

ติดต่อขอรายละเอียดเกี่ยวกับการจำหน่ายลูกเทนนิส TOP ONE รุ่น MASTER ได้ที่
คุณโอ (ปาริชาติ) หมายเลขโทรศัพท์ 081-655-9166 หรือ คุณรัตน์ (ตรีรัตน์) หมายเลขโทรศัพท์ 085-409-440

ITF Ball Test Report

Test code: BAT-16-1539-a

Items tested: Top One
(Thailand)

Packaging: Plastic 3-ball tubes, pressurised

Client: Lawn Tennis Association of Thailand
100 Moo 9, Tambon Bangpood
Muang Thong Thani, Charng Wattana
District Pak Kred
Nonthaburi 11120
Thailand

Date received: 19 July 2017

Reason for test: To test and evaluate the Top One Type 2 tennis ball
according to Rule 3 of the Rules of Tennis.

Date of test: 15 August 2017

Prepared by:



Authorised by:



Issue date: 16 August 2017

Distribution:

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Ball Type 2 Test Result: Pass

Test Explanation - Ball Type 2 : BAT-16-1539-a



Client: Lawn Tennis Association of Thailand

Test items: Top One
(Thailand)

Specification: International Tennis Federation Rules of Tennis - 2017
Rule 3, Ball Type 2.

Test date: 15 August 2017

Introduction

This report summarises the results of testing that was carried out on the above items 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 15 August 2017 to 31 December 2017.

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-16-1539-a



Brand of ball: Top One (THA)
Test date: 15 August 2017

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

Barometric pressure: 102 kPa
Altitude: 10 m

Average can pressure: 87 kPa
Average ball pressure: 76 kPa

Ball number:	1	2	3	4	5	6	7	8	9	10	11	12
Can pressure (kPa):	86	86	86	87	87	87	87	87	87	86	86	86
Pre-compression:	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied
Bound height: 1st	143	143	140	142	141	143	142	143	144	143	141	140
(135 cm - 147 cm) 2nd	142	143	139	143	141	141	139	143	141	143	144	141
3rd	144	144	139	142	142	143	142	147	144	141	141	144
4th	142	145	141	143	142	142	142	143	143	145	142	142
Mean	143	144	140	143	142	142	141	144	143	143	142	142
(2.54 cm = 1 in)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Size:	In Limits	In Limits	In Limits	In Limits	In Limits	In Limits	In Limits	In Limits	In Limits	In Limits	In Limits	In Limits
(6.54 cm - 6.86 cm)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Mass:	56.8	57.2	57.5	57.6	57.6	57.4	57.4	57.2	58.0	57.8	58.1	58.0
(56.0 g - 59.4 g)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Forward deformation: x	0.67	0.63	0.63	0.64	0.67	0.64	0.65	0.63	0.64	0.64	0.66	0.62
y	0.68	0.65	0.64	0.66	0.68	0.65	0.66	0.64	0.66	0.65	0.66	0.64
(0.56 cm - 0.74 cm) z	0.69	0.66	0.65	0.67	0.67	0.67	0.67	0.65	0.67	0.66	0.69	0.65
Mean	0.68	0.65	0.64	0.66	0.67	0.65	0.66	0.64	0.66	0.65	0.67	0.64
Variation ≤ 0.08 cm)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Return deformation: x	0.89	0.85	0.86	0.87	0.89	0.87	0.88	0.85	0.86	0.87	0.89	0.85
y	0.90	0.88	0.86	0.88	0.91	0.87	0.88	0.87	0.88	0.86	0.89	0.86
(0.80 cm - 1.08 cm) z	0.93	0.89	0.88	0.90	0.90	0.90	0.90	0.87	0.89	0.89	0.91	0.88
Mean	0.91	0.87	0.87	0.88	0.90	0.88	0.89	0.86	0.88	0.87	0.90	0.86
Variation ≤ 0.08 cm)	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 Results - Ball Type 2 : BAT-16-1539-a



Brand of ball: Top One (THA)
Test date: 15 August 2017

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

Barometric pressure: 102 kPa
Altitude: 10 m

Average can pressure: 87 kPa
Average ball pressure: 76 kPa

Ball number:	13	14	15	16	17	18	19	20	21	22	23	24
Can pressure (kPa):	88	88	88	88	88	88	87	87	87	89	89	89
Pre-compression:	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied	Applied
Bound height: 1st (135 cm - 147 cm)	145	143	142	144	142	143	144	141	143	145	142	144
2nd	144	142	144	145	141	143	142	143	144	143	142	145
3rd	143	143	144	147	142	142	142	143	143	144	143	143
4th	144	143	144	143	142	144	143	144	142	144	147	145
Mean (2.54 cm = 1 in)	144	143	144	145	142	143	143	143	143	144	144	144
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Size: (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
Mass: (56.0 g - 59.4 g)	57.7	57.2	57.9	57.8	57.3	57.2	57.3	57.0	57.7	58.2	58.1	58.0
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Forward deformation: (0.56 cm - 0.74 cm)	x	0.61	0.68	0.63	0.65	0.63	0.64	0.66	0.68	0.66	0.61	0.64
	y	0.63	0.67	0.64	0.66	0.65	0.65	0.67	0.69	0.67	0.62	0.66
	z	0.64	0.68	0.65	0.66	0.65	0.67	0.68	0.69	0.67	0.63	0.68
Mean Variation ≤ 0.08 cm)	0.63	0.68	0.64	0.66	0.64	0.65	0.67	0.69	0.67	0.67	0.62	0.66
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Return deformation: (0.80 cm - 1.08 cm)	x	0.84	0.91	0.85	0.87	0.85	0.85	0.88	0.90	0.88	0.84	0.86
	y	0.86	0.90	0.86	0.88	0.87	0.87	0.89	0.92	0.88	0.84	0.87
	z	0.86	0.91	0.87	0.89	0.88	0.89	0.91	0.92	0.89	0.85	0.90
Mean Variation ≤ 0.08 cm)	0.85	0.91	0.86	0.88	0.87	0.87	0.89	0.91	0.91	0.88	0.84	0.88
	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-16-1539-a



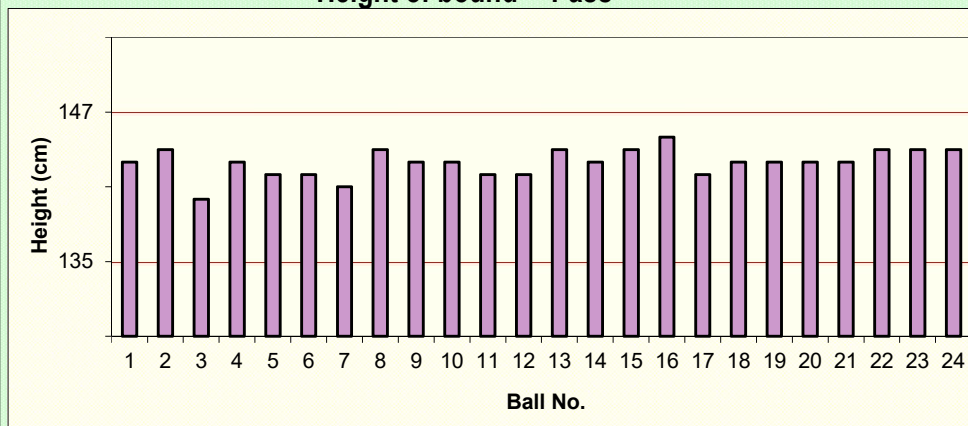
Brand of ball: Top One (THA)
Test date: 15 August 2017

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

Barometric pressure: 102 kPa
Altitude: 10 m

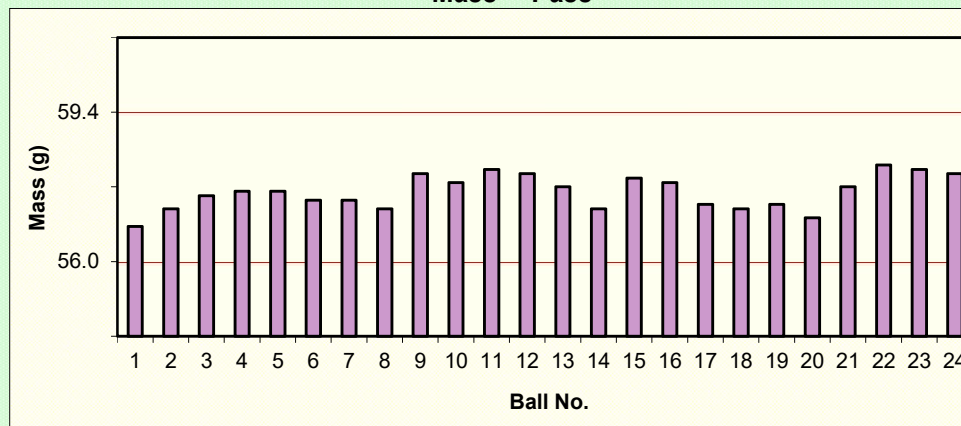
Average can pressure: 87 kPa
Average ball pressure: 76 kPa

Height of bound - Pass



Average height of bound - 143 cm

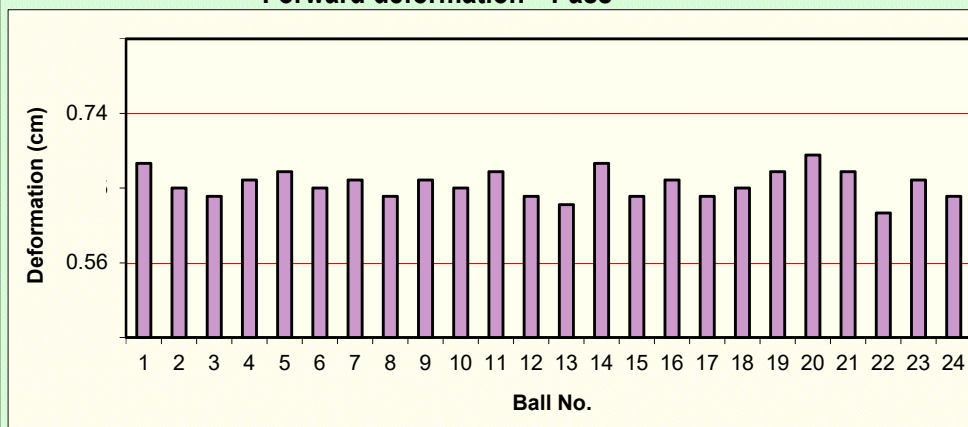
Mass - Pass



Average mass - 57.6 g

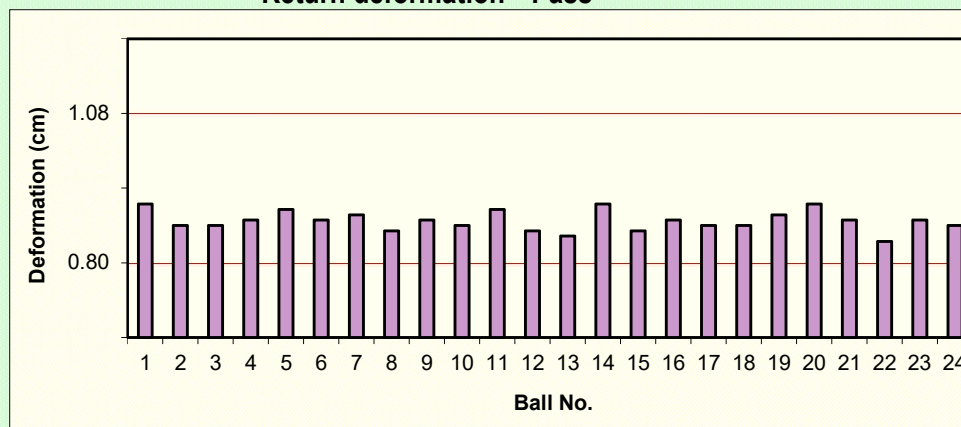
Overall result - Pass

Forward deformation - Pass



Average forward deformation - 0.66 cm

Return deformation - Pass



Average return deformation - 0.88 cm

Durability Testing - Ball Type 2 : BAT-16-1539-a



Brand of ball: Top One (THA)
Test date: 15 August 2017

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

Barometric pressure: 102 kPa
Altitude: 10 m
Average can pressure: 87 kPa
Average ball pressure: 76 kPa

Ball number:	3	7	11	13	19	23	Mean
Can pressure (kPa):	86	87	86	88	87	89	87
Pre-compression:	Applied	Applied	Applied	Applied	Applied	Applied	
Change in 1st	-3.1	-1.2	-0.2	-0.9	-1.7	-1.7	-1.5
bound height: 2nd	-1.2	1.2	-3.4	-4.3	-0.7	-1.1	-1.6
(4.0 cm) 3rd	0.5	-1.6	0.8	1.3	-0.7	-0.9	-0.1
4th	-0.9	-2.2	1.1	-1.6	0.4	-3.3	-1.1
Mean	-1.2	-1.0	-0.4	-1.4	-0.7	-1.8	-1.1
(2.54 cm = 1 in)	Pass	Pass	Pass	Pass	Pass	Pass	
Change in size (cm):	0.02	0.02	0.03	0.03	0.01	0.02	0.02
(currently no limit)							
Change in mass:	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
(0.4 g)	Pass	Pass	Pass	Pass	Pass	Pass	
Change in x	0.05	0.05	0.06	0.05	0.05	0.05	0.05
forward y	0.05	0.05	0.06	0.05	0.05	0.04	0.05
deformation: z	0.05	0.05	0.05	0.05	0.05	0.04	0.05
(0.08 cm) Mean	0.05	0.05	0.06	0.05	0.05	0.04	0.05
	Pass	Pass	Pass	Pass	Pass	Pass	
Change in x	0.05	0.06	0.06	0.06	0.05	0.06	0.06
return y	0.07	0.06	0.05	0.05	0.06	0.06	0.06
deformation: z	0.05	0.06	0.06	0.07	0.06	0.05	0.06
(0.10 cm) Mean	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	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 ± 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).

