



# Ball Test Report

**Test code:** BAT-22-1878-a

**Items tested:** TourSpin WIN  
(China)

**Packaging:** Plastic 4-ball tubes, pressurised

**Client:** Vostok Import Co., Ltd.  
st. Smolenskaya, 7, apt. 158.  
Moscow  
119121  
Russia

**Date received:** 31 October 2022

**Reason for test:** To test and evaluate the TourSpin WIN tennis ball according to Rule 3 of the Rules of Tennis 2022.

**Date of test:** 3 November 2022

**Prepared by:**

**Authorised by:**

**Issue date:** 4 November 2022

**Distribution:**

Copy 1 - ITF Internal

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**Ball Type 2 Test Result: Pass**

## Test Explanation - Ball Type 2 : BAT-22-1878-a



### Introduction

This report summarises the results of testing that was carried out on the items identified on the first page of this report, according to the International Tennis Federation Rules of Tennis.

In order to pass an individual test, every result of each ball must be within the specified limits. For the ball to gain an overall pass, each test must be passed.

Results valid from 1 January 2023 to 31 December 2023.

Visual Inspection - Pass

All 24 balls had a uniform surface finish.

Colour - Pass

All 24 balls were coloured White or Yellow.

Height of bound - Pass

All 24 balls had a bound within the specified limits (135 cm - 147 cm).

Size - Pass

All 24 balls had a diameter within the specified limits (6.54 cm - 6.86 cm).

Mass - Pass

All 24 balls had a mass within the specified limits (56.0 g - 59.4 g).

Forward deformation - Pass

All 24 balls had a forward deformation within the specified limits (0.56 cm - 0.74 cm), with a variation of no greater than 0.08 cm between the axes.

Return deformation - Pass

All 24 balls had a return deformation within the specified limits (0.80 cm - 1.08 cm), with a variation no greater than 0.08 cm between the axes.

Internal pressure (pressureless balls only) - n/a

Durability - Pass

All 6 balls had durability characteristics within the specified limits.

**Overall result - Pass**

# Test Results - Ball Type 2 : BAT-22-1878-a



Brand of ball: TourSpin WIN (CHN)  
 Test date: 3 November 2022

Temperature: 20 ± 2°C  
 Humidity: 60 ± 5%

Barometric pressure: 100 kPa  
 Altitude: 10 m

Average can pressure: 68 kPa  
 Average ball pressure: 61 kPa

| Ball number:                                       | 1           | 2           | 3           | 4           | 5           | 6           | 7           | 8           | 9           | 10          | 11          | 12          |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Can pressure (kPa):</b>                         | 73          | 73          | 73          | 73          | 68          | 68          | 68          | 68          | 68          | 68          | 68          | 68          |
| <b>Pre-compression:</b>                            | Applied     | Applied     | Applied     | Applied     | Applied     | Applied     | Applied     | Applied     | Applied     | Applied     | Applied     | Applied     |
| <b>Bound height: 1st</b><br>(135 cm - 147 cm)      | 137         | 138         | 136         | 139         | 135         | 137         | 139         | 136         | 139         | 141         | 140         | 139         |
| <b>2nd</b>   | 136         | 137         | 136         | 141         | 138         | 139         | 138         | 138         | 138         | 139         | 139         | 138         |
| <b>3rd</b>   | 136         | 139         | 136         | 139         | 138         | 137         | 139         | 139         | 138         | 139         | 139         | 139         |
| <b>4th</b>   | 139         | 139         | 137         | 140         | 138         | 137         | 138         | 138         | 140         | 140         | 139         | 140         |
| <b>Mean</b><br>(2.54 cm = 1 in)                    | <b>137</b>  | <b>138</b>  | <b>136</b>  | <b>140</b>  | <b>137</b>  | <b>138</b>  | <b>139</b>  | <b>138</b>  | <b>139</b>  | <b>140</b>  | <b>139</b>  | <b>139</b>  |
|  | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        |
| <b>Size:</b><br>(6.54 cm - 6.86 cm)                | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   | In Limits   |
|  | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        |
| <b>Mass:</b><br>(56.0 g - 59.4 g)                  | 58.5        | 58.7        | 57.5        | 58.1        | 58.3        | 58.6        | 57.9        | 58.7        | 58.6        | 58.0        | 57.4        | 58.8        |
|  | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        |
| <b>Forward deformation:</b><br>(0.56 cm - 0.74 cm) | x           | 0.64        | 0.65        | 0.66        | 0.65        | 0.63        | 0.64        | 0.65        | 0.65        | 0.64        | 0.63        | 0.67        |
|  | y           | 0.65        | 0.65        | 0.66        | 0.66        | 0.63        | 0.67        | 0.66        | 0.63        | 0.65        | 0.65        | 0.67        |
|  | z           | 0.66        | 0.66        | 0.69        | 0.67        | 0.65        | 0.67        | 0.67        | 0.66        | 0.65        | 0.65        | 0.68        |
| <b>Mean</b><br>Variation ≤ 0.08 cm)                | <b>0.65</b> | <b>0.65</b> | <b>0.67</b> | <b>0.66</b> | <b>0.64</b> | <b>0.66</b> | <b>0.66</b> | <b>0.66</b> | <b>0.65</b> | <b>0.65</b> | <b>0.64</b> | <b>0.67</b> |
|  | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        |
| <b>Return deformation:</b><br>(0.80 cm - 1.08 cm)  | x           | 0.92        | 0.92        | 0.93        | 0.92        | 0.91        | 0.92        | 0.92        | 0.93        | 0.92        | 0.88        | 0.94        |
|  | y           | 0.92        | 0.92        | 0.94        | 0.93        | 0.90        | 0.94        | 0.94        | 0.91        | 0.92        | 0.92        | 0.94        |
|  | z           | 0.94        | 0.93        | 0.97        | 0.94        | 0.93        | 0.95        | 0.95        | 0.94        | 0.93        | 0.93        | 0.95        |
| <b>Mean</b><br>Variation ≤ 0.08 cm)                | <b>0.93</b> | <b>0.92</b> | <b>0.95</b> | <b>0.93</b> | <b>0.91</b> | <b>0.94</b> | <b>0.94</b> | <b>0.94</b> | <b>0.93</b> | <b>0.92</b> | <b>0.91</b> | <b>0.94</b> |
|  | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        |
| <b>Overall result:</b>                             | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> | <b>Pass</b> |

# Test Results - Ball Type 2 : BAT-22-1878-a



Brand of ball: TourSpin WIN (CHN)  
 Test date: 3 November 2022

Temperature: 20 ± 2°C  
 Humidity: 60 ± 5%

Barometric pressure: 100 kPa  
 Altitude: 10 m

Average can pressure: 68 kPa  
 Average ball pressure: 61 kPa

| Ball number:                                  | 13                | 14                | 15                | 16                | 17                | 18                | 19                | 20                | 21                | 22                | 23                | 24                |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Can pressure (kPa):                           | 66                | 66                | 66                | 66                | 66                | 66                | 66                | 66                | 65                | 65                | 65                | 65                |
| Pre-compression:                              | Applied           | Applied           | Applied           | Applied           | Applied           | Applied           | Applied           | Applied           | Applied           | Applied           | Applied           | Applied           |
| Bound height: 1st<br>(135 cm - 147 cm)        | 140               | 137               | 136               | 139               | 138               | 137               | 140               | 139               | 138               | 136               | 136               | 140               |
| 2nd   | 139               | 137               | 137               | 137               | 141               | 139               | 138               | 141               | 138               | 139               | 138               | 139               |
| 3rd   | 141               | 138               | 137               | 139               | 138               | 137               | 138               | 140               | 140               | 137               | 139               | 138               |
| 4th   | 141               | 134               | 135               | 140               | 140               | 138               | 139               | 140               | 140               | 138               | 139               | 138               |
| Mean<br>(2.54 cm = 1 in)                      | 140               | 137               | 136               | 139               | 139               | 138               | 139               | 140               | 139               | 138               | 138               | 139               |
|   | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              |
| Size:<br>(6.54 cm - 6.86 cm)                  | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass | In Limits<br>Pass |
| Mass:<br>(56.0 g - 59.4 g)                    | 58.3<br>Pass      | 57.8<br>Pass      | 57.5<br>Pass      | 58.7<br>Pass      | 58.4<br>Pass      | 57.3<br>Pass      | 58.6<br>Pass      | 58.2<br>Pass      | 58.9<br>Pass      | 56.8<br>Pass      | 57.7<br>Pass      | 57.3<br>Pass      |
| Forward deformation: x<br>(0.56 cm - 0.74 cm) | 0.64              | 0.65              | 0.65              | 0.64              | 0.63              | 0.64              | 0.65              | 0.64              | 0.65              | 0.65              | 0.65              | 0.65              |
| y   | 0.66              | 0.66              | 0.66              | 0.66              | 0.65              | 0.66              | 0.66              | 0.65              | 0.66              | 0.67              | 0.68              | 0.67              |
| z   | 0.68              | 0.67              | 0.67              | 0.68              | 0.68              | 0.68              | 0.66              | 0.67              | 0.65              | 0.67              | 0.68              | 0.67              |
| Mean<br>Variation ≤ 0.08 cm)                  | 0.66              | 0.66              | 0.66              | 0.66              | 0.65              | 0.66              | 0.66              | 0.65              | 0.65              | 0.66              | 0.67              | 0.66              |
|   | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              |
| Return deformation: x<br>(0.80 cm - 1.08 cm)  | 0.90              | 0.92              | 0.93              | 0.90              | 0.91              | 0.92              | 0.92              | 0.92              | 0.93              | 0.95              | 0.94              | 0.92              |
| y   | 0.92              | 0.93              | 0.94              | 0.92              | 0.92              | 0.94              | 0.93              | 0.92              | 0.93              | 0.95              | 0.96              | 0.95              |
| z   | 0.94              | 0.94              | 0.95              | 0.94              | 0.94              | 0.96              | 0.93              | 0.93              | 0.92              | 0.96              | 0.96              | 0.95              |
| Mean<br>Variation ≤ 0.08 cm)                  | 0.92              | 0.93              | 0.94              | 0.92              | 0.92              | 0.94              | 0.93              | 0.92              | 0.93              | 0.95              | 0.95              | 0.94              |
|   | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              |
| Overall result:                               | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              | Pass              |

# Test Summary - Ball Type 2 : BAT-22-1878-a



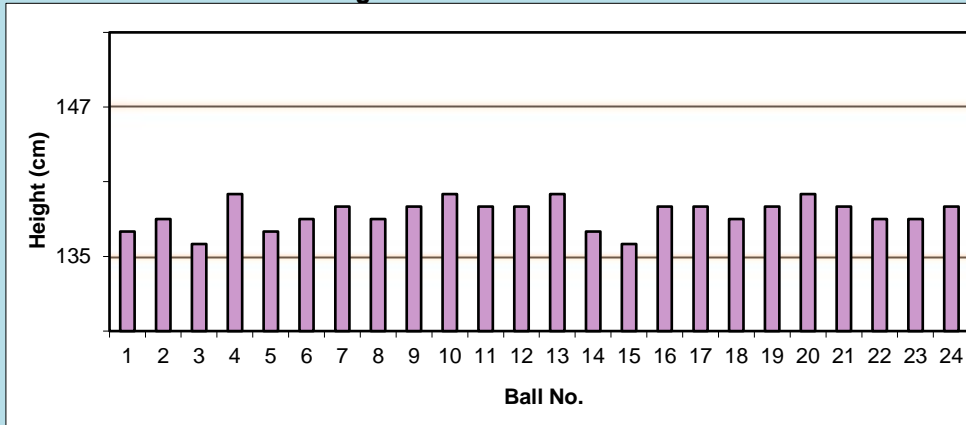
Brand of ball: TourSpin WIN (CHN)  
 Test date: 3 November 2022

Temperature:  $20 \pm 2^\circ\text{C}$   
 Humidity:  $60 \pm 5\%$

Barometric pressure: 100 kPa  
 Altitude: 10 m

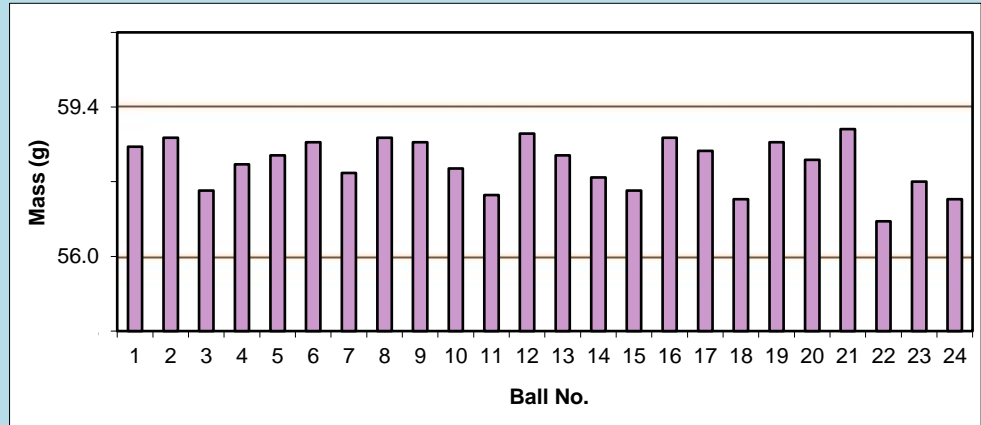
Average can pressure: 68 kPa  
 Average ball pressure: 61 kPa

**Height of bound - Pass**



Average height of bound - 138 cm

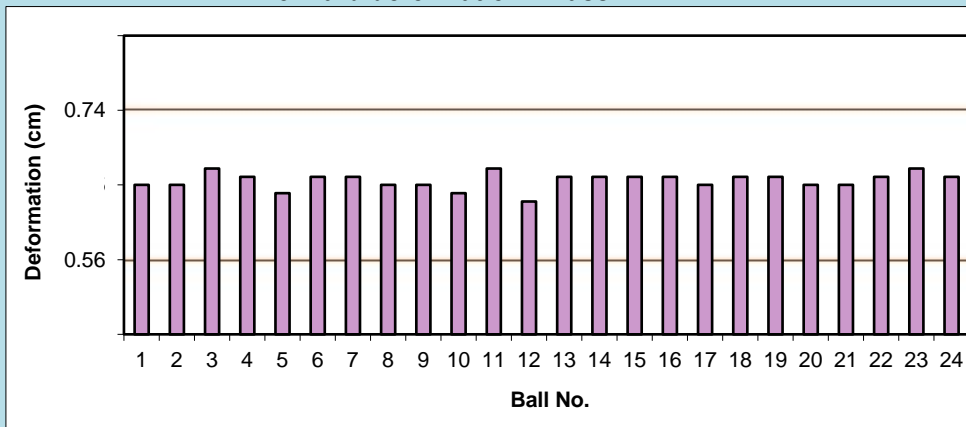
**Mass - Pass**



Average mass - 58.1 g

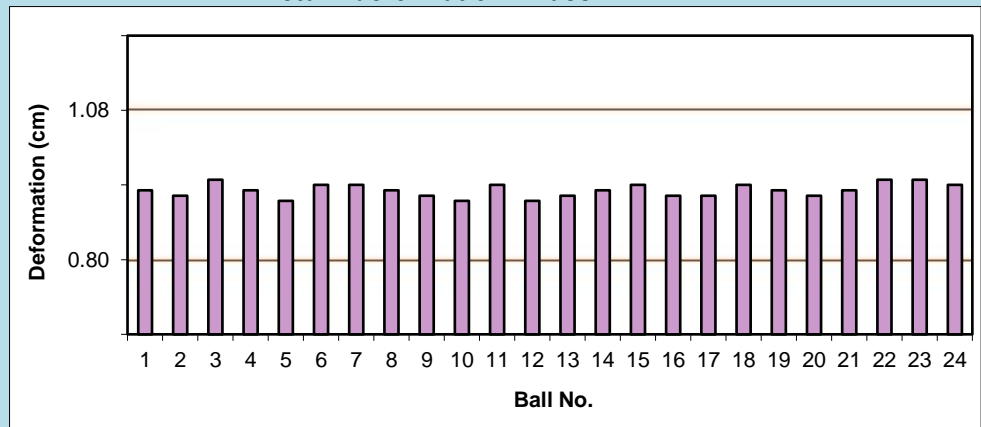
**Overall result - Pass**

**Forward deformation - Pass**



Average forward deformation - 0.66 cm

**Return deformation - Pass**



Average return deformation - 0.93 cm

# Durability Testing - Ball Type 2 : BAT-22-1878-a



Brand of ball: TourSpin WIN (CHN)  
 Test date: 3 November 2022

Temperature:  $20 \pm 2^\circ\text{C}$   
 Humidity:  $60 \pm 5\%$

Barometric pressure: 100 kPa  
 Altitude: 10 m  
 Average can pressure: 68 kPa  
 Average ball pressure: 61 kPa

| Ball number:                              | 3       | 7       | 11      | 13      | 19      | 23      | Mean |      |
|---|---------|---------|---------|---------|---------|---------|------|------|
| Can pressure (kPa):                       | 73      | 68      | 68      | 66      | 66      | 65      | 68   |      |
| Pre-compression:                          | Applied | Applied | Applied | Applied | Applied | Applied |      |      |
| Change in bound height: (4.0 cm)          | 1st     | 1.1     | -1.4    | -2.4    | -1.0    | -0.9    | 2.6  | -0.3 |
|   | 2nd     | 3.8     | -0.7    | -2.9    | 0.0     | -0.1    | 0.0  | 0.0  |
|   | 3rd     | 2.1     | -0.2    | 0.4     | 0.1     | 1.5     | -0.6 | 0.6  |
|   | 4th     | 1.7     | 0.1     | 1.1     | -1.2    | 1.1     | -0.7 | 0.4  |
|   | Mean    | 2.2     | -0.6    | -1.0    | -0.5    | 0.4     | 0.3  | 0.1  |
| (2.54 cm = 1 in)                          | Pass    | Pass    | Pass    | Pass    | Pass    | Pass    |      |      |
| Change in size (cm): (currently no limit) | 0.01    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01 |      |
| Change in mass: (0.4 g)                   | -0.2    | -0.2    | -0.1    | -0.1    | -0.2    | -0.1    | -0.2 |      |
|   | Pass    | Pass    | Pass    | Pass    | Pass    | Pass    |      |      |
| Change in forward deformation: (0.08 cm)  | x       | 0.06    | 0.05    | 0.05    | 0.07    | 0.05    | 0.06 | 0.06 |
|   | y       | 0.05    | 0.05    | 0.05    | 0.05    | 0.05    | 0.04 | 0.05 |
|   | z       | 0.04    | 0.05    | 0.05    | 0.04    | 0.05    | 0.06 | 0.05 |
|   | Mean    | 0.05    | 0.05    | 0.05    | 0.05    | 0.05    | 0.05 | 0.05 |
|   | Pass    | Pass    | Pass    | Pass    | Pass    | Pass    |      |      |
| Change in return deformation: (0.10 cm)   | x       | 0.07    | 0.06    | 0.05    | 0.07    | 0.05    | 0.05 | 0.06 |
|   | y       | 0.05    | 0.04    | 0.05    | 0.07    | 0.05    | 0.04 | 0.05 |
|   | z       | 0.05    | 0.04    | 0.04    | 0.06    | 0.05    | 0.05 | 0.05 |
|   | Mean    | 0.06    | 0.05    | 0.05    | 0.07    | 0.05    | 0.05 | 0.05 |
|   | Pass    | Pass    | Pass    | Pass    | Pass    | Pass    |      |      |
| Overall result:                           | Pass    | Pass    | Pass    | Pass    | Pass    | Pass    |      |      |

## Durability protocol

Test six balls of those tested for ITF Approval 24 hours after the following wearing regime: 20 impacts for each ball at  $40 \pm 3$  m/s onto a smooth, rigid surface (at an impact angle of  $90 \pm 10^\circ$  to the surface) and 2 minutes in a felt-wearing device (two balls at a time).

