

IN-HOUSE LABORATORY TEST CATALOGUE

内部实验室设备目录册

October 15 | 2022
POLYUNION INDUSTRIAL LIMITED
特大实业有限公司

POLYUNION  **N**
WEAVING THE FUTURE



To better meet the specific requirements of the products, we have equipped a range of test equipment in-house.

From tensile testing, abrasion testing to color fastness testing, we are able to perform tests according to applicability standards. In cases where there is no standard publicly available for reference, a test method will be developed internally or through the customer to verify performance.

为了更好地满足产品的具体要求，公司在内部实验室配备了一系列测试设备。

从拉伸测试、磨损测试到色牢度测试，我们都能根据适用性的标准进行实验测试。在没有公开的标准可供参考的情况下，实验室将在内部或通过客户制定测试方法来验证产品性能。

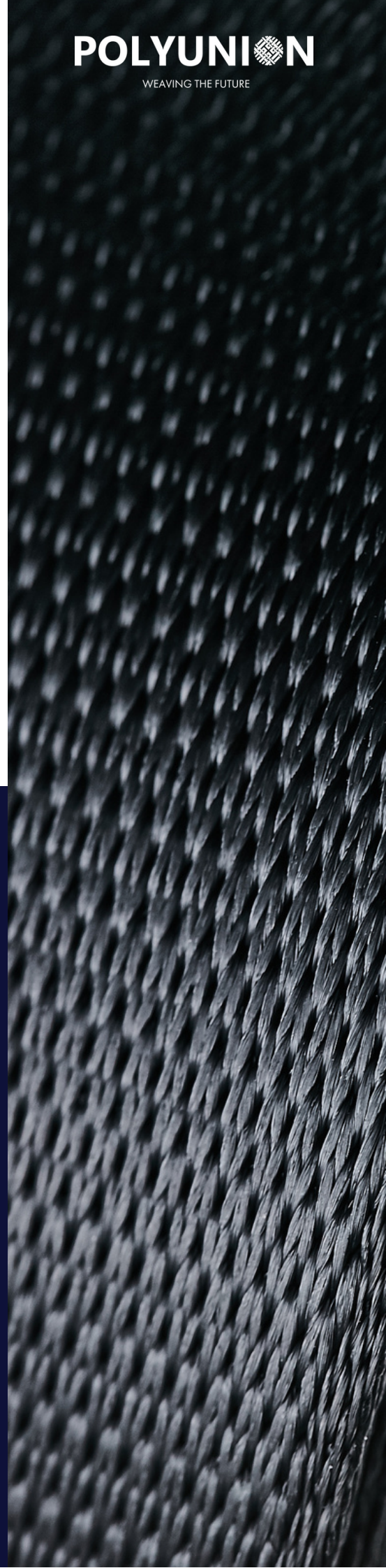
TESTING & STANDARD

测试与标准

TEST EQUIPMENT

测试设备

- **UNIVERSAL TENSILE TESTERS**
万能材料拉力机
 - **YARN STRENGTH TESTER**
电子单纱强力机
 - **MARTINDALE ABRASION TESTER**
MARTINDALE 摩擦试验机
 - **PERSPIRATION TESTER**
酚黄变耐汗试验机
 - **UV ACCELERATED WEATHERING TESTER**
紫外线加速试验机
 - **SHOE LACE ABRASION TESTER**
鞋带耐磨试验机
 - **YARN TWIST TESTER**
纱线捻度仪
-
- **ROCKWELL HARDNESS TESTING MACHINE**
洛氏硬度机
 - **CONSTANT TEMPERATURE & HUMIDITY TESTING CHAMBER**
可程序恒温恒湿试验机
 - **STANDARD LAUNDER TESTER**
染色耐水洗试验机
 - **SPRAY RATING TESTER (FOR TEXTILE)**
泼水度试验机
 - **SPECTROPHOTOMETER**
分光测色仪
 - **WRAP REEL**
缕纱测长机
 - **OPTICAL IMAGE MEASURING INSTRUMENT**
光学影像测试仪
 - **SPECTRAL CALIBRATION LAMP**
波长校准灯



UNIVERSAL TENSILE TESTERS

万能材料拉力机



The universal tensile tester is used for performing tension, pressure or bending tests. This involves subjecting a sample to an increasing tensile load until it breaks, to determine how the material reacts to forces being applied in tension.

Different types of universal tensile testers are available within our company : from floor model to single column low-force tensile testing system.

万能材料拉力机用于进行拉伸、压力或弯曲试验。它能够让样品承受越来越大的拉伸负荷后直到其断裂，以确定材料对施加的张力上的反应。

我们公司内部设有不同类型的万能材料拉力机：包含重型拉力机、单柱式及桌面式低拉力测试系统。



TEST STANDARDS

测试标准

ASTM (USA)

ASTM D903 | ASTM F2258 | ASTM D5035

ISO (INTERNATIONAL)

ISO 13934.1/2 | ISO 13935.1/2 | ISO 9073.3/4

GB/T (CHINA)

GB/T 2790/2791/2792 | GB/T 6329

JIS (JAPAN)

JIS-K6854

BS (UK)

BS EN 14410-2003

CNS (CHINA)

CNS-11888

YY/T (CHINA)

YY/T 0729

GOST (RUSSIA)

GOST 21751



YARN STRENGTH TESTER

电子单纱强力机



The yarn strength tester is used to measure the breaking force, elongation, and toughness properties of the yarn. Breaking tenacity, a ratio of the breaking force to yarn linear density is also a common property for evaluating the strength of a yarn material and for comparison and validation purposes.

电子单纱强力机用于测量纱线的断裂力、伸长率和韧度特性。纱线的断裂韧性，即断裂力与纱线的密度的比值，是评价、比较和验证纱线材料强度的一个常见属性。

TEST STANDARDS

测试标准

ASTM (USA)

ASTM D2256

ISO (INTERNATIONAL)

ISO 2062

GB/T (CHINA)

GB/T 3916 | GB/T 14344

DIN (GERMAN)

DIN 53842.1 | DIN 53835.2

BS (UK)

BS 1932

NF (FRANCE)

NF G07-002/302/310

MARTINDALE ABRASION TESTER

MARTINDALE 摩擦试验机



Martindale Abrasion Tester is used for testing of textile products according to Martindale's standard system and tests the abrasion resistance of the fabric through the test. Abrasion resistance refers to the resistance of a fabric to other materials in the process of repeated friction.

Martindale 摩擦试验机是按照 Martindale 的标准体系对纺织产品进行测试，并通过测试检验织物的耐磨性。耐磨性是指纺织品在反复摩擦过程中对其他材料的摩擦阻力。

TEST STANDARDS

测试标准

ASTM (USA)

ASTM D4966-1998

ISO (INTERNATIONAL)

ISO 20344 | ISO 5470-2: 2003 | ISO 12947-1

GB/T (CHINA)

GB/T 19089 | GB/T 20991 | GB/T 3903.16

SATRA (UK)

SATRA TM31 (STM 605)

BS (UK)

BS-3424

DIN (GERMAN)

DIN 53863

PERSPIRATION TESTER

酚黄变耐汗试验机



Perspiration Tester is used to determine colorfastness to water and perspiration of textiles. The specimen is soaked into acid and alkaline artificial sweat liquid then put into oven at a certain temperature. The test is to measure the grade of dry-endurance against the comparison of grey scale mark after dry.

酚黄变耐汗试验机用于测定纺织品对水和汗液的色牢度。将样品浸泡在酸性和碱性的人工汗液中，然后在一定温度下将样品放入烤箱。该测试是根据样品从烤箱取出干燥后的灰度标记的比较来衡量其干燥耐力的等级。



TEST STANDARDS

测试标准

AATCC (USA)

AATCC 15 | AATCC 106 | AATCC 107 | AATCC 135

ISO (INTERNATIONAL)

ISO 105-E01 | ISO 105-E02 | ISO 105-E04 | ISO 105-A03 | ISO 105-X18

GB/T (CHINA)

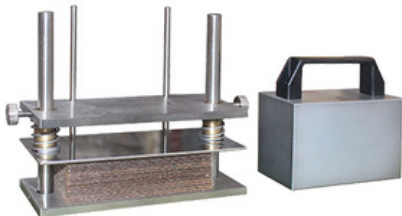
GB/T 3922 | GB/T 5713 | GB/T 5714 | GB/T18886

DIN (GERMAN)

DIN 540005 | DIN 54006 | DIN 54007 | DIN 54020

BS (UK)

BS 1006



UV ACCELERATED WEATHERING TESTER

紫外线加速试验机



The UV Accelerate Weathering Tester use UVA-340 fluorescent UV lamp as light sources which can simulate the harm of sunshine, rain and dew. The operating principle of this machine is to combine the ultraviolet rays, rain, high-temperature, condensation and darkness as a circulation and repeat the circulation automatically. The result of the weathering test of specimen can be generated by these circulations. The tester can reproduce the months and years harm in several days or weeks. The harm includes color fading, discoloring, chalkiness, cracking, muddy, bubble, embrittlement, intensity, recession, oxidation, etc.

紫外线加速试验机采用UVA-340荧光紫外线灯作为光源，可以模拟阳光、雨水和露水造成的影响。本机的工作原理是将紫外线、雨水、高温、冷凝和黑暗作为一个循环，并自动重复该循环，样品的风化试验结果可由这些循环产生。该试验机可在几天或几周内可再现样品在几个月或几年所收到的天气影响所带来的伤害。这些伤害包括褪色、变色、粉化、开裂、浑浊、冒泡、脆化、硬化、衰退、氧化等。

TEST STANDARDS

测试标准

ASTM (USA)

ASTM D4329 | ASTM D499 | ASTM D4587 | ASTM G151 | ASTM G1514 |
ASTM D5208 | ASTM G53

ISO (INTERNATIONAL)

ISO 11507 | ISO 4892-1 | ISO 4892-3

SAE (USA)

SAE J2020

JIS (JAPAN)

JIS D0205

BS (UK)

BS 2782

SHOE LACE ABRASION TESTER

鞋带耐磨试验机



The Shoelace Abrasion Tester is designed for testing the resistance of all shoelaces to abrasion. Two shoelaces are horizontally crossed in a moveable clamp, rubbing against each other, so as to determine their abrasive resistance.

鞋带耐磨测试仪是为测试所有类型的鞋带的抗磨损性而设计的。两条鞋带在一个可移动的夹具中水平交叉，相互摩擦，以测试其耐磨性。

TEST STANDARDS

测试标准

ISO (INTERNATIONAL)

ISO 22774

GB/T (CHINA)

GB/T 3906.36

DIN (GERMAN)

DIN 4843

SATRA (UK)

SATRA PM154 | SATRA TM154

QB/T (CHINA)

QB/T 2226

YARN TWIST TESTER

纱线捻度仪



The Yarn Twist Tester is to determine yarn twist in single or plied yarns, quadrant type with auto stop and reverse for conventional or untwist/re-twist methods. It is suitable for measuring the twist and twist shrinkage of various yarns and twist unevenness rate strands to assess the quality of products or to provide a reliable basis for production process.

纱线捻度测试仪是用来测定单纱或合股纱的纱线捻度具有自动停止和反向功能，可使用传统或退捻/加捻法进行测试。它适用于测定各种纱线的捻度及捻度不匀率股线的捻度和捻缩，以考核产品质量或为生产工艺提供可靠的根据。

TEST STANDARDS

测试标准

ASTM (USA)

ASTM D4329 | ASTM D4587 | ASTM G151 | ASTM G1514 |
ASTM D1422 | ASTM D1423

ISO (INTERNATIONAL)

ISO 11507 | ISO 4892-1 | ISO 4892-3

SAE (USA)

SAE J2020

JIS (JAPAN)

JIS D0205 | JIS L1095

BS (UK)

BS 2782

GB/T (CHINA)

GB/T 2543.1-2001 | GB/T 2543.2-2001

FZ/T (CHINA)

FZ/T10001-2016

ROCKWELL HARDNESS TESTING MACHINE

洛氏硬度机



The Hardness Testing Machine uses the Rockwell method to measure the permanent depth of indentation produced by a force/load on an indenter. A preliminary test force is applied to a sample using a diamond indenter. This preload breaks through the surface to reduce the effects of surface finish. After holding the preliminary test force for a specified dwell time, the baseline depth of indentation is measured. The Rockwell hardness value is derived from the difference in the baseline and final depth measurements.

硬度测试机使用洛氏方法测量压头上的力/负载对样品产生的永久压痕深度。它使用金刚石压头对样品施加初步的测试压力，当这个压力突破了样品的表面并对样品的表面造成了影响。在保持初步测试力一定的停留时间后，测量压痕的基线深度。洛氏硬度值是由基线和最终深度测量值的差异得出的。

TEST STANDARDS

测试标准

ISO (INTERNATIONAL)

ISO 6508-2

JIS (JAPAN)

JIS B 7726

ASTM (USA)

ASTM E18-10

CONSTANT TEMPERATURE & HUMIDITY TESTING CHAMBER

可程序恒温恒湿试验机



The Constant Temperature and Humidity Test Chamber is an environmental test chambers, designed to simulate constant climatic conditions for testing a wide variety of products for their quality, performance, shelf life and stability. It is used to simulate constant temperature and humidity conditions, thereby creating a physiologically ideal environment for product testing.

可程序恒温恒湿试验机是一种环境试验箱，设计用于模拟恒定的气候条件，以测试各种产品的质量、性能、保质期和稳定性。它用于模拟恒定的温度和湿度条件，从而为产品测试创建一个物理上理想的测试环境。

TEST STANDARDS

测试标准

IEC (INTERNATIONAL)

IEC68-2-01 | IEC68-2-02 | IEC68-2-03

MIL (USA)

MIL-STD-810F-507.4 | MIL-STD-810F-501.4 |
MIL-STD-810F-502.4 | MIL-STD883C | MIL-STD810D

JESD (USA)

JESD22-A101-B-2004 | JESD22-A103-C-2004 | JESD22-A119-2004

JIS (JAPAN)

JIS C60068

GB (CHINA)

GB 11158 | GB 10589-89 | GB 10592-89 | GB/T 10586-89 |
GB/T 2423.1-2001 | GB/T 2423.2-2001 | GB/T 2423.3-93 |
GB/T 2423.4-93 | GB/T 2423.22-2001

GJB (CHINA)

GJB 150.3 | GJB 150.4 | GJB 150.9

STANDARD LAUNDRER TESTER

染色耐水洗试验机



This Standard Launder Tester is used to test the washing resistance level. During the experiment, the stain specimen, the test liquid, and the steel ball are put into the test cup, washed and dried according to the specified temperature and time, and compared with the gray scale, so as to evaluate the washing resistance level of the specimen, and the washing durability test of organic solvents can also be performed.

该仪器是用于测试耐水洗的程度。实验时将染色品试片、测试液体和钢球放入测试杯中，按规定的温度、时间进行洗涤、干燥，用灰度表进行比较，从而评价试样的耐水洗等级，也可进行有机溶剂的洗涤耐久性测试。

TEST STANDARDS

测试标准

AATCC (USA)

AATCC 61-2001

ISO (INTERNATIONAL)

ISO 105-C06 | ISO 105-C08 | ISO 105-C09 |

ISO 11643 | ISO 15703 | ISO 105-C10 | ISO 150 D01

GB/T (CHINA)

GB/T 3921 | GB/T 5711-2015 | GB/T 12490

JIS (JAPAN)

JIS L0844-2011

CNS (CHINA)

CNS-8149

SPRAY RATING TESTER (FOR TEXTILE)

泼水度试验机



The Spray Rating Tester is for evaluating the ability of waterproof fabrics to repel water using a "shower test". The test does not measure the penetration of water through fabric, instead it determines the resistance of any fabric, which may or may not have been given a water-resistant or water-repellent finish, to surface wetting by water.

泼水度试验机是用于采用“淋浴测试”的方式来评估纺织品的防水能力。该测试并不是测试水对纺织品的渗透度，而是确定该纺织品在进行了防水处理后或者无防水处理是否具备防水的功能。

TEST STANDARDS

测试标准

AATCC (USA)

AATCC 22

ISO (INTERNATIONAL)

ISO 4920

GB/T (CHINA)

GB/T 4745-1997

SPECTROPHOTOMETER

分光测色仪



The spectrophotometer is an instrument that measures the amount of light absorbed by a sample. It can be fitted with various accessories to measure textured materials, odd shapes, liquids, powders, and gels, and uses up to 3 UV filters to control optical brighteners in textiles, plastics, paint, coatings, and paper.

分光测色仪是一种测量样品所吸收的光量的仪器。该仪器可以安装各种附件，以测量有纹理的材料、特殊形状、液体、粉末和凝胶，可选用的UV平衡适用于对纸张、纺织品、塑料以及颜料与涂料中荧光和荧光增白剂的控制。

TEST STANDARDS

测试标准

ASTM (USA)

ASTM D1003 | ASTM E1164

ISO (INTERNATIONAL)

ISO 7724/1/2/3

CIE (AUSTRIA)

CIE No. 15

JIS (JAPAN)

JIS Z 8722

DIN (GERMAN)

DIN 5033-7

WRAP REEL

缕纱测长机



Wrap Reel, also called as Yarn Measuring Instrument, is a device for measuring yarn and making it into hanks of a standard size. The reel is of a standard size and its revolutions are counted as the yarn is wrapped around it. It is to produce skeins of yarn of a pre-determined length and number of turns for count and strength testing.

缕纱测长机是一种测量纱线并将其制成标准尺寸的线束的装置。纱线卷轴的尺寸是标准的，当纱线缠绕在它上面时，它的转数被计算出来。它是为了生产预先确定的长度和圈数的纱线束，以用于计数和强度测试。

TEST STANDARDS

测试标准

GB/T (CHINA)

GB/T 4743

OPTICAL IMAGE MEASURING INSTRUMENT

光学影像测试仪



The Optical Image Measuring Instrument uses image processing technology to perform automatic measurements of products that are both fast and highly accurate. It uses highly accurate CCD cameras to enable the observation of color images, and the software associated made it possible to perform varied edge detections and to support complicated calculations.

光学影像测试仪使用图像处理技术对产品进行自动测量，既快速又高度精确。它使用高精度的CCD摄像头来实现对彩色图像的观察，同时，相关的软件应用使得它可以进行多样的边缘检测并支持复杂的计算。

SPECTRAL CALIBRATION LAMP

波长校准灯



The Spectral lamps are mainly used for wavelength calibration purposes in the area of spectroscopy. For example, one can use them to check whether a spectrometer displays the line at wavelength correctly, and readjust the device accordingly. The Spectral Calibration Lamp is a halogen light source with adjustable focusing of the fiber connection, maximizing output power at the desired wavelength.

波长校准灯主要用于光谱学领域的波长校准目的。例如，可以用它们来检查光谱仪是否正确显示波长的线，并相应地重新调整设备。光谱校准灯是一个卤素光源，可调节光纤连接的聚焦，在所需的波长上输出最大的功率。

POLYUNION

WEAVING THE FUTURE

CONTACT

联络方式



POLYUNION EUROPE (FRANCE OFFICE)



WWW.POLYUNION.EU



EUROPE@POLYUNION.EU



+33 7 83 56 07 81

