

## TEST REPORT

**2024CN0976**

### DATE OF RECEPTION

*Date Format: dd/MM/yyyy* 19/08/2024

### DATE OF TESTS

Starting : 04/09/2024

Ending: 19/09/2024

### APPLICANT

KUNSHAN SUNSHINETEX NEW MATERIAL Co. Ltd.  
No. 417 Sanxiang Road ndustry Zone  
CN-215300 Kunshan  
JIANGSU  
China

### REFERENCE OF SAMPLES

| Reference by AITEX | Reference by customer | AITEX sample description |
|--------------------|-----------------------|--------------------------|
| 2024CN0798-S01     | POBFD3XY              | Fabric                   |

### TESTS CARRIED OUT

- PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING
- WATER VAPOUR RESISTANCE
- DETERMINATION OF BREAKING STRENGTH AND ELONGATION
- DETERMINATION OF TEAR RESISTANCE
- DETERMINATION OF RESISTANCE TO WATER PENETRATION
- DETERMINATION OF ABRASION RESISTANCE PRETREATMENT
- RESISTANCE TO FLEXING PRETREATMENT
- DETERMINATION OF DIMENSIONAL CHANGE IN WASHING AND DRYING

Tests marked with \* are not included within the scope of the accreditation.





| AITEX Subsamples  |  | Subsample Description          |  |
|-------------------|--|--------------------------------|--|
| 2024CN0798-S01_P1 |  | POBFD3XY Fabric After 5 cycles |  |
| 2024CN0798-S01_P2 |  | POBFD3XY Fabric After Abrasion |  |
| 2024CN0798-S01_P3 |  | POBFD3XY Fabric After Flexión  |  |
| 2024CN0798-S01_P4 |  | POBFD3XY Fabric After Oil      |  |
| 2024CN0798-S01.1  |  | Fabric c/ Hi Vis Yellow        |  |



EXECUTIVE SUMMARY

| EN 343:2019 | Reference         | Test/Standard                                                                 | Result  |
|-------------|-------------------|-------------------------------------------------------------------------------|---------|
|             | 2024CN0798-S01    | WATER VAPOUR RESISTANCE<br>EN ISO 11092:2014                                  | CLASS 2 |
|             |                   | DETERMINATION OF BREAKING STRENGTH AND ELONGATION<br>EN ISO 1421:2016         | PASS    |
|             |                   | DETERMINATION OF TEAR RESISTANCE<br>EN ISO 4674-1:2016 Met.A                  | PASS    |
|             |                   | DETERMINATION OF RESISTANCE TO WATER PENETRATION<br>EN 20811:1992             | CLASS 1 |
|             | 2024CN0798-S01.1  | WATER VAPOUR RESISTANCE<br>EN ISO 11092:2014                                  | CLASS 2 |
|             | 2024CN0798-S01_P1 | DETERMINATION OF RESISTANCE TO WATER PENETRATION<br>EN 20811:1992             | CLASS 4 |
|             |                   | DETERMINATION OF DIMENSIONAL CHANGE IN WASHING AND DRYING<br>EN ISO 5077:2008 | PASS    |
|             | 2024CN0798-S01_P2 | DETERMINATION OF RESISTANCE TO WATER PENETRATION<br>EN 20811:1992             | CLASS 4 |
|             | 2024CN0798-S01_P3 | DETERMINATION OF RESISTANCE TO WATER PENETRATION<br>EN 20811:1992             | CLASS 4 |
|             | 2024CN0798-S01_P4 | DETERMINATION OF RESISTANCE TO WATER PENETRATION<br>EN 20811:1992             | CLASS 4 |



## REQUIREMENT SUMMARY

### WATER VAPOUR RESISTANCE

#### REQUIREMENT ACCORDING EN 343:2019

According to requirement of EN 343:2019 standard, waterproof garments must be classified according to EN 343:

| Class 1       | Class 2               | Class 3               | Class 4          |
|---------------|-----------------------|-----------------------|------------------|
| $R_{et} > 40$ | $25 < R_{et} \leq 40$ | $15 < R_{et} \leq 25$ | $R_{et} \leq 15$ |

### DETERMINATION OF BREAKING STRENGTH AND ELONGATION

#### REQUIREMENT ACCORDING EN 343:2019

The external material must resist a breaking load in both directions  $\geq 450$  N. For materials with an elongation of more than 50% this requirement is not applicable

### DETERMINATION OF TEAR RESISTANCE

#### REQUIREMENT ACCORDING EN 343:2019

The external material must resist a determination of tear resistance in both directions  $\geq 20$  N.

### DETERMINATION OF DIMENSIONAL CHANGE IN WASHING AND DRYING

#### REQUIREMENT ACCORDING EN 343:2019

The dimensional change shall not exceed  $\pm 3\%$ , both in width warp and in length weft.

The dimensional change of knitted fabrics shall not exceed  $\pm 5\%$ , both in width Crosswise and in length Lengthwise.



DETERMINATION OF RESISTANCE TO WATER PENETRATION  
REQUIREMENT ACCORDING EN 343:2019

|                               | CLASS 1   | CLASS 2   | CLASS 3    | CLASS 4    |
|-------------------------------|-----------|-----------|------------|------------|
| Material before pre-treatment | ≥ 8000 Pa | ---       | ---        | ---        |
| Material after pre-treatment  | ---       | ≥ 8000 Pa | ≥ 13000 Pa | ≥ 20000 Pa |
| Seams before pre-treatment    | ≥ 8000 Pa | ≥ 8000 Pa | ≥ 13000 Pa | ---        |
| Seams after pre-treatment     | ---       | ---       | ---        | ≥ 20000 Pa |



RESULTS

PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING

Standard

EN ISO 6330:2021

Test date

Start date04/09/2024End date05/09/2024

Washing procedure

6N

Washing temperature

60°C

Washing cycles

5

Dryer type

James Heal

Drying procedure

F (type A1 tumble drying)

Washing powder

Reference detergent 3

Reference

2024CN0798-S01

| Units | Dry mass of the samples(Kg) | Counterweight mass(Kg) | Counterweight type | Equipment |
|-------|-----------------------------|------------------------|--------------------|-----------|
| 1     | 1.8                         | 0.2                    | Type III           | WASCATOR  |
| 2     | 1.3                         | 0.7                    | Type III           | WASCATOR  |
| 3     | 1.75                        | 0.25                   | Type III           | WASCATOR  |
| 4     | 1.3                         | 0.7                    | Type III           | WASCATOR  |

| Reference      | Description |
|----------------|-------------|
| 2024CN0798-S01 | POBFD3XY    |



RESULTS

WATER VAPOUR RESISTANCE

Standard

EN ISO 11092:2014

Test date

Start date13/09/2024End date13/09/2024

Atmosphere for conditioning

Temperature(35 ± 0.5) °CRelative Humidity(40 ± 3) %

Conditioning time

24 h. ambient conditions at (35 ± 0.5) °C and (40 ± 3) % RH

Uncertainty

± 7% of the result

Number of test specimens per material to be tested

Tested3

Disposition test specimens

The inner face is in contact to the measurement surface.

| Reference        | Specimen | Water vapour resistance<br>Ret (m²·Pa/W) |
|------------------|----------|------------------------------------------|
| 2024CN0798-S01   | 1        | 33.49                                    |
|                  | 2        | 34.50                                    |
|                  | 3        | 32.71                                    |
|                  | Average  | 33.57                                    |
| 2024CN0798-S01.1 | 1        | 32.06                                    |
|                  | 2        | 31.92                                    |
|                  | 3        | 31.86                                    |
|                  | Average  | 31.95                                    |

| Reference        | Description             |
|------------------|-------------------------|
| 2024CN0798-S01   | POBFD3XY                |
| 2024CN0798-S01.1 | Fabric c/ Hi Vis Yellow |



RESULTS

DETERMINATION OF DIMENSIONAL CHANGE IN WASHING AND DRYING

Standard

EN ISO 5077:2008

Preparation, marking and measuring of fabric specimens according to EN ISO 3759:2011

Start date04/09/2024End date10/09/2024

Equipment

Wascator type A-Horizontal tumble, front loading

Washing cycles

5

Uncertainty

± 0.4 %

Reference

2024CN0798-S01\_P1

| Specimen | Direction | Dimensional change (%) |
|----------|-----------|------------------------|
| 1        | WARP      | -2.0                   |
|          | WEFT      | -1.0                   |

Note

Positive dimensional change indicates lengthening. Negative dimensional change indicates shrinkage

| Reference         | Description                    |
|-------------------|--------------------------------|
| 2024CN0798-S01_P1 | POBFD3XY Fabric After 5 cycles |





## RESULTS

### DETERMINATION OF BREAKING STRENGTH AND ELONGATION

**Standard**

EN ISO 1421:2016

**Equipment**

INSTRON Dynamometer

**Conditioned date**

**Start date** 6/9/2024 **End date** 9/9/2024

**Test date**

**Start date** 06/09/2024 **End date** 09/09/2024

**Gauge length****Pretension****Gauge speed****Warp:** 200 mm**Warp:** 0.5 N**Warp:** 100 mm/min**Weft:** 200 mm**Weft:** 0.5 N**Weft :** 100 mm/min**Atmosphere for conditioning**

**Temperature** (20 ± 2) °C **Relative Humidity** (65 ± 4) %

**Number of test specimens per material to be tested**

**Tested** 5 **Rejected** 0

**State of the specimens**

Conditioned

**Reference**

2024CN0798-S01

| Direction | Maximum force (N) | Medium strength | C.V. | Elongation to the maximum load(%) | Average elongation | C.V. |
|-----------|-------------------|-----------------|------|-----------------------------------|--------------------|------|
| Warp      | 971               | 1044            | 6,2  | 30,5                              | 33                 | 5,4  |
|           | 1114              |                 |      | 35,5                              |                    |      |
|           | 1081              |                 |      | 33,5                              |                    |      |
|           | 979               |                 |      | 32                                |                    |      |
|           | 1074              |                 |      | 33                                |                    |      |
| Weft      | 831               | 793             | 4,3  | 43,5                              | 42,5               | 3,5  |
|           | 760               |                 |      | 40,5                              |                    |      |
|           | 814               |                 |      | 43,5                              |                    |      |
|           | 809               |                 |      | 44                                |                    |      |
|           | 753               |                 |      | 42                                |                    |      |

**Uncertainty**

± 5% assay value of the measured

**Note**

The test procedure described in the two versions of the Standard (EN ISO 1421:1998 and EN ISO 1421:2016) is the same.

| Reference      | Description |
|----------------|-------------|
| 2024CN0798-S01 | POBFD3XY    |



RESULTS

DETERMINATION OF TEAR RESISTANCE

Standard

EN ISO 4674-1:2016 Met.A

Equipment

INSTRON Dynamometer

Test date

Start date06/09/2024End date09/09/2024

Conditioned date

Start date6/9/2024End date9/9/2024

Atmosphere for conditioning

Temperature(20 ± 2) °CRelative Humidity(65 ± 5) %

State of the specimens

Conditionated

Number of test specimens per material to be tested

Tested5Rejected0

Procedure

Method A

Specimen size

(200x150) mm

Reference

2024CN0798-S01

| Tear          | Specimen (N) | Average load | C.V. |
|---------------|--------------|--------------|------|
| Lengthwise    | 66.8         | 67.26        | 1.17 |
|               | 68.2         |              |      |
|               | 67.6         |              |      |
|               | 67.5         |              |      |
|               | 66.2         |              |      |
| Cross-cutting | 66.1         | 62.02        | 6.13 |
|               | 57.7         |              |      |
|               | 61.9         |              |      |
|               | 64.9         |              |      |
|               | 59.5         |              |      |

| Reference      | Description |
|----------------|-------------|
| 2024CN0798-S01 | POBFD3XY    |



RESULTS

DETERMINATION OF RESISTANCE TO WATER PENETRATION

Standard

EN 20811:1992

Equipment

Hydrostatic Head Tester

Atmosphere for conditioning

Temperature (20 ± 2) °C      Relative Humidity (65 ± 4) %

Water temperature

20°C

Rate of increase of water pressure

(10±0.5) cm H<sub>2</sub>O/min ((980±50) Pa/min)

Surface exposed

External face

Manometer precision

± 0,5 cm H<sub>2</sub>O

Reference

2024CN0798-S01

Test date

Start date 04/09/2024      End date 05/09/2024

Atmosphere for testing

| Temperature (20.0± 2) °C |                                | Relative Humidity (65.0 ± 4) % |                    |
|--------------------------|--------------------------------|--------------------------------|--------------------|
| Specimen                 | Pressure (cm/H <sub>2</sub> O) | Pressure (Pa)                  | Less pressure (Pa) |
| 1                        | >200                           | >20000                         | >20000             |
| 2                        | >200                           | >20000                         |                    |
| 3                        | >200                           | >20000                         |                    |
| 4                        | >200                           | >20000                         |                    |

| Reference      | Description |
|----------------|-------------|
| 2024CN0798-S01 | POBFD3XY    |



RESULTS

DETERMINATION OF RESISTANCE TO WATER PENETRATION

Standard

EN 20811:1992

Equipment

Hydrostatic Head Tester

Atmosphere for conditioning

Temperature (20 ± 2) °C      Relative Humidity (65 ± 4) %

Water temperature

20°C

Rate of increase of water pressure

(10±0.5) cm H<sub>2</sub>O/min ((980±50) Pa/min)

Surface exposed

External face

Manometer precision

± 0,5 cm H<sub>2</sub>O

Reference

2024CN0798-S01\_P1

Test date

Start date 11/09/2024      End date 12/09/2024

Atmosphere for testing

| Temperature  |                                   | Relative Humidity |                       |
|--------------|-----------------------------------|-------------------|-----------------------|
| (20.0± 2) °C |                                   | (65.0 ± 4) %      |                       |
| Specimen     | Pressure<br>(cm/H <sub>2</sub> O) | Pressure<br>(Pa)  | Less pressure<br>(Pa) |
| 1            | >200                              | >20000            | >20000                |
| 2            | >200                              | >20000            |                       |
| 3            | >200                              | >20000            |                       |
| 4            | >200                              | >20000            |                       |

| Reference         | Description                    |
|-------------------|--------------------------------|
| 2024CN0798-S01_P1 | POBFD3XY Fabric After 5 cycles |



RESULTS

DETERMINATION OF ABRASION RESISTANCE PRETREATMENT

Standard

EN 530:2010 Mét.2

Equipment

Martindale Abrasion Tester

Atmosphere for conditioning

Temperature (20 ± 2) °C      Relative Humidity (65 ± 4) %

Type of fabric

Outside fabric

Test pressure

9 KPa

Reference

2024CN0798-S01

| Specimen | N° of cycles |
|----------|--------------|
| 1        | 1000         |
| 2        | 1000         |
| 3        | 1000         |
| 4        | 1000         |

| Reference      | Description |
|----------------|-------------|
| 2024CN0798-S01 | POBFD3XY    |



RESULTS

DETERMINATION OF RESISTANCE TO WATER PENETRATION

Standard

EN 20811:1992

Equipment

Hydrostatic Head Tester

Atmosphere for conditioning

Temperature (20 ± 2) °C      Relative Humidity (65 ± 4) %

Water temperature

20°C

Rate of increase of water pressure

(10±0.5) cm H<sub>2</sub>O/min ((980±50) Pa/min)

Surface exposed

External face

Manometer precision

± 0,5 cm H<sub>2</sub>O

Reference

2024CN0798-S01\_P2

Test date

Start date 04/09/2024      End date 09/09/2024

Atmosphere for testing

| Temperature (20.0± 2) °C |                                | Relative Humidity (65.0 ± 4) % |                    |
|--------------------------|--------------------------------|--------------------------------|--------------------|
| Specimen                 | Pressure (cm/H <sub>2</sub> O) | Pressure (Pa)                  | Less pressure (Pa) |
| 1                        | >200                           | >20000                         | >20000             |
| 2                        | >200                           | >20000                         |                    |
| 3                        | >200                           | >20000                         |                    |
| 4                        | >200                           | >20000                         |                    |

| Reference         | Description                    |
|-------------------|--------------------------------|
| 2024CN0798-S01_P2 | POBFD3XY Fabric After Abrasion |



RESULTS

RESISTANCE TO FLEXING PRETREATMENT

Standard

EN ISO 7854:1997 Mét.C

Reference

2024CN0798-S01

Test date

Start date04/09/2024End date04/09/2024

| Specimens | Direction                | Flex cycles |
|-----------|--------------------------|-------------|
| 4         | Lengthwise and Crosswise | 9000        |

Visual inspection after flex cycles

|                              |                            |
|------------------------------|----------------------------|
| 1. Material damage           | Doesn't exist damages      |
| 2. Description of the damage | ---                        |
| 3. Fissures                  | Doesn't exist fissures     |
| a. Deepness fissures         | ---                        |
| b. Number of fissures        | ---                        |
| c. Longitude of fissures     | ---                        |
| 4. Deslaminated              | Doesn't exist deslaminated |

| Reference      | Description |
|----------------|-------------|
| 2024CN0798-S01 | POBFD3XY    |





RESULTS

DETERMINATION OF RESISTANCE TO WATER PENETRATION

Standard

EN 20811:1992

Equipment

Hydrostatic Head Tester

Atmosphere for conditioning

Temperature (20 ± 2) °C      Relative Humidity (65 ± 4) %

Water temperature

20°C

Rate of increase of water pressure

(10±0.5) cm H<sub>2</sub>O/min ((980±50) Pa/min)

Surface exposed

External face

Manometer precision

± 0,5 cm H<sub>2</sub>O

Reference

2024CN0798-S01\_P3

Test date

Start date 05/09/2024      End date 09/09/2024

Atmosphere for testing

| Temperature (20.0± 2) °C |                                | Relative Humidity (65.0 ± 4) % |                    |
|--------------------------|--------------------------------|--------------------------------|--------------------|
| Specimen                 | Pressure (cm/H <sub>2</sub> O) | Pressure (Pa)                  | Less pressure (Pa) |
| 1                        | >200                           | >20000                         | >20000             |
| 2                        | >200                           | >20000                         |                    |
| 3                        | >200                           | >20000                         |                    |
| 4                        | >200                           | >20000                         |                    |

| Reference         | Description                   |
|-------------------|-------------------------------|
| 2024CN0798-S01_P3 | POBFD3XY Fabric After Flexión |



RESULTS

DETERMINATION OF RESISTANCE TO WATER PENETRATION

Standard

EN 20811:1992

Equipment

Hydrostatic Head Tester

Atmosphere for conditioning

Temperature (20 ± 2) °C      Relative Humidity (65 ± 4) %

Water temperature

20°C

Rate of increase of water pressure

(10±0.5) cm H<sub>2</sub>O/min ((980±50) Pa/min)

Surface exposed

External face

Manometer precision

± 0,5 cm H<sub>2</sub>O

Reference

2024CN0798-S01\_P4

Test date

Start date 18/09/2024      End date 19/09/2024

Atmosphere for testing

| Temperature  |                                   | Relative Humidity |                       |
|--------------|-----------------------------------|-------------------|-----------------------|
| (20.0± 2) °C |                                   | (65.0 ± 4) %      |                       |
| Specimen     | Pressure<br>(cm/H <sub>2</sub> O) | Pressure<br>(Pa)  | Less pressure<br>(Pa) |
| 1            | >200                              | >20000            | >20000                |
| 2            | >200                              | >20000            |                       |
| 3            | >200                              | >20000            |                       |
| 4            | >200                              | >20000            |                       |

| Reference         | Description               |
|-------------------|---------------------------|
| 2024CN0798-S01_P4 | POBFD3XY Fabric After Oil |



**Lucia Martinez**  
Head of PPE and Ballistics department

Date: 02/10/2024 16:20:05

Digitally Signed by: LUCIA MARTINEZ MOLTO -

NIF: 21651425F

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