


This MotoCAP safety rating applies to:

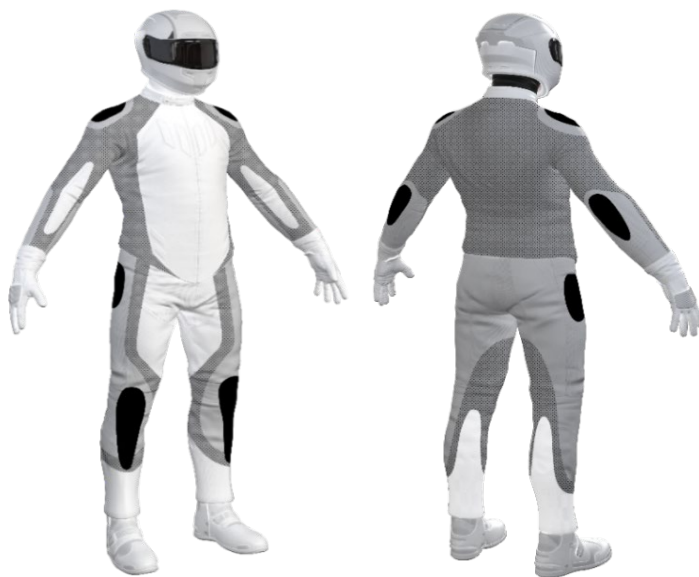
Brand	Harley Davidson
Model	Zephyr Mesh
Type	Jacket - Textile
Date purchased	16 May 2022
Sizes tested	L and XL
Test garment gender	Male
Style	All Purpose
RRP	\$399.99


Test Results Summary	Rating	Score
MotoCAP Protection Rating	★	19.1
Abrasion	1/10	0.84
Burst	10/10	1487
Impact	1/10	0.0
MotoCAP Breathability Rating	★★★★★	0.602
Moisture Vapour Resistance	-	25.5
Thermal Resistance	-	0.256
Water resistance	N/A	N/A


Pockets are provided at the shoulders, elbows and back for fitting aftermarket impact protectors. Adding elbow and shoulder impact protectors would improve the protection levels of this garment. Mesh panels are located in the chest and arms to allow airflow movement through the garment. This garment has a removable water-resistant liner. The breathability rating above was achieved with the thermal and water-resistant liners removed. When tested with the water-resistant liner installed, the breathability rating reduced to 3 stars.


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

Zone 2

 High risk of abrasion

Zone 3

 Medium risk of abrasion

Zone 4

 Low risk of abrasion

Removable liners

Thermal liner	<input type="checkbox"/>
Water resistant liner	<input checked="" type="checkbox"/>

Removable impact protection

	Pockets	Armour
Elbow	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Shoulder	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Back	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Abrasion Resistance

The jacket was tested for abrasion resistance in accordance with MotoCAP test protocols. 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 below. The colour coding is based on the worst performing material in each zone.



Abrasion Resistance Performance

Abrasion rating	1/10
Abrasion score	0.8

Determining Criteria	Area	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

Individual Abrasion Resistance Results: - 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. Abrasion times are capped at a maximum of 10.00s.

Abrasion time for each test (seconds)

Zone 1 & 2	Coverage (%)	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Average	
Material A	80%	1.86	2.57	2.63	2.10	2.15		2.26	M
Material B	20%	0.43	0.42	0.53	0.45	0.40	0.39	0.44	P
Zone 3	Coverage (%)	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Average	
Material C	100%	0.33	0.16	0.23	0.32	0.15	0.23	0.24	P
Zone 4	Coverage (%)	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Average	
Material C	100%	0.33	0.16	0.23	0.32	0.15	0.23	0.24	P

Details of materials used in jacket

Material A	Fabric shell, foam layer, fabric shell and mesh inner liner
Material B	Woven fabric shell with mesh inner liner
Material C	Mesh fabric shell with mesh inner liner

Burst Strength

The jacket was tested for burst strength in accordance with MotoCAP test protocols. 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 below.



Burst Strength Performance

Burst rating	10/10
Burst score	1487

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

Individual Burst Strength Results: - 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 for each seam (kPA)

Area	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Average	
Zones 1 & 2	2014	2013	1644	1714	924	1149	1576	G
Zones 3 & 4	686	1319	1255	1345	857	1298	1127	G

Impact Protection

This jacket was not tested for impact protection as impact protectors were not provided with the garment. The diagram below is a visual indication of the likely performance of each impact protector calculated from the data in the table below. The colour coding is based on the worst performing score for average or maximum force for each impact zone. Areas shaded black are not considered for impact protection ratings.



Impact Protection Performance

Impact rating	1/10
Impact score	0.0

Determining Criteria	Unit	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

Individual Impact Protector Results: - 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. Individual strike results are capped at a maximum of 50kN.

Impact protector type	Elbow	Shoulder
Average force (kN)	P	P
Maximum force (kN)	P	P
Coverage of Zone 1 area	0%	0%
Coverage of Zone after displacement	0%	0%

Individual Impact Protector Results: - The table below shows the test results for each strike on individual impact protectors in kilonewtons (kN) and the position of the strike. Individual strike results are capped at a maximum of 50kN.

Force transfer for each impact strike (kN)

Impact protector type	Elbow	No impact protector present			Shoulder	No impact protector present		
		Centre	Mid	Edge		Centre	Mid	Edge
Impact Protector 1								
Impact Protector 2								
Impact Protector 3								

Breathability

The jacket was tested for breathability following the MotoCAP test protocols. The table below shows the moisture vapour resistance and the thermal resistance values obtained.

Without removable liners

Breathability rating ★★★★★
Breathability score 0.602

With water-resistant liner

Breathability rating ★★★★★
Breathability score 0.415

Moisture Vapour Resistance - R_{et} (kPa.m ² /W)	1	2	Average
Without removable liners	29.4	21.5	25.5
With water-resistant liner	32.6	35.2	33.9

Thermal Resistance - R_{ct} (K.m ² /W)	1	2	Average
Without removable liners	0.269	0.243	0.256
With water-resistant liner	0.226	0.243	0.234

Water spray and rain resistance

This jacket has not been advertised as water-resistant so has not been tested for water spray and rain resistance.

Assessment Details.

Brand	Harley Davidson
Model	Zephyr Mesh
Type	Jacket - Textile
Date purchased	16 May 2022
Tested by	AMCAF, Deakin University
Report approved by	MotoCAP Chief Scientist
Garment test reference	J21T01
Rating first published	August 2022
Rating updated	19 September 2022