


This MotoCAP safety rating applies to:

Brand: BMW
Model: Rider
Type: Pants - Textile
Date purchased: 23 October 2018
Sizes tested: 56
Gender: M & F
Style: All Purpose
Test code: P18T01

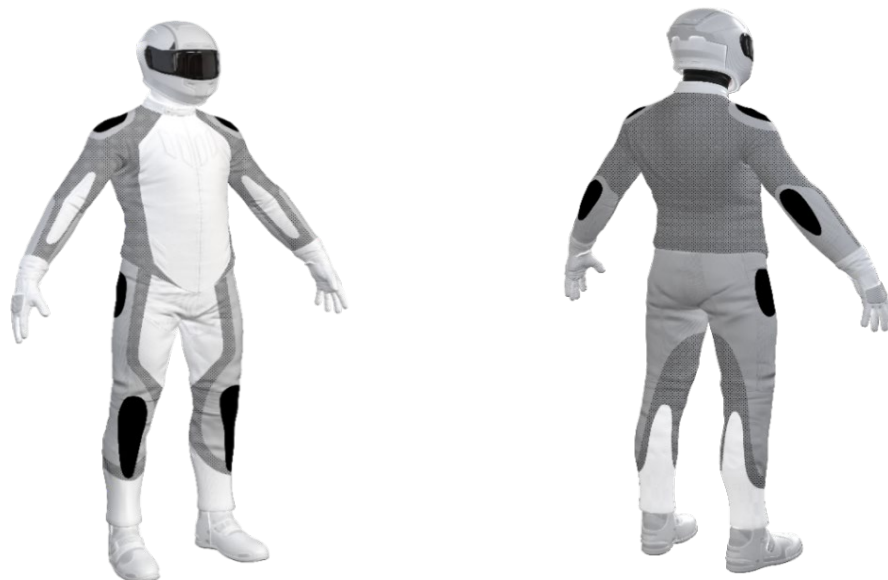
Test Results Summary:

	Rating	Score
MotoCAP Protection Rating	★★	30.6
Abrasion	1/10	0.62
Burst	10/10	1041
Impact	8/10	56.9
MotoCAP Comfort Rating	★★★	0.421
Moisture Vapour Resistance		24.5
Thermal Resistance		0.215
Water resistance	4/10	13.1

This garment is fitted with impact protectors in the knee and hip areas. This garment does not provide vents to aid cooling in hot weather. Comfort measurements were conducted with the removable waterproof membrane installed. The thermal comfort of this product would be better in dry conditions without the waterproof liner installed.

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

Abrasion Resistance
Zone 2


High risk of abrasion

Zone 3


Medium risk of abrasion

Zone 4


Low risk of abrasion

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: Nylon/cotton woven 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%	0.50	0.39	0.45	1.22	0.56	0.59	0.62	P
Zone 3 area (Medium abrasion risk)									
Material A	100%	0.50	0.39	0.45	1.22	0.56	0.59	0.62	P
Zone 4 area (Low abrasion risk)									
Material A	100%	0.50	0.39	0.45	1.22	0.56	0.59	0.62	M

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	938	1239	876	1019	761	967	A
Zone EZ	975	1087	1007	694	1172	987	A
Zones 3 & 4	1690	1132	1053	1472	1149	1299	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.



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	Knee		Hip	
Average force (kN)	16.5	A	17.3	A
Maximum force (kN)	25.3	M	24.0	A
Coverage of zone 1 area	130%		150%	
Coverage of zone after displacement	50%		130%	

Individual test results

Impact force (kN)	Knee			Hip		
	A	B	C	A	B	C
Impact Protector 1	14.6	13.2	14.2	11.8	14.0	14.5
Impact Protector 2	17.1	12.2	13.3	15.2	13.9	17.5
Impact Protector 3	18.1	25.3	20.2	24.0	23.1	21.9

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	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

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)	25.9	23.1	24.5

	1	2	Average
Thermal Resistance - R_{ct} (Km ² /W)	0.213	0.217	0.215

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	
	Mass (g)	Percentage (%)	Mass (g)	Percentage (%)
Pants 1	237.7	18%	14.3	1%
Pants 2	209.2	16%	404.0	30%
Average	248.1	19%	173.9	13%

Location of wetting:

Visible wetting to the cotton undergarment worn under the motorcycle water resistant pants was present at the waistband, the crotch, the upper legs and lower legs