quotation Q11-0341.

Objective

We were requested to test the strength of the strap / hook and strap / buckle assemblies on the submitted Sakk Mat. One mat was submitted and two examples of each of the strap assemblies were tested.

Procedures and Data

The testing was done according to the general guidelines of ASTM F-887 and Military standard MIL-W-17337. The strap / hook assembly was tested in axial tension in a universal testing machine using a constant crosshead speed. The assemblies were tested at a speed of 0.4 inches per minute. The end of the strap was held and pulled against the hook. The hook was attached to a hardened metal rod. Two strap assemblies were tested until failure. The results of this test were as follows:

	Maximum	Displacement	Fracture
<u>Assembly</u>	<u>Load</u>	at fracture	Location
#1	532 lbf	2.129 inches	Strap
#2	528 lbf	2.144 inches	Strap

A copy of the force versus displacement curves appear in the appendix of this report.

The strap / buckle assembly was tested in axial tension in a universal testing machine using a constant crosshead speed. The assemblies were tested at a speed of 0.4 inches per minute. The ends of the strap were clamped into our jaw fixture and pulled against the buckle. The two strap / buckle assemblies were tested until failure. The results of this test were as follows:

	Maximum	Displacement	Fracture
<u>Assembly</u>	<u>Load</u>	<u>at fracture</u>	<u>Location</u>
#1	270 lbf	1.889 inches	Buckle
#2	280 lbf	1.851 inches	Buckle

A copy of the force versus displacement curves appear in the appendix of this report.

ANDERSON LABORATORIES, INC.

Michael Porfilio

Director of Operations / CI

NDE Level III / Certified Lead Auditor

Lori M. Felber

Quality Assurance Manager

Certified Lead Auditor

grp

The above tests were performed using one or more of the following specifications: ASTM A48, A247, A262, A370, B117, B328, B368, B748, E2 (SM 11-22), E3, E8, E9, E10, E18, E21, E23, E34, E45, E92, E112, E212, E290, E340, E350, E352, E353, E381, E384, E404, E407, E415, E562, E663, E766, E883, E986, E1019, E1024, E1077, E1086, E1251, E1508, G053, G154, ASME IX, AWS D1.1, MIL-S-867A, NAVSEA S9074-AQ-GIB-010/248, SAE J81, EN 10002 Part 1, EN 10045 Parts 1 & 2, EN 10204 Section 3.1.C and Anderson Laboratories Quality Manual Revision K dated 10/12/09. This report shall not be reproduced except in full, without the written approval of Anderson Laboratories, Inc.

APPENDIX

Force versus

Displacement

Curves







