

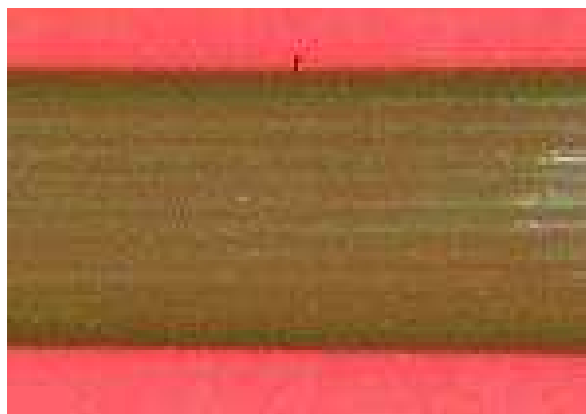
TEST REPORT / 检测报告

UV Resistance Test on Artificial Fiber / 人造草丝抗 UV 老化测试

HANWEI ARTIFICIAL GRASS 汉威人造草丝
HANWEI ARTIFICIAL GRASS (CHANGZHOU) Co., LTD.
汉威人造草坪(常州)有限公司

TEST REPORT N°: LSA-R23265-A1

Guangzhou, 2024.01.10



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本报告结果仅对测试的样品负责。



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1. IDENTIFICATION / 产品信息

Client information / 委托方信息

Company 公司名称	Hanwei Artificial Grass (Changzhou) Co., Ltd. 汉威人造草坪(常州)有限公司
Address 公司地址	Rongxin keji Park, No.3 Wujin Avenue west Road, Wujin, Changzhou, Jiangsu, China 江苏省常州市武进区武进大道东路 3 号荣鑫科技园
Contact 联系方式	Tel: (+86) 519 86698111 Email: info@hanweiggrass.com

Specimen information / 样品信息

Commercial name 产品名称	Hanwei Artificial Grass 汉威人造草丝
Type 种类	Monofilament 单直丝
Sample number 样品编号	S23265

Above information provided and confirmed by the client.

以上信息由委托方提供并确认。

Order & Test Information / 委托&测试信息

Date of order 委托日期	29/05/2023
Specimen taken by 样品寄送	Hanwei Artificial Grass (Changzhou) Co., Ltd. 汉威人造草坪(常州)有限公司
Date of reception 收样日期	29/05/2023
Date of tests 测试日期	29/05/2023-31/12/2023

2. TEST RESULTS / 测试结果

Pile yarn characterization / 草丝参数

Parameters 参数	Units 单位	Test method 测试方法	Result 结果
Pile yarn characterisation (DSC) 草丝材质差示扫描曲线特征 (DSC)	(-)	FIFA Test Method 22 ISO 11357-3	PE (120.42°C / 128.83°C)
Fiber color 草丝颜色	(-)	Internal method 内部方法	Dark green 深绿色 close to RAL:6020
Pile yarn profile and dimensions 草丝形状及尺寸	(µm)	FIFA Test Method 25	See photos below 如下图所示
Pile dtex 纤度	(dtex)	FIFA Test Method 23	1057

Remark:

According to the FIH, the colour of the pile shall be green or blue (RAL:5002 or RAL:5005) and other approved colours by FIH for the Field of Play.

备注: 根据 FIH 要求, 场地比赛区草丝颜色应为绿色或蓝色 (RAL:5002 or RAL:5005) , 其他颜色需先取得 FIH 书面允许。

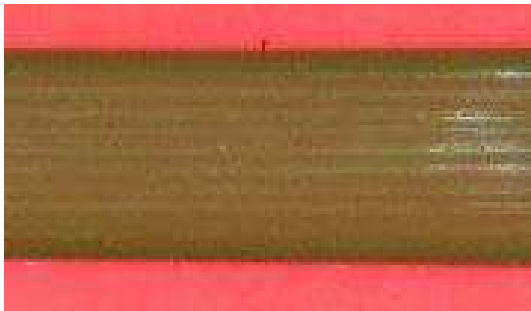
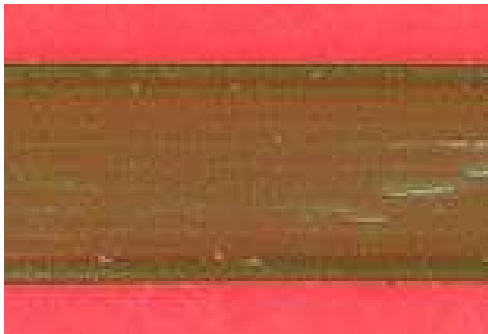
Pile yarn profile and dimensions 草丝形状及尺寸		
Pile yarn profile and dimensions 草丝外形及尺寸		Measurements details 具体结果
		Cross section 厚度: 93µm Width 宽度: 1.3mm Depth 深度: 287µm

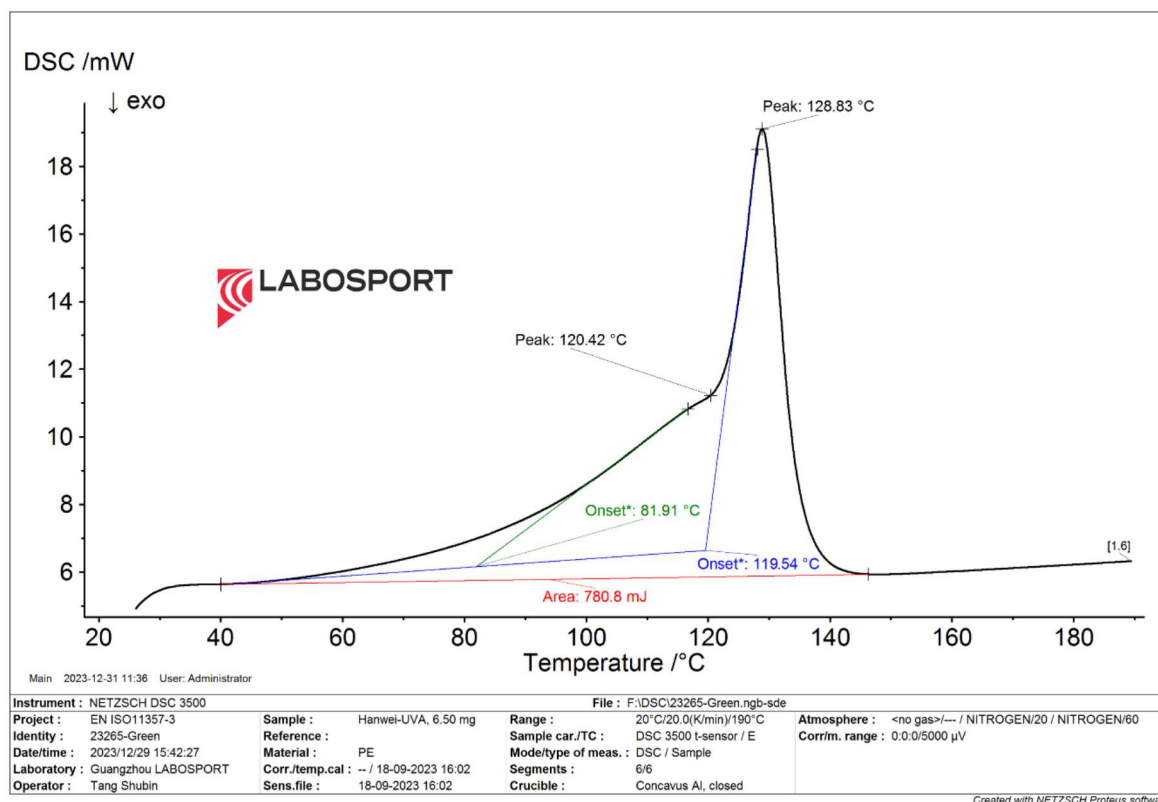
UVA (340 nm) ageing 9600kJ-5000H / 老化 9600 kJ 千焦- 5000 H 小时

Test method 测试方法: EN 14836 - Method 2 and FIFA Test Method 10

Parameters 参数	Units 单位	Test method 测试方法	New fiber 老化前	UVA (340 nm) ageing 老化后	Variation 变化率 (%)	Requirements 要求			
						FIFA 2015	World Rugby 2017	FIH 2017	EN 15330-1
Color change - Grey scale 色牢度	(-)	EN 20105-A02	-	4-5	-	≥ 3	≥ 3	≥ 3	≥ 3
Maximum Tensile strength 草丝拉断力	(N)	EN 13864	16.5	13.4	19%	-	≥ 8	≥ 5	≥ 8
						≤ 25%	≤ 25%	≤ 50%	≤ 50%
Tenacity 捻度	cN/tex	FIH method	15.9	13.2	17%	-	-	≤ 50%	-

Fiber Pictures 老化前后样品测试照片

New fiber 老化前的草丝	UVA aged fiber 老化后的草丝
	

FIBER (Pile yarn characterisation DSC) / 草丝材质差示扫描曲线特征

3. SYNTHESIS / 概述

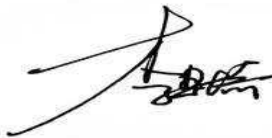
Tests 测试	Requirements 要求	Conformity 是否合格
UVA (340 nm - 9600 kJ) ageing 老化	FIFA 2015	PASS 合格
	World Rugby 2017	PASS 合格
	FIH 2017	PASS 合格
	EN 15330-1*	PASS 合格

*EN 15330-1 standards requires artificial ageing on fibers according to EN 14836:2018. In this standard, 2 exposure methods are defined. Method 1 requires the use of UV-A fluorescent lamps with an exposition of $4896 \pm 125 \text{ kJ/m}^2/\text{nm}$ at 340 nm. This method evaluates products intended for use in environments where high UV exposure is unlikely. Method 2 requires the use of UV-A fluorescent lamps with an exposition of $9600 \pm 125 \text{ kJ/m}^2/\text{nm}$ at 340 nm. This method evaluates products intended for use in environments where high UV exposure might be expected.

*EN 15330-1 标准要求根据 EN 14836:2018 对草丝进行 UV 老化, 在该标准中, 定义了 2 种方法。方法 1 需要使用在 340 nm 辐照量为 $4896 \pm 125 \text{ kJ/m}^2/\text{nm}$ 的 UV-A 荧光灯, 该方法评估旨在用于不太可能暴露在高紫外线环境中的产品; 方法 2 需要使用在 340 nm 辐照量为 $9600 \pm 125 \text{ kJ/m}^2/\text{nm}$ 的 UV-A 荧光灯, 此方法评估旨在用于可能预期高紫外线照射环境的产品。

Guangzhou, 2024.01.10

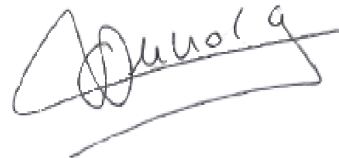
REPORTED BY:



Niki Li
LABORATORY OFFICER



CHECKED BY



OLIVIER DUCROCQ
MANAGING DIRECTOR

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