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Our Ref: 13024/3143

Thursday 8<sup>th</sup> July 2010

Global Syn-Turf, Inc.

2482 Technology Drive  
Hayward, CA 94545  
USA

### **Sample Reference – Stemgrass Olive Green**

Dear Sir/Madam,

Please find the test results for the submitted yarn sample identified as 'Stemgrass Olive green' delivered to our laboratory on the 3<sup>rd</sup> December 2009.

Testing was carried out as described in the FQC Handbook of Test Methods for Football Turf 2009 using UVA lamps in conjunction with the following test methods:

BS EN 13864 2004: Surfaces of Sports Areas – Determination of Tensile Strength of Synthetic Yarns,  
BS EN 14836 2005: Synthetic Surfaces for Outdoor Sports Areas – Exposure to Artificial weathering,  
BS EN 20105-A02 1995: Greyscale for assessing change in colour

The yarn was tested for change in tensile strength in conjunction with UV and colour stability.

The test results are shown overleaf in tabular format.

Yours sincerely,

**Sean Ramsay**  
Technical Manager



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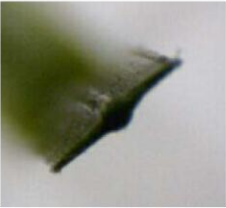


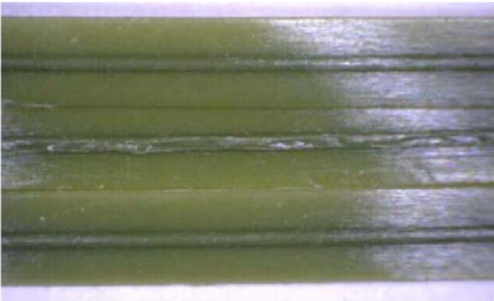
**Table 1: Yarn UV Test Results**

Yarn Reference	Test Condition	Test Results			
		Mean Force at break (N)	Elongation at break (%)	Linear Density (dTex)	Breaking tenacity (cN·TEX-1)
Stemgrass Olive green	Unaged	56.5	63.4	6068	9.31
	UVA	50.8	61.7	6219	8.17
	UVA % change Mean Force	10.1	Colour Change (greyscale)	4-5	
	UVA % change in Breaking Tenacity	12.2			

**Table 2: Yarn Details**

Yarn Reference	Colour	RAL No.	Thickness	Width	DSC
Stemgrass Olive green	Olive green	110 40 30	300 Micron Spine 100 Micron Base	1.5mm	121.03°C

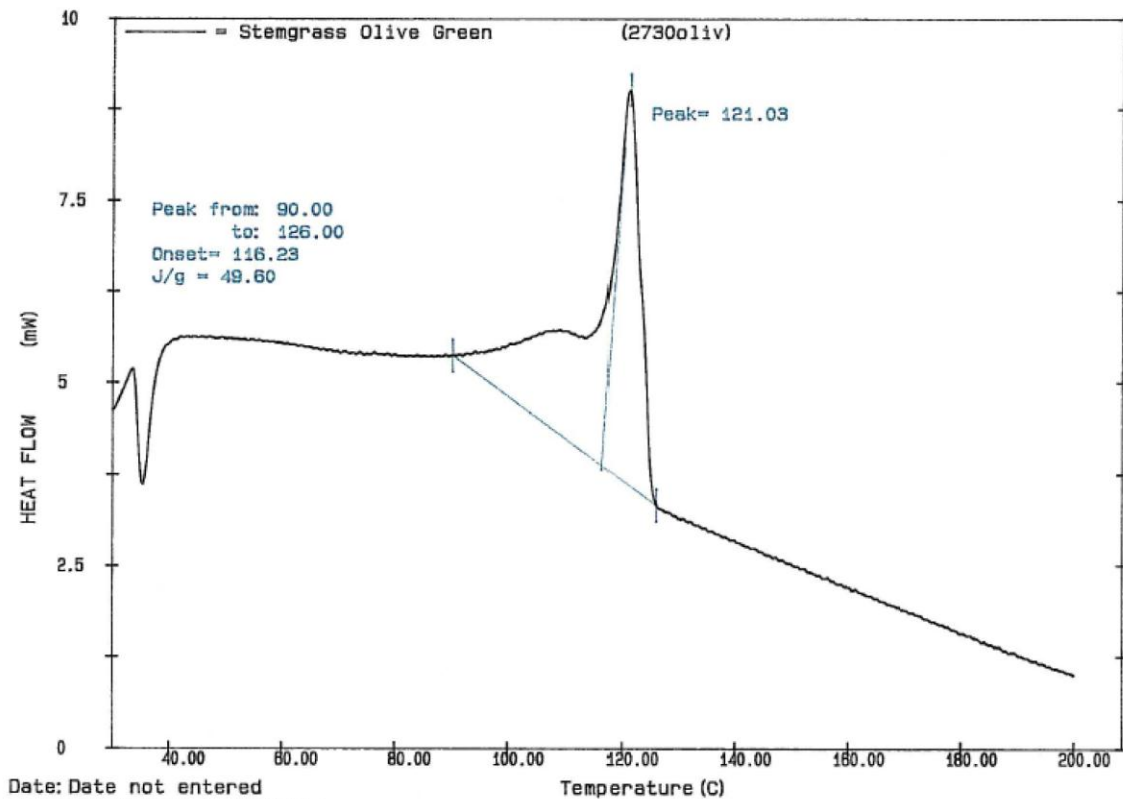


<b>Yarn Reference</b>	<b>Stemgrass Olive green</b>
<b>Yarn Profile</b>	
<b>Plan View of Fibre</b>	
<b>Yarn Pre UVA exposure</b>	
<b>Yarn Post UVA exposure</b>	



DSC Graph

Stemgrass Olive green



Date: Date not entered  
Scanning Rate: 10.0 C/min  
Sample Wt: 6.400 mg Path: C:\PE\  
File 1: 27300LIV.GW

PERKIN-ELMER DSC7

**Conclusion**

The sample identified as 'Stemgrass Olive green', when compared to the Fifa Quality Concept Handbook of Test Methods for Football 2009, meets the requirements for Tensile Strength and climatic colour resistance when exposed to artificial weathering by means of UVA lamps.

**End of Report**