


This MotoCAP safety rating applies to:

Brand: Alpinestars
Model: SMX-2 Air Carbon V2
Type: Gloves - Leather
Date purchased: 4 February 2019
Sizes tested: 2XL and XL
Gender: M & F
Style: All Purpose
Test code: G19L03

Test Results Summary:


	Rating	Result
MotoCAP Protection Rating	★★	2.0
Abrasion	5/10	2.61
Seam strength	3/10	7.6
Impact	1/10	4.0
Water resistance	N/A	N/A


This glove is fitted with impact protectors for the knuckles and palm areas but there is no impact protection in the wrist area. There is mesh fabric on the tops of the fingers and thumb, mesh on top of the wrist and vented rubber inserts in the fingers provided in the glove to aid cooling in hot weather.


Gloves - Crash Impact Risk Zones


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



Zone 1

 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 glove was tested for abrasion resistance in accordance with MotoCAP test protocols. The table below shows the test results for time to abrade to material failure 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: Single layer of suede leather outer
 Material B: Single layer of leather outer
 Material C: Polyester mesh fabric outer

Zone	Coverage (%)	Abrasion time for each test (s)						Average (s)	
		1	2	3	4	5	6		
Zone 2 area (High abrasion risk)									
Material A	100%	0.44	2.28	0.61	0.94	1.65	9.09	2.50	M
Zone 3 area (Medium abrasion risk)									
Material B	80%	0.79	0.84	3.56	2.07	1.81	1.46	1.75	M
Material A	20%	0.44	2.28	0.61	0.94	1.65	9.09	2.50	A
Zone 4 area (Low abrasion risk)									
Material C	90%	7.34	2.52	4.47	2.69	6.54	3.54	4.51	G
Material B	10%	0.79	0.84	3.56	2.07	1.81	1.46	1.75	M

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.



Determining Criteria		Good	Acceptable	Marginal	Poor
High abrasion risk	Zone 2:	> 4.0	2.7 - 4.0	1.2 - 2.6	< 1.2
Medium abrasion risk	Zone 3:	3.5	2.5 - 3.5	1.0 - 2.4	< 1.0
Low abrasion risk	Zone 4:	>2.5	1.8 - 2.5	0.8 - 1.7	< 0.8

Seam Tensile Strength

The tensile strength of the gloves seams and glove restraint (the force required to drag off a properly worn glove) were tested in accordance with MotoCAP test protocols. The table below shows the seam tensile strength in newtons per millimeter (N/mm) for each seam tested by Zone and the average result for each Zone.

Seam tensile strength (N/mm)

Area	1	2	3	4	5	Average	
Zones 2 & 3	8.76	8.93	7.32	10.29	12.89	9.64	M
Zone 4	10.21	13.22	11.09	10.14	11.42	11.22	A

The table below shows the force required to remove the restrained glove in newtons (N) for each of the five gloves tested and the average result.

Glove restraint (N)

Glove	1	2	3	4	5	Average	
Wrist restraint	317.4	328.8	260.4	278.1	296.5	296.2	M

The diagram below illustrates the tensile strength and wrist restraint results in terms of the likely performance of the glove in a crash and is a pictorial representation of the data from the tables above.



Determining Criteria

Seam tensile strength

(N/mm)

Good



> 15

Acceptable



10 - 15

Marginal



6.5 - 9.9

Poor



< 6.5

Glove restraint

(N)

> 400

300 - 400

200 - 299

< 200

Impact Protection

The glove 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 kilonewton (kN) and their area of coverage in percentage (%) within the Zone.

Impact protector type		Knuckles		Palm		Wrist
Average force (kN)		1.03	G	7.2	M	P
Maximum force (kN)		1.20	G	12.10	P	P
Coverage of zone 1 area		95%		40%		0%

Individual test results

Impact force (kN)	Knuckles			Palm	
	A	B	C	A	B
Impact Protector 1	1.00	1.10	1.00	5.60	12.10
Impact Protector 2	1.00	1.00	1.00	7.30	5.70
Impact Protector 3	1.10	0.90	1.20	7.60	4.90
Impact force (kN)	Wrist	No impact protector present			
Strike location	A	B			
Impact Protector 1					
Impact Protector 2					
Impact Protector 3					

The diagram below is a visual indication of the likely performance of each impact protector calculated from the data in the table above.



Determining Criteria	Good	Acceptable	Marginal	Poor*
Knuckle and wrist Impact force (kN)	< 2	2 - 4.9	5 - 8	> 8
Palm impact force (kN)	< 4	4 - 5.9	6 - 8	> 8

* Poor may also indicate that no impact protector is present in the glove

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

Water spray and rain resistance

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