Test Report# : MSB-22220 Date: FEB 21, 2020

Awan Sports Industries (PVT) LTD Unit# 05
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Test Requested By	:	**Mr.Shahid**
Designation	:	Development Manager
Report Type	:	Random Trials
Sample Description	:	TPU Football
Season	:	NA
Working Number	:	22220-A
Article Description	:	**SOCCER U**
Article Number	:	**SOCCER U**
Colorway Name	:	CARBON
Amount of Samples	:	1 Ball
Size	:	**5**
Test According to	:	**IMS**
Age Group	:	Adults
Artwork/Trims	:	Approved
Country of Supplier	:	Pakistan
Brand	:	SOCCER U

Sample Photo: A

Section: Summary of Test Results:

Test Description	Test Method	Conclusion Pass/Fail
Ball Weight	FGT-35	**PASS**
Circumference & Sphericity Measurement	FGT-37	**PASS**
Loss of Pressure	FGT-38	**PASS**
Rebound at Room Climate	FGT-39	**PASS**
Rebound at Cold Climate (5°C)	FGT-39	**PASS**
Dynamic Water Absorption	FGT-40	**Fail**
Shooter Test (Durability)	FGT-41	**PASS**
Increase in circumference & Sphericity - After Shooter Test	FGT-37	**PASS**

Section: Finish Goods Test(s) Results Details:

1-Ball Weight:
Test According to the adidas test method **FGT-35**

EVALUATION:
• Note the weight of the balls according to the different adidas FGT-Reports.
Test Condition: 23 ± 2 ° C, 60 ± 5% 10% rel. humidity. 0.8 Bar Air Pressure of Ball.

Test Description	Requirement	Unit	Results
Ball Weight	410 - 450	grams	**430.00**

2-Circumference & Sphericity Measurement:
Test According to the adidas test method **FGT-37**

EVALUATION:
• Note the value of sphericity and circumference according to the different adidas FGT-reports.
Test Condition: 23 ± 2 ° C, 60 ± 5% 10% rel. humidity. 0.8 Bar Air Pressure of ball.

Test Description	Requirement	Unit	Minimum	Maximum	Avg Csm
Circumference	68.0 - 70.0	cm	_	_	**68.40**
Sphericity/Deviation	1.8	%	_	_	**1.32**

3- Loss of Pressure:
Test According to the adidas test method **FGT-38**

EVALUATION:
• Calculate the loss of pressure in percentage:
Test Condition: 23 ± 2 ° C, 60 ± 5% 10% rel. humidity. 1.0 Bar Air Pressure of ball for 72 hours

Test Description	Requirement	Unit	Results
Loss of Pressure	Max. 25	%	**12.0**

4- Rebound at Room Climate:

Test According to the adidas test method **FGT- 39**

EVALUATION:

• Calculate the average of the rebound height per ball according to the different adidas FGT - reports.

Test Condition: 23 ± 2 ° C, 60 ± 5% 10% rel. humidity. Adjust the pressure of the balls to 0.8 ± 0.05 bar Adjust the drop height to 2 m, Do 10 measurements per ball on different panels, but not the valve panel.

Test Description	Requirement	Unit	Results
Rebound at Room Climate	125 - 155	cm	**136.3**

5- Rebound at Cold Climate (5°C):

Test According to the adidas test method **FGT- 39**

EVALUATION:

• Calculate the average of the rebound height per ball according to the different adidas FGT - reports.

Test Condition: 23 ± 2 ° C, 60 ± 5% 10% rel. humidity. Adjust the pressure of 0.9 bar for 11 h at 5°C, Adjust the pressure of each ball to 0.82 bar and store the balls again for approx 1 h at 5°C

Test Description	Requirement	Unit	Results
Rebound at Cold Climate (5°C)	min 115	cm	**124.6**

6- Dynamic Water Absorption - (After shooter) :

Test According to the adidas test method **FGT- 40**

EVALUATION:

• Calculate the water uptake in percent:

$$C_{uptake} = \frac{m_2 \cdot 100\%}{m_1} - 100\%$$

Test Condition: Adjust the pressure to 0.8bar, 300 Cycles at the water level up to a height of 2 ± 0.2cm.

Test Description	Requirement	Unit	Results
Dynamic Water Absorption	Max. 10%/Ball	%	**31.06**

7- Shooter test (Durability):

Test According to the adidas test method **FGT-41**

EVALUATION:

• Check if there is any material delamination on the ball, Check if there is any torn thread/stitch visible Is the loss of pressure higher than 0.1bar, cut the ball and check the valve for any visible defect.

Test Condition: 23 ± 2 ° C, 60 ± 5% 10% rel. humidity. 0.8 bar ball pressure, 2000 shoots at Impact speed on the steel plate: 50 km/h

Test Description	Requirement	Results	
Shooter test (Durability)	stitching/bonding + air valve undamaged & no delamintaion (seems/valve: nodamage)	**No damage**	
Change of Pressure in reference to initial pressure	Maximum 0.1 bar	**0.06**	

8- Increase in circumference & Sphericity (After Shooter Test):

Test According to the adidas test method **FGT-37**

EVALUATION:

• Calculate the increase in circumference, Evaluate the increase in circumference and the deviation in sphericity in ref. to 100% roundness according to the different Categories in the FGT – report:

$$C_{increase} = C_2 - C_1$$

Test Description	Requirement	Unit	Results
Increase in Circumference	Max. 1.5	cm	**0.17**
Deviation After Shooter Test	1.8	%	**1.39**