



## TEST REPORT

<b>CLIENT:</b>	XGS	<b>REPORT NUMBER:</b>	50660
	1244 Calbourne Drive	<b>LAB TEST NUMBER:</b>	2288-6965
	Walnut, California 91789	<b>DATE:</b>	January 19, 2011

**Seam Identification:** XGS DC

**Test Scope:** Testing Services, Inc was instructed by the client to perform seam strength on submitted turf samples that were seamed together by means of adhesive and tape. Two test conditions were conducted: ambient (lab conditions) and after 2 hours of exposure in an air-circulating oven @ 120°F. The force and location of rupture was recorded when tested to ASTM D5034 (Modified for Seam Strength) for textile fabrics.

**Test Methods:** *ASTM D5034-05: Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test) Modified for Seam Strength*

**Test Specifics:**

- Specimen Size: 2" X 13"
- Oven: Air-Circulating Digitally Controlled
- Tensile Tester: Instron CRE
- Head Speed: 5"/minute
- Jaw Size: 3"
- Jaw Separation: Clamped on either side of seam (outside of seamed area).  
Force applied perpendicular with seam

**Procedure:** Specimens were die cut from the sample lot and allowed to condition at standard lab conditions 24 hrs prior to testing. After conditioning, specified specimens were vertically suspended inside an air-circulating oven @ 120°F for 2 hours. The balance of specimens was retained for non-exposure comparative testing against the exposed specimens. After the pre-scribed exposure time was met, the specimens were removed from the chamber for tensile strength testing.

After exposure period, each specimen was loaded into the jaws of an Instron Constant Rate of Extension Tensile Tester. The pounds/force necessary to produce rupture, elongation, and location of rupture was recorded. Comparative analysis was then computed between non-exposure specimens and exposure specimens.



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XGS  
 1244 Calbourne Drive  
 Walnut, CA 91789

Test Data: Seam Strength (Lab Conditions 70F 65% RH)

Specimen #	Exposure	lbs/force	% Elongation	Location of Rupture
1	No Aging	315.4	9.0 %	Seam
2	No Aging	306.4	9.9 %	Seam
3	No Aging	244.7	8.5 %	Seam
4	No Aging	291.0	10.2 %	Seam
5	No Aging	238.7	9.2 %	Seam
<b>AVERAGE</b>		<b>279.24</b>	<b>9.36 %</b>	Seam

Seam Strength (After 2 hours @ 120F. Tested immediately upon removal from oven)

Specimen #	Exposure	lbs/force	% Elongation	Location of Rupture
1	Oven Aged	208.9	13.8 %	Seam
2	Oven Aged	223.5	13.1 %	Seam
3	Oven Aged	216.1	13.8 %	Seam
4	Oven Aged	218.7	15.6 %	Seam
5	Oven Aged	211.7	9.3 %	Seam
<b>AVERAGE</b>		<b>253.5</b>	<b>13.12 %</b>	Seam

Conclusion: After two hours of oven aging at 120F, the average seam strength lost 9.2 %. The elevated temperature resulted in softening the adhesive which increased the elasticity or elongation 40.2 %. All specimens ruptured at the seam with a clean break of the tape.

Approved By:

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Erle Miles, Jr VP  
 Testing Services Inc