

9 February 2023

Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations*

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 21: UN Regulation No. 22

Revision 5 – Amendment 2

Supplement 2 to the 06 series of amendments - Date of entry into force: 4 January 2023

Uniform provisions concerning the approval of protective helmets and their visors for drivers and passengers of motor cycles and mopeds

This document is meant purely as documentation tool. The authentic and legal binding texts are: ECE/TRANS/WP.29/2022/63.



UNITED NATIONS

* Former titles of the Agreement:

Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958 (original version); Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, done at Geneva on 5 October 1995 (Revision 2).



The Title, amend to read:

"Uniform provisions concerning the approval of protective helmets, of their visors and of their accessories for drivers and passengers of motorcycles and mopeds."

Table of contents, Annex 1A, amend to read:

"1A Communication concerning approval or extension or refusal or withdrawal of approval or production definitively discontinued of a type of protective helmet without/with one/more visor type(s), without/with one/more specific accessories type(s) pursuant to UN Regulation No. 22."

Table of contents, insert new Annexes 1C to read:

"1C Communication concerning approval or extension or refusal or withdrawal of approval or production definitively discontinued of a type of accessory pursuant to UN Regulation No. 22."

Table of contents, Annex 2A, amend to read:

"2A Example of the arrangement of approval mark for a protective helmet without or with one or more types of visor, without/with one/more fitting possibilities of universal accessories type(s)."

Table of contents, insert new Annexes 2C and 20 to read:

"2C Example of the arrangement of the approval mark for an accessory

...

20 Accessories assessment and attachment space dimensions for Universal Accessories for helmets."

Paragraph 1., amend to read:

"1. This Regulation applies to protective helmets for drivers and passengers of mopeds and of motorcycles with or without side-car ¹, to the visors fitted to such helmets or intended to be added to them and to the accessories to be fitted to such helmets or intended to be added to them.

The accessories assessment is related only to the passive safety performances and to the compatibility to be fitted to a helmet ready for accessories."

Insert new paragraph 2.8.2., to read:

"2.8.2. "Inner visor" means an additional insert to the outer visor which may bring additional functionalities to the visor."

Paragraph 2.22., amend to read:

"2.22. "Accessory" means any object intended to integrate the secondary functionalities of the helmet (e.g. electronic devices and their support)."

Insert new paragraphs 2.22.1. to 2.24., to read:

"2.22.1. "Universal accessory" means an accessory designed to be fitted to any helmet that is Universal accessory ready.

2.22.2. "Specific accessory" means an accessory designed to be fitted to a specific helmet model.

2.23. "Accessory type" a category of accessory not showing differences with special regard to:

¹ Protective helmets for wear in competitions may have to comply with stricter provisions.

- 2.23.1. "Manufacturer" It is possible to have different trademark, provided that a trade mark stated in the approval certificate is also present in an easily accessible position.
- 2.23.2. Secondary functionality/ies offered to the helmet.
- 2.23.3. External shape, main dimensions in all components and materials used.
- 2.24. Helmet category as per independently homologated accessories fitting Universal Accessory (UA) ready: helmet that foresees the addition of Universal accessories pursuant to the prescriptions of this Regulation.
Specific Accessory (SA) ready: helmet that foresees the addition of Specific accessories."

Paragraphs 2.23. and 2.24.(former), renumber as paragraphs 2.25. and 2.26.

Insert new paragraph 2.27., to read:

- "2.27. "Impact affected area" means the projected area of the impact anvil onto the helmet exterior surface in any possible impact points foreseen by this Regulation."

Paragraph 3.1.1., amend to read:

- "3.1.1. The application for approval of a protective helmet type, without or with one or more visor types and without or with one or more specific accessories, shall be submitted by the helmet manufacturer or by the holder of the manufacturer's name or trademark or by his duly accredited representative, and for each type the application shall be accompanied by the following:"

Paragraph 3.1.1.2., amend to read:

- "3.1.1.2. A brief technical specification stating the materials used and a test report of the photometric and colorimetric performance of the retroreflective material. This technical specification shall include the details of the external shell and the lower face cover, the protective padding definition and its arrangements for accessories as foreseen by this Regulation and the straps and buckle."

Paragraph 3.1.1.3.2., amend to read

- "3.1.1.3.2. A technical description of the visor stating the materials used, the manufacturing processes and, where appropriate, the surface treatment, if the visor can be fitted with an inner visor, drawings of the inner visor and its means of attachment."

Insert new paragraphs 3.1.1.4. to 3.1.1.4.2.1., to read:

- "3.1.1.4. If the helmet is fitted with one or more specific accessories:
- 3.1.1.4.1. Drawings in scale with sufficient detail to permit identification of the Specific accessory type and size and of its means of attachment to the helmet and every component such as kind of microphone or speakers.
- 3.1.1.4.1.1. A technical description of the Specific accessory stating its weight, dimensions, materials used and, where appropriate, the surface treatment.
- 3.1.1.4.2. If the helmet can be fitted with Universal accessories:
- 3.1.1.4.2.1. Drawings in scale with sufficient detail to permit identification of the area/s where can be fitted and the attachment means together with the specification of speakers space, if any, and microphone space, if any."

Paragraph 3.1.1.4. (former), renumber as paragraph 3.1.1.5. and amend to read:

- "3.1.1.5. A number of helmets, with or without visors and with or without inner visors, of different sizes, sufficient to enable all the tests specified in paragraph 7.1. to be conducted and one helmet additionally to be retained by the technical service responsible for conducting the approval test. In the case of specific or

universal accessories additional helmets will be supplied to the Technical Service to allow the necessary checks and tests specified in Chapters 6 and 7."

Paragraph 3.1.1.5.(former), renumber as paragraph 3.1.1.6. and amend to read:

"3.1.1.6. For each visor type, if any, 7 (+3 if optional test for mist retardant visor is carried out) visors taken from a sample of not less than 14 (+ 6 if optional test) specimens. 6 (+ 3 if optional test) visors shall be subjected to the tests and the seventh (or tenth if optional test) shall be retained by the technical service responsible for conducting the approval test, if the visor can be fitted with an inner visor, enough inner visors to perform all the required tests."

Paragraph 3.2.1.2., amend to read:

"3.2.1.2. A technical description of the visor stating materials used, the manufacturing processes and, where appropriate, the surface treatment, if the visor can be fitted with an inner visor, drawings of the inner visor and its means of attachment."

Paragraph 3.2.1.4., amend to read:

"3.2.1.4. For each visor type, if any, 7 (+3 if optional test for mist retardant visor is carried out) visors taken from a sample of not less than 14 (+ 6 if optional test) specimens and the helmets to which the visors are intended to be fitted.

6 (+ 3 if optional test) visors shall be subjected to the tests and the seventh (or tenth if optional test) shall be retained by the technical service responsible for conducting the approval test.

If the visor can be fitted with an inner visor, enough inner visors to perform all the required tests."

Insert new paragraphs 3.3. to 3.3.2.4., to read:

"3.3. Application for approval of an accessory type

3.3.1. The application for approval of a universal accessory type shall be submitted by the accessory manufacturer or by the holder of the manufacturer's name or trademark or by their duly accredited representative, and for each type the application shall be accompanied by the following:

3.3.1.1. Drawings in scale with sufficient detail to permit identification of the universal accessory type and size and of its means of attachment to the helmet and every component such as kind of microphone or speakers. The drawings shall show the position intended for the approval mark as set out in paragraph 5.4.4.1.,

3.3.1.2. A technical description of the universal accessory stating its weight, dimensions, materials used and, where appropriate, the surface treatment,

3.3.1.3. For each universal accessory type, a number of devices sufficient to enable all the tests specified in paragraph 6.19 and 7.4.2.1.2.3., if applicable, to be conducted and one device additionally to be retained by the technical service responsible for conducting the approval test.

3.3.2. The application for approval of a specific accessory type shall be submitted by the accessory manufacturer or by the holder of the manufacturer's name or trade mark or by his duly accredited representative, and for each type the application shall be accompanied by the following:

3.3.2.1. Drawings in scale with sufficient detail to permit identification of the specific accessory type and size and of its means of attachment to the helmet and every component such as kind of microphone or speakers if applicable here. The drawings shall show the position intended for the approval mark as set out in paragraph 5.4.4.1.,

3.3.2.2. A technical description of the specific accessory stating its weight, dimensions, materials used and, where appropriate, the surface treatment,

3.3.2.3. For each specific accessory type, a number of devices and helmets intended to be fitted with the specific accessory type sufficient to enable all the tests specified in chapters 6 and 7, if applicable, to be conducted and one device additionally to be retained by the technical service responsible for conducting the approval test.

3.3.2.4. List of approved helmet types to which the specific accessory may be fitted."

Paragraph 3.3.(former), renumber as paragraph 3.4.

Insert new paragraph 3.5., to read:

"3.5. In case of a specific accessory approval application, the competent authority shall verify the existence of the necessary agreements between the concerned helmet manufacturers and the specific accessory manufacturer in order to ensure that in all cases the performances of the helmet together with the specific accessory will fulfil the prescriptions laid down in this Regulation. In particular, in case any change is made to the helmet or accessory that will affect the joint performances, both manufacturers shall be informed and they, both, have to apply for revision or extension of the certificate if necessary."

Insert new paragraph 4.4., to read:

"4.4. The accessories submitted for approval in conformity with paragraph 3.3. above shall bear the applicant's trade name or mark."

Paragraph 4.4.(former), renumber as paragraph 4.5.

Paragraph 5.1., amend to read:

"5.1. Approval of a protective helmet type, without or with one or more visor types, that may include inner visors, and without or with one or more specific accessories."

Paragraph 5.1.1., amend to read:

"5.1.1 If the protective helmets and the visors, if any, with and without inner visors, if any, with and without specific accessories, if any, submitted in pursuance of paragraph 3.1.1.4. above meet the requirements of this Regulation, approval shall be granted."

Paragraph 5.1.4., amend to read:

"5.1.4. In addition to the marks described in paragraph 4.1.1. above, the following particulars shall be indicated on every protective helmet conforming to a type approved under this Regulation by means of the labels referred to in paragraph 5.1.10. below:"

Insert new paragraphs 5.1.4.1.2.3. to 5.1.4.1.2.3.3., to read:

"5.1.4.1.2.3. Depending on universal accessory ready, specific accessory ready or both:

5.1.4.1.2.3.1. For universal accessory ready helmet, an additional one or various of the following symbols if applicable, separated by a dash:

"UA" if the helmet is ready for universal accessories.

"S" or "S45": "S" if the helmet has been tested with speaker simulators of 40 mm diameter or "S45" if the helmet has been tested with speaker simulators of 45 mm diameter.

"M" if the helmet has been tested with microphone simulator.

"F" if the helmet can install an accessory in the front side area.

"L" if the helmet can install an accessory in the side area.

"R" if the helmet can install an accessory in the rear area.

5.1.4.1.2.3.2. For Specific accessory ready helmet, a slash and:

"SA" if the helmet has been tested with specific accessories

5.1.4.1.2.3.3. For specific accessory ready and universal accessory ready helmet, a slash and:

The symbol specified in paragraph 5.1.4.1.2.3.2.

A dash and an additional or various of the symbols, if applicable, laid down in paragraph 5.1.4.1.2.3.1."

Paragraphs 5.1.11. and 5.1.12., amend to read:

"5.1.11. The labels referred to in paragraph 5.1.10. above may be issued either by the authority which has granted the approval or, subject to that authority's authorization, by the manufacturer.

5.1.12. The approval marks referred to in paragraph 5.1.10. above shall be clearly legible and resistant to wear."

Paragraph 5.2., amend to read:

"5.2. Approval of a visor type without or with inner visor, if any,"

Paragraph 5.2.1., amend to read:

"5.2.1. Where the visors, with and without inner visor, if any, submitted in accordance with paragraph 3.2.1.4. above meet the requirements of paragraphs 6.15. and 7.8. of this Regulation, approval shall be granted."

Insert new paragraphs 5.4. to 5.4.6., to read:

"5.4. Approval of an accessory

5.4.1. Where the accessories submitted in accordance with paragraph 3.3. above meet the requirements of this Regulation, approval shall be granted.

5.4.2. An approval number shall be assigned to each type approved. Its first two digits (at present 06) shall indicate the series of amendments incorporating the most recent major technical amendments made to the UN Regulation at the time of issue of the approval. The same Contracting Party shall not assign the same number to another accessory type covered by this Regulation.

5.4.3. Notice of approval or of extension or refusal or withdrawal of approval or production definitely discontinued of an accessory type pursuant to this UN Regulation shall be communicated to the Contracting Parties to the 1958 Agreement applying this UN Regulation, by means of a form conforming to the model in Annex 1C to this UN Regulation.

5.4.4. In addition to the marks prescribed in paragraph 4.4. above, the following particulars shall be affixed visibly and in a readily accessible place to every accessory conforming to a type approved under this UN Regulation:

5.4.4.1. An international approval mark consisting of:

5.4.4.1.1. The approval symbol described in paragraph 5.1.4.1.1.,

5.4.4.1.2. The approval number followed by:

5.4.4.1.2.1. A dash and the production batch number. The production batch numbers shall be continuous for all accessories of the same type approved, and each authority shall keep a register from which it can check that the type and production batches correspond.

5.4.4.1.2.2. Depending on universal or specific accessory:

5.4.4.1.2.2.1. For universal accessory, a dash and one or various symbols as applicable:

For components:

"S" or "S45": "S" if the universal accessory include speakers whose maximum diameter is 40 mm or "S45" if the universal accessory include speakers whose maximum diameter is between 40 and 45 mm;

"M" if the Universal accessory include microphone;

For locations:

"F" if the Universal accessory is to be installed or has a component to be installed in the front side area of the helmet;

"L" if the Universal accessory is to be installed or has a component to be installed in the side, and

"R" if the Universal accessory is to be installed or has a component to be installed in the rear area of the helmet.

If an accessory has different components which need to be fitted in different locations of the helmet, be it "F", "L" and/or "R", the location markings will be put into brackets and separated among them by a "+" symbol.

5.4.4.1.2.2.2. For specific accessory, a dash and the symbol "SAcc".

5.4.5. The marking on the accessory shall be clearly legible and resistant to wear.

5.4.6. Annex 2C to this Regulation gives an example of the arrangement of approval mark for an accessory."

Paragraph 6.3., amend to read:

"6.3. No component, accessory or device may be fitted to or incorporated in the protective helmet unless it is designed in such a way that it will not cause injury and that, when it is fitted to or incorporated in the protective helmet, the helmet still complies with the requirements of this Regulation.

Accessories shall be fitted in accordance with the helmet manufacturer's instructions and, if it is the case, also in accordance with the accessory manufacturer's instructions.

Only approved helmets and approved accessories according to this Regulation can guarantee the performance of the combination of them."

Insert new paragraphs 6.3.1. to 6.3.1.11., to read:

"6.3.1. The helmets may be prepared for fitting universal accessories.

6.3.1.1. The helmet shall have markings on the exterior of the helmet shell or any visible component as a reference for the installation of the universal accessories main external components.

The area where the universal accessories are fitted shall be at least 30 mm of distance from any point of any impact affected area to the lower edge of the helmet shell (the lower rubber rim is considered to be helmet shell for this purpose).

6.3.1.2. The installation of exterior accessories shall be done in such a way that no part of a universal accessory, whose maximum main unit(s) dimensions are as defined in Annex 20, shall be located in an impact affected area.

The helmet designed to be fitted with universal accessory shall have either appropriate space for attaching the device or clamp fixation system as foreseen in Annex 20. The space or clamp fixation shall be provided on both sides of the helmet for each declared position symmetrically located with respect to the longitudinal vertical plane. At least one position for accessories fixation has to be declared.

- 6.3.1.3. If the helmet fulfils the requirements of 6.3.1.1. and 6.3.1.2. it shall be marked as ready for Universal Accessories "UA". The helmets marked as "UA" shall also fulfil additional requirements and tests prescribed by this Regulation.
- 6.3.1.4. If the helmet is prepared for speakers, the helmet shall have a dedicated space of at least 41 mm diameter and a depth of at least 8 mm. Optionally, the helmet may be prepared for bigger speakers and, in this case, the related diameter shall be increased to at least 46 mm diameter. The helmet shall be prepared to accommodate the wires for the speakers, if there is no special arrangement for the wires, the above-mentioned diameters shall be increased by 2 mm.
- The helmet shall be tested to assess that the appropriate speaker simulators, as defined in Annex 20, have no adverse effect and that in any case the helmet still complies with all the requirements as set forth in Chapter 7.3.
- In this case, the helmet shall be marked as "S" or "S45" depending on the assessment done.
- 6.3.1.5. When the helmet is designed for fitting speakers, a minimum distance between the speakers shall allow a headform of the appropriate size could pass through them. This requirement has to be met for a speaker of 12mm thickness and the maximum declared diameter.
- 6.3.1.6. If the helmet is prepared to fit microphone and the helmet is of type P or P/J, the helmet shall be tested to assess that the microphone simulator defined in Annex 20, located in a specific location foreseen on the helmet for the microphone or, if there is not such a specific location perfectly marked, the worst case position at the discretion of the Technical Service, has no adverse effect and that in any case the protective helmet still complies with all the requirements as set forth in Chapter 7.3. In this case, the helmet will be marked as "M". Any helmet ready for universal accessories of type J or NP shall be marked as "M".
- 6.3.1.7. If the helmet has the accessory space or clamping fixation in the front-side position, the helmet shall be marked as "F".
- 6.3.1.8. If the helmet has the accessory space or clamping fixation in the side position, the helmet shall be marked as "L".
- 6.3.1.9. If the helmet is prepared to fit a rear mounted accessory, the helmet shall be marked as "R".
- 6.3.1.10. If the helmet has different declared positions to fit accessories, they have to be positioned in such a way that universal accessories can be fitted in all declared positions at the same time.
- 6.3.1.11. When all the accessory positions declared by the helmet manufacturer are in use, the accessories shall not prevent the use of any helmet mechanism."

Insert new paragraphs 6.3.2. to 6.3.2.2., to read:

- "6.3.2. The helmet may incorporate specific accessories.
- 6.3.2.1. Helmets that can be placed on the market with specific accessories, or for which specific accessories will exist, shall be tested to assess that the supplementary equipment has no adverse effect and that in any case the protective helmet and/or visor still complies with all the requirements as set forth in Chapter 7.
- The evaluation shall be done with and without the accessory and their support.
- 6.3.2.2. If the helmet is declared as ready to fit specific accessories and has been evaluated as per the previous paragraph, it shall be marked as "SA"."

Paragraph 6.4.2., amend to read:

"6.4.2. At the rear, the rigid parts and, in particular, the shell shall not be within a cylinder defined as follows (see Annex 4, Figure 1 B):

- (a) Diameter 100 mm;
- (b) 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.

In case the helmet will be marked as "R" (able to fit rear mounted universal accessories), a rear accessory simulator as defined in Annex 20 will be fitted for the assessment of this requirement."

Insert new paragraphs 6.19. to 6.19.10., to read:

"6.19. Accessories

6.19.1. The systems of attachment of an accessory to a helmet shall be such that they will not modify in any way the integrity of any of the safety helmet components, in particular, no modifications on the external shell or to the inner energy absorbing padding are allowed.

6.19.2. If the accessories have some parts that have to be fixed inside of the helmet, those parts shall not have inward-facing sharp edges; rigid, projecting internal parts shall be covered with padding so that any stresses transmitted to the head are not highly concentrated.

6.19.3. All projections from or irregularities in the outer surface of the accessory greater than 2 mm from the helmet shell shall be tested for shear and friction assessment according to paragraphs 7.4.2. when the accessory is to be fitted on the exterior of the helmet shell.

6.19.4. All projections from or irregularities in the outer surface of the accessory support greater than 2 mm from the helmet shell, when the support can be installed without the accessory in place, it shall be tested for shear and friction assessment according to paragraphs 7.4.2.

6.19.5. For those parts of the accessories coming into contact with the skin, the materials used shall be known not to undergo appreciable alteration through the effect of perspiration or of toilet preparations. The manufacturer shall not use materials known to cause skin problems. The suitability of a proposed new material shall be established by the manufacturer.

6.19.6. If an accessory is comprised of a component to be installed on the exterior of the helmet shell within any of the impact areas foreseen in this Regulation and those parts of the accessory are over 3 mm thickness, the accessory shall be tested together with the helmet and the accessory becomes specific accessory.

6.19.7. Dimensions and weight

6.19.7.1. The accessory, or each accessory component if there are more than one, that are to be affixed on the outer helmet shell, shall fit in the fixtures defined in Annex 20 depending on its fitting position.

Flexible thin components of the accessories can exceed from, or can be mounted separately, from the fixture volumes.

6.19.7.2. The maximum dimensions of the speakers and of the microphone, if any, are indicated in Annex 20.

6.19.7.3. The maximum weight of the accessory, or any separately mounted component of the accessory if there are more than one to be fitted in different locations of those foreseen for accessories in this Regulation, including its support if any, shall be no more than 250g.

- 6.19.8. The mechanical characteristics of the speakers shall fulfil the requirements set for those components in Annex 20, Part 1.
- 6.19.9. When the accessories to be fitted have any component, different from speakers, microphone or clamping, to be installed on the interior of the helmet shell in an impact affected area, the component shall fulfil the following requirements:
- 6.19.9.1. The material has to be flexible and of a maximum thickness of 2 mm; or
- 6.19.9.2. Have the required thickness but be covered with padding and/or attached to a flexible support and/or located in such a place in order not to generate any hard point in the event of an impact.
- 6.19.10. Any accessory component laying in the field of vision shall be made of transparent material or located in such a way to prevent interference with the field of vision."
- 6.19.11. If an accessory can be mounted in different locations in a helmet and for this needs different supports, each of the supports shall bear an indelible mark with one of the following symbols:
- "FR" For Front Right side fitting
- "FL" For Front Left side fitting
- "LR" For side Right fitting
- "LL" For side Left fitting
- "R" For rear fitting
- The marking will be done in a visible surface when the support is attached to the helmet.
- The markings will be of at least 8 mm height. "

Paragraph 7.4.2.1.2., amend to read:

"7.4.2.1.2. Positioning of the helmets and accessories."

Paragraph 7.4.2.1.2.2., amend to read:

"7.4.2.1.2.2. The helmet shall be tested in any condition in which it may be placed on the market, that is both with and without specific accessories if they are supplied as original equipment. ..."

Insert a new paragraph 7.4.2.1.2.3., to read:

"7.4.2.1.2.3. The universal accessory and, if it is the case, its support, shall be placed on the helmet simulator defined in Figure 1d of Annex 8 and tested in the worst case as defined by the Technical Service."

Paragraph 7.4.2.1.2., amend to read:

"7.4.2.2.1. *Description*

...

- (g) A system to support a headform and to apply a force to the helmet normal to the carriage.
- (h) A helmet simulator that can be exchanged by the headform mentioned in (g) above where accessories can be attached."

Paragraph 7.4.2.3., amend to read:

"7.4.2.3. Selection of test points

Any point on the helmet or accessory may be selected for friction and/or shear assessment. A helmet or an accessory shall be tested as many times as necessary to ensure that all notable features are evaluated with one test only per feature. Re-orientate the helmet or helmet simulator as necessary to allow

every feature to be tested. For shear assessment evaluate all different external projections greater than 2 mm above the outer surface of the shell.

For friction assessment evaluate areas of the outer surface that are likely to produce the greatest friction.

The rim of the shell and the upper and lower edge of the visor situated within an area bounded by a sector of 120° divided symmetrically by the vertical longitudinal plane of symmetry of the helmet do not constitute a projection for the purpose of this test. The lower part of the accessories mounted on the rim will be considered to be part of the helmet rim."

Insert new paragraphs 7.13.3. and 7.13.4., to read:

"7.13.3. Helmets equipped with specific accessories shall be tested with and without the accessories.

7.13.4. Helmets marked as "UA" shall be tested along with the accessory simulators and/or a combination of them in a number equal to the declared accessory positions. The tests done will be specified in the test report. The accessories simulators are defined in Annex 20, Part 3."

Paragraph 9.3., amend to read:

"9.3. Production qualification of the visors including inner visor, if any

The production of each new approved type of visor (approved as such or as forming part of the helmet) shall be subjected to production qualification tests.
..."

Paragraph 10.1., amend to read:

"10.1. The helmet, visor including inner visor, if any, (whether the visor is approved as such or as forming part of the helmet) or universal accessory approved under this Regulation, having satisfied the acceptability ..."

Paragraph 10.3.4., amend to read:

"10.3.4. Analyse the results of each type of test in order to verify and ensure the stability of the helmet, visor or universal accessory characteristics, making allowances for the variations of industrial production;"

Paragraph 10.3.5., amend to read:

"10.3.5. Ensure that for each type of helmet, visor or universal accessory at least those tests prescribed in paragraphs 10.5., 10.6. and 10.7. of the present Regulation are carried out;"

Paragraph 10.6., amend to read:

"10.6. Minimum conditions for the control of conformity of visors including inner visor, if any

In agreement with ..."

Insert new paragraphs 10.7. to 10.7.1.3., to read:

"10.7. Minimum conditions for the control of conformity of universal accessories. For specific accessories, the conformity shall be checked together with the specific helmet models for which they have been declared.

In agreement with the relevant authorities, the holder of an approval will undertake the control of conformity following the method of batch control (paragraph 10.7.1.).

10.7.1. Batch control

10.7.1.1. The holder of an approval shall divide the universal accessories into batches which are as uniform as possible in regard to raw materials or intermediate

products involved in their manufacture, and in regard to production conditions. The numbers in a batch shall not exceed 3,200 units.

In agreement with the relevant authorities the tests can be carried out by the technical service or by the holder of an approval.

10.7.1.2. For each batch, a sample shall be taken in accordance with the provisions of paragraph 10.5.1.4. The sample may be taken before the batch is complete provided the sample is taken from a larger sample consisting of not less than 20 per cent of the final batch quantity.

10.7.1.3. In order to be accepted, a batch of universal accessories shall satisfy the following conditions:

<i>Tests to be conducted</i>							
Numbers in the batch	Number of samples	Combined number of samples	Group AB		Acceptance criteria	Rejection criteria	Stringency of inspection
0 < N # 500	1st = 4	10	3	1	0	2	Normal
	2nd = 4		3	1	1	2	
500 < N # 3200	1st = 4	10	4	1	0	2	Normal
	2nd = 4		4	1	1	2	
0 < N # 1200	1st = 8	16	6	2	0	2	Strengthened
	2nd = 8		6	2	1	2	
1200 < N # 3200	1st = 13	26	10	3	0	3	Strengthened
	2nd = 13		10	3	3	4	

Test group A

Speakers mechanical characteristics, if any, - para. 6.19.7.

Test group B

Shear and friction Test - para. 6.19.3.

- para. 6.19.4 (if needed)

Dimensions of the components shall be checked.

This dual sampling plan functions as follows:

For a normal control, if the first sample does not contain any defective units the batch is accepted without testing a second sample. If it contains two defective units, the batch is rejected.

Finally, if it contains one defective unit a second sample is extracted, and it is the cumulative number which shall satisfy the condition of column 7 of the table above.

There is a change from normal control to strengthened control if, out of 5 consecutive batches, 2 are rejected. Normal control is resumed if 5 consecutive batches are accepted.

If 2 consecutive batches subjected to the strengthened control are rejected, the provisions of paragraph 12. are applied."

Paragraph 11., amend to read:

"11. Modification and extension of approval of a helmet, a visor type or an accessory."

Paragraph 11.1. and 11.1.1., amend to read:

"11.1. Every modification of the helmet and/or the visor type or of the accessory shall be notified to the Type Approval Authority which approved the helmet and/or the visor type or the accessory. The department may then either:

11.1.1. Consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the protective helmet and/or visor or accessory still complies with the requirements; or"

Paragraph 11.3., amend to read:

"11.3. The competent authority issuing the extension of approval shall assign a series number for such an extension and inform thereof the other Parties to the 1958 Agreement applying this Regulation by means of a communication form conforming to the model in Annex 1A, or Annex 1B or Annex 1C to this Regulation."

Paragraph 12.1., amend to read:

"12.1. The approval granted in respect of a helmet or a visor type or an accessory pursuant to this Regulation may be withdrawn if the requirements set forth above are not met."

Paragraph 12.2., amend to read:

"12.2. If a Contracting Party to the Agreement applying this Regulation withdraws an approval it has previously granted, it shall forthwith so notify the other Contracting Parties applying this Regulation by means of a communication form conforming to the model in Annex 1A, Annex 1B or 1C to this Regulation."

Paragraph 13., amend to read:

"13. Production definitively discontinued

If the holders of the approval completely ceases to manufacture a helmet or a visor type or an accessory approved in accordance with this Regulation, they shall so inform the authority which granted the approval.

Upon receiving the relevant communication that authority shall inform thereof the other Parties to the 1958 Agreement applying this Regulation by means of a communication form conforming to the model in Annex 1A, Annex 1B or Annex 1C to this Regulation."

Paragraph 14.1., amend to read:

"14.1. ...

"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.

If the helmet is ready for accessories:

A clear description on where to install the accessories by using the reference mark or marks of paragraph 6.3. as well as clear indications on how to fit the speakers and/or microphone or any other component if it is the case.

A general warning shall be given to the user concerning the danger of making any alterations or additions to the helmet or visor, without the approval of the Type Approval Authority, that may decrease safety for the user.

A general warning shall be given to the user concerning the danger of fitting non homologated accessories. Only homologated accessories will maintain the helmet safety.

A general warning shall be given to the user stating that no accessory shall be mounted on the helmet if some of the symbols, other than location fitting symbols, marked in the accessory homologation is not marked in the helmet homologation label.

For location fitting symbols, "F", "L" and "R", a universal accessory will be able to be fitted if it is supplied with a support or supports marked with helmet available accessories fitting locations. The support used shall match the helmet location used. The support marking will add, after the "F" and "R" marking of fitting locations, the symbols "R", if it has to be fitted on the right side of the helmet, or "L" if it has to be fitted on the left side of the helmet.

When the accessory has different components to be fitted in different helmet locations, accessory locations marking between brackets and with a "+" symbol in between location markings, the helmet shall bear all the accessory locations marking displayed between brackets."

Insert new paragraphs 14.8. to 14.10., to read:

"14.8. Every universal accessory placed on the market shall be accompanied by information in the national language, or in at least one of the national languages, of the country of destination.

This information shall contain advice on how to install it in the suitable helmets and information on those aspects specified in paragraphs 14.6.1. to 14.6.2. The instructions shall refer to the helmet owner manual for the right installation place.

A general warning shall be given to the user stating that no accessory shall be mounted on helmets whose symbols, other than location fitting symbols, marked in the helmet homologation label do not include all the symbols marked in the accessory homologation label.

A warning shall be given to the user stating that:

- (a) For location fitting symbols, "F", "L" and "R", the accessory will be able to be fitted if it is supplied with a support or supports marked with helmet available accessories fitting locations. The support used shall match the helmet location used. The support marking is adding, after the "F" and "R" marking of fitting locations, the symbols "R", if it has to be fitted on the right side of the helmet, or "L" if it has to be fitted on the left side of the helmet.
- (b) When the accessory has different components to be fitted in different helmet locations, the accessory locations marking are between brackets and with a "+" symbol in between location markings, the helmet shall bear all the accessory locations marking displayed between brackets.

A warning shall be given to the user both in the packaging and in the owner's manual indicating the left or right mounting position possibilities of the accessory.

14.9. For universal accessory the following label shall be included in the instructions provided by the accessory manufacturer:

(a) Notice

This is a "Universal" accessory. It is approved to UN Regulation No. 22, 06 series of amendments, for general use in helmets ready for "UA" accessories and it will fit most, but not all, helmets. A correct fit is likely if the helmet manufacturer has declared in the helmet handbook that the helmet is capable of accepting a "Universal" accessory and it is marked as such in the homologation label of the helmet.

If in doubt, consult either the accessory manufacturer, the helmet manufacturer or the retailer.

- 14.10. Every specific accessory placed in the market shall be accompanied by information in the national language, or in at least one of the national languages, of the country of destination.

This information shall contain advice on how to install it in the suitable helmets and information on those aspects specified in paragraphs 14.6.1. to 14.6.2. The instructions shall refer to the helmet owner manual for the right installation place.

A list of helmets with which the accessory has been tested and approved will be provided together with the approval number given to those helmets."

Annex 1A, amend to read:

"Annex 1A

Communication

(Maximum format: A4 (210 x 297 mm))



issued by: Name of administration:

.....
.....
.....

Concerning:² Approval granted
Approval extended
Approval refused
Approval withdrawn
Production definitively discontinued

of a type of protective helmet without/with² one/more² visor type(s) without/with² one/more² specific accessory type(s) pursuant to UN Regulation No. 22

Approval No.: Extension No.:

1. Trade mark:
2. Type:
3. Sizes:
4. Manufacturer's name:
5. Address:
6. If applicable, name of manufacturer's representative:
7. Address:
8. Brief description of helmet:
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) ²
10. Type of visor or visors:
11. Brief description of visor or visors, and inner visor if any:
12. Helmet ready for specific accessory (SA)/ready for universal accessories (UA) ²
13. Accessories included in the helmet homologation and functionality
14. If UA helmet, speakers (S or S45)/Microphone (M)/Front mounting (F) /
Side mounting (L), Rear mounting (R)²
15. Submitted for approval on:
16. Technical service responsible for conducting approval tests:
17. Date of report issued by that service:
18. Number of report issued by that service:

¹ Distinguishing number of the country which has granted/extended/refused/withdrawn an approval (see approval provisions in the Regulation).

² Strike out what does not apply

19. Comments:
20. Approval granted/extended/refused/withdrawn ²
21. Place:.....
22. Date:.....
23. Signature:
24. The following documents, bearing the approval number shown above, are available on request....."

Annex 1B, item 7., amend to read:

"7. Brief description of visor, and inner visor if any:"

Insert new Annex 1C, to read:

"Annex 1C

Communication

(Maximum format: A4 (210 x 297 mm))



issued by: Name of administration:

.....

- Concerning:²
- Approval granted
 - Approval extended
 - Approval refused
 - Approval withdrawn
 - Production definitively discontinued

of a type of a helmet accessory pursuant to UN Regulation No. 22

Approval No.: Extension No.:

1. Trade mark:
2. Type:
3. Manufacturer's name:
4. Address:
5. If applicable, name of manufacturer's representative:
6. Address:
7. Brief description of the accessory/ies (functionality/ies)^{2/}:
8. Accessory: Specific Accessory (SA) / Universal Accessory (UA) ^{2/}
9. For a SA type helmet to which the accessory may be fitted:
10. For a UA type helmet, with speakers (S or S45)/ microphone (M)/mounting location (F) (L) (R) ^{2/}

¹ Distinguishing of the country which has granted/extended/refused/withdrawn an approval (see approval provisions in the Regulation).

² Strike out what does not apply

11. Submitted for approval on:
12. Technical Service responsible for conducting approval tests:
13. Number of report issued by that service:
14. Remarks:
15. Approval granted/extended/refused/withdrawn ^{2/}
16. Place:
17. Date:
18. Signature:
19. The following documents, bearing the approval number shown above, are available on request

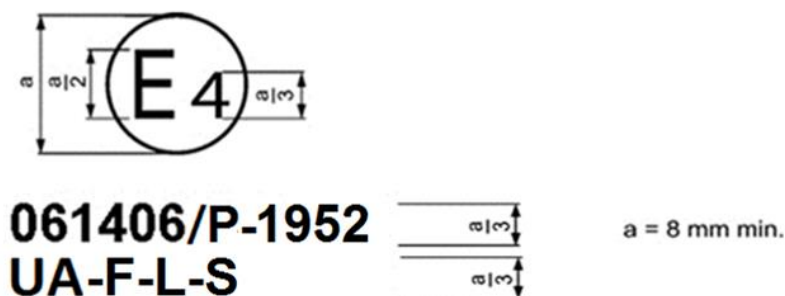
Annex 2A, amend to read:

"Annex 2A

I. Protective helmet

Example of the arrangement of approval mark for a protective helmet without or with one or more types of visor, without/with one/more fitting possibilities of universal accessories type(s)

(See paragraph 5.1. of this Regulation)



The above approval mark affixed to a protective helmet shows that the helmet type concerned has been approved in the Netherlands (E 4) under approval number 061406.

The approval number shows that this approval concerns a helmet which has a lower face protective cover (P) and was granted in accordance with the requirements of UN Regulation No. 22 already incorporating the 06 series of amendments at the time of approval, that it can be fitted with a universal accessory having speakers and mounted in the front or in the side of the helmet and that its production serial number is 1952,

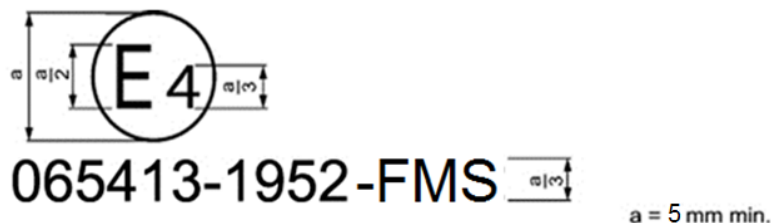
Note: The approval number and the production serial number shall be placed close to the circle and either above or below the letter "E" or to the left or right of that letter. The digits of the approval number and of the production serial number shall be on the same side of the letter "E" and face the same direction. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols."

Insert a new Annex 2C, to read:

"Annex 2C

Example of the arrangement of the approval mark for a universal accessory

(See paragraph 5.4.6. of this Regulation)

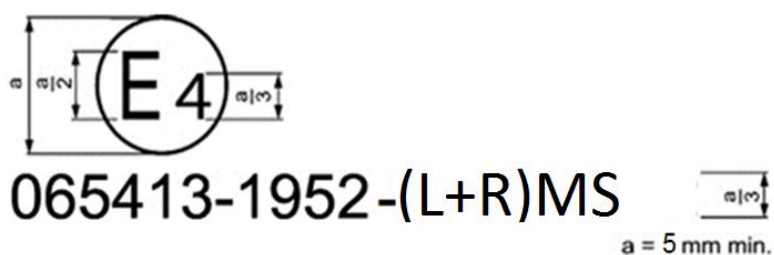


The above approval mark affixed to a universal accessory shows that the universal accessory type has been approved in the Netherlands (E 4) under approval number 065413. The approval number shows that approval was granted in accordance with the requirements of the Regulation incorporating the 06 series of amendments at the time of approval, that its production batch is 1952 and that it is approved for Front mounting and has Microphone and Speakers.

Note: The approval number and the production batch number shall be placed close to the circle and either above or below the letter "E" or to the left or right of that letter. The digits of the approval number and of the production batch number shall be on the same side of the letter "E" and face the same direction. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols.

Due to space restrictions, the approval number may be placed on the side of the accessory facing to the helmet provided that the accessory has a support plate and that can be easily detached without any tool for checking.

Example of the arrangement of the approval mark for a universal accessory that will use two helmet locations

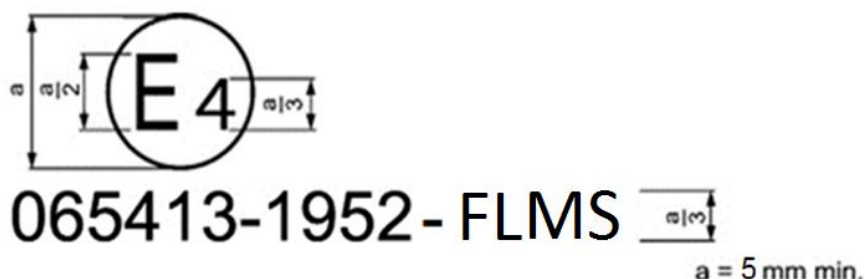


The above approval mark affixed to a universal accessory shows that the universal accessory type concerned has been approved in the Netherlands (E 4) under approval number 065413. The approval number shows that approval was granted in accordance with the requirements of the Regulation incorporating the 06 series of amendments at the time of approval, that its production batch is 1952 and that is approved for Side and Rear mounting, each mounting position used by one accessory component, and has Microphone and Speakers.

Note: The approval number and the production batch number shall be placed close to the circle and either above or below the letter "E" or to the left or right of that letter. The digits of the approval number and of the production batch number shall be on the same side of the letter "E" and face the same direction. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols.

Due to space restrictions, the approval number could be placed on the side of the accessory facing to the helmet provided that the accessory will have a support plate and that can be easily detachable without any tool for checking.

Example of the arrangement of the approval mark for a universal accessory that can use two helmet locations



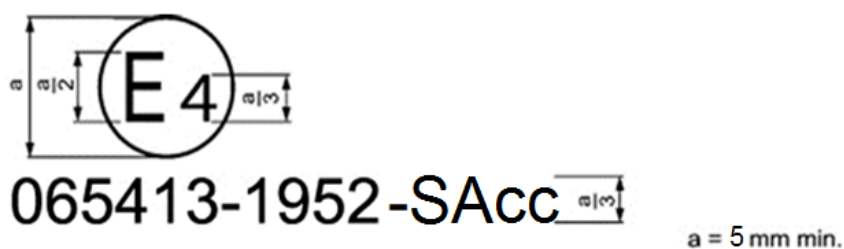
The above approval mark affixed to a universal accessory shows that the universal accessory type concerned has been approved in the Netherlands (E 4) under approval number 065413. The approval number shows that approval was granted in accordance with the requirements of the Regulation incorporating the 06 series of amendments at the time of approval, that its production batch is 1952 and that is approved for Front or Side mounting and has Microphone and Speakers.

Note: The approval number and the production batch number shall be placed close to the circle and either above or below the letter "E" or to the left or right of that letter. The digits of the approval number and of the production batch number shall be on the same side of the letter "E" and face the same direction. The use of Roman numerals as approval numbers should be avoided so as to prevent any confusion with other symbols.

Due to space restrictions, the approval number could be placed on the side of the accessory facing to the helmet provided that the accessory will have a support plate and that can be easily detachable without any tool for checking.

Example of the arrangement of the approval mark for a specific accessory

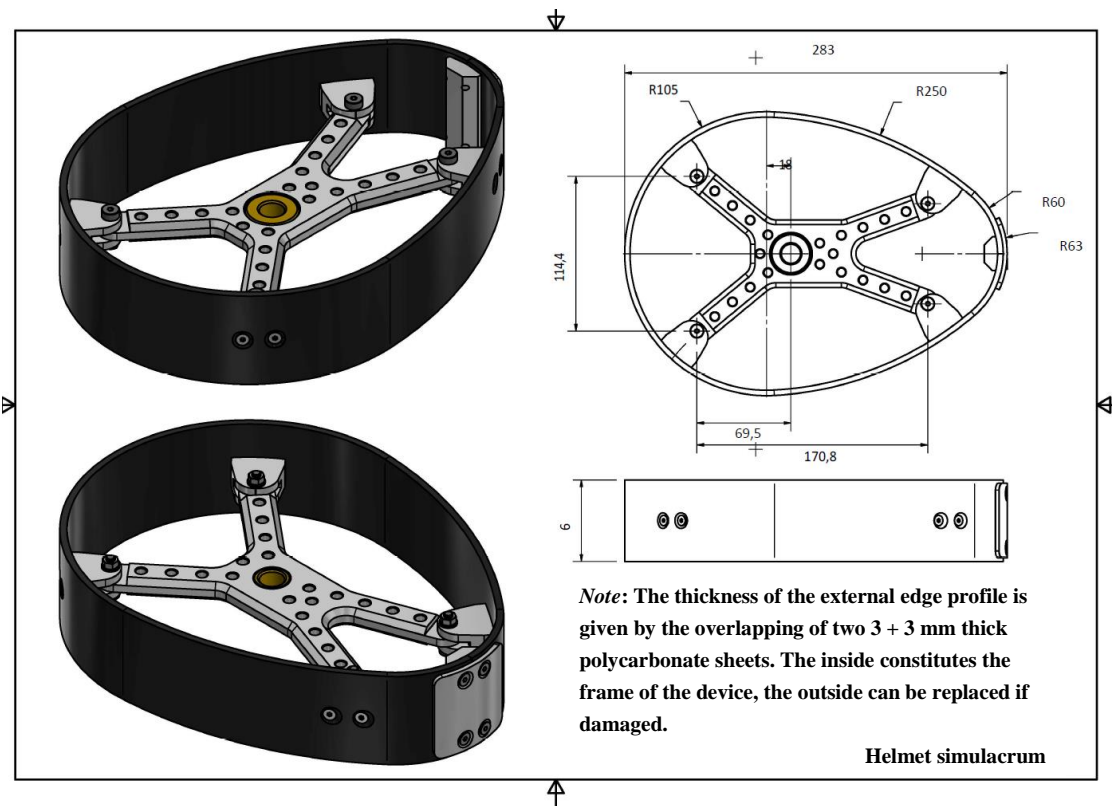
(See paragraph 5.4.6. of this Regulation)



The above approval mark affixed to a specific accessory shows that the specific accessory type concerned has been approved in the Netherlands (E 4) under approval number 065413. The approval number shows that approval was granted in accordance with the requirements of the Regulation incorporating the 06 series of amendments at the time of approval, and that its production batch is 1952."

Annex 8, insert new figure 1d, to read:

"Figure 1d
Example of a helmet simulator for accessories projections and surface friction
(method B)



Insert new Annex 20, to read:

"Annex 20

Accessories assessment and attachment space dimensions for Universal Accessory helmets

1. Part 1. Accessories assessment

1.1. Measurement of the maximum dimensions of externally fitted accessories:

For the measurement of the dimensions, only the accessory and the support, if any, must be measured. If the device is fitted with a foldable antenna, the system shall fit in the fixture with the antenna in the folded position. If the antenna is flexible, the antenna may exceed the fixture dimensions.

Flexible, thin components can exceed the volume or can be assembled separately on the shell.

Inner clamp, if any, can exceed the fixture only to occupy the protective padding space provided by the helmet.

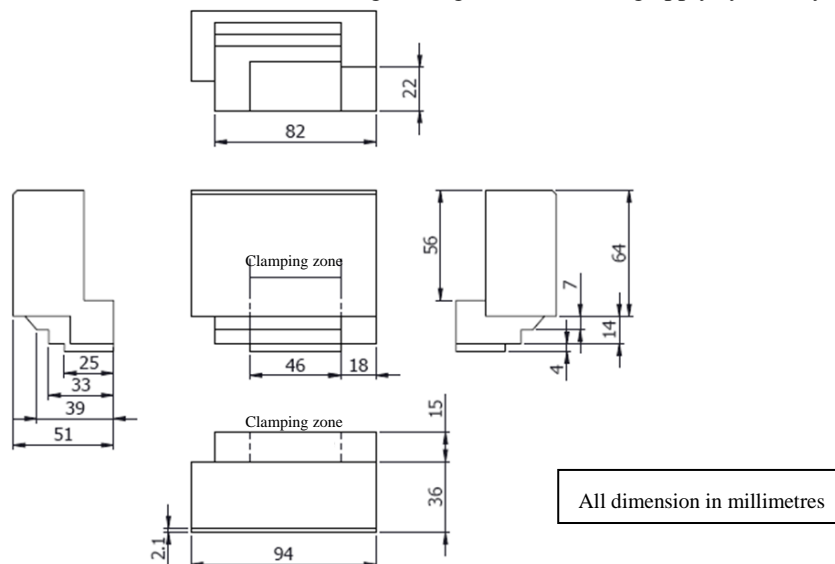
For side and rear mounting support, it is allowed to exceed the fixture dimensions to allow enough bonding surface provided that all other prescriptions on this Regulation will be met.

Accessories shall fit in the following fixtures dimensions:

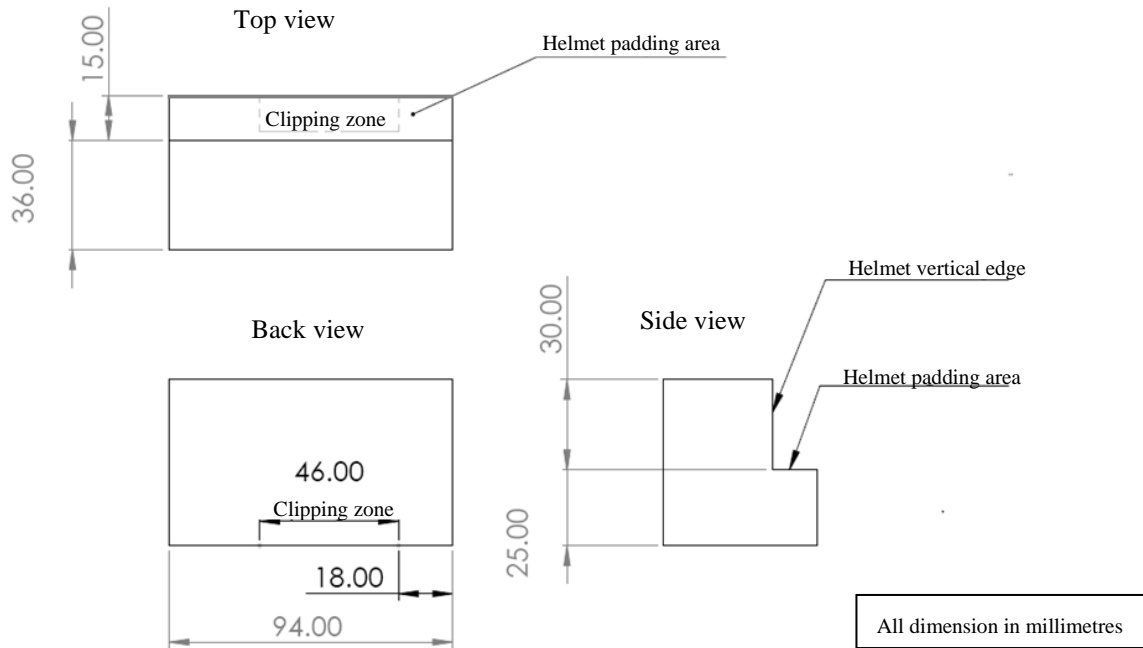
1.1.1. For front mounted accessories:

Figure 1

Fixture for left front- side mounting (for right side mounting apply symmetry)

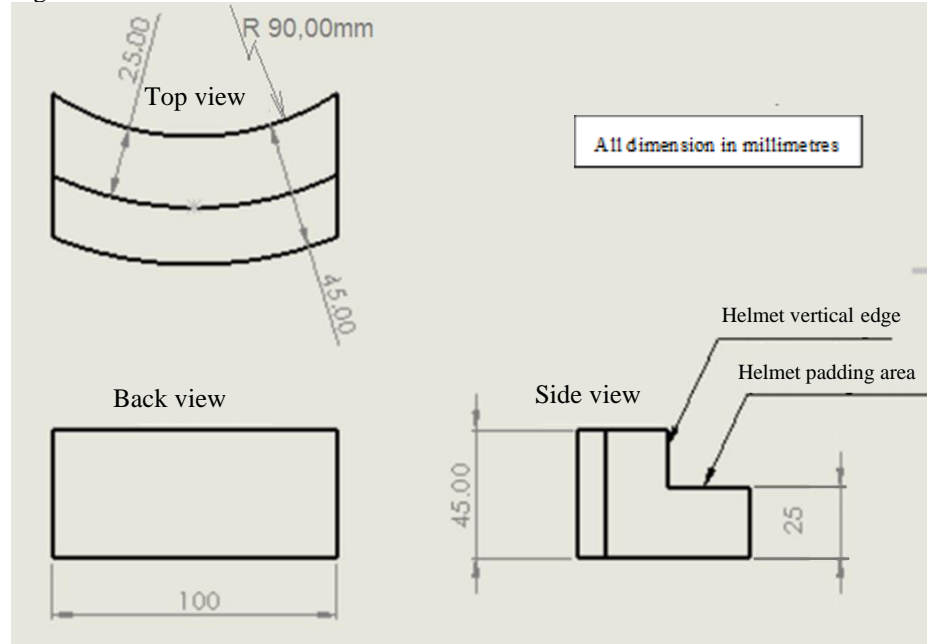


- 1.1.2. For side mounting accessories
 Figure 2
 Fixture for left side mounting (for right side mounting apply symmetry)



- 1.1.3. For rear mounting accessories

Figure 3



The rear mounting clamping solution offered by the accessory manufacturer will not invade the impact-affected area unless it fulfils the provisions laid down in this Regulation for those parts entering into the impact affected areas.

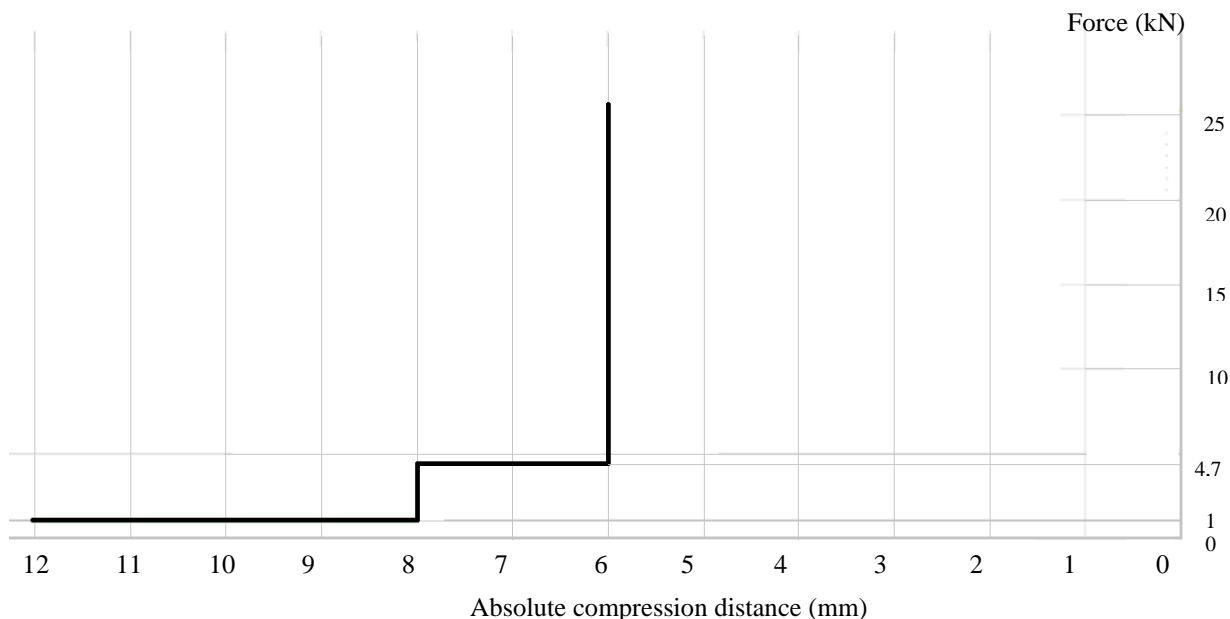
- 1.2. Maximum dimensions of speakers and microphones:

- 1.2.1. Speakers

The speakers, without foam and adhesive tape, shall be contained in a cylinder of 40 mm diameter and 12 mm thick for "S" marking or in a cylinder of 45 mm diameter and 12 mm thick for "S45" marking.

- 1.2.2. Microphone
- The microphone shall be contained in a parallelepiped of the following dimensions:
- Length: 35 mm
- Width: 18 mm
- Height (dimension from the chin protective pad towards the headform): 12 mm
- The boom, if any, shall be flexible and have an external diameter not exceeding 10 mm
- 1.3. Mechanical characterization of the speakers:
- 1.3.1. The speaker, with a height of more than 6 mm, shall be placed between two parallel plates by means of which a known load can be applied, the surface of the plates shall be large enough to contain a circle of at least 65 mm in diameter.
- 1.3.1.1. Procedure
- The speaker shall be tested with all the foams, attachment films or layers.
- The speaker is placed on the lower support of the universal traction machine.
- The upper plate of the universal traction machine shall be brought closer to the test speaker without contact.
- Set the zero force setting.
- Bring the upper plate of the universal traction machine into contact with the speaker until the force reaches a value of 0.01 kN.
- Measure the distance between the two supports.
- Set the zero displacement setting.
- Start the crush test at a constant speed of 10 mm/min. Record force vs distance at a minimum sampling rate of 10 Hz.
- The test ends when the force reaches 10 kN.
- The obtained chart for the speakers shall fall below the line defining the upper corridor limit.

Figure 4
Speakers quasi static crush test corridor



1.4. Speakers and microphone simulators for helmet testing

1.4.1. Definition of deformable speaker simulator

1.4.1.1. Component and material specifications

The speaker simulator is illustrated in Figure 5 of this annex. The dimensions of the individual components of the speaker simulator are listed separately below. The below layers are a possible construction methodology, alternative possibilities are valid provided that they will fulfil the requirements of 1.4.1.3.

1.4.1.1.1. Layer 1: Headform facing sheet

Dimensions

Diameter: 40 mm

Tolerance: +0-1 mm

Thickness: 1 mm ± 0.07 mm

Material: Aluminium 5251/5052 (ISO 209, part 1)

1.4.1.1.2. Layer 2: Outer honeycomb block. Precrushed around 6mm.

Dimensions:

Diameter: 40 mm (in direction of honeycomb ribbon axis) L- and W-Direction

Tolerance: +0-1 mm

Depth: 6 mm (in direction of honeycomb cell axes)

Tolerance: ±0,1 mm

Material: Aluminium 3003 (ISO 209, Part 1)

Foil Thickness: 0.076 mm ± 15 per cent

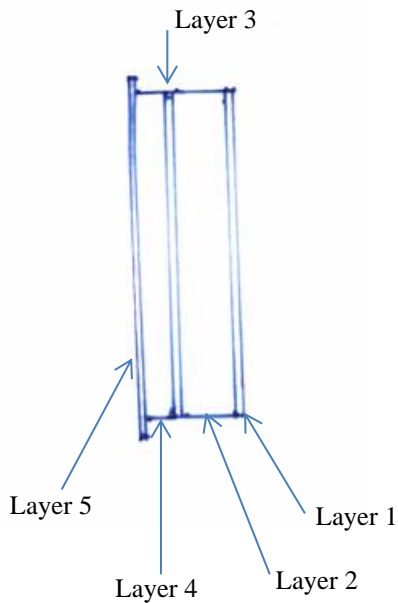
Cell Size: 9.5 mm ± 20 per cent

Density: 57.7 kg/m³ ± 20 per cent

Crush Strength: 0.827 MPa ± 10 per cent

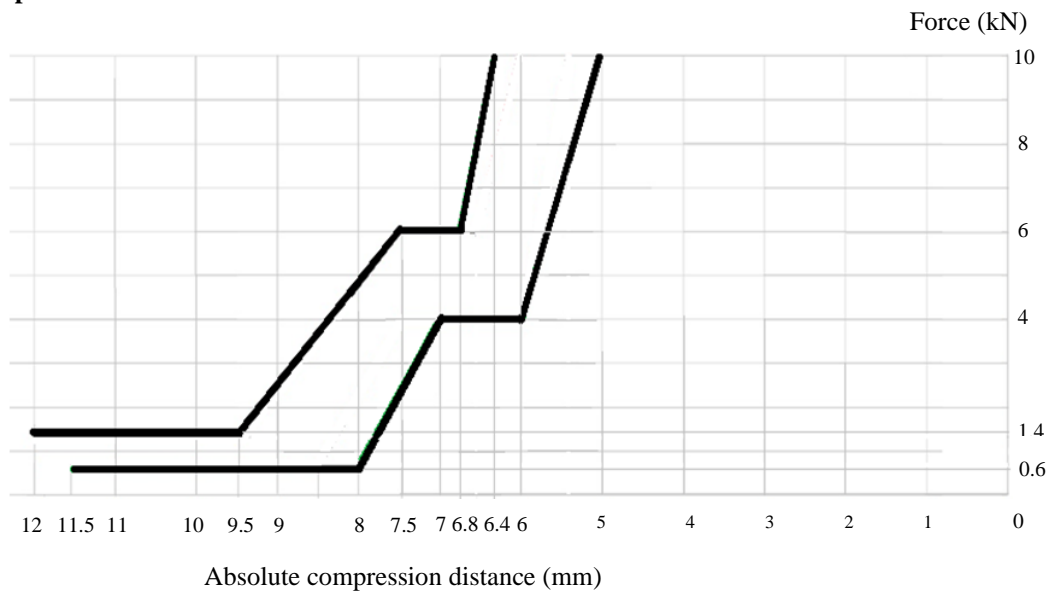
- 1.4.1.1.3. Layer 3: Intermediate bonding layer
- Dimensions
- Diameter: 40 mm
- Tolerance: +0-1 mm
- Thickness: 1 mm \pm 0.07 mm
- Material: Aluminium 5251/5052 (ISO 209, part 1)
- 1.4.1.1.4. Layer 4: Inner honeycomb block. Precrushed around 6mm.
- Dimensions:
- Diameter: 40 mm (in direction of honeycomb ribbon axis) L-and W-Direction
- Tolerance: +0-1 mm
- Depth: 3.4 mm (in direction of honeycomb cell axes)
- Tolerance: \pm 0,1 mm
- Material: Aluminium 5056 (ISO 209, Part 1)
- Foil Thickness: 0.038 mm \pm 15 per cent
- Cell Size: 3.175 mm \pm 20 per cent
- Density: 97.71 kg/m³ \pm 20 per cent
- Crush Strength: 3.689 MPa \pm 10 per cent
- 1.4.1.1.5. Layer 5: Backing sheet
- Diameter: 40 mm/45 mm
- Tolerance: +0-1 mm
- Thickness: 1 mm \pm 0.07 mm
- Material: Aluminium 5251/5052 (ISO 209, part 1)
- 1.4.1.1.6. Adhesive
- The adhesive to be used throughout should be a two-part polyurethane (such as Ciba-Geigy XB5090/1 resin with XB5304 hardener, or equivalent).

Figure 5
Speaker simulator



- 1.4.1.2. Aluminium honeycomb certification and simulator characterization
 - 1.4.1.2.1. A certificate of the aluminium honeycomb performances will be necessary to ensure that the prescriptions of the above paragraph 1.4.1.1. will be fulfilled.
 - 1.4.1.3. Simulator performance check
 - 1.4.1.3.1. To ensure the proper behaviour of the speaker simulator, the TS shall ensure that the force-deformation curve will lay within the limits stated in Figure 6.

Figure 6
Speaker simulator force-deformation corridor

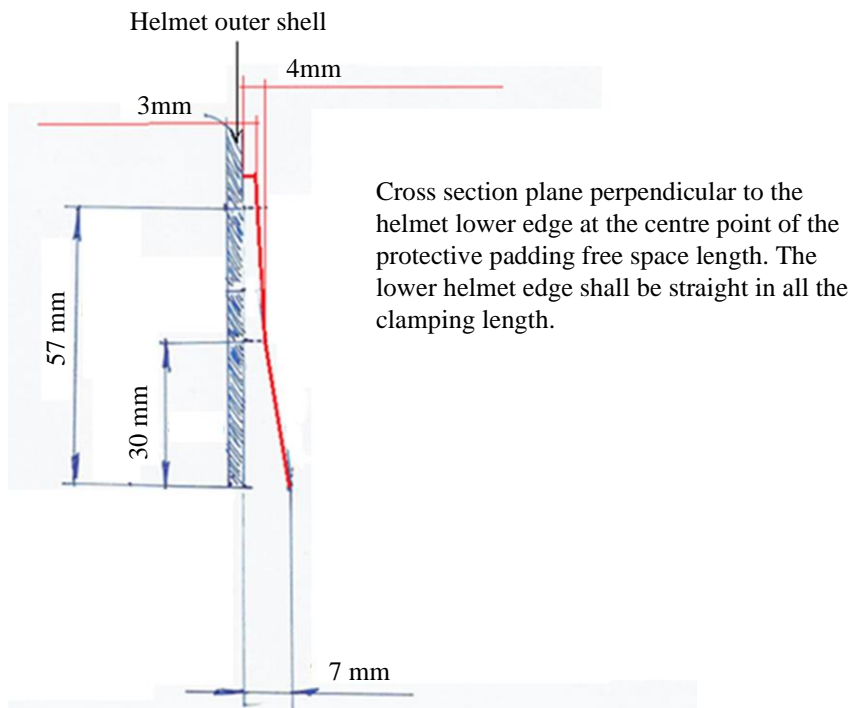


- 1.4.1.3.2. If the force-deformation curve of the simulator pass over the upper corridor limit or below the lower corridor limit by no more than 0,5 mm, the simulator is considered to pass.

- 1.4.1.3.3. For every batch of simulators manufactured, the Technical Service will proceed to check that the performance of the simulator batch corresponds to the requirements of paragraph 1.4.1.3.1. and 1.4.1.3.2. above. The statistical method used for batch acceptance shall be filed by the TS.
- 1.4.1.3.4. The testing procedure for the simulator will be the one defined in annex 20, Part 1, paragraph 1.3.1.1.
- 1.4.1.4. Precrush requirements for honeycomb parts
- In order to avoid the first deformation peak force which is typical for honeycomb materials, a precrush of layer 2 and layer 4 described above will be necessary.
- The dimensions laid down in paragraph 1 above for the honeycomb layers will be after precrush.
- For layer 2, the initial thickness dimension of the honeycomb will be 12mm.
- For layer 4, the initial thickness dimension of the honeycomb will be 9mm.
- Precrushed side of Layer 2 shall be bonded to Layer 1.
- Precrushed side of Layer 4 shall be bonded to Layer 3.
- 1.4.2. Microphone simulator
- The microphone simulator will be made from rigid plastic and will have a parallelepipedic shape with the following dimensions:
- Length: 35 mm (horizontal transversal dimension)
- Width: 18 mm (vertical dimension)
- Height: 12 mm (horizontal longitudinal dimension)
2. Part 2. Clamping and bonding space dimensions for helmets
- 2.1. The helmet clamping free space dimensions for front and side mounting will be, at least, the following ones:

Figure 7

Free protective padding space for accessories clamping for front and side locations of UA helmets



The length of clamping zone will be according to the fixture drawings.

If the lower rubber rim is made of flexible material, the measurement can be made without the rubber rim.

2.2. **Helmet clamping free space dimensions for rear mounting**

The helmet shall allow the insertion of metal sheets of 1 mm thickness and 55 mm height and 56 mm width, as one of the possible fixation systems for rear positioning of the accessories, between the protective padding and the external shell. This requirement is considered to be met if the protective padding is not bonded to the helmet shell in this part.

2.3. **The bonding area, if protective padding clamping space is not provided by the helmet or if it is offered as alternative by the helmet manufacturer, shall be a continuous surface of convex curvature without or with a slight curvature radius in which a rectangle of minimum dimensions of 40 mm height by 80 mm length can be inserted. This rectangle shall start as maximum at 15 mm height from any point of the lower helmet edge and centred in length with respect to the corresponding fixture. Within the bonding area, the surface curvature radius shall not show sharp changes. Within the whole length of the accessory, as foreseen in the relevant fixtures, the rubber rim geometry with respect to the shell will be such that it will not prevent any accessory to be fitted. The lower rubber rim or helmet lower design line shall not show sharp curvature changes within the clamping or bonding area. The lower rubber rim, if any, will be taken into account when measuring to define the starting height of the bonding area.**

If the helmet shell is designed to not fulfil the bonding surface requirements, adaptors can be supplied by the helmet manufacturer in order to allow a proper bonding space for the accessories. In this case, adaptors shall be supplied together with the helmet. Those adaptors will be considered as helmet shell according to paragraph 6.19.6.

3. Part 3. Accessories simulators for the tests foreseen in paragraph 7.13.

3.1. The shape will be like the correspondent fixture depending on the helmet positioning and will have the following mass:

- (a) Front mounted accessories: 250 g
- (b) Side mounted accessories: 250 g
- (c) Rear mounted accessories: 250 g

3.2. Clamping/fixing of the simulator to the helmet can be done at the discretion of the Technical Service with the method noted and filed in the test report. The clamping/fixing system together with the fixture shall not exceed the maximum accessory weight as stated above.

Note: Only for testing purposes the fixation of the simulator to the helmet with screws is acceptable."
