



Test Report # T12495-02-1 Issue 1  
EN 1621-1:2012, EN 1621-2:2014 & EN 1621-3:2015 (Draft)

Custom R&D  
EVS Sports  
Ballistic Pro Roost Protector  
09 July 2018



Approved by:

A handwritten signature in black ink that reads "Sarah Henderson".

Sarah Henderson  
Head Protection, Hand Protection &  
Athletic Equipment - Laboratory Manager

Prepared by:

A handwritten signature in black ink that reads "Julieanne Embry".

Julieanne Embry  
Head Protection, Hand Protection & Athletic  
Equipment – Laboratory Administrative  
Assistant

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Issued to: EVS Sports  
 2130 East Gladwick Street  
 Rancho Dominguez, CA 90220  
 USA

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**Objective:**

Custom R&D Contract testing to EN 1621-1:2012 "Motorcyclists' Protective Clothing against Mechanical Impact – Part 1: Motorcyclists' Limb Joint Impact Protectors – Requirements and Test Methods".  
 -Clause 5.4; Impact Attenuation

Custom R&D Contract testing to EN 1621-2 - 2014 "Motorcyclists' Protective Clothing against Mechanical Impact – Part 2: Motorcyclists' Back Protectors – Requirements and Test Methods".  
 Clause 4.4: Impact Attenuation

Custom R&D Contract testing to EN 1621-3 – 2015 DRAFT "Motorcyclists' Protective Clothing against Mechanical Impact – Part 3: Motorcyclists' Chest Protectors – Requirements and Test Methods".  
 -Clause 4.4: Impact Attenuation (Full Chest Protector)

**Sample(s):**

Description	Qty	Size Type	Protector Type / Level	Date Received	Sample ID
Ballistic Pro Roost Protector*	1	A	S / E / 1	25 April 2018	5A-1
		1	FB / 1		5B-1
		A	C / 1		5D-1
	1	1	FB / 1	12 June 2018	5C-02-x

\*Model name and size not present on product

**Protector Type / Zone of Protection:**

S = Shoulder;  
 E = Elbow and Forearm;  
 H = Hip;  
 K = Knee and Upper Tibia;  
 K+L = Knee, Upper and Middle Tibia;  
 L = The Front of the Leg Below Protector "K"

**Protector Size:**

Type A  
 Type B

**Protector Level:**

Level 1  
 Level 2

**Protector Type:**

FB = Full Back  
 CB = Central Back  
 LB = Lower Back (Lumbar)

**Protector Size:**

1 = Waist to shoulder  
 2 = Waist line

**Protector Level:**

Level 1  
 Level 2

**Protector Type:**

C = Full chest protector  
 DC = Divided chest protector

**Protector Size:**

A = Smaller dimensions  
 B = Larger dimensions

**Protector Level:**

1 = Higher transmitted force  
 2 = Lower transmitted force

**Procedures:**

Testing protocols in accord with good laboratory practice were employed unless otherwise specified, for all tests.

Testing procedures as specified within Section 6 of EN 1621-1:2012 were followed.

Samples were stored for a minimum period of 48 hours at a constant temperature of 23°C ± 2°C, and a relative humidity of 50 % ± 5% prior to testing.

**Equipment:**

Cadex Twin Wire Apparatus  
 Cadex Motorcycle Load Cell Kit  
 Cadex Impact Software V6.9U  
 Hemispherical Anvil with a Radius of 50 mm

**Assessment Summary:**

Date Tested: 11 May 2018 – 18 May 2018 & 06 July 2018  
 Tested Performed By: Pete Turpin - Senior Technician

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**Results:**

**5.4 Impact Attenuation**

Sample ID	Conditioning (°C)	Impact Area	Impact Energy (J)	Impact Value (kN)	Pass	Fail	Overall Means Value (kN)	Pass	Fail
5A-1 Elbow	23 ± 2	A	49	13	X		18	X	
		B	49	19	X				
		C	51	21	X				
5B-1 Shoulder		A	51	13	X		16	X	
		B	50	17	X				
		C	50	16	X				

Specifications:

	Level 1
Overall mean value	≤ 35 kN
Single strike area	≤ 35 kN
Single strike area B & C	≤ 50 kN

Impact Energy
50 ± 2 J

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**Results:**

**4.4 Impact Attenuation**

Sample ID	Conditioning (°C)	Impact Location (Zone of Protection)	Impact Energy (J)	Impact Value (kN)	Pass	Fail	Average Peak (kN)	Pass	Fail
5C-02-1 Back	23 ± 2	Weak Area	51	6	X		7	X	
			51	10	X				
		Random	51	7	X				
			51	7	X				
			50	7	X				
Specifications:			50 ± 1.5	≤ 24 (Level 1)		≤ 18 (Level 1)			

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**Results:**

**4.4 Impact Attenuation (Full Chest Protector)**

Sample ID	Impact Location	Impact Energy (J)	Peak Force (kN)	Pass	Fail	Average Peak (kN)	Pass	Fail
Ambient Temperature (23 ± 2°C)								
5D-1 Chest	Random	50	14	X		14	X	
		50	15	X				
		50	15	X				
Specifications:		50 ± 1.5	≤ 24			≤ 18		

**Results: Pass**

Samples assessed after impact test showed no fragmentation or the sample and no sharp edges were formed.

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**Sample Photographs:**



5A-1 - Elbow

5B-1 - Shoulder



5C-02-1 - Back



5D-1 - Chest

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