


This MotoCAP safety rating applies to:

Brand: Alpinestars
Model: SPX Airflow
Type: Jacket - Leather
Date purchased: 16 November 2019
Sizes tested: 54 and 60
Test garment gender: Male
Style: Sports
Retail price: \$495.95

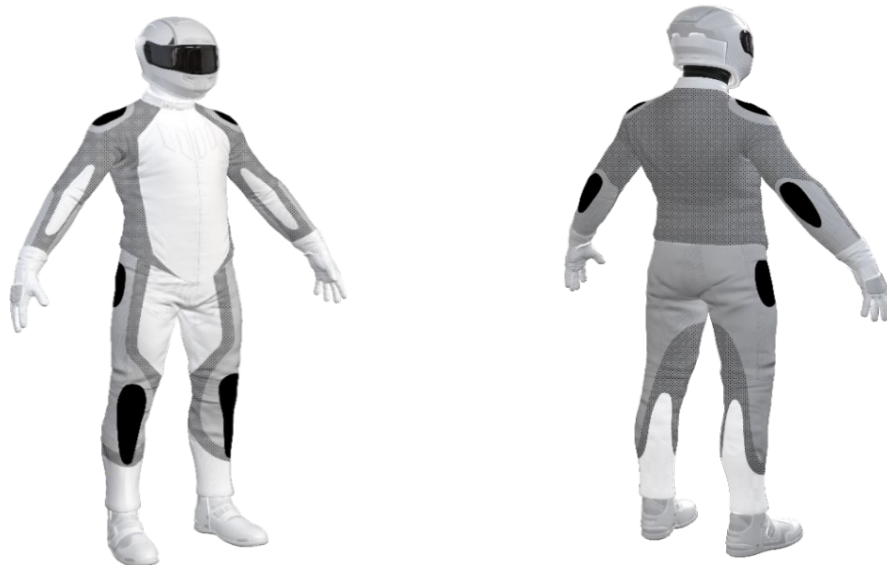
Test Results Summary:

	Rating	Score
MotoCAP Protection Rating	★★	39.4
Abrasion	5/10	3.50
Burst	10/10	1023
Impact	5/10	38.7
MotoCAP Comfort Rating	★★	0.317
Moisture Vapour Resistance		61.1
Thermal Resistance		0.322
Water resistance	N/A	N/A

This garment is fitted with impact protectors for the elbows and shoulders. A pocket is provided for an aftermarket back protector. There are vents in the chest and perforated leather in the shoulders to allow airflow movement through the garment. The thermal comfort rating is based on tests of the breathability of the garment when all vents are closed. The thermal comfort of this product may be better when the vents can be opened.

Jacket and Pants - Crash Impact Risk Zones

This diagram is a pictorial representation of the crash impact risk Zones.


Zone 1


High risk of abrasion
High risk of impact

Zone 2


High risk of abrasion

Zone 3


Medium risk of abrasion

Zone 4


Low risk of abrasion

Abrasion Resistance

The garment was tested for abrasion resistance in accordance with MotoCAP test protocols. The table below shows the test results for time to abrade through all layers of the materials. Calculated for each sample by Zone, type and area coverage of each material as a proportion of that Zone.

Details of materials used in garment:

Material A:	Leather shell with mesh inner liner
Material B:	Stretch fabric shell with mesh inner liner
Material C:	Polyester fabric shell with mesh inner liner

Zone	Coverage (%)	Abrasion time for each test (seconds)						Average (seconds)	
		1	2	3	4	5	6		
Zone 1 and 2 areas (High abrasion risk)									
Material A	100%	5.33	4.93	3.69	6.18	5.65	6.49	5.38	A
Zone 3 area (Medium abrasion risk)									
Material B	15%	1.10	1.06	1.20	0.98	1.15		1.10	M
Material C	85%	0.38	0.36	0.26	0.41	0.32	0.25	0.33	P
Zone 4 area (Low abrasion risk)									
Material A	15%	5.33	4.93	3.69	6.18	5.65	6.49	5.38	G
Material C	85%	0.38	0.36	0.26	0.41	0.32	0.25	0.33	P

Abrasion times are capped at a maximum of 10.00s.

The diagram below is a visual indication of the likely abrasion performance of the materials in each zone calculated from the data in the table above. The colour coding is based on the worst performing material in each zone.

Abrasion rating:

5/10

Abrasion score:

3.50



Determining Criteria		Good	Acceptable	Marginal	Poor
High abrasion risk	Zone 1/2:	> 5.6	3.0 - 5.6	1.3 - 2.9	< 1.3
Medium abrasion risk	Zone 3:	> 2.5	1.8 - 2.5	0.8 - 1.7	< 0.8
Low abrasion risk	Zone 4:	>1.5	1.0 - 1.5	0.4 - 0.9	< 0.4

Burst Strength

The garment's burst strength was tested in accordance with MotoCAP test protocols. The table below shows the burst pressure in kilopascals (kPA) for each sample tested by Zone and the average result for each zone.

Burst pressure (kPA)

Area	1	2	3	4	5	6	Average	
Zones 1 & 2	1273	1436	540	1558	543	1010	1060	G
Zones 3 & 4	1191	1200	567	1224	505	573	877	A

The diagram below illustrates the burst strength results in terms of the likely performance of the garment in an impact and is a pictorial representation of the data from the table above.

Burst rating:

10/10

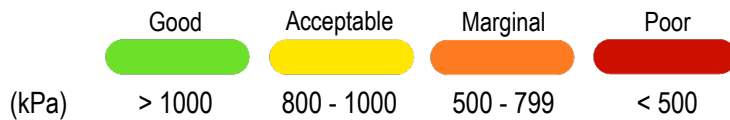
Burst score:

1023



Determining Criteria

Burst strength



Impact Protection

The garment was tested for impact protection and coverage in accordance with MotoCAP test protocols. The table below shows the test results for each strike on each impact protector in kilonewtons (kN) and their area of coverage as a proportion (%) of the Zone.

Impact protector type	Elbow		Shoulder	
Average force (kN)	25.9	M	24.2	A
Maximum force (kN)	27.68	M	25.36	M
Coverage of zone 1 area	120%		120%	
Coverage of zone after displacement	100%		100%	

Individual test results

Impact force (kN)	Elbow			Shoulder		
	A	B	C	A	B	C
Impact Protector 1	23.8	26.1	25.7	23.1	23.9	23.7
Impact Protector 2	24.2	26.1	26.6	22.8	24.0	25.1
Impact Protector 3	25.4	27.3	27.7	25.0	25.0	25.4

The diagram below is a visual indication of the likely performance of each impact protector calculated from the data in the table above. The colour coding is based on the worst performing score for average or maximum force for each impact zone.

Impact rating:

5/10

Impact score:

38.7



Determining Criteria

Impact force (kN)	Good	Acceptable	Marginal	Poor*
	< 15	15 - 24	25 - 30	> 30

* Poor may also indicate that no impact protector, or impact protector pocket is present in the garment

Areas shaded black are not considered in the impact protection ratings.

Thermal comfort

The garment was tested for thermal comfort following the MotoCAP test protocols. The table below shows the moisture vapour resistance and the thermal resistance values obtained.

Garment without removable liners installed

Thermal comfort rating:

★★

Thermal comfort score:

0.317

Garment with water resistant liner installed

Thermal comfort rating:

N/A

Thermal comfort score:

N/A

Moisture Vapour Resistance - R_{et} (kPa.m ² /W)	1	2	Average
Garment without removable liners installed	60.5	61.7	61.1
Garment with water resistant liner installed	N/A	N/A	N/A
Thermal Resistance - R_{ct} (K.m ² /W)	1	2	Average
Garment without removable liners installed	0.310	0.335	0.322
Garment with water resistant liner installed	N/A	N/A	N/A

Water spray and rain resistance

This garment has not been advertised as water resistant so has not been tested for water spray and rain resistance.

Assessment Details.

Brand:	Alpinestars
Model:	SPX Airflow
Type:	Jacket - Leather
Date purchased:	16 November 2019
Tested by:	AMCAF, Deakin University
Garment test reference:	J19L36
Rating first published:	April 2020
Rating updated:	7 April 2020