This MotoCAP safety rating applies to:

Brand:	Ixon
Model:	Pitrace
Type:	Jacket - Textile
Date purchased:	29 October 2018
Sizes tested:	3XL and L
Gender:	M
Style:	Sports
Test code:	J18T14

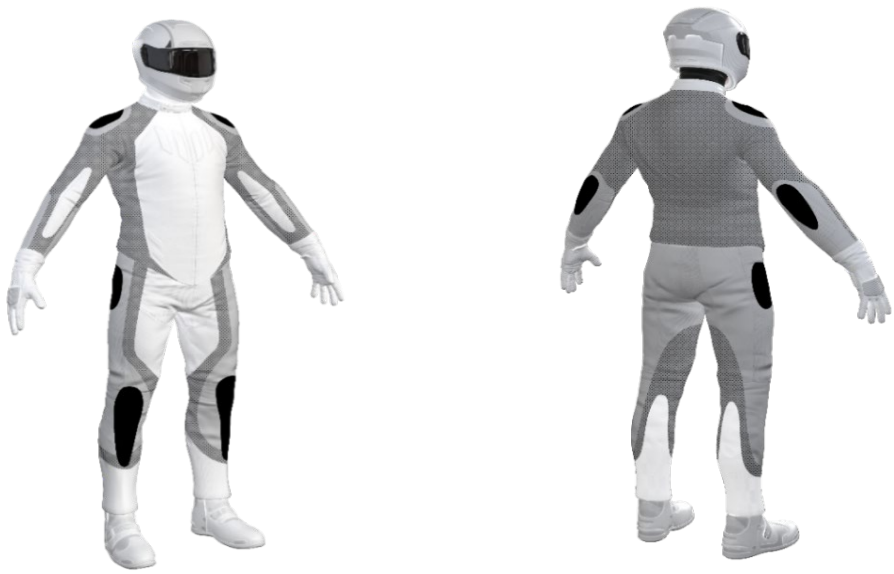
Test Results Summary:

	Rating	Score
MotoCAP Protection Rating	★★	33.8
Abrasion	1/10	0.54
Burst	10/10	1483
Impact	7/10	54.3
MotoCAP Comfort Rating	★★★	0.458
Moisture Vapour Resistance		32.8
Thermal Resistance		0.250
Water resistance	2/10	22.6

This garment is fitted with impact protectors for the elbows and shoulders, with a pocket provided for an aftermarket back protector. Mesh panels are located in the inner arms, chest and central back areas to allow airflow cooling in hot weather. Comfort measurements were conducted with and without the removable water resistant liner. The comfort rating reduced from 3 stars to half a star when the water resistant liner was present.

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:	Woven polyester fabric outshell and mesh inner liner
Material B:	Polyester mesh outshell and 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	25%	0.50	0.48	0.46	0.48	0.40	0.54	0.48	P
Material B	75%	0.75	0.52	0.48	0.45	0.47	0.42	0.52	P
Zone 3 area (Medium abrasion risk)									
Material A	10%	0.50	0.48	0.46	0.48	0.40	0.54	0.48	P
Material B	90%	0.75	0.52	0.48	0.45	0.47	0.42	0.52	P
Zone 4 area (Low abrasion risk)									
Material B	100%	0.75	0.52	0.48	0.45	0.47	0.42	0.52	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	1589	1448	1943	1943	1853	1755	G
Zone EZ	1548	873	1624	1369	1465	1376	G
Zones 3 & 4	1781	1115	1027	1109	743	1155	G

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 kilonewton (kN) and their area of coverage as a proportion (%) of the Zone.

Impact protector type	Elbow		Shoulder	
Average force (kN)	10.4	G	10.4	G
Maximum force (kN)	12.9	G	12.9	G
Coverage of zone 1 area	95%		95%	
Coverage of zone after displacement	90%		80%	

Individual test results

Impact force (kN)	Elbow			Shoulder		
Strike location	**A**	**B**	**C**	**A**	**B**	**C**
Impact Protector 1	8.3	11.1	11.1	8.3	11.1	11.1
Impact Protector 2	10.4	12.9	11.4	10.4	12.9	11.4
Impact Protector 3	7.5	10.2	10.3	7.5	10.2	10.3

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 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} ($kPam^2/W$)	31.2	34.3	32.8

	1	2	**Average**
Thermal Resistance - R_{ct} (Km^2/W)	0.249	0.251	0.250

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 increased weight (g) and proportion (%) of the garment and undergarments due to water absorption.

	Water absorbed by garment		Water absorbed by underwear	
	Volume (ml)	Percentage (%)	Volume (ml)	Percentage (%)
Jacket 1	441	36%	209	17%
Jacket 2	543	44%	447	36%
Jacket 3	502	41%	178	15%
Average	496	40%	278	23%

Location of wetting:

Visible wetting to the cotton undergarment worn under the motorcycle water resistant jacket was present on the neck, chest and cuffs of the sleeves.