Vehicle Certification Agency

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

COMMUNICATION CONCERNING THE APPROVAL GRANTED (1) ~~/ APPROVAL EXTENDED (1)~~/ ~~APPROVAL REFUSED (1)~~ / ~~APPROVAL WITHDRAWN (1)~~ / ~~PRODUCTION DEFINITIVELY DISCONTINUED (1)~~ OF A TYPE OF PROTECTIVE HELMET ~~WITHOUT~~ / WITH (1) ONE / ~~MORE (1)~~ VISOR TYPE(S) WITHOUT / ~~WITH~~ (1) ONE / MORE (1) SPECIFIC ACCESSORY TYPE(S) PURSUANT TO UN REGULATION NO. 22.06

E11 Approval No: E11*22R06/02*2193*00

Reason(s) for extension:

1. Trade mark: ONEAL

2. Type: SIERRA RS

3. Sizes: XXL, XL, L, M, S, XS

4. Manufacturer's name: O'NEAL Europe GmbH & Co. KG.

5. Address: Erich-Blum-Str. 33, 71665 Vaihingen an der Enz, Germany

6. If applicable, name of manufacturer's representative: Not applicable

7. Address: Not applicable

8. Brief description of helmet: Full face helmet with one visor type and one sun shield

9. Helmet ~~without lower face cover (J) /~~ with protective lower face cover …… (P) / ~~with non protective lower face cover (NP) / with detachable or movable lower face cover (P/J)~~ (1)

10. Type of visor or visors: SIERRA RS V

UK Approval Authority Vehicle Certification Agency
09-May-25

11. Brief description of visor or visors and inner visor if any: Clear visor made of polycarbonate (PC) with anti-scratch coating and 1.9 mm thickness

12. Helmet ready for specific accessory (SA) / ready for universal accessories (UA) (1) :
Not applicable

13. Accessories included in the helmet homologation and functionality: Not applicable

14. If UA helmet, speakers (S or S45) / Microphone (M) / Front mounting (F) / Side mounting (L), R ear mounting (R) (1) : Not applicable

14.1. If S40 or S45, speaker dummy used for the homologation test deformable / rigid (1) :
Not applicable

15. Submitted for approval on: 21 April 2025

16. Technical service responsible for conducting approval tests: Vehicle Certification Agency

17. Date of report issued by that service: 22 April 2025

18. Number of report issued by that service: VCA023912-1, VCA023912-1(SUN)

19. Comments: None

20. Approval GRANTED / ~~EXTENDED / REFUSED / WITHDRAWN~~ (1)

21. Place: BRISTOL

22. Date: 09 May 2025

23. Signature:

C McCABE
Chief Technical and Statutory Operations Officer

21. The following documents, bearing the approval number shown above, are available on request:

(1) Strike out what does not apply

Vehicle Certification Agency

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

APPROVAL NUMBER: E11*22R06/02*2193*00

INFORMATION PACKAGE CONTENTS

INDEX REVISION NUMBER: 00

Conformity of Production (COP) Declaration	**COP Confirmed**	
Assessment Method	**COP Audit**	
Date of Initial Clearance	**March**	**2025**
Date of Last Clearance	**March**	**2025**

Total number of sheets: 16 (Six-teen)

Reasons for Revision: Not applicable

Revision Date
&
Office Stamp

UK Approval Authority | Vehicle Certification Agency
09-May-25

PROTECTIVE HELMETS AND THEIR VISORS FOR DRIVERS AND PASSENGERS OF MOTOR CYCLES AND MOPEDS

ECE Regulation 22.06

Type: **SIERRA RS**

Total number of sheet: 16

Date: 2025/03/19

1 GENERAL

1.1 Make or trade mark: ONEAL

1.2 Type: SIERRA RS

1.3 General Commercial Description: Protective helmet SIERRA RS and their visors for drivers and passengers of motorcycles and mopeds

1.4 Variant/Version: Not Applicable

1.5 Name & Address of Manufacturer:
O'NEAL Europe GmbH & Co. KG.
Erich-Blum-Str. 33, 71665 Vaihingen an der Enz, Germany

1.6 Name & Address(es) of Assembly Plant(s):
LONG HUEI (VIETNAM) CO., LTD
LOT CN12, CN13, ADJACENT TO ROAD N6 AND D1,
KIM HUY INDUSTRIAL ZONE, PHU TAN WARD, THU DAU MOT CITY,
BINH DUONG PROVINCE, VIETNAM

1.7 If any, Name and address of manufacturer`s authorised Representative: Not Applicable

1.8 Location & Method of affixing of the ECE Approval Mark:
On chinstrap, marked in a label sewn on to chinstrap

1.9 Number of visor which can be fitted: One

2 DESCRIPTION OF THE HELMET

2.1 Style of helmet: Full face with visor

2.2. Type of lower face cover: “P” with protective lower face cover

2.3 Sizes:
Medium Shell: XS(530-540), S(550-560), M(570-580), L(590-600)
Large Shell: XL(610-620), XXL(630-640)

2.4 Weight:
XS: 1650±50g, S: 1650±50g, M: 1650±50g, L: 1650±50g(without peak)
XL: 1750±50g, XXL: 1750±50g(without peak)

3. SHELL

3.1 Material: ABS(Acrylonitrile butadiene styrene)

3.2 Composition of the border joined on the shell: PVC(Polyvinyl Chloride)

3.3 Ventilation:

3.3.1 Number of ventilation: 6

3.3.2 Position on the shell: 2 Front side, 2 Rear side, 1 Rear, 1 Chin guard

4. RETENTION SYSTEM

4.1 Chin Strap

4.1.1 Material: Polyester

4.1.2 Width: 22mm (Buckle)

4.2 Retention System: Buckle (Model: QRM-E9)

4.3 Comfort padding of the retention system

4.3.1 Composition: Comfort padding, In-line buckle, Webbing

4.3.2 Material: Polyester

4.4 Fixing system to the shell: Rivet to each side of helmet shell

5. PROTECTIVE PADDING

5.1 Composition:

XS~XXL 6 pieces of EPS, 1 Top, 2 Ear, 1 Crown, 1 Jaw, 1 Forehead

5.2 Density: (all EPS pieces for sizes)

XS~S	Top: 33g/L, Ear: 56g/L, Crown: 20g/L, Jaw: 71g/L, Forehead: 56g/L
M~L	Top: 33g/L, Ear: 56g/L, Crown: 20g/L, Jaw: 71g/L, Forehead: 63g/L
XL~XXL	Top: 45g/L, Ear: 71g/L, Crown: 20g/L, Jaw: 71g/L, Forehead: 83g/L

6. COMFORT PADDING

6.1 Composition

Comfort padding: polyurethane type foam, sponge
Protection of the back of the neck: polyurethane type foam

7. VISOR :

7.1 Make or Trade mark: ONEAL

7.2 Type: SIERRA RS V

7.3 Name and address of manufacturer:
O'NEAL Europe GmbH & Co. KG.
Erich-Blum-Str. 33, 71665 Vaihingen an der Enz, Germany

7.4 Material: PC(Polycarbonate)

7.5 Surface treatment: Anti-scratch coating

7.6 Colour: Clear

7.7 Manufacturing method: Injection molding

7.8 Means of attachment: See page No.13

7.9 The drawing of Visor: See page No.13

7.10 Drawing of how to attach the visor/shield: See page No.15

8. SUNSHIELD

8.1. Trade mark: ONEAL

8.2. Type: SIERRA RS SV

8.3. Commercial name: SIERRA RS SV

8.4. Material: PC(Polycarbonate)

8.5. Surface treatment: Anti-scratch coating

8.6. Color: light dark

8.7. Fabrication method: Injection molding

8.8. Transmittance: More than 20%

9. ACCESSORIES

9.1 Peak: See page No.7

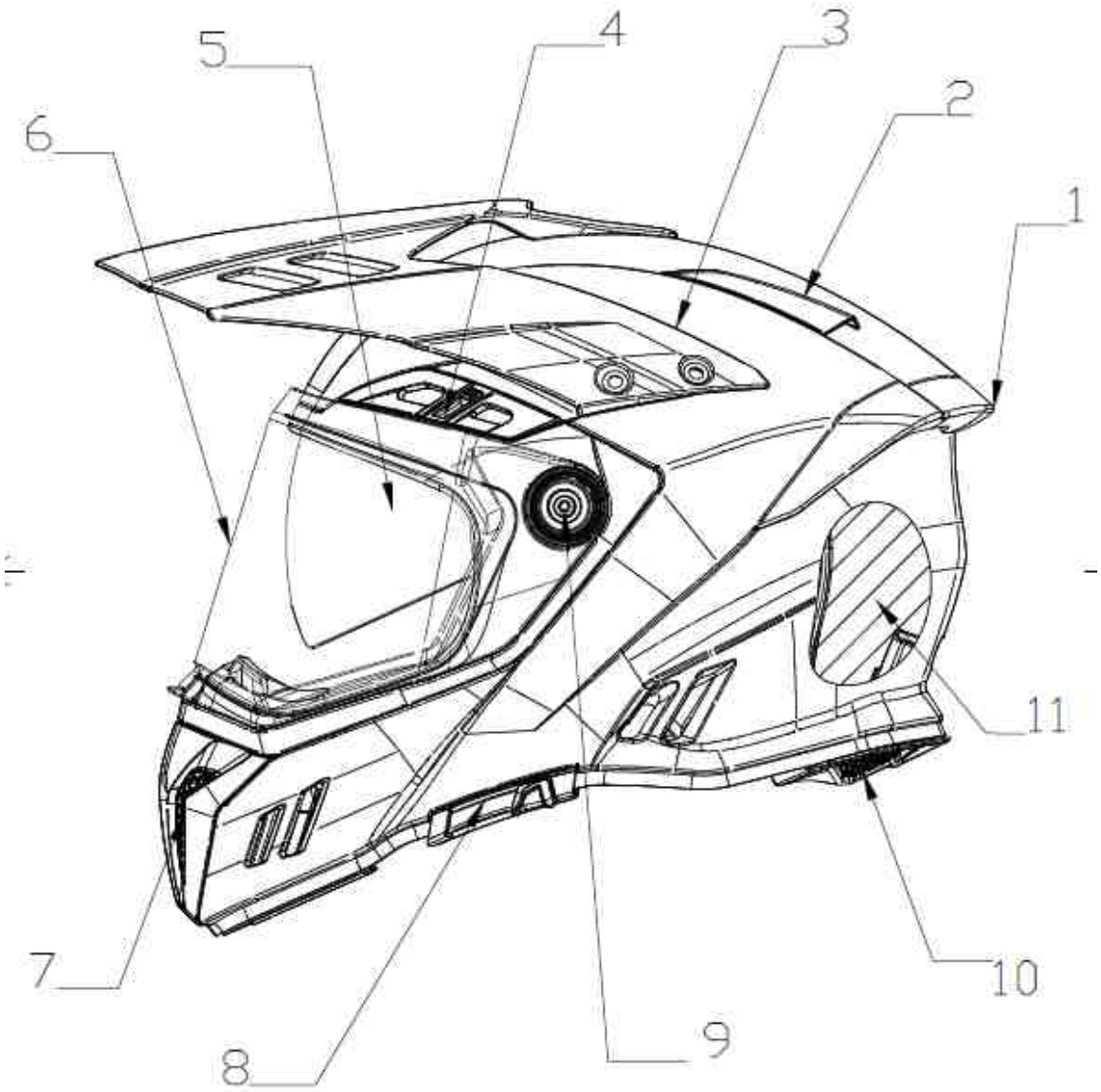
9.1.1 Material: PP(Polypropylene)

9.2 User instructions

9.2.1 Location: label sewn to comfort padding

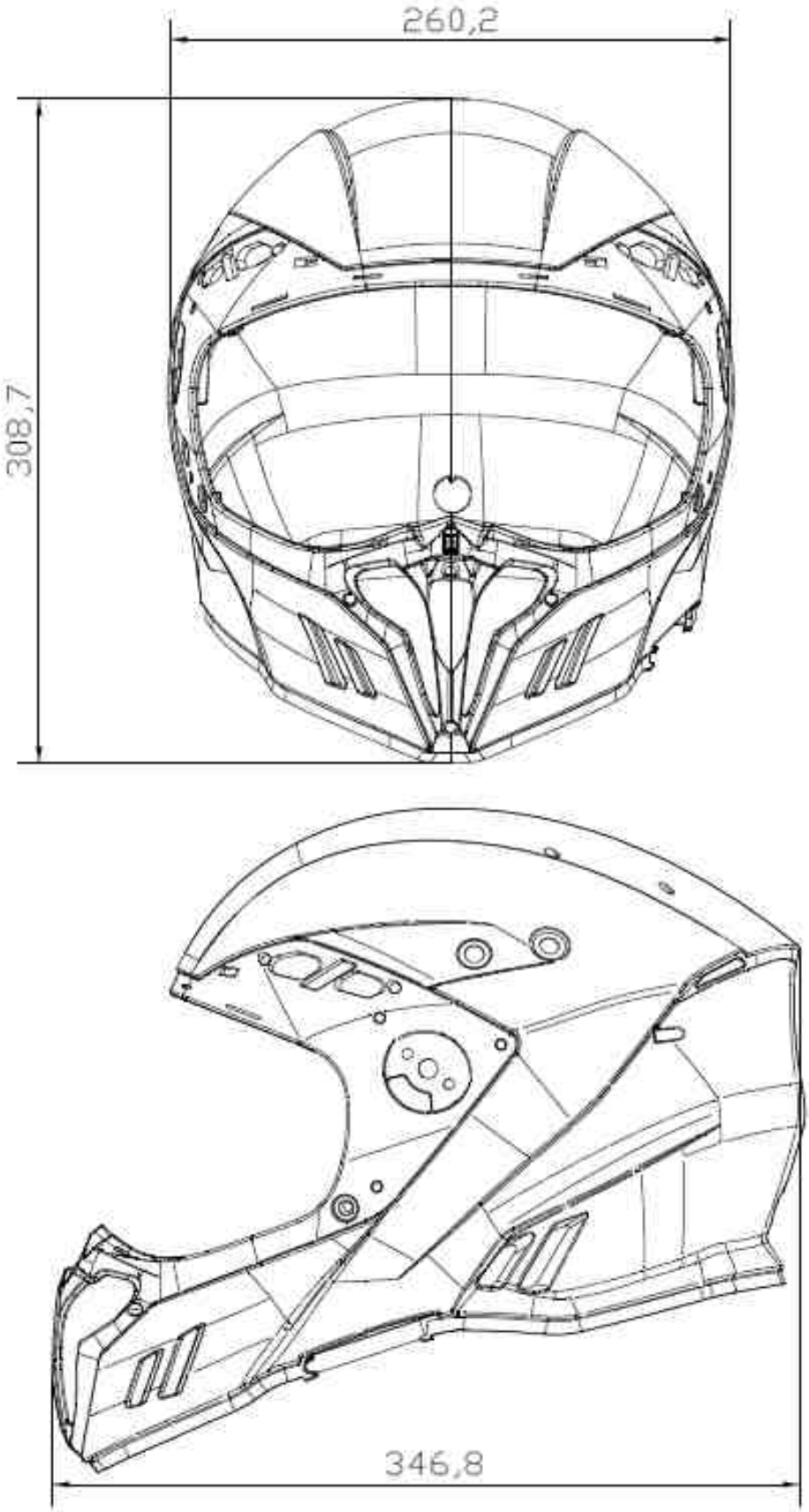
ANNEXES

GENERAL VIEW OF HELMET

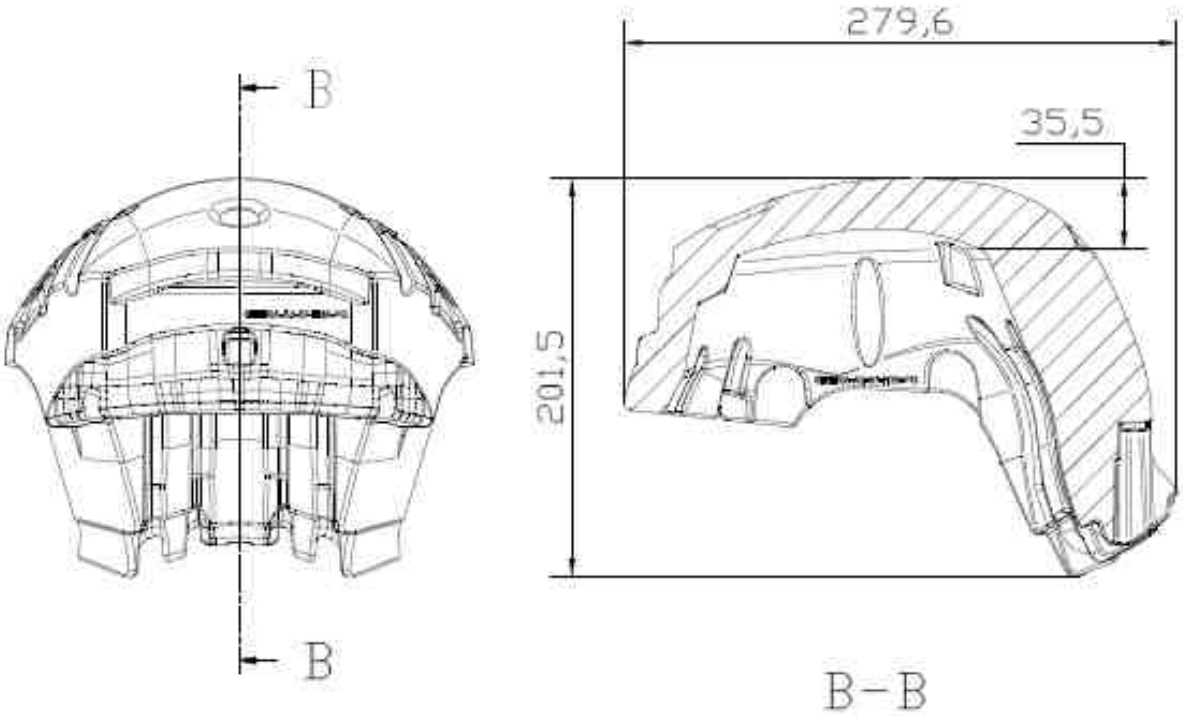


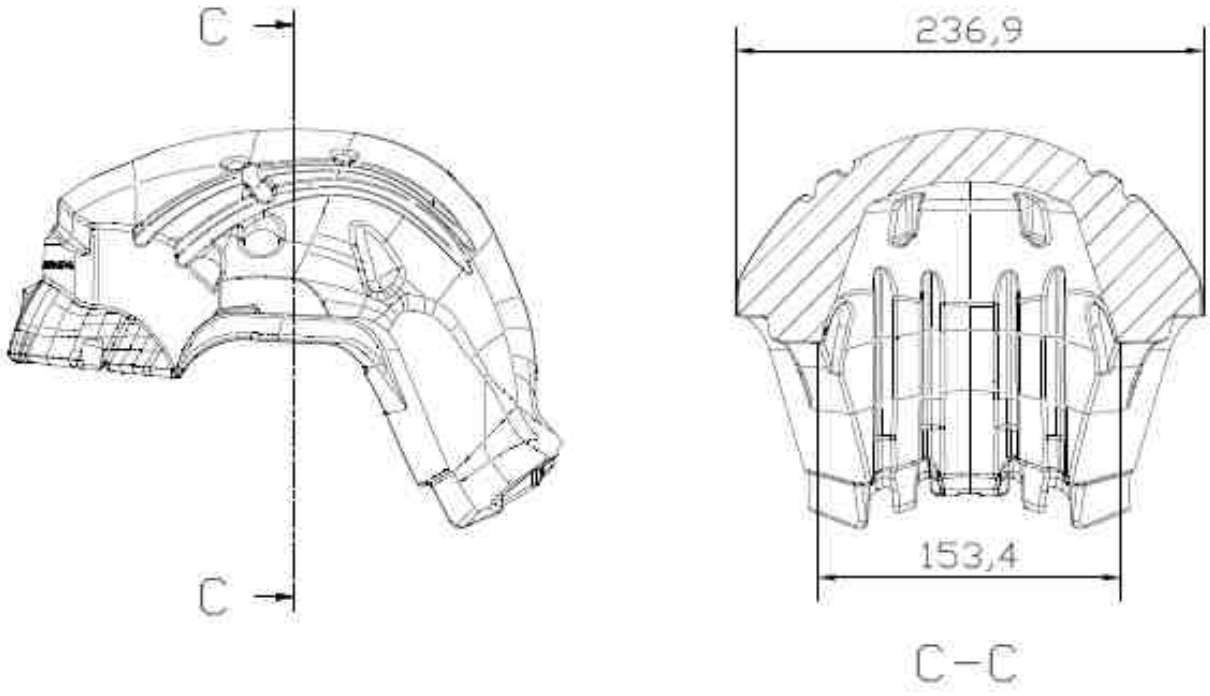
NO.	Parts name	Material
1	REAR VENTILATION ACCESSORIES	ABS
2	REAR SIDE VENTILATION ACCESSORIES	ABS
3	PEAK	PP
4	FRONT SIDE VENTILATION ACCESSORIES	POM
5	SUN SHIELD	PC
6	VISOR	PC
7	CHIN GUARD VENTILATION ACCESSORIES	ABS
8	SUN SHIELD PART MECHANISM	POM
9	VISOR PART MECHANISM	POM
10	DECORATIVE PIECE	PC
11	LINER	EPS

DRAWING OF THE SHELL

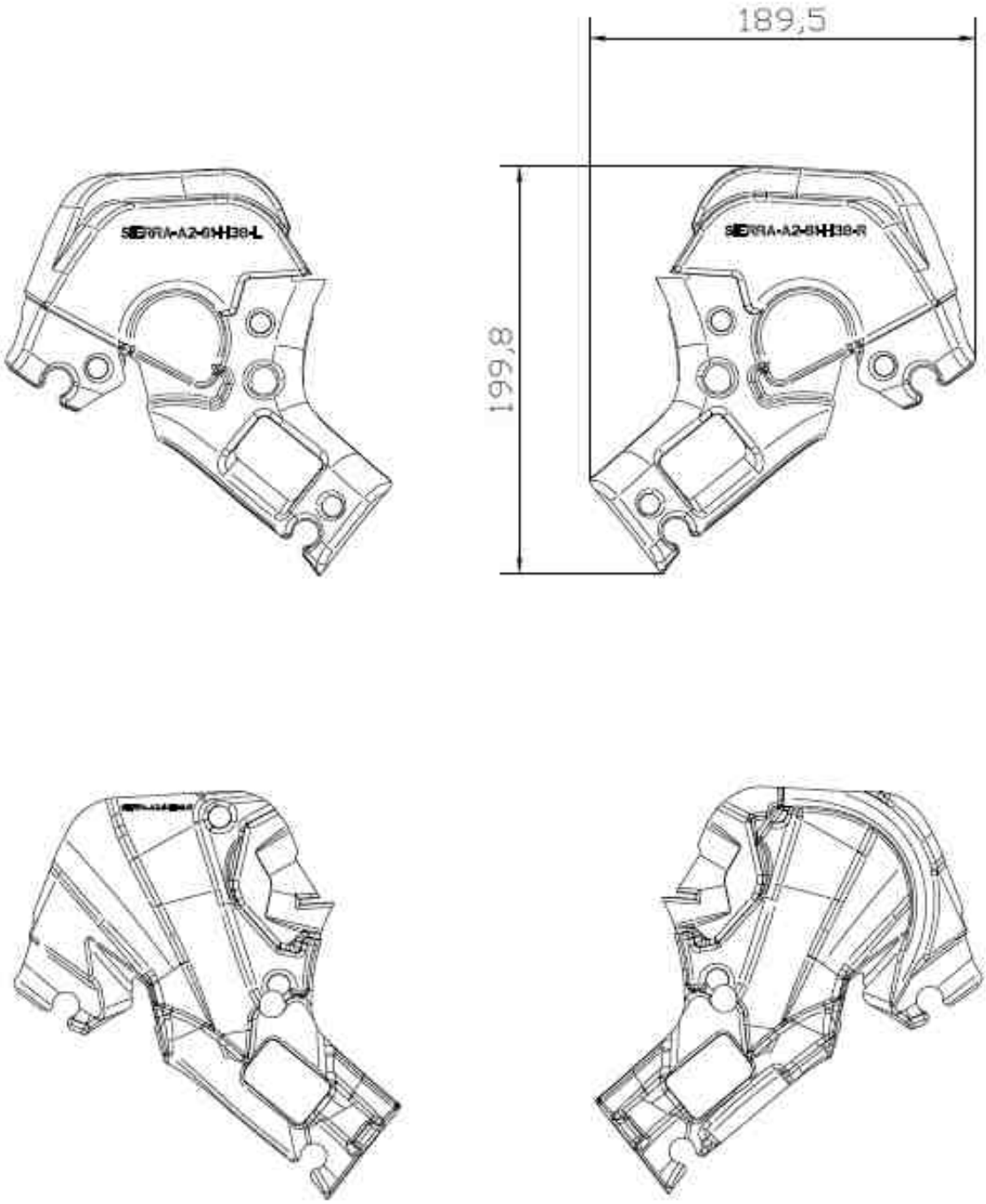


DRAWING OF THE PROTECTIVE PADDING (Medium EPS)

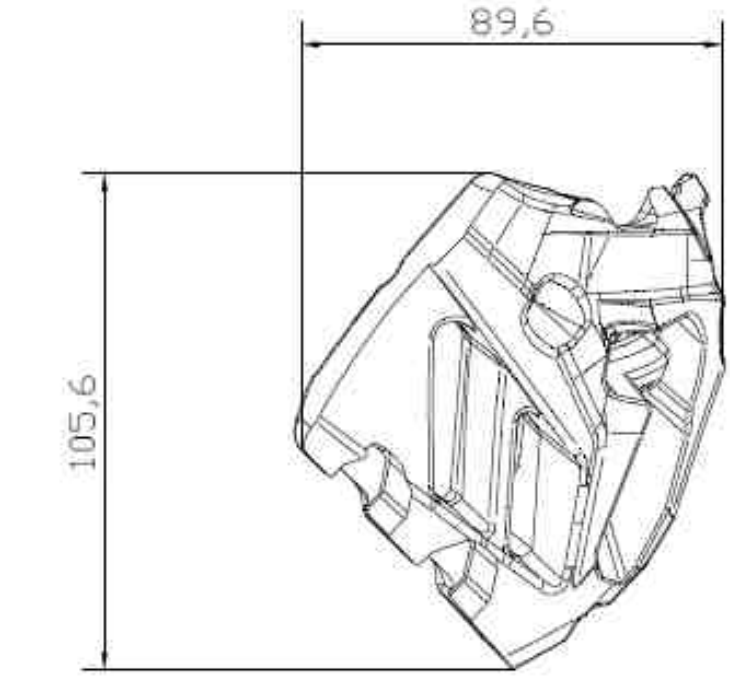


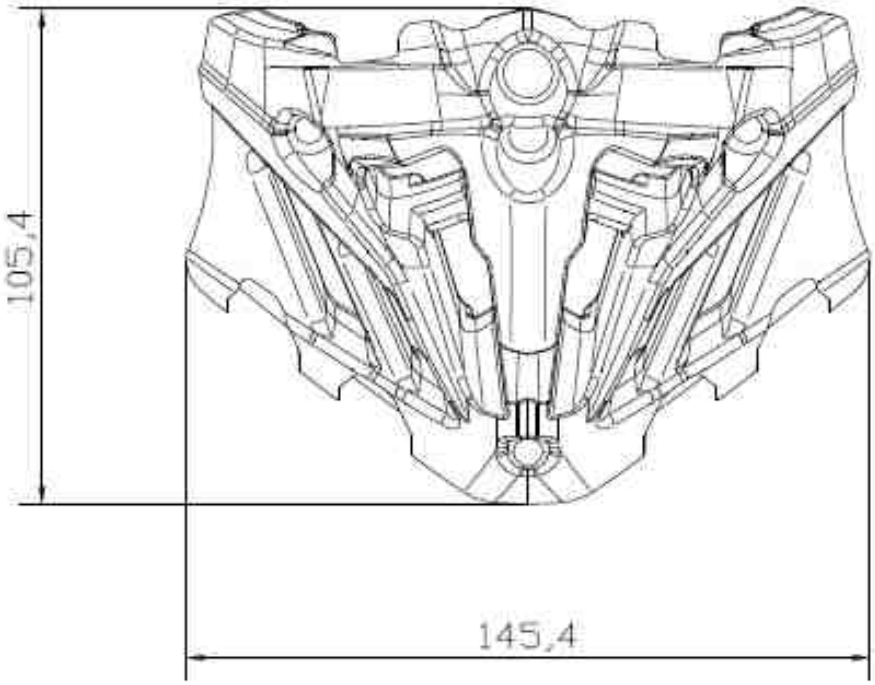


DRAWING OF THE PROTECTIVE PADDING (Medium EAR EPS)

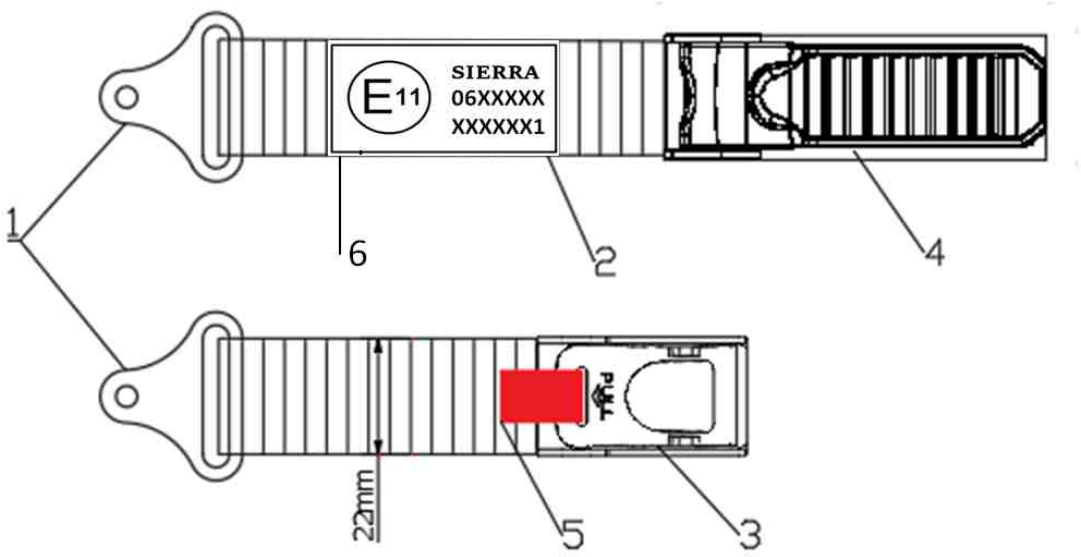


DRAWING OF THE PROTECTIVE PADDING (JAW EPS)



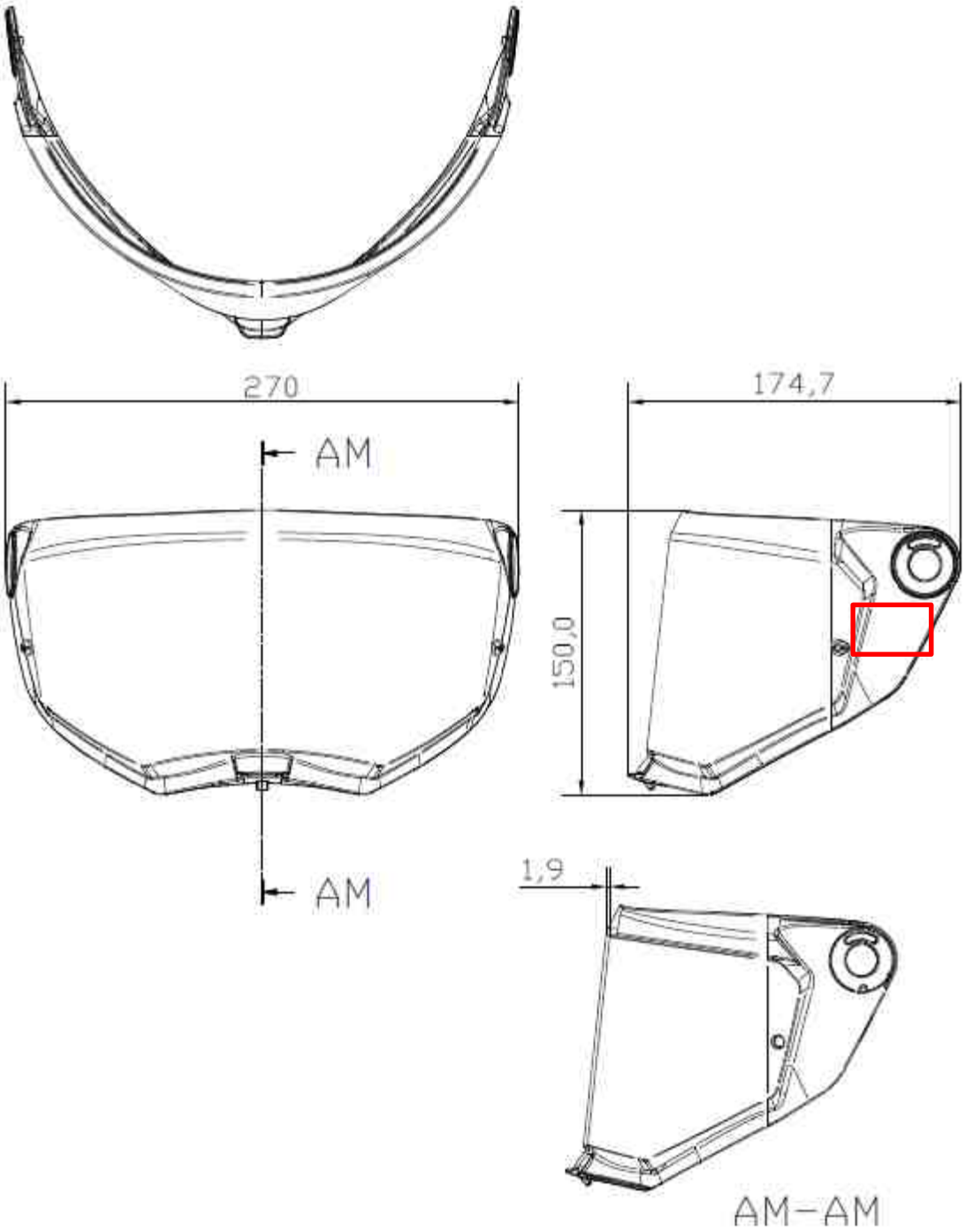


DRAWING OF THE RETENTION SYSTEM (E9 Buckle)



PART NO.	NAME	MATERIAL
1	BRACKET	STEEL
2	CHIN STRAP	POLYESTER
3	FEMALE BUCKLE	POM, IRON, STAINLESS STEEL
4	MALE BUCKLE	POM, IRON, STAINLESS STEEL
5	FULLING FLAG	PP,10*35mm
6	E-MARK LABEL	NYLON

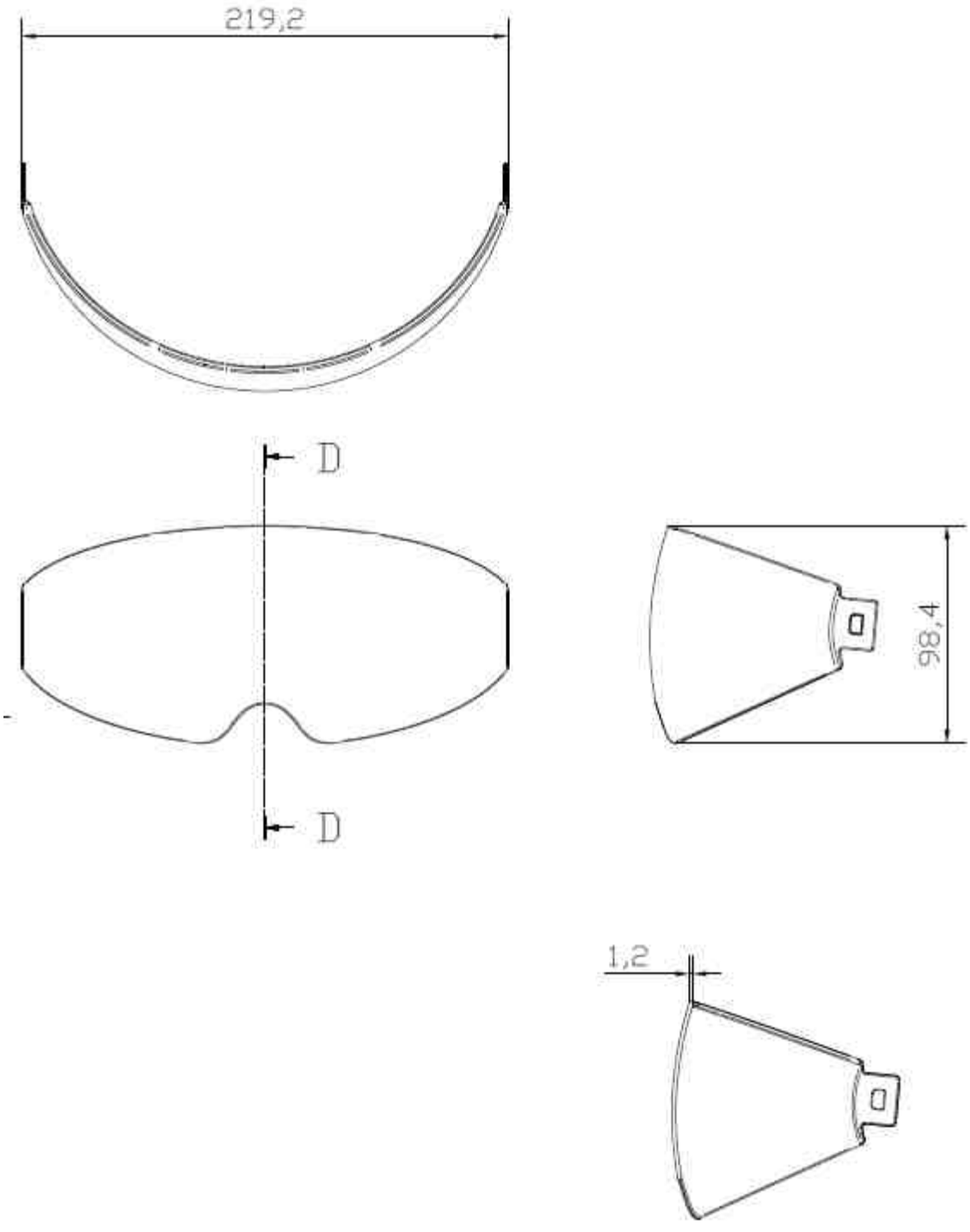
DRAWING OF THE VISOR



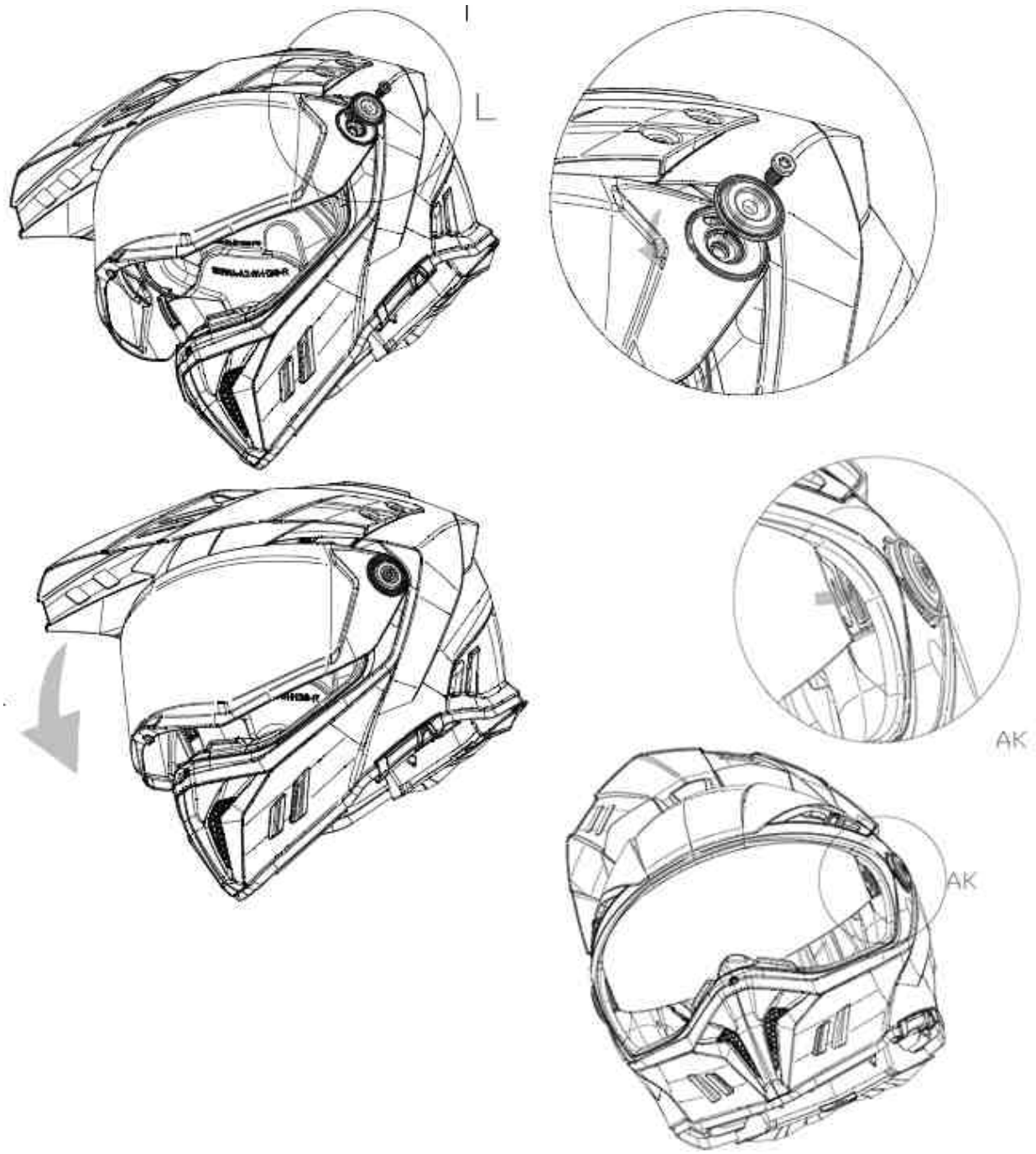
E-mark and Trade mark location, the detailed marking refer to page 16

Means of attachment: screw fastening

DRAWING OF THE SUNSHIELD

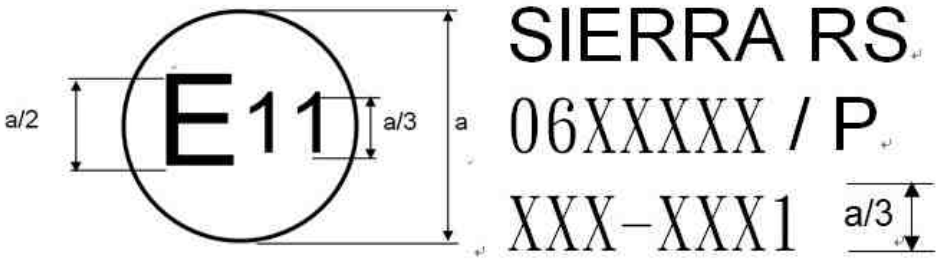


DRAWING OF HOW TO ATTACH THE VISOR/SHIELD



APPROVAL MARK OF HELMET

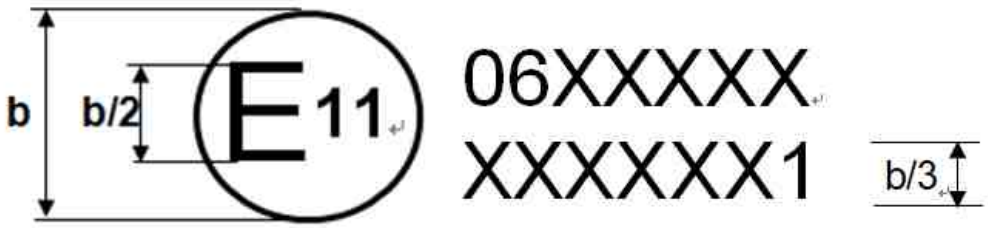
a= 8.4 mm



HELMET TYPE: SIERRA RS
COLOR OF LABEL: WHITE
COLOR OF PRINT: BLACK
MATERIAL OF LABEL: CLOTH SEWED ON THE STRAP

APPROVAL MARK OF VISOR

b= 8.4 mm



Vehicle Certification Agency

VCA, 1 Eastgate Office Centre,
Eastgate Road, Bristol, BS5 6XX, United Kingdom
enquiries@vca.gov.uk |
www.vehicle-certification-agency.gov.uk

Report Number: VCA023912-1
Issue: 0

Inspection/Test Report: Protective Helmets and their Visors for Drivers and Passengers of Motorcycles and Mopeds

Legislation

UNECE Regulation 22.06 Consolidated to Supplement 2 (Revision 5 Amendment 2)

Inspection/Test Details

Location of Inspection/Test:	LONG HUEI test Laboratory, Vietnam
Date(s) of Inspection/Test:	21/04/2025
VCA Representative(s):	Jongduk Lee
Engineers Home Office Location:	VCA Korea
Manufacturer's Representative(s):	Chu Chun Kao
Reason for Report:	New Approval

Manufacturer Details

Name and Address:	O'NEAL Europe GmbH & Co. KG. Erich-Blum-Str. 33, 71665 Vaihingen an der Enz, Germany
Type:	SIERRA RS
Commercial Description:	SIERRA RS
Category:	"P" with protective lower face cover

Conclusion

The above-mentioned vehicle / engine / component was tested in accordance with the above mentioned legislation and was found to comply in all respects. This report relates only to the items tested.

Inspection Report Engineer Signature:

Name:	Jongduk Lee
Position:	Principal Type Approval Engineer
Date:	21 April 2025

List of Annexes

Annex	No of Pages	Subject
I		Test photos *(EU/GB and UN when needed)*
II		
III		
IV		

Issue Record

	Issue 0 is original report
Reason for re issue	
Name of competent engineer re issuing	
Date of re issue	

Worst Case Rationale

Full test performed for new type approval.
Test carried out under the condition as follows:

Number of samples tested							
	Shell Size	Large		Medium			
	Consumer Size	XXL	XL	L	M	S	XS
Test	Headform Size	625	605	575	575	535	535
General Specifications check		1					
Impact Absorption		5	2	5	-	-	2
Impact Absorption Extra Point		-	2	-	-	-	2
Hi/Low Energy Impact		-	2	-	-	-	2
Projection and Surface Friction		1					
Rigidity		1	-	1	-	-	-
Retention (Dynamic & Detaching)		-	1	-	-	-	1
Micro-slip of the Chin Strap		1					
Durability of quick-release mechanisms		1					
Tests for Oblique impact and measurement of rotational acceleration		2	-	2	-	-	-

Resistance to Abrasion of the Chin Strap test was exempted since the micro slip test shows that the strap slips less than 5 mm.

Note: Include information on variants and versions this report covers, as applicable. Supporting documents may be annexed to this report.

Significant Interpretations, Alternative Test Methods, New Technologies

None

Inspection/Tests Required

	Yes, NA, See Report … / Approval … / Annex …	Test location	Dates	Engineer
Markings:	Yes	LongHuei test Lab	21/04/2025	JD Lee
General Specifications:	Yes	LongHuei test Lab	21/04/2025	JD Lee

Impact Absorption:	Yes	LongHuei test Lab	21/04/2025	JD Lee
Projection and Surface Friction:	Yes	LongHuei test Lab	21/04/2025	JD Lee
Rigidity:	Yes	LongHuei test Lab	21/04/2025	JD Lee
Retention System (Dynamic):	Yes	LongHuei test Lab	21/04/2025	JD Lee
Retention (Detaching):	Yes	LongHuei test Lab	21/04/2025	JD Lee
Micro-slip of the Chin Strap:	Yes	LongHuei test Lab	21/04/2025	JD Lee
Resistance to Abrasion of the Chin Strap:	NA			
Retention Systems Relying on Quick Release Mechanism:	Yes	LongHuei test Lab	21/04/2025	JD Lee
Tests for Oblique impact and measurement of rotational acceleration:	Yes	LongHuei test Lab	21/04/2025	JD Lee

Specification

Style of Helmet:	Full face					
Size						
Shell Size:	Large		Medium			
Consumer Size:	XXL	XL	L	M	S	XS
Weight:	1870g±50		1670g±50			
Materials						
Shell:	ABS (Acrylonitrile Butadiene Styrene)					
Padding:	Polyurethane type foam, sponge					
Liner:	EPS (Expanded Polystyrene type foam)					
Chin Strap:	Polyester					
Retention System						
Type:	Two section system					
Buckle:	QRM-E9					
Strap Retainer:	Plastic press stud					
Anchorages:	Secured to shell by means of a single rivet to each side of Helmet shell					
Ventilation System:	Number of ventilations: 6 Positioning on the shell: 2 Front side, 2 Rear side, 1 Rear, 1 Chin guard					
Type of Shell Edging:	PVC					
Accessories:	Visor (model reference: SIERRA RS V) Sunshield (model reference: SIERRA RS SV)					
Reflecting Band:	NA					
Conspicuity marking:	NA					
Additional Features:	Peak					

Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the vehicle / engine / component tested and covers all variants and versions agreed in the worst case rationale. Yes

Information document uploaded to job folder and identified by job number. Yes

Facility and Equipment Checks

Facility Appraisal reference number and date: FAK182 and KXB625210 23 January 2024

Calibration certificates are traceable to national or international standards of measurement, and stored in job folder: Yes

Calibration checked and valid, recorded in the below table: Yes

Description	Make	Model	Serial number	Calibration due date*
Head Form A	AD Engineering	ECE 22.06	C0616	25/12/2024 (+1year)
Head Form C	AD Engineering	ECE 22.06	C0617	25/12/2024 (+1year)
Head Form E	AD Engineering	ECE 22.06	C0618	25/12/2024 (+1year)
Head Form J	AD Engineering	ECE 22.06	C0619	25/12/2024 (+1year)
Head Form M	AD Engineering	ECE 22.06	C0620	25/12/2024 (+1year)
Head Form O	AD Engineering	ECE 22.06	C0621	25/12/2024 (+1year)
Impact test apparatus	GTM(AD ENGINEERING)	RS QVASNF QS-2021	05-2021	25/12/2024 (+1year)
UV conditioning chamber	HOTOTECH	HT-6014	No-00032	25/12/2024 (+1year)
Moisture conditioning chamber	Ching-liang instrument enterprise co.	AA-006	-	25/12/2024 (+1year)
Heat Conditioning Chamber	RISEN	RHD-902	1578	25/12/2024 (+1year)
Low temperature conditioning unit	DAYTIME	FS-501	-	25/12/2024 (+1year)
Projection & Surface Friction test apparatus	HOTOTECH	HT6013	-	25/12/2024 (+1year
Rigidity Test Apparatus	Longhuei	LH-001	A0306	25/12/2024 (+1year)

Retention System (Dynamic) Test Apparatus	HOTOTECH	HT-6018	-	18/07/2024 (+1year)
Retention (Detaching) test apparatus	AD Engineering	ROL 11C	03-2014	25/12/2024 (+1year)
Digital protractor	RS PRO	-	130401003	23/08/2024 (+1year)
QRM durability apparatus	LONGHUEI	LH-A1601	A1601	10/08/2024 + 1 year
Saline spray apparatus	LONGHUEI	LH-A1501	A1501	03/08/2024 + 1 year
Tensile apparatus	GOTECH	A1-7000M	TC160400784	12/07/2024 + 1 year

**Specify calibrated date + (interval) or calibration due date.*

Equipment Remarks

None

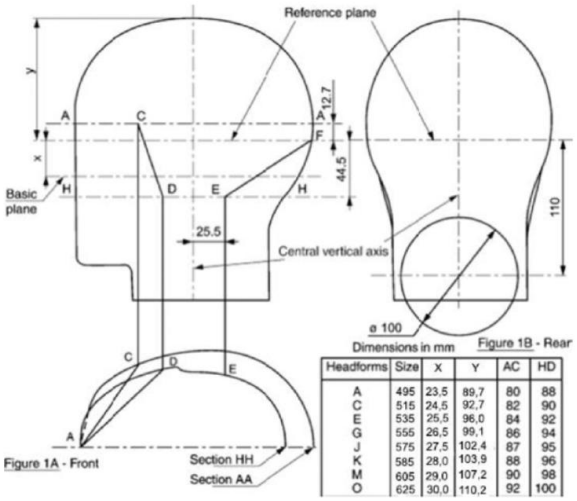
Note: VCA apply measurement uncertainty to calibrated items and require pass results including equipment uncertainty.

Software used in Testing

Description	Make	Version	Validation method
Impact test apparatus (DSL9000)	AD Engineering	3.0.0.9	Covered in FA
Computer system of helmet strap tensile testing machine	HOTOTECH	1.0.3.3	Covered in FA

	Inspection/Test Requirements	Complies Yes / NA
Markings		
4.1.1.	On the helmet, it bears the applicant's trade name or mark, and an indication of the size and, if appropriate, an indication of the unsuitability of the lower face cover to offer any protection against impacts to the chin.	Yes
4.3.	Marking is not placed within the main visibility area.	Yes
4.4.	Marking is indelible, clearly legible and in a readily accessible place.	Yes
8.2	Raw data of test paragraph 7.13. stored by the technical service and available to the approval authority. (for the purpose of improvement of the Regulation at a later stage.)	Yes
General Specifications		
6.1.	Basic construction of the helmet is in the form of a hard outer shell, containing additional means of absorbing impact energy and a retention system.	Yes
6.2.	Protective helmet may be fitted with ear flaps and a neck curtain. It may also have a detachable peak, a visor, additional sun shield, electronic equipment or accessories and a lower face cover. If fitted with a non-protective lower face cover, the outer surface of the cover is marked 'Does not protect chin from impacts' and/or with the symbol shown in Figure 1 below, indicating the unsuitability of the lower face cover to offer any protection against impacts to the chin.  Note: this symbol or indication must be visible and extend over at least 2 cm^2	Yes
6.3.	No component or device is fitted to or incorporated in the protective helmet, unless it is designed in such a way that it will not cause injury	Yes

	and that, when it is fitted to or incorporated in the protective helmet, the helmet still complies with the requirements of this regulation.	
6.4.1.	Shell covers all areas above plane AA' and extends downwards at least as far as the lines 'CDEF' on both sides of the headform. *Note: See Annex 4, Figure 1A.*	Yes
6.4.2.	At the rear, the rigid parts and, in particular, the shell, are not within a cylinder, defined as follows: - Diameter: 100 mm; - Axis situated at the intersection of the medium plane of symmetry of the headform and of a plane parallel to and 110 mm below the reference plane. *Note: See Annex 4, Figure 1B.*	Yes
6.4.3.	Protective padding covers all the areas defined in paragraph 6.4.1, with account being taken of the requirements of paragraph 6.5.	Yes
6.5.	Helmet does not dangerously affect the wearer's ability to hear.	Yes
6.5.	Temperature in the space between the head and the shell does not rise inordinately. *Note: To prevent this, ventilation holes may be provided in the shell.*	Yes
6.5.	Where means for attaching a visor are not provided, the profile at the front edge does not prevent the wearing of goggles.	Yes
6.6.	All projections from, or irregularities in the outer surface of the shell greater than 2 mm, are tested for shear assessment according to paragraphs 7.4.1 or 7.4.2. The outer surface of the helmet is tested for friction assessment, according to paragraphs 7.4.1 or 7.4.2. This applies in particular to a movable lower face cover in all positions intended by the manufacturer.	Yes
6.7.	All external projections are radiused and any external projections other than press-fasteners are smooth and adequately faired.	Yes



Headforms	Size	X	Y	AC	HD
A	495	23,5	89,7	80	88
C	515	24,5	92,7	82	90
E	535	25,5	96,0	84	92
G	555	26,5	99,1	86	94
J	575	27,5	102,4	87	95
K	585	28,0	103,9	88	96
M	605	29,0	107,2	90	98
O	625	30,0	110,2	92	100

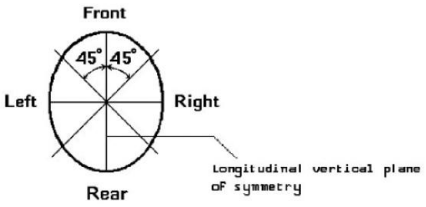
6.7.1.	All external projections not more than 2 mm above the outer surface of the shell (e.g. rivet heads) have a radius of a minimum of 1 mm.			Yes
6.7.2.	All external projections more than 2 mm above the outer surface of the shell have a radius of a minimum of 2 mm. *Note: Latter specific requirements do not apply if a projection satisfies the requirements in paragraphs 7.4.1 or 7.4.2 below.*			Yes
6.8.	There are no inward-facing sharp edges on the inside of the helmet; rigid, projecting internal parts are covered with padding so that any stresses transmitted to the head are not highly concentrated.			Yes
6.9.	Various components of the protective helmet are so assembled that they are not liable to become easily detached as a result of an impact.			Yes
6.9	In the case of visor and movable or detachable lower face cover, only when in not protective position, the detachment is acceptable provided that it is complete and not to cause possible injuries to the user			Yes
6.10.	Retention systems are protected from abrasion.			Yes
6.11.	Helmet is held in place on the wearer's head by means of a retention system, which is secured under the lower jaw. All parts of the retention system are permanently attached to the system or to the helmet.			Yes
6.11.1.	If the retention system includes a chin-strap, the strap is not less than 20 mm wide under a load of 150 N ± 5 N, applied under the condition prescribed in paragraph 7.6.2:	22	mm	Yes
6.11.2.	Chin strap does not include a chin cup.			Yes
6.11.3.	Chin straps are fitted with a device to adjust and maintain tension in the strap.			Yes
6.11.4.	Chin strap fastening and tensioning devices are positioned on the straps so that: - There are no rigid parts extending more than 130 mm vertically below the headform reference plane, with the helmet mounted on the appropriate sized headform* ~~- The whole of the device is between the bony projections of the underside of the lower jaw*~~ **Strikethrough, as appropriate.*			Yes
6.11.5.	If the retention system includes either a double-D ring or sliding bar fastening device ("roller buckle"), then means are provided to prevent the retention system being completely undone and also to			Yes

	retain the free end of the strap when the retention system is adjusted. (If the retaining system can be opened completely, it must be possible only with voluntary action. To prevent any possible misuse, the helmet must be provided with detailed instructions on the use of the buckle if required.)	
6.11.6.	Sliding bar and double-D ring fastening devices are fitted with a pulling flap to be used for releasing the retention system. Its colour is red and its minimum dimensions are 10 x 20 mm.	Yes
6.11.7.	If a retention system includes a quick-release mechanism, then the method of release of this mechanism is self-evident. Any levers, tabs, buttons or other components that need to be operated to release the mechanism are coloured red; those parts of the rest of the system that are visible when closed are not similarly coloured, and the mode of operation is permanently indicated.	Yes
6.11.8.	Retention system remains closed when the tests described in paragraphs 7.3, 7.6 and 7.7 are carried out.	Yes
6.11.9.	Buckle of the retention system is designed so as to preclude any possibility of incorrect manipulation. This means inter alia (among other things) that it is not possible for the buckle to be left in a partially closed position.	Yes
6.12.	If the lower face cover is detachable or movable, the lower face cover is fitted with a device that maintains the intended position even during the complete series of impacts and retention (detaching) test. The device is such that incorrect handling is impossible. The control/actuating device must be of red colour. The helmet must comply with the requirements for helmet categories "J","P" or both.	NA
6.13.	Characteristics of the materials used in the manufacture of helmets are known not to undergo appreciable alteration under the influence of ageing or of the circumstances of use to which the helmet is normally subjected, such as exposure to sun, extremes of temperature and rain. For those parts of the helmet coming into contact with the skin, the materials used are known not to undergo appreciable alteration through the effect of perspiration or of toilet preparations. The manufacturer does not use materials known to cause skin troubles. The suitability of a proposed new material is established by the manufacturer.	Yes
6.14.	After the performance of one of the prescribed tests, the protective helmet does not exhibit any breakage or deformation dangerous to the wearer. Note: As example visor sunshield and shell significant cracks or any part partially detached (spoiler, lower face cover, accessories) that can hurt the user while he's rolling on the road.	Yes

Peripheral Vision

6.15.1 *6.15.2*	The technical service has selected from among the existing sizes of a helmet type the size it considers likely to yield the least favourable result and helmet placed on the headform corresponding to its size by the procedure set out in Annex 5 to this Regulation;	Yes
6.15.3.	There is no occultation in the field of vision bounded by:	Yes
6.15.3.1.	- Horizontally: Two segments of dihedral angles symmetrical in relation to the median longitudinal vertical plane of the headform and situated between the reference and the basic planes. Each of these dihedral angles is defined by the median longitudinal vertical plane of the headform and the vertical plane forming an angle of not less than 105° with the median longitudinal vertical plane and whose edge is the straight line LK;	
6.15.3.2.	- Upwards: Dihedral angle defined by the reference plane of the headform and a plane forming an angle of not less than 7° with the reference plane and whose edge is the straight line L_1 L_2, the points L_1 and L_2 representing the eyes;	
6.15.3.3.	- Downwards: Dihedral angle defined by the basic plane of the headform and a plane forming an angle of not less than 45° with the basic plane, and whose edge is the straight line K_1 K_2.	

	Visors	
6.16.1.	Systems of attachment of a visor to a helmet is such that the visor is removable. It is possible to manoeuvre the visor out of the field of vision with a simple movement of one hand. (However, the latter prescription may not be required for helmets which do not provide chin protection provided that a label is attached to the helmet to the effect of warning the purchaser that the visor cannot be manoeuvred.)	Yes
6.16.2.	Angle opening (see annex 9) ≥ 5°: 37.7°	Yes
	Sun Shield	
6.17.1	Sun shield does not restrain or prevent the movement of the visor. On opening the visor, the sun shield can pivot in the working position. By means of a simple movement the sun shield is able to be moved separately from the visor out of the visual field.	Yes
6.17.2.1	Sun shield does not restrict the field of vision given in paragraph 6.15. in the working or parking position. If the sun shield is fixed outside of the visor, the surface may include fixings or devices to make movement possible. The total surface of the fixings or devices does not exceed 2cm^2; they can be distributed on both sides of the field of vision.	Yes
	Conspicuity Marking	
6.18.1.	In order to comply with national requirements for use, the helmet may be required by individual Contracting Parties to contribute to the conspicuity of the user both during the daytime and at night from the front, rear, right and left, by means of parts made of reflective materials that conform to the specifications laid down in paragraphs 6.16.2 to 16.6.6 of this regulation.	NA
6.18.1.	It is allowed that the helmet is equipped with reflective materials in the box, with proper indications to the user on where and how to apply them on the helmet. *Note: Mandating of conspicuity marks is left to the discretion of individual Contracting Parties. Article 3 of the Agreement to which this regulation is annexed does not prevent the Contracting Parties from prohibiting the use of helmets not meeting the conspicuity requirements.*	NA
6.18.2	**Reflective Parts**	
6.18.2.1.	Total surface area and shape of the reflective part used is such that in each direction, corresponding to one of the areas defined in the figure below, visibility is ensured by a surface area of at least 18 cm^2 of simple shape and measured by application on a plane.	NA



6.18.2.1.	In each surface area of minimum 18 cm^2, it is possible to mark either a: - Circle of 40 mm diameter* - Rectangle of at least 12.5 cm^2 in surface area and at least 20 mm in width*	NA
6.18.2.1.	Each of these surfaces are situated as near as possible to the point of contact with the shell of a vertical plane parallel to the longitudinal vertical plane of symmetry, to the right and to the left, and as near as possible to the point of contact with the shell of a vertical plane perpendicular to the longitudinal plane of symmetry, to the front and to the rear.	NA
6.18.3.	Each of the retro-reflective areas emit white light when it is illuminated with standard illuminant A, with an observation angle of 1/3° and an illumination angle $\beta1 = \beta2 = 0°$ (or $\beta1 = \pm 5°$, $\beta2 = 0°$).	NA
6.18.4.	Minimum value of the luminous intensity coefficient of a surface area of 18 cm^2 of material, when revolved, is not less than the values specified in the table below, expressed in millicandelas per lux.	NA

Angle of Divergence (')	Angle of Illumination (°)		
	0	20	40
20	100	60	25

6.18.5.	After each conditioning as described in paragraph 7.2, the helmet is visually inspected. There are no signs of cracking or appreciable distortion of the retro-reflective material.	NA
6.18.6.	Neither the adhesive nor the retro-reflective material affects the mechanical performance of the helmet according to the related tests in this regulation.	NA

Tests

Each helmet type, fitted with its visor if placed on the market with a visor, conditioned as shown below.

7.1 — Yes

Test	Number of helmets to be conditioned				Total
	ambient-temperature and hygrometry conditioning	Heat conditioning	low-temperature conditioning	ultra- violet radiation conditioning and moisture conditioning	
Impact absorption	2	1	1	1	5
Imp. Abs. extra point	2				2
Hi/Low energy impact	2				2
Rotational	2				2
Projection and surface friction	1				1
Rigidity	2				2
Retention system	1				1
					15

7.1 Testing Notes:
The largest size of each combination shell size and protective padding of each helmet type shall be tested for impact absorption, rotational and rigidity. For impact absorption on extra point, Hi and Low energy impacts and tests of the retention system, helmet sizes shall be chosen such that the helmet to be tested shall be that offering the likely least favorable conditions (such as thickest padding, etc).
All the types of retention systems available for the helmet must be tested. Supplementary samples could be necessary.
Additionally, for each smaller headform size within the size range of the helmet type two helmets shall undergo the impact absorption test. One helmet shall be heat conditioned, and the other low temperature conditioned. The conditioned helmets shall be impacted against either anvil, in equal numbers if possible, at the choice of the laboratory.

Types of Conditioning

7.2 Prior to any type of further conditioning for mechanical tests, as specified in paragraph 7.1., each helmet shall be subject:

7.2.1. Ambient-temperature and hygrometry conditioning:
The helmet shall be exposed to a temperature of 25 °C ± 5 °C and a relative humidity of 50 per cent ± 10 per cent for at least 4 hours. — Yes

7.2.2. Heat conditioning:
The helmet shall be exposed to a temperature of 50 °C ± 2 °C for not less than 4 hours and not more than 8 hours. — Yes

7.2.3.	Low-temperature conditioning: The helmet shall be exposed to a temperature of -10 °C ± 2 °C for not less than 4 hours.	Yes
7.2.4.	Ultraviolet-radiation conditioning and moisture conditioning. The outer surface of the protective helmet shall be exposed successively to: ultraviolet irradiation by a 150-watt xenon-filled quartz lamp for 48 hours at a range of 25 cm; spraying for 4 to 8 hours with water at ambient temperature at the rate of 1 litre per minute.	Yes

Test Results

Impact Absorption Tests

7.3.1.4.	The tests completed not more than five minutes after the helmet is taken from the conditioning chamber.	Yes

7.3. Helmet size: XXL

Helmet ID Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,400)*	Deceleration *(≤ 275 g)*
1	O	B	F	AMB	7.55	2009	214
		X	F		7.55	1941	229
		P	F		7.55	2042	211
		R	F		7.55	1182	163
2	O	B	K	AMB	7.55	781	141
		X	K		7.55	1286	161
		P	K		7.59	1048	154
		R	K		7.55	966	146
3	O	B	F	-10	7.55	1901	211
		X	F		7.55	1957	230
		P	F		7.55	2056	214
		R	F		7.52	1155	156
		S	F		6.06	226	100
4	O	B	K	+50	7.55	1261	158
		X	K		7.55	1316	177
		P	K		7.55	1030	147
		R	K		7.55	1059	155
5	O	B	K	UV + H2O	7.55	1406	175
		X	K		7.55	1244	161
		P	K		7.55	1084	154
		R	K		7.55	1087	156

*F = Flat; K = Kerbstone

7.3. Helmet size: XL

Helmet ID Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,400)*	Deceleration *(≤ 275 g)*
6	M	B	F	-10	7.55	2209	240
		X	F		7.55	1955	224
		P	F		7.55	1988	203
		R	F		7.52	970	143
		S	F		6.06	204	75
7	M	B	K	+50	7.55	1378	180
		X	K		7.55	1198	158
		P	K		7.55	1080	159
		R	K		7.55	952	140

*F = Flat; K = Kerbstone

7.3. Helmet size: L

Helmet ID Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,400)*	Deceleration *(≤ 275 g)*
8	J	B	F	AMB	7.55	2308	234
		X	F		7.55	1786	219
		P	F		7.55	2011	208
		R	F		7.55	1318	174
9	J	B	K	AMB	7.55	1606	216
		X	K		7.52	1330	174
		P	K		7.55	1140	172
		R	K		7.55	1048	135
10	J	B	F	-10	7.55	1931	227
		X	F		7.55	1957	231
		P	F		7.55	2003	202
		R	F		7.55	1446	175
		S	F		6.04	334	102
11	J	B	K	+50	7.59	1308	164
		X	K		7.55	1231	170
		P	K		7.55	1225	169
		R	K		7.59	995	136
12	J	B	K	UV + H2O	7.55	1376	169
		X	K		7.52	1376	177
		P	K		7.55	1263	166
		R	K		7.55	1022	134

*F = Flat; K = Kerbstone

7.3. Helmet size: XS

Helmet ID Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,400)*	Deceleration *(≤ 275 g)*
13	E	B	F	-10	7.55	2021	220
		X	F		7.55	1668	217
		P	F		7.55	2044	200
		R	F		7.55	991	145
		S	F		6.06	409	117
14	E	B	K	+50	7.55	1193	169
		X	K		7.55	1243	164
		P	K		7.55	1147	166
		R	K		7.59	939	128

*F = Flat; K = Kerbstone

7.3. Helmet size: XL

Extra Impact points:

Helmet ID Number	H.F. Size Number	Impact Point	Anvil[1]	Cond. (°C)	Required Speed (m/s)	Measured Speed (m/s)	HIC requirement	Measured HIC	Decel requirement	Measured Decel
15	M	(Extra point): BXL[2]	F	AMB	7.5	7.52	*≤ 2,400*	1833	*≤ 275 g*	220
		(Extra point): BXPR[2]	F		7.5	7.55	*≤ 2,400*	1912	*≤ 275 g*	195
		(Extra point): RXPR[2]	F		7.5	7.52	*≤ 2,400*	1161	*≤ 275 g*	179
		(Extra point): RXL[2]	F		7.5	7.55	*≤ 2,400*	1251	*≤ 275 g*	174
16	M	(Extra point): BXR[2]	K		7.5	7.55	*≤ 2,400*	1320	*≤ 275 g*	173
		(Extra point): BXPL[2]	K		7.5	7.55	*≤ 2,400*	1105	*≤ 275 g*	139
		(Extra point): RXPL[2]	K		7.5	7.55	*≤ 2,400*	849	*≤ 275 g*	122
		(Extra point): RXR[2]	K		7.5	7.52	*≤ 2,400*	1260	*≤ 275 g*	167

[1] : F = Flat; K = Kerbstone
[2] : Extra test locations to be selected from the 12 listed in section 7.3.4.2.1

7.3. Helmet size: XS

Extra Impact points:

Helmet ID Number	H.F. Size Number	Impact Point	Anvil[1]	Cond. (°C)	Required Speed (m/s)	Measured Speed (m/s)	HIC requirement	Measured HIC	Decel requirement	Measured Decel
17	E	(Extra point): BXL[2]	F	AMB	7.5	7.52	≤ 2,400	1773	≤ 275 g	221
		(Extra point): BXPR[2]	F		7.5	7.55	≤ 2,400	1907	≤ 275 g	196
		(Extra point): RXPR[2]	F		7.5	7.52	≤ 2,400	1487	≤ 275 g	188
		(Extra point): RXL[2]	F		7.5	7.52	≤ 2,400	1354	≤ 275 g	172
18	E	(Extra point): BXR[2]	K		7.5	7.52	≤ 2,400	1241	≤ 275 g	182
		(Extra point): BXPL[2]	K		7.5	7.55	≤ 2,400	1040	≤ 275 g	157
		(Extra point): RXPL[2]	K		7.5	7.52	≤ 2,400	843	≤ 275 g	147
		(Extra point): RXR[2]	K		7.5	7.52	≤ 2,400	892	≤ 275 g	137

[1] : *F = Flat; K = Kerbstone*
[2] : *Extra test locations to be selected from the 12 listed in section 7.3.4.2.1*

7.3. Helmet size: XL

Hi/Low Energy Impact points:

Helmet ID Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Required Speed (m/s)	Measured Speed (m/s)	HIC requirement	Measured HIC	Decel requirement	Measured Decel
19	M	(Hi Energy): B	F	AMB	8.2	8.26	≤ 2,880	2673	≤ 275 g	253
		(Hi Energy): X	F		8.2	8.26	≤ 2,880	2394	≤ 275 g	251
		(Hi Energy): P	F		8.2	8.26	≤ 2,880	2450	≤ 275 g	231
		(Hi Energy): R	F		8.2	8.26	≤ 2,880	1505	≤ 275 g	176
20	M	(Low Energy): B	K		6.0	6.02	≤ 1,300	626	≤ 180 g	130
		(Low Energy): X	K		6.0	6.02	≤ 1,300	789	≤ 180 g	135
		(Low Energy): P	K		6.0	6.06	≤ 1,300	594	≤ 180 g	121

		(Low Energy): R	K		6.0	6.04	≤ 1,300	447	≤ 180 g	95

* F = Flat; K = Kerbstone

7.3. Helmet size: XS

Hi/Low Energy Impact points:

Helmet ID Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Required Speed (m/s)	Measured Speed (m/s)	HIC requirement	Measured HIC	Decel requirement	Measured Decel
21	E	(Hi Energy): B	F	AMB	8.2	8.22	≤ 2,880	2499	≤ 275 g	241
		(Hi Energy): X	F		8.2	8.26	≤ 2,880	2527	≤ 275 g	259
		(Hi Energy): P	F		8.2	8.22	≤ 2,880	2230	≤ 275 g	208
		(Hi Energy): R	F		8.2	8.26	≤ 2,880	1406	≤ 275 g	171
22	E	(Low Energy): B	K		6.0	6.02	≤ 1,300	770	≤ 180 g	139
		(Low Energy): X	K		6.0	6.02	≤ 1,300	731	≤ 180 g	132
		(Low Energy): P	K		6.0	6.02	≤ 1,300	659	≤ 180 g	130
		(Low Energy): R	K		6.0	6.08	≤ 1,300	411	≤ 180 g	92

* F = Flat; K = Kerbstone

Test for Projection and Surface Friction (Method B)

	Helmet ID Number	Test	Tested Point	Results
7.4.2.1.3.1.	23	Projection	Rear edge, Side edge	Pass
7.4.2.1.3.2.	23	Surface	Front top centre	Pass

Test for projections of the category P/J with movable lower face cover

7.4.3.1	Strength assessment of the movable face cover in the position "J", the helmet placed on the appropriate test head form selected from Annex 4 in compliance with paragraph 7.3.1.3.1.	NA
7.4.3.2	Falling mass of 4 kg ± 0.01 kg released in guided free fall from a height of 600 ± 5 mm hooked on to the front part of the chin section in the position "J" in the median vertical plane of the helmet.	NA
7.4.3.3	Test apparatus used to apply a shock load to a helmet secured to the headform by its own retention system. Headform secured in a test fixture with its vertical axis pointing upward at 45° to the direction of gravity. Equipment allows drop weight to slide in a guided free fall to impact a rigid stop anvil.	NA

	Mass of the guide is 1.0 -0.0 +0.2 kg. Impact speed not less than 95 per cent of the theoretical speed.	
7.4.3.4	Movement such to avoid any possible interference of the chin guard with 100 mm cylinder as defined in paragraph 6.4.2. (Partial detachment is not acceptable.)	NA

Rigidity Tests

7.5.1.	The test helmets have undergone ambient-temperature and hygrometry conditioning.	Yes

Helmet ID Number	Helmet Size	Load Direction	Deformation (mm)		
			Initial *(load 30 N)*	Max *(load 630 N) (≤ 40 mm)*	Final *(load 30 N) (≤ 15 mm)*
24	XXL	Longitudinal	1	16.2	2.3
24	XXL	Transversal	1	14.1	2.3
25	L	Longitudinal	1	15.8	2.7
25	L	Transversal	1	17.2	1.1

Dynamic Test of the Retention System

7.6.1	Helmet is positioned as prescribed in paragraph 7.3.1.3.1.	Yes
7.6.2	Set up is as per 7.6.2 and Annex 8, Figure 2	Yes
7.6.3	Falling mass of 10 kg ± 0.1 kg released drops in guided free fall from a height of 750 ± 5 mm.	Yes
7.6.4	During the test, the dynamic displacement of the point of application of the force shall not exceed 35 mm	Yes
7.6.5	After two minutes, the residual displacement of the point of application of the force, as measured under a mass of 15 kg ± 0.5 kg, does not exceed 25 mm.	Yes

Helmet ID Number	Helmet Size	Chin Strap	Extension Dynamic *(≤ 35 mm)*	Extension Residual *(≤ 25 mm)*
26	XL	QRM-E9	28.3	15.4
27	XS	QRM-E9	29.3	18.6

Retention (Detaching) Test

7.7.1.	The test helmets have undergone ambient-temperature and hygrometry conditioning.	Yes
7.7.6.	Modular helmets tested in J and P configuration.	NA

Helmet ID Number	Helmet Size	Chin Strap	After the Test *(Angle ≤ 30°)*
26	XL	QRM-E9	18.7
27	XS	QRM-E9	21.1

Micro-slip Test of the Chin Strap
Note: See Annex 8, Figure 4)

Chin strap	Total Slip *(≤ 10 mm)*
QRM-E9	1 mm

Test for Resistance to Abrasion of the Chin Strap: **Test exempted based on the micro-slip test result**
Note: See Annex 8, Figure 5.

Tests for Retention Systems Relying on Quick Release Mechanism

7.12.2 Tests carried out as per the procedures of 7.12.2 in the order given. Yes

	Helmet ID Number	Test	Results
7.12.1.	-	Inadvertent release by pressure	NA
7.12.2.	-	Ease of release *(Max. load ≤ 30 N or ≤ 60 N)*	Yes
7.12.3.2.	-	Durability of quick release mechanisms *(Release after 5,000 cycles)*	Yes
7.12.3.3.	-	Durability of quick release mechanisms *(Saline spray)*	Yes
7.12.3.4.	-	Durability of quick release mechanisms *(Traction 2 kN ± 50 N)*	Yes

Tests for Oblique impact and measurement of rotational acceleration

7.13 The test helmets have undergone ambient-temperature and hygrometry conditioning. Yes

Annex 7, 2.4. Coefficient of friction (m) 0.3 ± 0.05 between the outer surface of the head form and the common fabric used in the comfort padding of the helmet. Yes

Annex 7, 2.5.	Chin strap force controller "Tightened as for normal use". (This means that the helmet must be tightened before each test after having applied below the chin a rigid cylinder 10 mm diameter at least 30 mm long that will be removed before the test. According paragraph 7.3.1.3.)	Yes
Annex 7, 2.6.	Instrumentation for measuring the head kinematics during impact calibrated in line with Annex 7, 2.6.	Yes
Annex 7, 2.7.	Headform coefficient of friction calibrated in line with Annex 7, 2.7.	Yes
Annex 7, 3.1	Helmet placed on a headform of appropriate size in accordance with the requirements of Annex 5. Helmet positioned in accordance to the HPI (helmet positioning index) provided by the manufacturer. If it is not available, the helmet shall be tipped towards the rear so that the front edge of the helmet in the median plane is displaced by 25 mm.	Yes
Annex 7, 3.2.2	Anvil (A) as per Annex 7, 3.2.2 and figure 2	Yes
Annex 7, 3.	Test method in accordance with Annex 7, 3.	Yes

Helmet ID Number	H.F. Size Number	Impact Point	Cond. (°C)	Speed (8.0m/s)	Peak Resultant Acceleration (PRA) ≤ *10,400 rad/s²*	Brain Injury Criterion (BrIC) *≤ 0.78*
28	O	Front lateral right (45°)	AMB	8.03	4262	0.36
		Rear (180°)		8.07	1890	0.29
		Lateral left (270°)		8.03	5283	0.39
29	O	Front (0°)	AMB	8.03	3413	0.28
		Rear-lateral right (135°)		8.03	3003	0.40
30	J	Front lateral right (45°)	AMB	8.07	3983	0.33
		Rear (180°)		8.00	4796	0.52
		Lateral left (270°)		8.03	5361	0.43
31	J	Front (0°)	AMB	8.03	3547	0.37
		Rear-lateral right (135°)		8.03	3261	0.40

Photographs

Notes

[Notes can be provided at the bottom if it is useful to provide additional information that is not covered by a compliance statement, for example glazing markings.]

Remarks

None

Annex I

[Annexes can be used if additional information should be recorded that would be inappropriate in the main body of the report. Annex numbering should use roman numerals.]

Vehicle Certification Agency

VCA, 1 Eastgate Office Centre,
Eastgate Road, Bristol, BS5 6XX, United Kingdom
enquiries@vca.gov.uk |
www.vehicle-certification-agency.gov.uk

Report Number: VCA023912-1
Issue: 0

Inspection/Test Report: Protective Helmets and their Visors for Drivers and Passengers of Motorcycles and Mopeds (Product Qualification)

Legislation

UNECE Regulation 22.06 Consolidated to Supplement 2 (Revision 5 Amendment 2)

Inspection/Test Details

Location of Inspection/Test:	LONG HUEI test Laboratory, Vietnam
Date(s) of Inspection/Test:	22/04/2025
VCA Representative(s):	Jongduk Lee
Engineers Home Office Location:	VCA Korea
Manufacturer's Representative(s):	Chu Chun Kao
Reason for Report:	Product Qualification

Manufacturer Details

Name and Address:	O'NEAL Europe GmbH & Co. KG. Erich-Blum-Str. 33, 71665 Vaihingen an der Enz, Germany
Type:	SIERRA RS
Commercial Description:	SIERRA RS
Category:	"P" with protective lower face cover

Conclusion

The above-mentioned vehicle / engine / component was tested in accordance with the above mentioned legislation and was found to comply in all respects. This report relates only to the items tested.

Inspection Report Engineer Signature:

Name:	Jongduk Lee
Position:	Principal Type Approval Engineer
Date:	22 April 2025

List of Annexes

Annex	No of Pages	Subject
I		Test photos *(EU/GB and UN when needed)*
II		
III		
IV		

Issue Record

	Issue 0 is original report
Reason for re issue	
Name of competent engineer re issuing	
Date of re issue	

Worst Case Rationale

Replace Batch Test No. 1 by Production Qualification Test.

Note: Include information on variants and versions this report covers, as applicable. Supporting documents may be annexed to this report.

Significant Interpretations, Alternative Test Methods, New Technologies

None

Inspection/Tests Required

	Yes, NA, See Report … / Approval … / Annex …	Test location	Dates	Engineer
Information for wearers:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Impact Absorption Tests:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Dynamic Test of the Retention System:	Yes	LongHuei test Lab	22/04/2025	JD Lee

Specification

Number of Samples				
Shell Size:	Large		Medium	
Consumer Size:	XXL	XL	L	XS
Sample Quantity:	20	10	20	10
Production Batch Quantity:	3200			
Production Batch Serial Number	1 - 3200			
Materials				
Shell:	ABS (Acrylonitrile Butadiene Styrene)			
Padding:	Polyurethane type foam, sponge			
Liner:	EPS (Expanded Polystyrene type foam)			
Chin Strap:	Polyester			
Retention System				
Type:	Two section system			
Buckle:	QRM-E9			

Strap Retainer:	Plastic press stud
Anchorages:	Secured to shell by means of a single rivet to each side of helmet shell
Ventilation System:	Number of ventilations: 6 Positioning on the shell: 2 Front side, 2 Rear side, 1 Rear, 1 Chin guard
Type of Shell Edging:	PVC
Accessories:	Visor (model reference: SIERRA RS V) Sunshield (model reference: SIERRA RS SV)
Reflecting Band:	NA
Additional Feature:	Peak

Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the vehicle / engine / component tested and covers all variants and versions agreed in the worst case rationale.	Yes
Information document uploaded to job folder and identified by job number.	Yes

Facility and Equipment Checks

Facility Appraisal reference number and date:	FAK182 and KXB625210 23 January 2024
Calibration certificates are traceable to national or international standards of measurement, and stored in job folder:	Yes
Calibration checked and valid, recorded in the below table:	Yes

Equipment

Description	Make	Model	Serial number	Calibration due date*
Head Form A	AD Engineering	ECE 22.06	C0616	25/12/2024 (+1year)
Head Form C	AD Engineering	ECE 22.06	C0617	25/12/2024 (+1year)
Head Form E	AD Engineering	ECE 22.06	C0618	25/12/2024 (+1year)
Head Form J	AD Engineering	ECE 22.06	C0619	25/12/2024 (+1year)
Head Form M	AD Engineering	ECE 22.06	C0620	25/12/2024 (+1year)
Head Form O	AD Engineering	ECE 22.06	C0621	25/12/2024 (+1year)
Impact test apparatus	GTM(AD ENGINEERING)	RS QVASNF QS-2021	05-2021	25/12/2024 (+1year)
Heat Conditioning Chamber	RISEN	RHD-902	1578	25/12/2024 (+1year)
Low temperature conditioning unit	DAYTIME	FS-501	-	25/12/2024 (+1year)
Retention System (Dynamic) Test Apparatus	HOTOTECH	HT-6018	-	18/07/2024 (+1year)

**Specify calibrated date + (interval) or calibration due date.*

Equipment Remarks

None

Note: VCA apply measurement uncertainty to calibrated items and require pass results including equipment uncertainty.

Software used in Testing

Description	Make	Version	Validation method
Impact test apparatus (DSL9000)	AD Engineering	3.0.0.9	Covered in FA
Computer system of helmet strap tensile testing machine	HOTOTECH	1.0.3.3	Covered in FA

	Inspection/Test Requirements	Complies Yes / NA
Qualifying the Production of Helmets		
	The production of each new approved type of helmet must be subjected to production qualification tests.	
9.2	The first batch is considered to be the production of the first tranche containing a minimum of 200 helmets and a maximum of 3,200 helmets.	
-	Random sample of helmets taken from the first batch, divided into homogenous lots of 10, choosing the biggest helmet sizes for each shell size.	Yes
-	At least two lots among those subjected to the shock-absorption test shall consist of maximum size helmets.	Yes
9.2.1.	Test on the system of retention	
9.2.1.1.	The 10 helmets of the smallest size of each shell subjected to the test of the retention system described in paragraph 7.6.	Yes
-	All the types of retention system available for the helmet checked.	Yes
9.2.2.	Shock absorption test	
-	From every shell size of helmet type take two groups each with 10 helmets of the largest size.	Yes
9.2.2.2.	All of the helmets in a group subjected to the same conditioning treatment and then subjected to the shock absorption test described in paragraph 7.3. at the same point of impact.	Yes
-	The conditioning and the anvil for each group chosen by the technical service which conducted the approval tests.	Yes
-	The location of the points must be the same for all the helmets of the same batch.	Yes
-	The helmets of the same batch can be submitted to test up to three different impact point.	Yes
9.2.2.3.	All the shell sizes of a type of helmet submitted to standard linear impact test on the BXPR and S points if present.	Yes

Information for wearers

14.1.	Every protective helmet placed on the market shall bear a clearly visible label with the following inscription in the national language, or at least one of the national languages of the country of destination. This information shall contain: "For adequate protection, this helmet must fit closely and be securely attached. Any helmet that has sustained a violent impact should be replaced" and, if fitted with a non-protective lower face cover: "Does not protect chin from impacts" together with the symbol indicating the unsuitability of the lower face cover to offer any protection against impacts to the chin.	Yes
14.2.	Additionally where hydrocarbons, cleaning fluids, paints, transfers or other extraneous additions affect the shell material adversely a separate and specific warning shall be emphasized in the above-mentioned label and worded as follows: " 'Warning' - Do not apply paint, stickers, petrol or other solvents to this helmet".	Yes
14.3.	Every protective helmet shall be clearly marked with its size and its maximum weight, to the nearest 50 grams, as placed on the market. The maximum weight quoted should include all the accessories that are supplied with the helmets, within the packaging, as it is placed on the market, whether or not those accessories have actually been fitted to the helmet.	Yes
14.4.	Every protective helmet offered for sale shall bear a label showing the type or types of visor that have been approved at the manufacturer's request.	Yes

Inspection/Test Results

Impact Absorption Tests

7.3. Helmet size: XXL

Group	Sample Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,640)*	Deceleration *(≤ 302.5 g)*
1	1	O	B	K	+50	7.55	1416	191
	2		B	K		7.55	1413	196
	3		B	K		7.55	1507	219
	4		B	K		7.55	1437	194
	5		B	K		7.55	1506	223
	6		B	K		7.55	1477	207
	7		B	K		7.55	1466	202
	8		B	K		7.55	1496	208
	9		B	K		7.55	1525	218
	10		B	K		7.55	1545	238
2	11	O	X	F	-10	7.55	1919	229
	12		X	F		7.52	1933	220
	13		X	F		7.55	1923	219
	14		X	F		7.55	1879	212
	15		X	F		7.55	1927	222
	16		X	F		7.55	1926	225
	17		X	F		7.52	1924	217
	18		X	F		7.55	1918	217
	19		X	F		7.55	1931	220
	20		X	F		7.55	1971	240
1	1	O	P	K	+50	7.55	1075	137
	2		P	K		7.55	1083	142
	3		P	K		7.59	1124	165
	4		P	K		7.55	1079	156
	5		P	K		7.55	1060	138
	6		P	K		7.52	1088	151
	7		P	K		7.55	1110	151
	8		P	K		7.55	1047	136
	9		P	K		7.55	1099	150
	10		P	K		7.55	1072	143

**F = Flat; K = Kerbstone*

Vehicle Certification Agency

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enquiries@vca.gov.uk |
www.vehicle-certification-agency.gov.uk

Helmet size: XXL

Group	Sample Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,640)*	Deceleration *(≤ 302.5 g)*
2	11	O	R	F	-10	7.55	1008	150
	12		R	F		7.55	1106	145
	13		R	F		7.55	936	148
	14		R	F		7.55	970	136
	15		R	F		7.55	1119	143
	16		R	F		7.55	1093	154
	17		R	F		7.55	1102	153
	18		R	F		7.55	1064	149
	19		R	F		7.55	1139	158
	20		R	F		7.52	1054	144
1	1	O	S	F	-10	6.02	308	120
	2		S	F		6.06	288	111
	3		S	F		6.06	337	128
	4		S	F		6.06	266	103
	5		S	F		6.06	279	111
	6		S	F		6.04	311	125
	7		S	F		6.04	259	100
	8		S	F		6.06	244	93
	9		S	F		6.06	249	102
	10		S	F		6.08	247	96

**F = Flat; K = Kerbstone*

Statistical Analysis

Group	Sample Number	Impact Point	S *(Standard deviation of the values)*	2.4 S	X *(Mean of the values)*	X + 2.4 S
1	1 - 10	B	14.1	33.8	209.6	243.4
2	11 - 20	X	7.4	17.8	222.1	239.9
1	1 - 10	P	8.9	21.3	146.9	168.2
2	11 - 20	R	6.0	14.4	148.0	162.4
1	1 - 10	S	11.6	27.7	108.9	136.6

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7.3. Helmet size: L

Group	Sample Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,640)*	Deceleration *(≤ 302.5 g)*
3	21	J	B	K	+50	7.55	1398	176
	22		B	K		7.59	1412	186
	23		B	K		7.55	1334	174
	24		B	K		7.55	1332	167
	25		B	K		7.59	1413	172
	26		B	K		7.55	1350	170
	27		B	K		7.55	1371	173
	28		B	K		7.55	1324	172
	29		B	K		7.55	1372	171
	30		B	K		7.55	1325	162
4	31	J	X	F	-10	7.55	1881	226
	32		X	F		7.55	1698	217
	33		X	F		7.55	1755	228
	34		X	F		7.55	1657	216
	35		X	F		7.55	1689	219
	36		X	F		7.55	1857	229
	37		X	F		7.55	1722	230
	38		X	F		7.55	1726	226
	39		X	F		7.55	1709	213
	40		X	F		7.52	1719	216
3	21	J	P	K	+50	7.55	1181	158
	22		P	K		7.55	1184	156
	23		P	K		7.55	1170	159
	24		P	K		7.55	1199	157
	25		P	K		7.52	1129	151
	26		P	K		7.55	1220	161
	27		P	K		7.55	1145	152
	28		P	K		7.55	1191	158
	29		P	K		7.59	1166	156
	30		P	K		7.55	1194	158

**F = Flat; K = Kerbstone*

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Helmet size: L

Group	Sample Number	H.F. Size Number	Impact Point	Anvil*	Cond. (°C)	Speed (m/s)	HIC *(≤ 2,640)*	Deceleration *(≤ 302.5 g)*
4	31	J	R	F	-10	7.55	1017	152
	32		R	F		7.52	766	144
	33		R	F		7.55	937	145
	34		R	F		7.55	1025	155
	35		R	F		7.55	1023	153
	36		R	F		7.55	943	156
	37		R	F		7.55	1016	150
	38		R	F		7.52	973	150
	39		R	F		7.55	1050	156
	40		R	F		7.55	1054	157
3	21	J	S	F	-10	6.02	447	128
	22		S	F		6.04	445	125
	23		S	F		6.00	181	88
	24		S	F		6.02	214	85
	25		S	F		6.06	275	100
	26		S	F		6.06	310	107
	27		S	F		6.04	368	121
	28		S	F		6.08	356	120
	29		S	F		6.04	235	82
	30		S	F		6.02	409	137

**F = Flat; K = Kerbstone*

Statistical Analysis

Group	Sample Number	Impact Point	S *(Standard deviation of the values)*	2.4 S	X *(Mean of the values)*	X + 2.4 S
3	21 - 30	B	5.9	14.1	172.3	186.4
4	31 - 40	X	6.1	14.6	222.0	236.6
3	21 - 30	P	2.9	7.0	156.6	163.6
4	31 - 40	R	4.3	10.4	151.8	162.2
3	21 - 30	S	18.7	44.9	109.3	154.2

Dynamic Test of the Retention System

Note: See Annex 8, Figure 2.

7.6. Helmet size: XL

Sample Number	Extension Dynamic *(≤ 38.5 mm)*	Extension Residual *(≤ 27.5 mm)*	Note
41	25.7	15.3	
42	29.9	15.5	
43	30.5	17.9	
44	27.9	17.0	
45	28.7	15.7	
46	26.4	13.6	
47	29.2	16.0	
48	30.7	16.9	
49	24.3	12.1	
50	27.0	14.2	

Statistical Analysis

Sample Number	Displacement	S *(Standard deviation of the values)*	2.4 S	X *(Mean of the values)*	X + 2.4 S *Extension dynamic (≤ 35 mm) Extension residual (≤ 25 mm)*
41 - 50	Extension dynamic	2.0	4.9	28.0	32.9
41 - 50	Extension residual	1.6	4.0	15.4	19.4

7.6. Helmet size: XS

Sample Number	Extension Dynamic *(≤ 38.5 mm)*	Extension Residual *(≤ 27.5 mm)*	Note
51	25.5	23.2	
52	21.7	19.8	
53	28.3	13.0	
54	26.5	13.0	
55	25.2	14.2	
56	25.3	12.9	
57	25.1	13.8	
58	25.5	11.7	
59	24.7	12.2	
60	25.5	13.1	

Statistical Analysis

Sample Number	Displacement	S *(Standard deviation of the values)*	2.4 S	X *(Mean of the values)*	X + 2.4 S *Extension dynamic (≤ 35 mm) Extension residual (≤ 25 mm)*
51 - 60	Extension dynamic	1.5	3.7	25.3	29.0
51 - 60	Extension residual	3.6	8.5	14.7	23.2

Notes

[Notes can be provided at the bottom if it is useful to provide additional information that is not covered by a compliance statement, for example glazing markings.]

Remarks

None

Annex I

[Annexes can be used if additional information should be recorded that would be inappropriate in the main body of the report. Annex numbering should use roman numerals.]

Vehicle Certification Agency

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www.vehicle-certification-agency.gov.uk

Report Number: VCA023912-1(SUN)
Issue: 0

Inspection/Test Report: Approval of a Visor Type for Protective Helmets for Drivers and Passengers of Motorcycles and Mopeds

Legislation

UNECE Regulation 22.06 Consolidated to Supplement 2 (Revision 5 Amendment 2)

Inspection/Test Details

Location of Inspection/Test:	LONG HUEI, Vietnam
Date(s) of Inspection/Test:	22/04/2025
VCA Representative(s):	Jongduk Lee
Engineers Home Office Location:	VCA Korea
Manufacturer's Representative(s):	Chu Chun Kao
Reason for Report:	New Approval

Manufacturer Details

Name and Address:	O'NEAL Europe GmbH & Co. KG. Erich-Blum-Str. 33, 71665 Vaihingen an der Enz, Germany
Type:	SIERRA RS SV
Commercial Description:	SIERRA RS SV
Category:	Sun shield

Conclusion

The above-mentioned vehicle / engine / component was tested in accordance with the above mentioned legislation and was found to comply in all respects. This report relates only to the items tested.

Inspection Report Engineer Signature:

Name:	Jongduk Lee
Position:	Principal Type Approval Engineer
Date:	22 April 2025

List of Annexes

Annex	No of Pages	Subject
I		Test photos *(EU/GB and UN when needed)*
II		
III		
IV		

Issue Record

	Issue 0 is original report
Reason for re issue	
Name of competent engineer re issuing	
Date of re issue	

Worst Case Rationale

Full test carried out to cover the addition of new sun shield for helmet type SIERRA RS.

Note: Include information on variants and versions this report covers, as applicable. Supporting documents may be annexed to this report.

Significant Interpretations, Alternative Test Methods, New Technologies

None

Inspection/Tests Required

	Yes, NA, See Report … / Approval … / Annex …	Test location	Dates	Engineer
Markings:	NA	NA	NA	NA
General Specifications:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Field of vision of the visor:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Luminous transmittance:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Light diffusion:	NA	NA	NA	NA
Recognition of signal lights:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Spectral transmittance:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Refractive powers:	Yes	LongHuei test Lab	22/04/2025	JD Lee
Mechanical characteristics:	NA	NA	NA	NA
Optical quality and scratch resistance:	NA	NA	NA	NA
Mist retardant visor (optional)	NA	NA	NA	NA
Sun Shield	Yes	LongHuei Test Lab	21/04/2025	JD Lee
Photochromic visors, liquid crystal or equivalent visors	NA	NA	NA	NA

Specification

List of helmets to which the visor may be fitted:	SIERRA RS
Structure of visor:	Clear visor with anti-scratch coating and 1.9 mm thickness
Material of visor:	Polycarbonate

Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the vehicle / engine / component tested and covers all variants and versions agreed in the worst case rationale.	Yes
Information document uploaded to job folder and identified by job number.	Yes

Facility and Equipment Checks

Facility Appraisal reference number and date:	FAK182 and KXB625210 23 January 2024
Calibration certificates are traceable to national or international standards of measurement, and stored in job folder:	Yes
Calibration checked and valid, recorded in the below table:	Yes

Equipment

Description	Make	Model	Serial number	Calibration due date
Optical Test Bench	AD ENGINEERING	12SBDBP1046/PLUS/ CAM	OBP-L M18/06	25/12/2024 (+1year)
Light Transmission Test Equipment	AD ENGINEERING	UV-M51	M18/04	25/12/2024 (+1year)

**Specify calibrated date + (interval) or calibration due date.*

Equipment Remarks

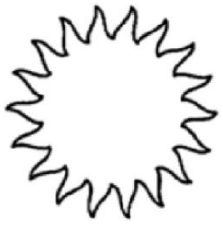
None

Note: VCA apply measurement uncertainty to calibrated items and require pass results including equipment uncertainty.

Software used in Testing

Description	Make	Version	Validation method
Refelective power	ICAP 2.3	2.3	Covered in FA
Transmitance	AD ENGINEER	3.0	Covered in FA

Inspection/Test Requirements		Complies Yes / NA
Markings: Not applicable, section removed for clarity		
General Specifications		
6.16.1.	The systems of attachment of a visor to a helmet shall be such that the visor is removable.	NA
.	It must be possible to manoeuvre the visor out of the field of vision with a simple movement of one hand.	NA
.	However, the latter prescription may not be required for helmets which do not provide chin protection provided that a label is attached to the helmet to the effect of warning the purchaser that the visor cannot be manoeuvred.	NA
6.16.2.	Angle opening (See Annex 9)	NA
6.16.3.	Field of vision	
6.16.3.1.	The visor shall not comprise any part liable to impair the user's peripheral vision as defined in paragraph 6.15. when the visor is in the totally opened position.	NA
	Furthermore, the lower edge of the visor shall not be situated in the downward field of vision of the user as defined in paragraph 6.15. when the visor is in closed position.	NA
6.16.3.1.	The surface of the visor in the peripheral field of vision of the helmet may however include:	NA
6.16.3.1. (i)	The lower edge of the visor, provided that it is made of a material with at least the same transmittance as the rest of the visor.	NA
(ii)	A device to allow the visor to be manoeuvred or locked in the closed position. (However, if this device is situated within the field of vision of the visor defined in paragraph 6.16.3.2. It shall be at the lower edge and present a maximum height (h) of 10 mm and its width (l) shall be such that the product (h x l) at the most is equal to 1.5 cm2 if bigger it must be made of a material with at least the same transmittance as the visor and it must be free of any engraving, paint or other covering feature)	NA
(iii)	Fixings and devices to allow the visor to be manoeuvred if they are situated outside of the field of vision of the visor and if the total surface of these parts, including devices, if any, to allow the visor to be manoeuvred does not exceed 2 cm^2, possibly distributed on each side of the field of vision.	NA

6.16.3.4.	Luminous transmittance.	
	Visors shall have a luminous transmittance $\tau_v \geq 80\%$, relative to the standard illuminant D65.	NA
	A luminous transmittance $80\% > \tau_v \geq 35\%$, - or 20 per cent only in case of photochromic and/or liquid crystal visor - measured by the method given in paragraph 7.8.3.2.1.1., is also permissible if the visor is marked with the symbol shown in figure 2 and/or with the English words “DAYTIME USE ONLY”.	NA
	 Figure 2: **Symbol "Daytime use only"**	
	Note: this symbol or indication must be visible and extend over at least 1 cm^2	
	When describing the transmittance properties of photochromic, liquid crystal or equivalent visors, two values are to be considered: one corresponds to the faded state, the other to the darkened state. The luminous transmittance shall be measured before the abrasion test.	NA
6.16.3.5.	Visors shall be free from any significant defects likely to impair the vision, such as bubbles, scratches, inclusions, dull spots, holes, mould marks, scratches or other defects originating from the manufacturing process in the field of vision.	NA
	The light diffusion shall not exceed the limit in accordance with paragraph 7.8.3.2.1.2. when measured in accordance with one of the methods specified in annex 11.	NA
	If different results arise when this is assessed, the requirements on scattered light shall be measured and assessed over an area 5 mm in diameter which includes the presumed error.	NA
6.16.3.6.	Visors shall in addition be sufficiently transparent, shall not cause any noticeable distortion of object as seen through the visor, shall be resistant to abrasion, resistant to impact and shall not give rise to any confusion between the colour used in road traffic sign and signals. The relative visual attenuation quotient (Q) shall not be less than:	NA
	(Q) ≥ 0.80 for red signal lights;	NA

	(Q) ≥ 0.60 for yellow signal light;	NA
	(Q) ≥ 0.60 for green signal light;	NA
	(Q) ≥ 0.60 for blue signal light.	NA
	The relative attenuation quotient shall be measured by the method given in paragraph 7.8.3.2.1.1., before the abrasion test.	NA
6.16.3.7	In the range 475 nm to 650 nm, the spectral transmittance, measured by the method given in paragraph 7.8.3.2.1.1., of the visor shall not be less than 0.2 τ_v.	NA
	The spectral transmittance shall be measured before the abrasion test.	NA
6.16.3.8	Permissible Refractive Power values for visors:	
	Spherical effect : $(D_1+D_2)/2$ = +/- 0.12 m^{-1}	NA
	Astigmatic effect : |D1-D2| = 0.12 m^{-1}	NA
	Prismatic effect difference	
	Horizontal Base Out **:** = 1.00 cm/m	NA
	Horizontal Base In **:** = 0.25 cm/m	NA
	Vertical **:** = 0.25 cm/m	NA
	The refractive powers shall be measured according to method specified in annex 15.	NA
6.16.3.9	Mist Retardant Visor (Optional requirements)	
	The internal face of the visor is regarded as having a mist retardant facility if the square of the specular transmittance has not fallen below 80 per cent of the initial value without misting within 20 s when tested as described in annex 16.	NA
	Such facility may be indicated by the English words: “MIST RETARDANT”	NA
6.17	**Sun Shield**	
6.17.1.	Sun shield shall not restrain or prevent the movement of the visor. On opening the visor, the sun shield can pivot in the working position. By means of a simple movement the sun shield shall be able to be moved separately from the visor out of the visual field.	Yes
6.17.2.	Field of vision	
6.17.2.1.	Sun shield shall not restrict the field of vision given in paragraph 6.15. in the working or parking position. (If the sun shield is fixed outside of the visor, the surface may include fixings or devices to make movement possible. The total surface of	Yes

	the fixings or devices shall not exceed 2cm^2; they can be distributed on both sides of the field of vision.)	
6.17.2.2.	Sun shield shall have a luminous transmittance $\tau_v \geq 20\%$, relative to the standard illuminant D65.	Yes
6.17.2.3.	Sun shield shall be free from any significant defects likely to impair the vision, such as bubbles, scratches, inclusions, dull spots, holes, mould marks, scratches or other defects originating from the manufacturing process in the field of vision.	Yes
6.17.2.4.	Sun shield shall not cause any noticeable distortion of object as seen through the visor, resistant to impact and shall not give rise to any confusion between the colour used in road traffic sign and signals. The relative visual attenuation quotient (Q) shall not be less than:	Yes
	(Q) $\geq$ 0.80 for red signal lights;	Yes
	(Q) $\geq$ 0.60 for yellow signal light;	Yes
	(Q) $\geq$ 0.60 for green signal light;	Yes
	(Q) $\geq$ 0.60 for blue signal light.	Yes
	The relative attenuation quotient shall be measured by the method given in paragraph 7.8.3.2.1.1	Yes
6.17.2.5.	In the range 475 nm to 650 nm, the spectral transmittance, measured by the method given in paragraph 7.8.3.2.1.1., of the sun shield shall not be less than 0.2 τ_v.	Yes
6.17.2.6.	Permissible refractive powers at the sight points.	
	Permissible refractive power values for sun shields; measured without a combination with the visor.	Yes
	Spherical effect : (D1+D2)/2 = +/- 0.12 m-1	Yes
	Astigmatic effect : |D1-D2| = 0.12 m-1	Yes
	Prismatic effect difference	Yes
	Horizontal Base Out : = 1.00 cm/m	Yes
	Horizontal Base In : = 0.25 cm/m	Yes
	Vertical : = 0.25 cm/m	Yes
	The refractive powers shall be measured according to method specified in annex 15.	Yes
	The requirements for the prismatic effect apply to the difference between the values at the two sight points.	

TEST

7.8.	VISOR TESTS	
7.8.1.	Sampling and use of samples	

	The 7 (+3 if optional test) visors are used as shown below in Tab 1	NA
	The test for recognition of signal lights may be dispensed with in the case of visors with luminous transmittance $\tau_v \geq 80$ %	NA
7.8.1.1.	Prior to any type of further conditioning for mechanical or optical test, as specified in paragraph 7.8.1., each visor shall be subject to the ultraviolet conditioning in accordance with the provision of paragraph 7.2.4.1.	NA
7.8.2.	Mechanical characteristics	
7.8.2.1.	The helmet, fitted with its visor and previously conditioned in accordance with the provisions of paragraph 7.2.3., shall be placed in accordance with the provisions of paragraph 7.3.1.3.1. on a test headform of suitable size.	NA
	The test headform selected from among those shown in annex 4 shall be so placed that the basic plane is vertical.	NA
7.8.2.2.1.	Test apparatus is as per 7.8.2.2. and 7.8.2.2.1.	NA
7.8.2.2.2.	When the drop-hammer falls from a height of 1 + 0.005 m, measured between the top face of the punch and the lower face of the hammer it shall be ascertained that:	
7.8.2.2.3.	No sharp splinters are produced if the visor is shattered. (Any segment having an angle less than 60° shall be considered as a sharp splinter.)	NA
7.8.2.3.	High Speed particle test	
7.8.2.3.1.	Visors tested in accordance with the method specified in Annex 17	NA
Annex 17, 2.1.	Appropriate headform, as defined in 7.3.3.	NA
Annex 17, 2.2.	Propulsion equipment as per Annex 17, 2.2.	NA
Annex 17, 3.	Two samples conditioned in air at 50 °C for 2 h and two additional samples shall be conditioned in air at -10 °C for 2 h;	NA
-	Eye-protector to be tested placed on the headform in the position corresponding to normal use and with the tension of the headband, if fitted, adjusted according to the manufacturer's instructions.	NA
-	Sheet of carbon paper on top of a sheet of white paper, between the eye-protector and the head-form inserted.	NA
-	Eye-protector/headform assembly positioned in front of the propulsion equipment so that the point of impact is not more than 250 mm from the exit end of the speed sensing equipment.	NA
-	Project the steel ball at 60 m/s. The points of impact are (L1 and L2).	NA

	(a) Left eye frontal; (b) Right eye frontal;	
-	The impact of the steel ball on the goggles within 30 s after the removal of the sample from the corresponding atmosphere;	NA
-	Test made at an ambient temperature of (23 ± 5) °C;	NA
-	New specimens shall be used for this test and each specimen shall only be subjected to two impacts.	
7.8.2.3.2.	After testing, the following defects shall not occur:	
	(a) Visor fracture: a visor shall be considered to have fractured if it cracks through its entire thickness into two or more pieces, or visor material becomes detached from the surface away from the one struck by the ball, or if the ball passes through the visor;	NA
	(b) Visor deformation: a visor shall be considered to have been deformed if a mark appears on the white paper on the opposite side to that struck by the ball;	NA
	(c) Visor housing failure: a visor housing shall be considered to have failed if it separates into two or more pieces, or if it is no longer capable of holding a visor in position.	NA
7.8.3.	Optical qualities and scratch resistance	
7.8.3.1	Test procedure:	
7.8.3.1.1	Test piece taken from the flattest part of the visor in the area specified in paragraph 6.16.3.2. and its minimum dimensions shall be 50 mm x 50 mm. The test shall be carried out on the face corresponding to the outside of the visor.	NA
7.8.3.1.2	The test piece shall undergo ambient-temperature and hygrometry conditioning in accordance with paragraph 7.2.2.	NA
7.8.3.1.3	Test sequence of operations is as follows:	
7.8.3.1.3.1	- The surface of the test piece shall be washed in water containing 1 per cent detergent and rinsed with distilled or demineralized water, then carefully dried with a grease-free and dust-free linen cloth.	
7.8.3.1.3.2		
7.8.3.1.3.3	- Immediately after drying and before abrasion, the luminous transmittance shall be measured using the method given in paragraph 7.8.3.2.1.1., and the light diffusion shall be measured according to one of the methods specified in Annex 11.	NA
7.8.3.1.3.4		
7.8.3.1.3.5		

	- The test piece shall then be subjected to the abrasion test described in Annex 10, during which 3 kg ± 0,01 kg of abrasive material shall be projected at the sample. - Following the test, the test piece shall again be cleaned in accordance with paragraph 7.8.3.1.3.1. - Immediately after drying the light diffusion after abrasion shall be measured by using again the same method used in accordance with paragraph 7.8.3.1.3.2	
7.8.3.2.1.1.	In a parallel beam, with the test specimens being irradiated vertically, determine the spectral transmittance values between 380 nm and 780 nm and then the transmittance and the visual attenuation quotient in accordance with the equations given in annex 13.	NA
7.8.3.2.1.2.	The light diffusion shall not exceed the following values for each method:	
	Before abrasion: 0.65/m²/l (a/ c/), 2.5 % (b/)	NA
	After abrasion: 5.0/m²/l (a/ c/), 10 % (b/)	NA
7.9	Sun shield tests	
7.9.1.	Sampling and use of samples The 7 sun shield are used as shown below in Tab 8	Yes
7.9.1.1.	Prior to any type of further conditioning for optical test, as specified in paragraph 7.9.1., each sun shield shall be subject to the ultraviolet conditioning in accordance with the provision of paragraph 7.2.4.1.	Yes
7.14.	Test of photochromic visors, liquid crystal or equivalent visors	
7.14.1	The photochromic visor is characterized by its luminous transmittance that shall be determined in faded state τ_{vo} and in darkened state τ_{v1} achieved after 15 min irradiation according with the method specified in Annex 18.	NA
7.14.1	For photochromic visors, τ_{vo}/τ_{v1} is ≥ 1.25.	NA
7.14.2.	Visors tested in accordance with the method specified in Annex 18.	NA
Annex 18, 2.1.3	Conditioning for luminous transmittance in the faded state.	
	Unless the manufacturer specifies a different procedure to reach the faded state in the information supplied with the product, photochromic visors shall be conditioned as per Annex 18, 2.1.3	NA

TABLES

Tab 1 – SAMPLING AND USE OF SAMPLES (7.8.1):
Not applicable, section removed for clarity

Tab 2 – VISOR MECHANICAL CHARACTERISTICS (7.8.2):
Not applicable, section removed for clarity

Tab 3 – VISOR OPTICAL QUALITIES AND SCRATCH RESISTANCE (7.8.3):
Not applicable, section removed for clarity

Tab. 4 – VISOR LUMINOUS TRANSMITTANCE (6.16.3.4)
RELATIVE VISUAL ATTENUATION QUOTIENT (6.16.3.6):
Not applicable, section removed for clarity

Tab 5 – VISOR SPECTRAL TRANSMITTANCE (6.16.3.7)
LIGHT DIFFUSION (6.16.3.5) :
Not applicable, section removed for clarity

Tab. 6 – VISOR REFRACTIVE POWERS (6.16.3.8) :
Not applicable, section removed for clarity

Tab. 7 – MIST RETARDANT VISOR (Optional requirements) (6.16.3.9)

Tab. 8 – SUN SHIELD SAMPLING AND USE OF SAMPLES (7.9.1)

Paragraph	Test	1	2	3	4	5	6	**7**	Total
6.17.2	Field of vision of the sun shield	X							1
6.17.2.2	Luminous transmittance	X	X	X					3
6.17.2.4	Recognition of signal lights								
6.17.2.5	Spectral transmittance								
6.17.2.6	Refractive powers				X	X	X		3

Tab. 9 – SUN SHIELD LUMINOUS TRANSMITTANCE (6.17.2.2)

RELATIVE VISUAL ATTENUATION QUOTIENT (6.17.2.4)

Sample ID Number	Luminous transmittance	Relative visual attenuation quotient				Note
	τ_v > 20 %	Q Red ≥ 0.8	Q Yellow ≥ 0.6	Q Green ≥ 0.6	Q Blue ≥ 0.6	
1	56.10	1.06	1.03	0.98	0.97	(1)
2	61.50	1.05	1.03	0.98	0.97	(1)
3	54.00	1.05	1.03	0.98	0.97	(1)

(1) For details see annex Laboratory Test

Tab 10. – SUN SHIELD SPECTRAL TRANSMITTANCE (6.17.2.5)

Sample ID Number	Spectral transmittance		Note
	τ_f Results [475-650]	Limits τ_f > 0,2 τ_v	
1	49.33	11.22	(1)
2	55.93	12.3	(1)
3	49.42	10.8	(1)

(1) For details see annex Laboratory Test

Tab. 11 – SUN SHIELD REFRACTIVE POWERS (6.17.2.6)

Sample ID Number	Side	Spherical Power +/- 0.12 [m^{-1}]	Astigmatic Power 0.12 [m^{-1}]	Prismatic Power			Note
				Base IN/ OUT	Horizontal Limits Base IN < 0.25 Base OUT < 1.00 [cm/m]	Vertical Limits < 0.25 [cm/m]	
4	Dx	-0.05	0.06	OUT	-0.10	0.05	(1)
	Sx	-0.02	0.07				
5	Dx	-0.05	0.05	OUT	-0.10	0.05	(1)
	Sx	-0.03	0.08				
6	Dx	-0.04	0.04	OUT	0.05	0.05	(1)
	Sx	-0.05	0.05				

(1) For details see annex Laboratory Test

Tab. 12 –PHOTOCHROMIC VISORS, LIQUID CRYSTAL OR EQUIVALENT (7.14)
Not applicable; section removed for clarity

Notes

[Notes can be provided at the bottom if it is useful to provide additional information that is not covered by a compliance statement, for example glazing markings.]

Remarks

None

Annex I

[Annexes can be used if additional information should be recorded that would be inappropriate in the main body of the report. Annex numbering should use roman numerals.]

Vehicle Certification Agency

VCA, 1 Eastgate Office Centre,
Eastgate Road, Bristol, BS5 6XX, United Kingdom
enquiries@vca.gov.uk |
www.vehicle-certification-agency.gov.uk

Report Number: VCA023912-1(SUN)
Issue: 0

Inspection/Test Report: Approval of a Sun Shield Type for Protective Helmets for Drivers and Passengers of Motorcycles and Mopeds (Product Qualification)

Legislation

UNECE Regulation 22.06 to (Revision 4 Amendment 3)

Inspection/Test Details

Location of Inspection/Test:	LONG HUEI, Vietnam
Date(s) of Inspection/Test:	22/04/2025
VCA Representative(s):	Jongduk Lee
Inspectors Home Office Location:	VCA Korea
Manufacturer's Representative(s):	Chu Chun Kao
Reason for Report:	Production Qualification

Manufacturer Details

Name and Address:	O'NEAL Europe GmbH & Co. KG. Erich-Blum-Str. 33, 71665 Vaihingen an der Enz, Germany
Type:	SIERRA RS SV
Commercial Description:	SIERRA RS SV
Category:	Sun shield

Conclusion

The above-mentioned vehicle / engine / component was tested in accordance with the above mentioned legislation and was found to comply in all respects. This report relates only to the items tested.

Inspection Report Engineer Signature:

Name:	Jongduk Lee
Position:	Principal Type Approval Engineer
Date:	22 April 2025

List of Annexes

Annex	No of Pages	Subject
I		
II		
III		
IV		

Issue Record

Issue 0 is original report

Note: Include reason for reissue, date of reissue, who has reissued.

Worst Case Rationale

Full test carried out for production qualification

Note: Include information on variants and versions this report covers, as applicable. Supporting documents may be annexed to this report.

Significant Interpretations, Alternative Test Methods, New Technologies

None

Inspection/Tests Required

Yes, NA, See Report … / Approval … / Annex …

	Test location	Dates	Engineer
Sun Shield	LongHuei Test Lab	22/04/2025	JD Lee
Photochromic visors, liquid crystal or equivalent visors	NA		

Component Specification

Sunshield Model	SIERRA RS SV

Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the vehicle / engine / component tested and covers all variants and versions agreed in the worst case rationale.	Yes
Information document uploaded to job folder and identified by job number.	Yes

Facility and Equipment Checks

Facility Appraisal reference and date	FAK182 and KXB625210 23 January 2024
Calibration certificates are traceable to national or international standards of measurement, where available:	Yes
Calibration certificates checked and valid, recorded in the following table:	Yes

Equipment

Description	Make	Model	Serial number	Calibration due date
Optical Test Bench	AD ENGINEERING	12SBDBP1046/PLUS/CAM	OBP-L M18/06	25/12/2024 (+1year)
Light Transmission Test Equipment	AD ENGINEERING	UV-M51	M18/04	25/12/2024 (+1year)

**Specify calibrated date + (interval) or calibration due date.*

Equipment Remarks

None

Inspection/Test Requirements	Complies Yes / NA

Product Qualification of the production of Sun Shields.

9.4.	From the 20 sun shields take two groups each of 10 sun shields. The first group of 10 sun shields will be subjected to each of the tests in group A, the second group to each of the tests in group B. The results of the tests described in paragraph 9.4.3 comply with the values prescribed for each approval test	Yes

Tab 1-Test sample

Test Group	Test	Sun Shield Sample
A	Light transmission	10
	Recognition of light signals	
	Spectral transmission	
B	Refractivity	10

Tab. 2 – SUN SHIELD LUMINOUS TRANSMITTANCE (6.17.2.2)
RELATIVE VISUAL ATTENUATION QUOTIENT (6.17.2.4)

Sample ID Number	Luminous transmittance	Relative visual attenuation quotient				Note
	τ_v > 20 %	Q Red ≥ 0.8	Q Yellow ≥ 0.6	Q Green ≥ 0.6	Q Blue ≥ 0.6	
1	58.80	1.07	1.04	0.98	0.97	(1)
2	56.20	1.05	1.03	0.98	0.97	(1)
3	55.30	1.07	1.03	0.98	0.97	(1)
4	52.40	1.07	1.04	0.98	0.97	(1)
5	55.40	1.07	1.04	0.98	0.97	(1)
6	55.10	1.07	1.03	0.98	0.97	(1)
7	53.70	1.07	1.04	0.98	0.97	(1)
8	56.00	1.07	1.03	0.98	0.97	(1)
9	53.40	1.07	1.04	0.98	0.97	(1)
10	55.10	1.07	1.04	0.98	0.97	(1)

(1) For details see annex Laboratory Test

Tab 3 – SUN SHIELD SPECTRAL TRANSMITTANCE (6.17.2.5)

Sample ID Number	Spectral transmittance		Note
	τ_f Results [475-650]	Limits $\tau_f > 0{,}2\,\tau_v$	
1	53.14	11.76	(1)
2	52.27	11.24	(1)
3	51.20	11.06	(1)
4	47.59	10.48	(1)
5	49.44	11.08	(1)
6	50.18	11.02	(1)
7	48.92	10.74	(1)
8	51.47	11.2	(1)
9	48.72	10.68	(1)
10	49.68	11.02	(1)

(1) For details see annex Laboratory Test

Tab. 4 – SUN SHIELD REFRACTIVE POWERS (6.17.2.6)

Sample ID Number	Side	Spherical Power +/- 0.12 [m^{-1}]	Astigmatic Power 0.12 [m^{-1}]	Prismatic Power			Note
				Base IN/ OUT	Horizontal Limits Base IN < 0.25 Base OUT < 1.00 [cm/m]	Vertical Limits < 0.25 [cm/m]	
11	Dx	-0.01	0.02	OUT	-0.30	0.15	(1)
	Sx	-0.02	0.08				
12	Dx	-0.04	0.06	OUT	0.00	0.10	(1)
	Sx	-0.02	0.07				
13	Dx	0.00	0.02	OUT	0.10	0.10	(1)
	Sx	-0.10	0.04				
14	Dx	-0.01	0.04	OUT	0.15	0.15	(1)
	Sx	-0.04	0.05				
15	Dx	-0.01	0.03	OUT	0.05	0.10	(1)
	Sx	-0.02	0.08				
16	Dx	-0.03	0.03	OUT	0.00	0.05	(1)
	Sx	-0.04	0.07				
17	Dx	-0.01	0.03	OUT	-0.10	0.10	(1)
	Sx	0.02	0.02				
18	Dx	-0.01	0.02	OUT	0.00	0.10	(1)
	Sx	0.01	0.04				
19	Dx	-0.04	0.10	OUT	0.10	0.10	(1)
	Sx	-0.02	0.07				
20	Dx	-0.02	0.04	OUT	0.30	0.15	(1)
	Sx	-0.01	0.03				

(1) For details see annex Laboratory Test

Notes

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Remarks

None

Annex I

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