This MotoCAP safety rating applies to:

Brand:	Macna
Model:	Vosges Nighteye
Type:	Jacket - Textile
Date purchased:	13 November 2019
Sizes tested:	XL and 2XL
Gender:	M
Style:	All Purpose
Test code:	J19T31

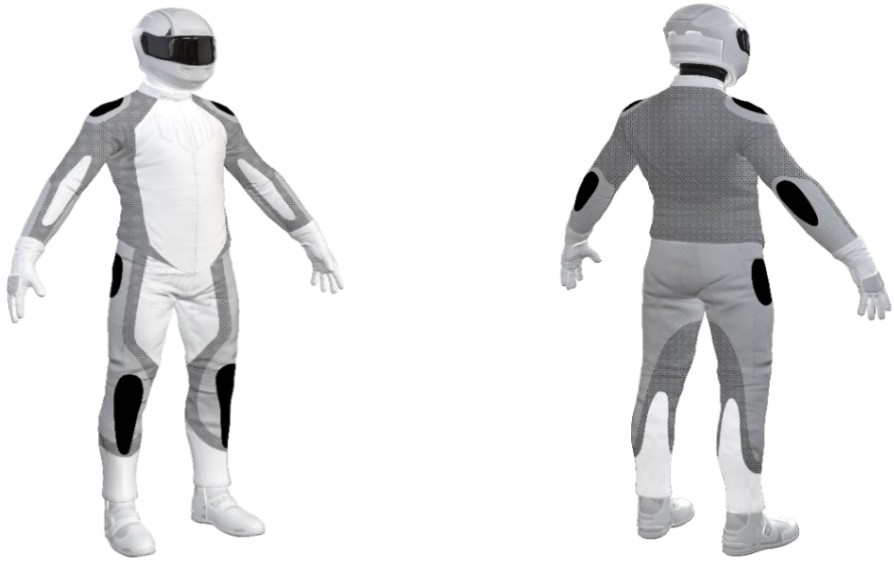
Test Results Summary:

	Rating	Score
MotoCAP Protection Rating	★★	30.6
Abrasion	1/10	0.71
Burst	10/10	1138
Impact	7/10	52.4
MotoCAP Comfort Rating	½	0.076
Moisture Vapour Resistance		230.7
Thermal Resistance		0.291
Water resistance	2/10	20.4

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, arms and back 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.This garment has a removable water-resistant liner. The comfort rating above was achieved with the liner removed. When tested with the liner installed, the comfort rating reduced but remained within the half a star range.

Jacket and Pants - Crash Impact Risk Zones

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



Zone 1	Zone 2	Zone 3	Zone 4
High risk of abrasion High risk of impact	High risk of abrasion	Medium risk of abrasion	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:	High density woven fabric shell with mesh inner liner
Material B:	Woven fabric shell with mesh inner liner
Material C:	Reflective woven fabric shell with mesh inner liner

Zone	Coverage (%)	Abrasion time for each test (seconds) 1	2	3	4	5	6	Average (seconds)	
Zone 1 and 2 areas (High abrasion risk)									
Material A	90%	0.60	0.60	0.64	0.67			0.63	P
Material B	10%	0.68	0.68	0.68	0.84	0.91	0.70	0.75	P
Zone 3 area (Medium abrasion risk)									
Material C	80%	0.80	0.84	0.83	0.85	0.61	0.78	0.78	P
Material B	20%	0.68	0.68	0.68	0.84	0.91	0.70	0.75	P
Zone 4 area (Low abrasion risk)									
Material C	95%	0.80	0.84	0.83	0.85	0.61	0.78	0.78	M
Material B	5%	0.68	0.68	0.68	0.84	0.91	0.70	0.75	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. The colour coding is based on the worst performing material in each zone.

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	Average	
Zones 1 & 2	1391	1474	1685	1286	1339	1435	G
Zone EZ	633	832	1084	1395	801	949	A
Zones 3 & 4	780	656	1634	760	786	923	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.

Determining Criteria		Good	Acceptable	Marginal	Poor
Burst strength	(kPa)	> 1000	800 - 1000	500 - 799	< 500

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)	19.2	A	17.5	A
Maximum force (kN)	24.8	A	26.3	M
Coverage of zone 1 area	150%		110%	
Coverage of zone after displacement	100%		100%	

Individual test results

Impact force (kN)	Elbow			Shoulder		
Strike location	**A**	**B**	**C**	**A**	**B**	**C**
Impact Protector 1	19.2	18.7	22.2	14.9	15.2	26.3
Impact Protector 2	18.6	15.7	20.0	14.4	15.0	20.8
Impact Protector 3	17.0	16.6	24.8	15.0	14.3	21.6

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 maximium force for each impact zone.

Determining Criteria		Good	Acceptable	Marginal	Poor*
Impact force	(kN)	< 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.

	1	2	**Average**
Moisture Vapour Resistance - R_{et} ($kPam^2/W$)	230.6	230.7	230.7

	1	2	**Average**
Thermal Resistance - R_{ct} (Km^2/W)	0.287	0.295	0.291

Water spray and rain resistance

This garment is advertised as water-resistant, and so has been tested for water spray and rain resistance according to the MotoCAP test protocols. The table below shows the water absorbed (ml) and the wetting proportion (%) of the garment and undergarments due to water absorption.

	Water absorbed by garment		Water absorbed by underwear	
	Volume (ml)	Percentage (%)	Volume (ml)	Percentage (%)
Garment 1	379	18%	73	25%
Garment 2	462	22%	43	16%
Average	420	20%	58	20%

Location of wetting:

Visible wetting to the cotton underwear worn under the motorcycle water-resistant garment was present at the waistband of one garment and the waistband and cuffs of the sleeves of the other garment tested.