This MotoCAP safety rating applies to:

Brand:	Triumph
Model:	Malvern Jeans
Type:	Pants - Textile
Date purchased:	23 October 2018
Sizes tested:	L
Gender:	M
Style:	Tourer
Test code:	P18T04

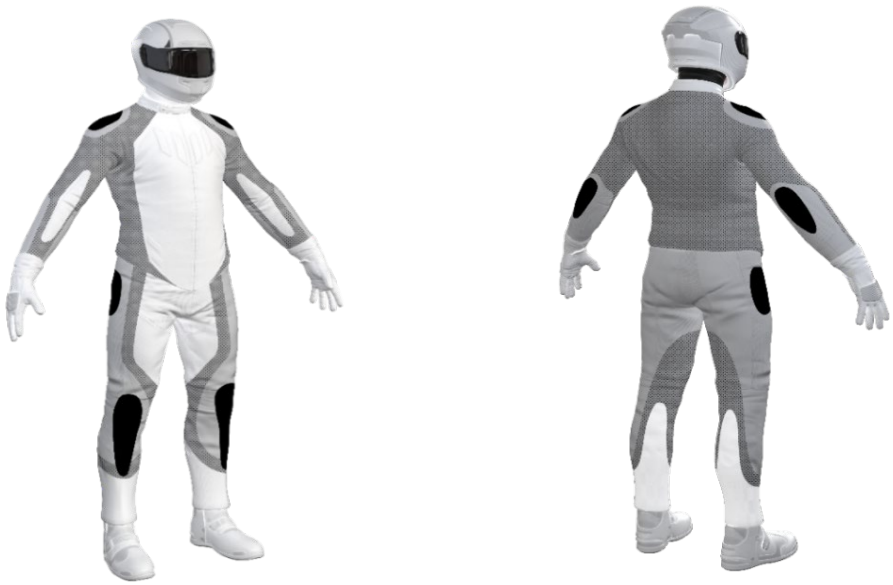
Test Results Summary:

	Rating	Score
MotoCAP Protection Rating	★★	33.1
Abrasion	1/10	0.93
Burst	10/10	1181
Impact	8/10	55.6
MotoCAP Comfort Rating	★★★	0.447
Moisture Vapour Resistance		28.7
Thermal Resistance		0.214
Water resistance	1/10	54.7

This garment is fitted with impact protectors for the knee and hips. This garment does not provide vents to aid cooling in hot weather.

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 shell, water resistant liner, foam padding and mesh inner liner
Material B:	Coarse weave polyester fabric shell, water resistant liner and mesh inner liner
Material C:	Woven Polyester fabric shell, water resistant liner and mesh inner liner
Material D:	Stretch fabric shell, water resistant liner and mesh inner liner

Zone	Coverage	Abrasion time for each test (seconds)						Average	
	(%)	1	2	3	4	5	6	(seconds)	
Zone 1 and 2 areas (High abrasion risk)									
Material A	75%	1.84	2.07	2.19	2.30	1.89	2.21	2.08	M
Material B	25%	0.80	0.64	0.66	0.97	0.86	0.62	0.76	P
Zone 3 area (Medium abrasion risk)									
Material C	70%	0.53	0.36	0.53	0.62	0.45	0.92	0.57	P
Material D	30%	0.22	0.22	0.20	0.22			0.22	P
Zone 4 area (Low abrasion risk)									
Material C	100%	0.53	0.36	0.53	0.62	0.45	0.92	0.57	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	1313	1738	1826	1325	1236	1488	G
Zone EZ	641	876	1117	1370	859	973	A
Zones 3 & 4	568	1140	890	1201	1127	985	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 kilonewton (kN) and their area of coverage as a proportion (%) of the Zone.

Impact protector type	Knee		Hip	
Average force (kN)	16.9	A	16.3	A
Maximum force (kN)	18.5	A	17.3	A
Coverage of zone 1 area	120%		150%	
Coverage of zone after displacement	30%		100%	

Individual test results

Impact force (kN)	Knee			Hip		
Strike location	**A**	**B**	**C**	**A**	**B**	**C**
Impact Protector 1	18.5	17.5	16.8	17.1	16.9	16.0
Impact Protector 2	16.0	16.3	14.6	15.5	15.2	15.8
Impact Protector 3	17.1	17.6	17.7	17.3	17.2	15.9

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 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

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} ($kPam^2/W$)	33.1	24.3	28.7

	1	2	**Average**
Thermal Resistance - R_{ct} (Km^2/W)	0.218	0.210	0.214

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	36.2	3%	23.42	10%
Pants 2	331.0	27%	269.6	100%
Average	183.6	15%	146.5	55%

Location of wetting:

Visible wetting to the cotton undergarment worn under the motorcycle water resistant pants was present at the backside/seat, the upper legs and lower legs with one garment whilst the other had only minor wetting on the upper legs.