


This MotoCAP safety rating applies to:

Brand	Macna
Model	Saber
Type	Glove - Leather
Date purchased	8 July 2020
Sizes tested	XL and 2XL
Test garment gender	M
Style	All Purpose
RRP	\$69.95

Test Results Summary:


	Rating	Result
MotoCAP Protection Rating	★	1.4
Abrasion	2/10	1.42
Seam strength	2/10	5.3
Impact	2/10	4.8
Water resistance	N/A	N/A


These gloves are fitted with impact protectors for the knuckles and palms. There is no impact protection provided for the wrists. Perforated leather in the fingers and wrist provide continuous airflow within the glove.


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: Leather shell with fabric inner liner
 Material B: Perforated leather shell with fabric inner liner

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%	1.91	1.41	1.33	1.30	1.28	1.22	1.41	M
Zone 3 area (Medium abrasion risk)									
Material A	70%	1.91	1.41	1.33	1.30	1.28	1.22	1.41	M
Material B	30%	1.01	2.19	0.12	2.74	1.37	1.39	1.47	M
Zone 4 area (Low abrasion risk)									
Material A	50%	1.91	1.41	1.33	1.30	1.28	1.22	1.41	M
Material B	50%	1.01	2.19	0.12	2.74	1.37	1.39	1.47	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. The colour coding is based on the worst performing material in each zone.



Determining Criteria	Area	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 fastened 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	5.63	8.12	8.68	7.70	9.89	8.00	M
Zone 4	9.83	9.71	7.16	6.48	5.86	7.81	M

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	331.1	283.7	242.6	264.8	227.0	269.8	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	Unit	Good	Acceptable	Marginal	Poor
Seam tensile strength	(N/mm)	> 15	10 - 15	6.5 - 9.9	< 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 kilonewtons (kN) and their area of coverage in percentage (%) within the Zone.

Impact protector type		Knuckles		Palm		Wrist
Average force	(kN)	1.7	G	10.0	P	P
Maximum force	(kN)	2.0	A	10.0	P	P
Coverage of zone 1 area		120%		50%		0%

Impact forces are capped at a maximum of 10.0kN.

Individual test results

Impact force (kN)	Knuckles			Palm	
	1	2	3	1	2
Impact Protector 1	1.5	1.7	1.7	10.0	10.0
Impact Protector 2	1.6	2.0	1.7	10.0	10.0
Impact Protector 3	1.8	1.8	1.7	10.0	10.0
Impact force (kN)	Wrist	no impact protector present			
Strike number	1	2			
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. The colour coding is based on the worst performing score for average or maximum force for each impact zone.



Determining Criteria	Unit	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.

Assessment Details.

Brand	Macna
Model	Saber
Type	Glove - Leather
Date purchased	8 July 2020
Tested by	AMCAF, Deakin University
Garment test reference	G19L61
Rating first published	October 2020
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