


This MotoCAP safety assessment applies to:

Brand	Alpinestars
Model	Nucleon Flex Plus
Part Number	NFK1-B
Recent test date	27 January 2023
Limb	Knee
Type	Size B
CE Level	CE Level 1
CE test temperature	T- & T+
RRP	\$29.99

Test Results Summary	Performance	Score
MotoCAP Armour Performance	6/10	42.4

This armour was tested for impact protection and coverage in accordance with MotoCAP test protocols. 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.

Average force (kN)	19.5	Acceptable
Maximum force (kN)	23.1	Acceptable
Knee coverage	100%	

Force transfer for each impact strike (kN)

Strike location	Centre	Mid	Edge
Impact Protector 1	17.5	18.9	19.0
Impact Protector 2	17.2	21.3	20.1
Impact Protector 3	18.5	20.3	23.1

Determining Criteria

Force (kN)	
< 15	Good
15 - 24	Acceptable
25 - 30	Marginal
> 30	Poor

Previous Performance: The results in the table below are for the last nine times this impact protector model was tested. They indicate the consistency of the products performance over time.

Test date	27/01/2023	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average force (kN)	19.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max force (kN)	23.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Coverage (%)	100%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Armour score	42.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Armour performance	6/10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Assessment Details.

Brand	Alpinestars
Model	Nucleon Flex Plus
Limb	Knee
Recent test date	27 January 2023
Tested by	AMCAF, Deakin University
Armour test reference	A24K13
First Published	October 2021
Performance updated	15 October 2021

Glossary

The armour described in these reports is certified by the manufacturer to EN1621-1:2015 standards. Certification details, including type, CE level, and CE test temperature, are provided for easy identification of the armour both online and in-store. MotoCAP results, shown in the columns for Performance /10, Score, Average Force, Maximum Force, and Previous performance, are tested and calculated according to MotoCAP protocols. MotoCAP armour testing is conducted at 23°C and 50% humidity.

Type	Specifies the EN1621-1:2015 armour size classification. Type B is larger than Type A.
CE Level	Indicates the protection level of the armour according to EN1621-1:2015. Level 2 offers greater impact energy absorption compared to Level 1.
CE test temperature	CE certified armour tested by the manufacturer according to EN1621-1:2015 at 23°C and 50% humidity only is denoted by "normal". Armour certified at an additional lower temperature (-10°C) is denoted by "T-". Armour certified at an additional higher temperature (40°C) is denoted by "T+".
Performance /10	MotoCAP performance out of 10, reflecting the level of protection based on the MotoCAP score. Higher performance indicates better protection.
Score	The MotoCAP score for the armour, derived from the average force, maximum force, and coverage of the specified limb zone 1 risk area.
Average (Avg.) force	The average force measured from nine impacts on the armour. A lower average force indicates higher impact protection.
Maximum (Max) force	The highest force measured from the nine impacts. A lower maximum force indicates better protection.
Coverage %	The extent of the zone 1 risk area covered by the impact protector. Coverage is limb-specific and varies for different body parts. Higher coverage numbers denote better higher coverage and increased protection.
Previous performance	Shows MotoCAP performance from impact protectors previously evaluated. Multiple results may be listed if a model of impact protector has been tested on multiple dates, providing insights into armour consistency.
RRP	The recommended retail price (RRP) in Australian dollars (\$AUD), sourced from online and in-store retailers, for reference purposes. N/A reflects limited or no availability at test date and is included for reference only.
Test date	The date of the most recent test for the armour.