This MotoCAP safety rating applies to:
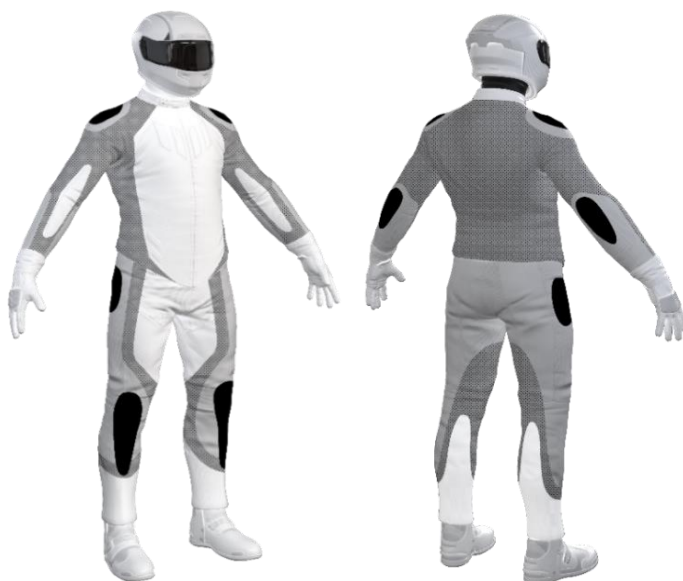
Brand	Alpinestars
Model	Stella T-Dyno Air
Type	Jacket - Textile
Date purchased	24 March 2025
Sizes tested	S and L
Test garment gender	Female
Style	All Purpose
RRP	$399.99

Test Results Summary	Rating	Score
MotoCAP Protection Rating	★	20.6
Abrasion	1/10	0.41
Burst	10/10	1023
Impact	4/10	27.7
MotoCAP Breathability Rating	★	0.253
Moisture Vapour Resistance	-	62.1
Thermal Resistance	-	0.262
Water resistance	N/A	N/A

This garment is fitted with impact protectors for the elbows and shoulders. A pocket is provided for an aftermarket back protector. Mesh panels are located in the arms, chest and back to allow airflow movement through the garment.

Jacket and Pants - Crash Impact Risk Zones

This diagram is a pictorial representation of the crash impact risk Zones.

Removable liners

Thermal liner	☐
Water resistant liner	☐

Removable impact protection

	Pockets	Armour
Elbow	✓	✓
Shoulder	✓	✓
Back	✓	☐
Chest	☐	☐

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

Alpinestars Stella T-Dyno Air Textile Jacket

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	0.41

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%	0.44	0.48	0.49	0.49	0.37	0.35	0.44	P
Material B	20%	0.36	0.24	0.44	0.54	0.31	0.38	0.38	P
Zone 3	Coverage (%)	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	**Average**	
Material A	55%	0.44	0.48	0.49	0.49	0.37	0.35	0.44	P
Material B	45%	0.36	0.24	0.44	0.54	0.31	0.38	0.38	P
Zone 4	Coverage (%)	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	**Average**	
Material A	45%	0.44	0.48	0.49	0.49	0.37	0.35	0.44	M
Material B	55%	0.36	0.24	0.44	0.54	0.31	0.38	0.38	P

Details of materials used in jacket

Material A	Thick mesh fabric shell with mesh inner liner
Material B	Woven 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	1023

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	1080	1261	996	1163	1052	893	1074	G
Zones 3 & 4	990	1036	440	748	570	1142	821	A

**Alpinestars Stella T-Dyno Air
Textile Jacket**

motocap.com.au

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 Af 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	4/10
Impact score	27.7

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)	23.3	A	24.5	A
Maximum force (kN)	24.9	A	25.4	M
Coverage of Zone 1 area	85%		85%	
Coverage of Zone after displacement	80%		85%	

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		
Strike location	Centre	Mid	Edge	Centre	Mid	Edge
Impact Protector 1	21.5	23.7	23.5	25.4	24.4	24.9
Impact Protector 2	21.7	24.6	24.9	24.9	24.8	22.5
Impact Protector 3	22.5	22.9	24.5	24.6	24.4	24.3

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		**With water-resistant liner**	
Breathability rating	★	Breathability rating	N/A
Breathability score	0.253	Breathability score	N/A

Moisture Vapour Resistance - R_{et} (kPa.m^2/W)	1	2	**Average**
Without removable liners	65.7	58.5	62.1
With water-resistant liner	N/A	N/A	N/A

Thermal Resistance - R_{ct} (K.m^2/W)	1	2	**Average**
Without removable liners	0.260	0.264	0.262
With water-resistant liner	N/A	N/A	N/A

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	Alpinestars
Model	Stella T-Dyno Air
Type	Jacket - Textile
Date purchased	24 March 2025
Tested by	AMCAF, Deakin University
Report approved by	MotoCAP Chief Scientist
Garment test reference	J25T24
Rating first published	July 2025
Rating updated	11 July 2025