



This MotoCAP safety rating applies to:

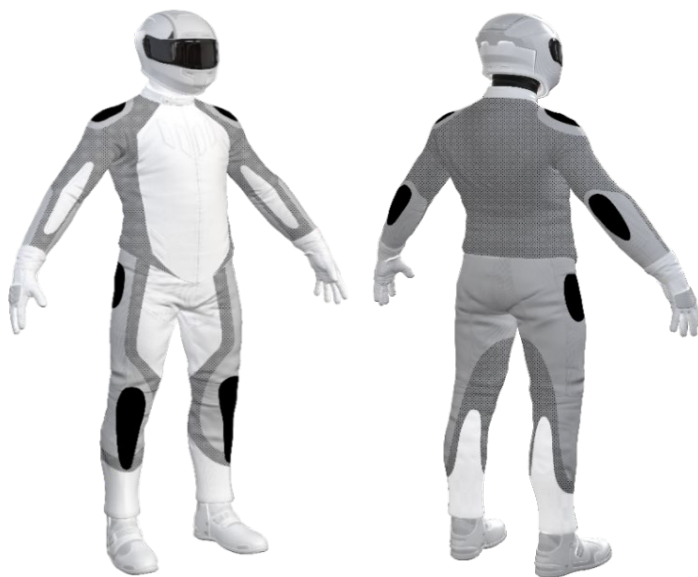
Brand	Rukka
Model	R-Ex Gore-Tex
Type	Jacket - Textile
Date purchased	18 December 2024
Sizes tested	XL and 2XL
Test garment gender	Male
Style	All Purpose
RRP	\$980.00

Test Results Summary	Rating	Score
MotoCAP Protection Rating	★★	42.6
Abrasion	1/10	1.07
Burst	10/10	1124
Impact	10/10	86.5
MotoCAP Breathability Rating	★	0.171
Moisture Vapour Resistance	-	97.9
Thermal Resistance	-	0.280
Water resistance	6/10	8.2

This garment is fitted with impact protectors for the elbows and shoulders. Pockets are provided at chests and back for fitting aftermarket impact protectors. There are zipped vents in the chest, sides and back to allow controlled airflow movement through the garment. The breathability rating is based on tests of the garment's materials when all vents are closed. The breathability of this product may be better when the vents are opened. This garment was reduced from a three-star safety rating due to a low abrasion protection performance.

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

Removable liners

Thermal liner	☐
Water resistant liner	☐

Removable impact protection

	Pockets	Armour
Elbow	☒	☒
Shoulder	☒	☒
Back	☒	☐
Chest	☒	☐

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	1.07

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	100%	1.84	1.04	1.10	1.10	0.65	0.72	1.07	P
Zone 3	Coverage (%)	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Average	
Material A	100%	1.84	1.04	1.10	1.10	0.65	0.72	1.07	M
Zone 4	Coverage (%)	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Average	
Material A	100%	1.84	1.04	1.10	1.10	0.65	0.72	1.07	A

Details of materials used in jacket

Material A	Woven fabric shell with laminated water-resistant layer and mesh inner liner
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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	1124

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	1045	1335	1126	885	1015	1347	1125	G
Zones 3 & 4	1303	1339	1269	895	917	994	1119	G

Impact Protection

The jacket was tested for impact protection and coverage in accordance with MotoCAP test protocols. 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	10/10
Impact score	86.5

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)	11.5	G	11.9	G
Maximum force (kN)	13.2	G	15.6	A
Coverage of Zone 1 area	150%		150%	
Coverage of Zone after displacement	100%		100%	

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			Shoulder		
	Centre	Mid	Edge	Centre	Mid	Edge
Impact Protector 1	10.3	11.6	13.2	10.4	12.3	12.1
Impact Protector 2	10.1	10.8	13.1	10.2	11.5	13.1
Impact Protector 3	10.4	11.6	12.3	10.9	11.1	15.6

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	0.171

With water-resistant liner

Breathability rating	N/A
Breathability score	N/A

Moisture Vapour Resistance - R_{et} (kPa.m ² /W)	1	2	Average
Without removable liners	99.6	96.1	97.9
With water-resistant liner	N/A	N/A	N/A
Thermal Resistance - R_{ct} (K.m ² /W)	1	2	Average
Without removable liners	0.276	0.284	0.280
With water-resistant liner	N/A	N/A	N/A

Water spray and rain resistance

This jacket 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		Water Resistance Performance	
	Volume (ml)	Percentage (%)	Volume (ml)	Percentage (%)		
Jacket 1	161	11%	40	14%	Water rating 6/10 Water Score 8.23	
Jacket 2	118	9%	6	2%		
Average	139	10%	23	8%		

Location of wetting

There was major wetting to the cotton underwear present at the neck and chest for one jacket and minor wetting at the neck of the other jacket tested.

Assessment Details.

Brand	Rukka
Model	R-Ex Gore-Tex
Type	Jacket - Textile
Date purchased	18 December 2024
Tested by	AMCAF, Deakin University
Report approved by	MotoCAP Chief Scientist
Garment test reference	J25T15
Rating first published	February 2025
Rating updated	28 February 2025