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Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Seventieth session

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Report of the Working Party on Passive Safety on its seventieth session

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I. Attendance

1. The Working Party on Passive Safety (GRSP) held its seventieth session virtually from 6 to 10 December 2021 in Geneva.¹ The meeting was chaired by Mr. Martin Koubek (United States of America). Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (ECE/TRANS/WP.29/690/Rev.1): Australia, Canada, China, Czechia, Finland, France, Germany, India, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, Russian Federation, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, United States of America. The European Commission (EC) participated. Experts from the following non-governmental organizations participated: American Automotive Policy Council (AAPC), Consumers International (CI), European Association of Automotive Suppliers (CLEPA), European New Car Assessment Programme (Euro NCAP), EuroMed Transport Support Project, Federation International de l'Automobile (FIA), Global New Car Assessment Programme (Global NCAP), International Motor Vehicle Inspection Committee (CITA), International Motorcycle Manufacturers Association (IMMA), International Organization of Motor Vehicle Manufacturers (OICA) and World Bicycle Industry Association (WBIA), Society of Automotive Engineers (SAE) International and Towards Zero Foundation.

2. Annex I of this report lists the informal documents distributed during the session.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRSP/2021/17
Informal documents GRSP-70-08, GRSP-70-10-Rev.2 and GRSP-70-16-Rev.2

3. GRSP considered and adopted the agenda (ECE/TRANS/WP.29/GRSP/2021/17) proposed for the seventieth session, the running order (GRSP-70-10-Rev.2), virtual meeting guidelines (GRSP-70-08) and the annotations (GRSP-70-16-Rev.2). GRSP informal working groups are listed in annex VIII of this report.

III. UN Global Technical Regulation No. 9 (Pedestrian safety) (agenda item 2)

A. Proposal for Amendment 3

Documentation: ECE/TRANS/WP.29/2021/53
ECE/TRANS/WP.29/2021/54
ECE/TRANS/WP.29/AC.3/31/Add.1
Informal documents GRSP-70-33 and GRSP-70-36

4. The expert from the United States opened the discussion by giving a brief summary on the status of the discussions. Germany's expert continued by introducing GRSP-70-33 and GRSP-70-36 on the results of the meetings of the informal Task Force on amendment 3. The expert from the United States of America iterated that the majority of the group members understood that draft Amendment 3 was a clarification of the practice already in place in Japan, the Republic of Korea and the European Union, and, while in the United States of America transposing UN GTR No. 9 to compliance testing was still under development and rulemaking not yet started. Finally, GRSP noted that the Task Force had not reached an agreement by the time of the December 2021 session of GRSP. Therefore, GRSP was not able to recommend amendment 3 to the Executive Committee of the 1998 Agreement (AC.3) at this time. It was further noted that the work of the informal Task Force was suspended and that once the informal working group on deployable pedestrian protection system (IWG-DPPS) would finalized its work, another IWG should be established to solve the remaining issues of the UN GTR. Finally, GRSP noted that sharing of information would continue at

¹ GRSP experts participated remotely. Simultaneous interpretation was available into the official UNECE languages.

the level of GRSP experts and that further instructions may be expected by AC.3 at its March 2022 session.

B. Proposal for Amendment 4

Documentation: Informal document GRSP-70-19

5. The expert from the Republic of Korea introduced GRSP-70-19, which is the progress report of IWG-DPPS. He explained that the IWG Phase 1 would include numerical simulation for head impact time (HIT) against the vehicle in case of deployable systems and a marker in the preamble for generic approach to be developed in the next phase. He also informed that the expert from Japan had proposed a sentence about an equivalent method (physical or alternative numerical simulation) to the numerical simulation to be agreed by Contracting Parties. GRSP, agreed, that the request by Japan to allow optional alternatives could be temporarily resolved by including the statement in the preamble (Part A) in brackets. This would give contracting parties further time for consideration and a final decision on removing the brackets could be made when the draft amendment would be reviewed at the May 2022 session of GRSP. Moreover, GRSP agreed that the IWG-DPPS should finish its work under the current mandate given by AC.3 without becoming occupied by other important but at this point irrelevant issues and distracted with side discussions.

IV. UN Global Technical Regulation No. 13 (Hydrogen and Fuel Cell Vehicles) (agenda item 3)

Documentation: Informal document GRSP-70-35

6. The IWG Chair, on behalf of the co-sponsors (Japan, Republic of Korea, United States of America and European Union and the) informed GRSP about the work progress of IWG on Hydrogen and Fuel Cell Vehicles (HFCV) on UN GTR No. 13, Phase 2 by referring to GRSP-70-35. GRSP noted that IWG requested an extension of the mandate until December 2022. GRSP endorsed the IWG request to seek endorsement by AC.3 at its March 2022 session.

V. UN Global Technical Regulation No. 20 (Electric vehicle safety) (agenda item 4)

Documentation: Informal document GRSP-70-37

7. The IWG Chair, on behalf of the co-sponsors (China, Japan, United States of America and the European Union) and all members of IWG GTR No. 20, Phase 2 reported on the progress of the IWG meeting by referring to GRSP-70-37.

VI. UN Regulation No. 12 (Steering mechanism) (agenda item 5)

Documentation: ECE/TRANS/WP.29/GRSP/2021/18
Informal document GRSP-70-31

8. GRSP noted the proposal tabled by expert from the Netherlands ECE/TRANS/WP.29/GRSP/2021/18 as amended by GRSP-70-31 to introduce requirements for post-crash electrical safety as was agreed for UN Regulation No. 94 (Frontal collision). GRSP adopted ECE/TRANS/WP.29/2021/18 as amended by Annex II to this report (GRSP-70-31). The secretariat was requested to submit the proposal as draft 05 series of amendments to UN Regulation No. 12 (Steering mechanism) for consideration and vote at the June 2022 sessions of WP.29 and to the Administrative Committee of the 1958 Agreement (AC.1).

VII. UN Regulation No. 16 (Safety-belts) (agenda item 6)

Documentation: ECE/TRANS/WP.29/GRSP/2019/15
ECE/TRANS/WP.29/GRSP/2021/19
ECE/TRANS/WP.29/GRSP/2021/20
ECE/TRANS/WP.29/GRSP/2021/25
Informal documents GRSP-70-03, GRSP-70-06, GRSP-70-07, GRSP-70-18, GRSP-70-25 and GRSP-70-32

9. The expert from Spain introduced GRSP ECE/TRANS/WP.29/GRSP/2021/20 in a presentation (GRSP-70-03), updating drawings of fixtures of booster seats to allow the seats to be designed in combination with a support leg as anti-rotational systems. The proposal caused concern with GRSP experts for the effects on UN Regulation No. 145 (ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size) and real world crashes. GRSP agreed to resume discussion on a revised version of ECE/TRANS/WP.29/GRSP/2021/20 (UN Regulation No. 16), at its May 2022 session with more evidence of the crash situation in real vehicles, in side impact and offset configuration.

10. The expert from CLEPA introduced ECE/TRANS/WP.29/GRSP/2021/25 in a presentation (GRSP-70-18), amending the existing support leg volume to improve the compatibility between the support leg volume and the Child Restraint Fixtures used for assessing the external dimensions of an Enhanced Child Restraint System. GRSP agreed to resume discussion on a revised version of ECE/TRANS/WP.29/GRSP/2021/25 (UN Regulation No.16), at its May 2022 session requesting more evidence in real crash.

11. The expert from Japan introduced ECE/TRANS/WP.29/GRSP/2021/19 on the safety-belts of seat positions equipped with the lower ISOFIX anchorages. He also introduced presentation GRSP-70-32 highlighting that the maximum values of pelvis acceleration and lap belt force of rear dummies were larger than those of front dummies. The expert from OICA introduced GRSP-70-25 showing that data from the expert of Japan showed that for booster seats secured by both safety-belt and ISOFIX could cause slack in the belt system which leads to increased dummy loadings. Therefore, he suggested that booster seats with ISOFIX attachments should be type approved according to UN Regulation No. 129 as "specific to vehicle" and not as "universal" or "i-Size". GRSP agreed to resume discussion on the proposal at its May 2022 session.

12. GRSP resumed discussion on ECE/TRANS/WP.29/GRSP/2019/15, on frontal air-bag in rear seats. The expert from EC informed GRSP that the present European Union legislation was incompatible with the presence of the above-mentioned air-bags and that EU was in the process of updating it. However, he encouraged experts to seek a solution independent of this revision process. GRSP agreed to resume discussion on the basis of a possible revised proposal as announced by the expert from OICA, in order to limit the proposal to vehicle specific child restraint systems

13. The expert from Finland introduced GRSP-70-06 and GRSP-70-07 justifying the introduction of three-points safety-belts on buses. The expert from the Netherlands supported the initiative. The expert from EC stated that he was open to consider the proposal but would like to see the initiative paired with safety belt reminders to ensure maximum benefit. The expert from Sweden supported the initiative from Finland. However, she asked for more about negative consequences, especially about occupant evacuation. The expert from OICA supported the need for accident data from other regions and review them carefully before drawing conclusions; he also noted that it would be useful to review the UN Regulation No. 80 requirements before deleting the possibility of two point-belts, which would have huge consequences. GRSP finally agreed to resume discussion on the proposal of the expert from Finland on the basis of broader data at its next sessions.

VIII. UN Regulation No. 17 (Strength of seats) (agenda item 7)

Documentation: ECE/TRANS/WP.29/GRSP/2020/12
Informal document GRSP-69-02 and GRSP-70-27

14. The expert from Norway introduced a proposal of amendments (GRSP-70-27) to improve the test procedure for protection for the occupants against the displacement of luggage. He clarified that the proposal stemmed from findings of a report (GRSP-69-02) of

the Norwegian Safety Investigation Authority (NSIA) on a high-speed frontal road-collision, introduced at the May 2021 session of GRSP. The expert from CLEPA argued that there was no evidence that seat-strength improvement would prevent situations like those shown by the expert from Norway and that the problem seemed more related to submarining. The expert from the Netherlands added that the accident shown occurred at high speed. He underlined that the problem was a mismatch between UN Regulation No. 14 and 17, because it does not cover the situation when an occupant is seating in the rear centre position and there was luggage in the boot. The expert from OICA also stressed the very high severity of this particular accident and that, since the current UN Regulation No. 17 requirements were introduced, real world data do not seem to indicate problems; he also suggested to understand better this specific issue and to collect more evidence. GRSP agreed to resume consideration at its next sessions on the basis of GRSP-70-27 and accident data and keep GRSP-70-27 as an informal document for the May 2022 session.

15. The expert from OICA withdrew ECE/TRANS/WP.29/GRSP/2020/12 and GRSP agreed to remove this subject (height of head restraints/low roof construction) from the agenda of the next sessions.

IX. UN Regulation No. 22 (Protective helmets) (agenda item 8)

Documentation: ECE/TRANS/WP.29/GRSP/2021/24

Informal documents GRSP-70-14 and GRSP-70-28

16. The expert from Italy, Chair of the ad-hoc group on safety helmets introduced ECE/TRANS/WP.29/GRSP/2021/24 amended by GRSP-70-14, in a presentation (GRSP-70-28) to address specific requirements for the type approval of helmet accessories defined by the ad-hoc group. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/24, as amended by (GRSP-70-14) annex III to this report. The secretariat was requested to submit the proposal, as draft Supplement 2 to the 06 series of amendment to UN Regulation No. 22 (Protective helmets), for consideration and vote at the June 2022 session of WP.29 and to AC.1.

X. UN Regulation No. 100 (Electric power trained vehicles) (agenda item 9)

Documentation: Informal document GRSP-70-26

17. GRSP adopted GRSP-70-26, as reproduced in annex IV to the report, to update cross references to other UN Regulations. The secretariat was requested to submit the proposal, as draft Supplement 2 to the 03 series of amendments to UN Regulation No. 100, for consideration and vote at the June 2022 session of WP.29 and to the AC.1.

XI. UN Regulation No. 127 (Pedestrian safety) (agenda item 10)

Documentation: ECE/TRANS/WP.29/GRSP/2019/18

ECE/TRANS/WP.29/GRSP/2021/28

Informal documents GRSP-70-12, GRSP-70-13, GRSP-70-17, GRSP-70-20 and GRSP-70-21-Rev.1

18. The expert from EC on behalf of the of the drafting Task Force withdrew GRSP-70-12 and GRSP-70-13 and introduced ECE/TRANS/WP.29/GRSP/2021/28. He explained that the proposal aimed to introduce specific provisions in the UN Regulation that were aligned with the new provisions set out in the revised General Safety Regulation (EU) 2019/2144. He also introduced GRSP-70-20 as a consolidated revision of the proposal and GRSP-70-21-Rev.1, which included only the amendments to ECE/TRANS/WP.29/GRSP/2021/28. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/28 as amended by annex V to the report (GRSP-70-21-Rev.1). The secretariat was requested to submit the proposal as draft 03 series of amendments to UN Regulation No. 127 (Pedestrian safety) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.

19. The expert from Germany introduced GRSP-70-17 (superseding ECE/TRANS/WP.29/GRSP/2019/18), concerning new provisions to cope with Adjustable

Ride Height Suspension System (ARHSS). GRSP agreed to distribute GRSP-70-17 with an official symbol at its May 2022 session, as draft 04 series of amendments to UN Regulation No. 127.

XII. UN Regulation No. 129 (Enhanced Child Restraint Systems) (agenda item 11)

Documentation: ECE/TRANS/WP.29/GRSP/2021/7
ECE/TRANS/WP.29/GRSP/2021/26
Informal documents GRSP-68-05, GRSP-70-05, GRSP-70-18 and GRSP-70-22

20. The expert from Spain on behalf of the Technical Services Group (TSG) on UN Regulation No. 129 introduced ECE/TRANS/WP.29/GRSP/2021/7 as amended by GRSP-70-05, aimed at clarifying the head containment assessment for side impact testing. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/7 as amended by annex VI (GRSP-70-05) to the report. The secretariat was requested to submit the proposal as draft Supplement 7 to the 03 series of amendment to UN Regulation No. 129 for consideration and vote at the June 2022 sessions of WP.29 and to AC.1.

21. Referring to the decision taken under agenda item 6 (see paragraph 10 above) on a parallel proposal submitted by the expert from CLEPA, GRSP agreed to resume discussion on a revised version of ECE/TRANS/WP.29/GRSP/2021/26, on the extension of the support-leg, at its May 2022 session and requested more evidence of real crash data.

22. The expert from CLEPA introduced presentation GRSP-70-22 to explain the effect of chin-to-chest contact of dummies during type approval testing and potential solutions. GRSP endorsed in principle, as a pragmatic solution, the proposal from the expert from CLEPA that introduced the neck tension force limits based on measured type-approval monitoring data as proposed in GRSP-68-05. GRSP requested to continue sharing information at its May 2022 session on this subject awaiting an official proposal from the expert from CLEPA based on GRSP-68-05.

XIII. UN Regulation No. 135 (Pole side impact) (agenda item 12)

Documentation: ECE/TRANS/WP.29/GRSP/2021/21

23. The expert from the Netherlands introduced ECE/TRANS/WP.29/GRSP/2021/21, aimed at introducing requirements for post-crash electrical safety in the event of a pole side impact collision, as was agreed for UN Regulation No. 94 (Frontal collision) and proposed for UN Regulation No. 12 (see paragraph 8 above). GRSP adopted ECE/TRANS/WP.29/GRSP/2021/21, deleting the square brackets in paragraph 11.7. The secretariat was requested to submit the proposal as draft 02 series of amendments to UN Regulation No. 135 (Pole Side Impact (PSI)) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.

XIV. UN Regulation No. 136 (Electric vehicle L) (agenda item 13)

Documentation: ECE/TRANS/WP.29/GRSP/2021/22
Informal documents GRSP-70-24

24. The expert from IMMA introduced ECE/TRANS/WP.29/GRSP/2021/22, aimed at updating the requirements for electric vehicles of category L by aligning them to UN GTR No. 20. He also added that the proposal was including new optional requirements to enable the mounting of removable Rechargeable Electric Energy Storage System (REESS) in any orientation, that would enable safe deployment of swappable batteries. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/22 as amended by annex VII to the report (GRSP-70-24). The secretariat was requested to submit the proposal as draft 01 series of amendments to UN Regulation No. 136 (Electric vehicle L) for consideration and vote at the June 2022 sessions of WP.29 and AC.1.

25. GRSP noted that removable REESS approval did not seem to cover replacement units. Following the request of the expert from EC, GRSP asked experts from contracting parties to reflect on whether or not this should be facilitated in the future and to report at the next GRSP sessions. The Chair stated that he would bring this issue to the attention of the IWG for GTR 20 (Electric Vehicle Safety).

XV. UN Regulation No. 137 (Frontal impact with focus on restraint systems) (agenda item 14)

Documentation: ECE/TRANS/WP.29/GRSP/2021/23

26. GRSP resumed consideration of a proposal tabled by the expert from the Netherlands (ECE/TRANS/WP.29/GRSP/2021/23), aimed at clarifying the requirements for the adjustment of the passenger seat back when installing the Hybrid-III 5th percentile female dummy. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/23, not amended. The secretariat was requested to submit the proposal as draft Supplement 4 to the 01 series of amendment and as draft Supplement 3 to the 02 series of amendments to UN Regulation No. 137 (Frontal impact with focus on restraint systems) for consideration and vote at the June 2022 sessions of WP.29 and AC.1.

XVI. UN Regulation No. 145 (ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size) (agenda item 15)

Documentation: ECE/TRANS/WP.29/GRSP/2021/27

27. The expert from the Netherlands introduced ECE/TRANS/WP.29/GRSP/2021/27 aimed at correcting the vehicle type definition in this UN Regulation. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/27 not amended. The secretariat was requested to submit the proposal as draft Supplement 2 to the original version of UN Regulation No. 145 for consideration and vote at the June 2022 sessions of WP.29 and AC.1.

XVII. UN Regulation No. 153 (Fuel system integrity and electric power train safety at rear-end collision) (agenda item 16)

Documentation: ECE/TRANS/WP.29/GRSP/2021/29

28. GRSP resumed consideration of a proposal tabled by the expert from Germany (ECE/TRANS/WP.29/GRSP/2021/29), aimed at extending the condition of the necessity of an influence on the results of the impact test to all criteria. GRSP agreed to revise ECE/TRANS/WP.29/GRSP/2021/29, through a small drafting group of interested experts and resume consideration on a revised proposal on this subject at its May 2022 session.

XVIII. Mutual Resolution No. 1 (agenda item 17)

29. GRSP noted that addendum 1 to Mutual Resolution No. 1 (Specifications for the Construction, Preparation and Certification of the 50th percentile male Biofidelic Rear Impact Dummy, anthropomorphic test Device (BioRID-II UN)) had been adopted at the November 2021 sessions of WP.29 and AC.3. GRSP recommended that experts who were developing similar addenda for the specifications of other dummies (e.g Q dummies) should use the above-mentioned addendum 1 developed by the expert from the United Kingdom as a blueprint.

XIX. Female occupant protection (agenda item 18)

Documentation: Informal documents GRSP-70-01

30. GRSP considered the informal evaluation of the ad hoc group of experts of the technical merits of study from Sweden on female occupants. The expert from Sweden explained that the ad hoc group was trying to have a better identification and understanding

of the problem, therefore she proposed the establishment of an informal working group and provided terms of reference in GRSP-70-01. The expert from the United States of America informed GRSP that she had participated in only the first meeting of the ad hoc group because the ad hoc group had not complied with the mandate given by WP.29 (ECE/TRANS/WP.29/1159, paras. 22 and 58), i.e., collect and review data to determine if there is a merit to Sweden's claim. GRSP agreed that the ad hoc group of experts could continue to review existing research/share ongoing research and if GRSP determines that there is enough evidence to address this issue, an IWG may be established.

XX. Securing of children in buses and coaches (agenda item 19)

Documentation: Informal document GRSP-70-02

31. The expert from Spain, on behalf of IWG on safer transport of children in buses and coaches informed GRSP on the progress (GRSP-70-02). She confirmed that the group was examining different configurations of testing and Child Restraint Systems (CRS) fittings in M₃ (e.g. seating position, Q dummies with or without CRS, types of CRS) considering bus requirements. She also confirmed that built-in CRS had been considered but their use as a solution could conflict with structural modification of buses. GRSP agreed to resume consideration on this subject at its May 2022 session.

XXI. Exchange of views on vehicle automation (agenda item 20)

Documentation: Informal document GRSP-70-15

32. The expert from the Republic of Korea introduced GRSP-70-15 showing a crash safety scenario of autonomous vehicles based on the results of a survey. He concluded that consumers expect the crash safety performance of autonomous vehicles to be equivalent to or more advanced than the current level, considering the traffic situation and market expectations. GRSP agreed that there was no need to make a decision on questions raised by the expert from Republic of Korea on safety issues related to autonomous vehicles and that these should first be considered by the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) and its subgroups.

XXII. Strategy of the Inland Transport Committee (agenda item 21)

33. No new information was provided under this agenda item.

XXIII. List of priority work of GRSP (agenda item 22)

Documentation: Informal document GRSP-70-11

34. Following the request of the Chair of WP.29 at the June 2021 session (ECE/TRANS/WP.29/1159, paragraph 35–38) to discuss the draft programme of work (PoW) of WP.29, GRSP considered the PoW of WP.29 and its subsidiary bodies. GRSP agreed that status of priorities of GRSP (contained in GRSP-70-11) did not need to be updated until the next submission of priorities in December 2022, since this reflects plans for 2021, and that the document does not need updating every time GRSP made progress on an issue. Moreover, GRSP agreed that GRSP-70-11 accurately reflects the 2021 priorities submitted by GRSP to WP.29.

XXIV. Election of officers (agenda item 23)

35. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690/Rev.1), GRSP called for the election of officers. The representatives of the contracting parties, present and voting, unanimously elected Mr. M. Koubek (United States of America) as Chair and Mr. H. G. Kim (Republic of Korea) as Vice-Chair for the sessions of GRSP scheduled in the year 2022.

XXV. Other business (agenda item 24)

A. Exchange of information on national and international requirements on passive safety

Documentation: Informal document GRSP-70-23

36. The expert from CLEPA reiterated his request to all non-European Union contracting parties to report their intention to apply the new transitional provision in UN Regulation No. 44 (Child Restraint Systems) (ECE/TRANS/WP.29/2020/111, Supplement 18 to the 04 series of amendments to UN Regulation No. 44) adopted at the November 2020 session of WP.29, which allowed contracting parties to no longer accept approvals according to that UN Regulation as from 1 September 2023. The expert from EC, clarified that all European Union member States would have the possibility to implement this expiry date with a year of delay to deplete CRS already in stock. Finally, GRSP requested non-European Union Contracting Parties to the 1958 Agreement to report their intention to continue/discontinue sales after 1 September 2023 of CRS type approved according to UN Regulation No. 44.

37. The expert from EC introduced a study (GRSP-70-23) to review and assess the appropriateness of crash pulses found in the current European Union legislation. Therefore, he stated that it would be needed to identify potential amendments to regulations and assess the potential benefits as well as any (unintended) consequences. He informed that accident data are limited and real-world issue could therefore not defined. At this stage, there is lack of concrete cost-effective data and EC will not follow up the modification of pulses for the time being. He clarified that the European Commission was obliged to evaluate vehicle safety by July 2027 (Article 14 of General Safety Regulation (EU) 2019/2144) and would take this research into account at that time. GRSP suggested sharing the same presentation with the Working Party on General Safety (GRSG). Notably, the expert from EC recommended ensured consistency of UN Regulation No 67 (LPG) and 110 (CNG) as covered by this research, with UN Regulation No 134 / GTR No 13 (hydrogen safety).

B. UN Regulation No. 0 (International Whole Vehicle Type Approval)

Documentation: ECE/TRANS/WP.29/1044/Rev.3
Informal document GRSP-70-04

38. The expert from Japan, ambassador of IWVTA, explained that the amendments to General Guidelines for Transitional Provision clarifies that the contracting parties may and shall continue to grant type approvals to the previous series, and that this amendment had been adopted as Revision 3 at the 2021 March session of WP.29. He added that a second item discussed in IWG was regarding the proposal for the 04 series of amendments to UN Regulation No. 0, amending annex 4. He clarified that the proposed amendment to annex 4 (listing the UN Regulations that apply to UN Regulation No. 0), added UN Regulation No. 154 (WLTP) and new UN Regulations Nos. 161, 162 and 163, and reflected a new series amendments to existing UN Regulations (i.e.: UN Regulation No. 95). He reported that the amendment had been adopted at the November 2021 session of WP.29 (ECE/TRANS/WP.29/2021/84). Moreover, he reported that at the last IWVTA IWG meeting, held in November 2021, it was noted that the 04 series lacked transitional provisions and for this reason a supplement incorporating them would be proposed at the March 2022 session of WP.29. He announced that a proposal for the 05 series of amendments to UN Regulation No. 0, updating annex 4 was underway, and it was expected that an informal document would be submitted to the June 2022 session of WP.29. Finally, he informed GRSP that IWG was studying improvement measures to promote IWVTA approval, for example, discussing a process to better inform of the actual minimum requirements applicable in the various Contracting Parties for possible inclusion in document ECE/TRANS/WP.29/343 on the status of the 1958 Agreement and its UN Regulations.

39. The expert from Finland, on behalf of the IWG on Database for Exchange of Approval documentation (DETA) introduced the proposal for extension of DETA to improve the use

of the Unique Identifier (UI) for UN Regulations (GRSP-70-04). He also added that the UI would be available at the end of next year due to software adaptation. GRSP for the time being noted that the use of UI could not be applied to UN Regulations Nos. 22, 44 and 129. He clarified that for these UN Regulations enforcement authority needed type approval data at hand to comply with enforcement controls.

C. Highlights of the June and November 2021 sessions of WP.29

Documentation: Informal document GRSP-70-09-Rev.1

40. The Secretary reported on the highlights (GRSP-70-09-Rev.1) of the 184th (ECE/TRANS/WP.29/1159) and 185th (ECE/TRANS/WP.29/1161) sessions.

D. Three-dimensional H-point machine

41. No new information was provided under this agenda item.

E. Intelligent transport systems

42. No new information was provided under this agenda item.

F. Children left in cars

Documentation: Informal document GRSP-70-30

43. The expert from EuroNCAP introduced GRSP-70-30, on a scenario of the current situation in this issue and the road map for a child presence detection protocol developed by his organization. The expert from the United States of America informed GRSP that the proposed bill of the President of her country on vehicle safety would encourage global cooperation on this topic. GRSP agreed to continue discussion on the issue of children left in cars by sharing data and the outcome of research at its future sessions.

G. UN Regulation No. 95 (Lateral collision)

Documentation: Informal document GRSP-70-29.

44. GRSP noted through informal document GRSP-70-29 that since 1999, over 2,300 lateral impact barriers produced (used by Technical Services for type approval testing) had a parameter (front plate elongation break requirement) not in compliance with the requirement requested by UN Regulation No. 95. GRSP requested its experts to investigate and report to its May 2022 session on the consequences of non-compliance of the barriers which may have led to non-compliance to UN Regulation No. 95 of 20 years of vehicle production.

H. 1997 Agreement – Vehicle whole life compliance

Documentation: ECE/TRANS/WP.29/2021/148

45. GRSP noted that WP.29 (ECE/TRANS/WP.29/1161, para. 154) was expecting a review by GRs of a proposal for a framework document on vehicle whole-life compliance (ECE/TRANS/WP.29/2021/148), which should be finalized before the WP.29 March 2022 session. GRSP endorsed the framework without amendment (ECE/TRANS/WP.29/2021/148).

I. Decisions submitted to silence procedure

Documentation: Informal document GRSP-70-34-Rev.3

46. GRSP agreed on the main decision list GRSP-69-34-Rev.3, as reproduced in annex IX to this report, taken during the session for approval by the silence procedure of 72 hours

by the participating delegations to the session as part of the special procedures established for the COVID-19 pandemic period (ECE/EX/2020/L.12).

J. Tributes

47. GRSP noted that Ms. Mary Versailles, from the United States of America and former Chair of GRSP, plans to retire and would no longer attend the sessions. GRSP appreciated her commitment and contribution to global vehicle safety during her many years of leadership and active participation in the sessions of GRSP and other groups of WP.29. GRSP wished Ms. Versailles a long and happy retirement and recognized her successful career with a long applause.

48. GRSP also noted that Mr. Kurt Pfister from Switzerland would retire from the service and no longer attend the sessions. GRSP commended the commitment of Mr. Pfister and his contribution to global vehicle safety during his years of active participation in the sessions. GRSP wished Mr. Pfister all the best in his future activities and recognized his successful career with a long applause.

K. Provisional agenda for the next session

49. GRSP noted that its seventieth session was scheduled to be held in Geneva from 9 May (2.30 p.m.) to 13 May (12.30 p.m.) 2022. GRSP noted that the deadline for the submission of official documents to the secretariat is 11 February 2022, twelve weeks prior to the session. GRSP is expected to follow a proposal (GRSP-70-38) of provisional agenda here below reproduced:

1. Adoption of the agenda.
2. UN Global Technical Regulation No. 9 (Pedestrian safety):
 - (a) Proposal for Amendment 3;
 - (b) Proposal for Amendment 4.
3. UN Global Technical Regulation No. 13 (Hydrogen and Fuel Cell Vehicles).
4. UN Global Technical Regulation No. 20 (Electric vehicle safety).
5. UN Regulation No. 16 (Safety-belts).
6. UN Regulation No. 17 (Strength of seats).
7. UN Regulation No. 95 (Lateral impact).
8. UN Regulation No. 100 (Electric power trained vehicles).
9. UN Regulation No. 127 (Pedestrian safety).
10. UN Regulation No. 129 (Enhanced Child Restraint Systems).
11. UN Regulation No. 135 (Pole Side Impact (PSI)).
12. UN Regulation No. 136 (Electric vehicle L).
13. UN Regulation No. 137 (Frontal impact with focus on restraint systems).
14. UN Regulation No. 145 (ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size).
15. UN Regulation No. 153 (Fuel system integrity and electric power train safety at rear-end collision).
16. Mutual Resolution No. 1.
17. Female occupant protection.
18. Securing children in buses and coaches.
19. Exchange of views on vehicle automation.

20. Strategy of the Inland Transport Committee.
21. Other business:
 - (a) Exchange of information on national and international requirements on passive safety;
 - (b) UN Regulation No. 0 (International Whole Vehicle Type Approval);
 - (c) Highlights of the March 2022 session of WP.29;
 - (d) Three-dimensional H-point machine;
 - (e) Intelligent transport systems;
 - (f) Children left in cars.

Annex I

[English only]

List of informal documents (GRSP-70-...) distributed without an official symbol during the session

<i>No.</i>	<i>Transmitted by</i>	<i>Agenda item</i>	<i>Language</i>	<i>Title</i>	<i>Follow-up</i>
01	Canada, France, Germany, Japan, Netherlands, Spain and Sweden	18	E	Proposal of draft terms of references for informal working group on sex and size neutral crash safety	(a)
02	Spain	19	E	Status Report of the Informal Working Group on Safer Transport of Children in Buses and Coaches (IWG-STCBC)	(a)
03	CLEPA	6	E	ECE/TRANS/WP.29/GRSP/2021/20 GRSP seventieth session	(a)
04	IWG DETA	24(b)	E	Proposal for extension of DETA to improve the use of the UNIQUE IDENTIFIER for UN Regulations	(a)
05	Spain	11	E	Proposal for Supplement 7 to the 03 series of amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems)	(d)
06	Finland	6	E	Three-point safety-belts in buses and coaches	(c)
07	Finland	6	E	Estimate of the cost and impact of three-point seat belts in buses in Finland	(c)
08	Secretariat	1	E	Virtual meeting participation guidelines (Webex)	(a)
09/ Rev.1	Secretariat	24(c)	E	Highlights of WP.29 June and November 2021 sessions	(a)
10/ Rev.2	GRSP Chair	1	E	Running order of GRSP 70th session	(a)
11	Secretariat	22	E	Programme of Work of the World Forum for Harmonization of Vehicle Regulations (WP.29) and its Subsidiary Bodies	(a)
12	EC	10	E	Revised ECE/TRANS/WP.29/GRSP/2021/28	(a)
13	EC	10	E	Amendments to ECE/TRANS/WP.29/GRSP/2021/28	(a)
14	Ad hoc group - UN Reg. 22	8	E	Proposal for Supplement 2 to the 06 series of amendments of UN Regulation No. 22 (Protective helmets)	(d)
15	Republic of Korea	20	E	Crash Safety of Autonomous Vehicles Based on a Survey Result	(a)

<i>No.</i>	<i>Transmitted by</i>	<i>Agenda item</i>	<i>Language</i>	<i>Title</i>	<i>Follow-up</i>
16/ Rev.2	Secretariat	1	E	Annotated provisional agenda	(a)
17	Germany	10	E	Proposal for the 03 series of amendments to UN Regulation No. 127 (Pedestrian safety)	(b)
18	CLEPA	11	E	Modification of R16/R129 Support Leg Volume	(a)
19	Republic of Korea	2(b)	E	Status of Informal Working Group on Deployable Pedestrian Protection Systems (IWG-DPPS)	(a)
20	OICA	10	E	Revised ECE/TRANS/WP.29/GRSP/2021/28	(a)
21/ Rev.1	OICA	10	E	Amendments to ECE/TRANS/WP.29/GRSP/2021/28	(d)
22	CLEPA	11	E	UN Regulation No. 129 neck limits: effect of chin-to-chest contact and potential solutions	(a)
23	EC	24(a)	E	EC study to review the appropriateness of crash pulses used in current EU legislation	(a)
24	IMMA	13	E	Proposal to amend ECE/TRANS/WP.29/GRSP/2021/22	(d)
25	OICA	6	E	UN-R16 proposal by Japan ECE/TRANS/WP.29/GRSP/2021/19	(a)
26	OICA	9	E	Proposal for Supplement 2 to the 03 series of amendments to UN Regulation No. 100	(d)
27	Norway	7	E	Proposal for the 11 series of amendments to UN Regulation No. 17 (Strength of seats)	(c)
28	Ad hoc group - UN Reg. 22	8	E	Proposal for Supplement 2 to the 06 series of amendments of UN Regulation No. 22 (Protective helmets)	(a)
29	EC	24(g)	E	UN Regulation No. 95 Front Plate Elongation Requirement Review	(a)
30	Euro NCAP	24(f)	E	Euro NCAP Child Presence Detection	(a)
31	Netherlands	5	E	Proposal for 05 series of amendments to UN Regulation No. 12 - protection of the driver against the steering mechanism in the event of impact	(d)
32	Japan	6	E	Sled Test Results of Small Female Dummy	(a)
33	TF-GTR9	2(a)	E	Technical Working Subgroup on GTR9 Amendment 3: Status Report	(a)
34/ Rev.3	Secretariat	24(i)	E	Decisions submitted to silence procedure following formal meetings with remote participation Of the Working Party on Passive Safety (GRSP), 10 December 2021	(d)

<i>No.</i>	<i>Transmitted by</i>	<i>Agenda item</i>	<i>Language</i>	<i>Title</i>	<i>Follow-up</i>
35	IWG HFCV	3	E	Summary Report by Chair of IWG for GTR 13 (Hydrogen-Powered Vehicles) to the 70th Meeting of GRSP (December 9, 2021)	(a)
36	TF-GTR9	2(a)	E	Technical Working Subgroup on GTR9 Amendment 3: Complete - Status Report	(a)
37	IWG EVS	4	E	Summary Report by Chair of IWG for GTR 20 (Electrical Vehicle Safety) to the 70th Meeting of Group of Experts on Passive Safety December 10, 2021	(a)
38	Secretariat	24(j)	E	Provisional agenda of the seventy-first session of GRSP	(a)

Notes:

- (a) Consideration completed or superseded.
- (b) Continue consideration at the next session with an official symbol.
- (c) Continue consideration at the next session as an informal document.
- (d) Adopted and to be submitted to WP.29.

Annex II

Draft amendments to UN Regulation No. 12 (Steering mechanism)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/18 (see paragraph 8 of this report)

...

Paragraph 5.6., amend to read:

"5.6. Specifications of paragraphs 5.5. to 5.5.4. above are deemed to be met if the vehicle equipped with an electrical power train operating on high voltage complies with the specifications of paragraphs 5.2.8. to 5.2.8.4. of UN Regulation No. 94, **04** series of amendments or with the specifications of paragraphs 5.2.8. to 5.2.8.4. of UN Regulation No. 137, **02 series of amendments.**"

...

Annex III

Draft amendments to UN Regulation No. 22 (Protective helmets)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/24 (see paragraph 16 of this report)

...

Paragraph 5.4.4.1.2.2.1., amend to read:

"5.4.4.1.2.2.1. For ... applicable:

For components

"S" or "S45": "S" if the ...

...

"M" if ...

For locations:

"F" if the ...

...

"R" if ...

If an accessory has different components which need to be fitted in different locations of the helmet, be it "F", "L2 and/or "R", the location markings will be put into brackets and separated among them by a "+" symbol."

...

Insert a new paragraph 6.19.11., to read:

"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 14.1., amend to read:

"14.1. ...

...

A general ... symbols, **other than location fitting symbols**, marked ...

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."

Paragraph 14.8., amend to read:

"14.8. ...

A general warning ... symbols, **other than location fitting symbols**, marked ...

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."

Annex 2C, amend to read:

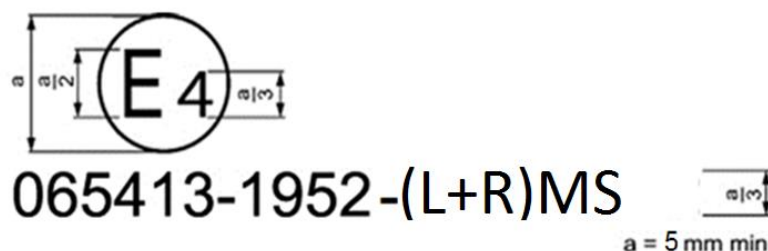
"Annex 2C - Example of the arrangement of the approval mark for an accessory

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

...

... without any tool for checking.

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



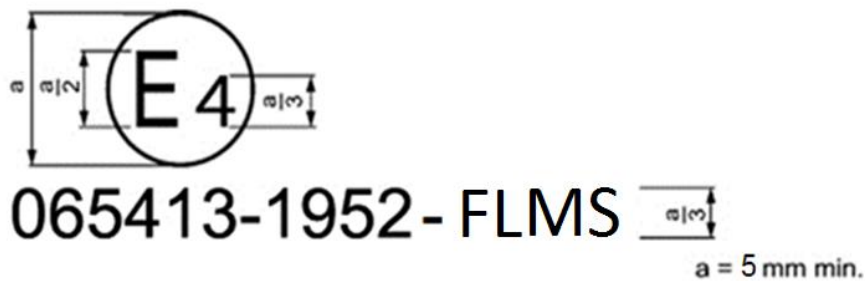
The above approval mark affixed to a universal accessory shows that the universal-accessory type concerned has been approved in the Netherlands (E 4) under approval number 065413. The approval number shows that approval was granted in accordance with the requirements of the Regulation incorporating the 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 an specific accessory

... that its production batch is 1952."

Annex 8, figure 1d, replace "6" with "60"

Annex 20, Part 1, paragraphs 1.3. to 1.3.1.1., amend to read:

"1.3. Mechanical ... speakers:

1.3.1. The speaker, with a height of more than 5 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.

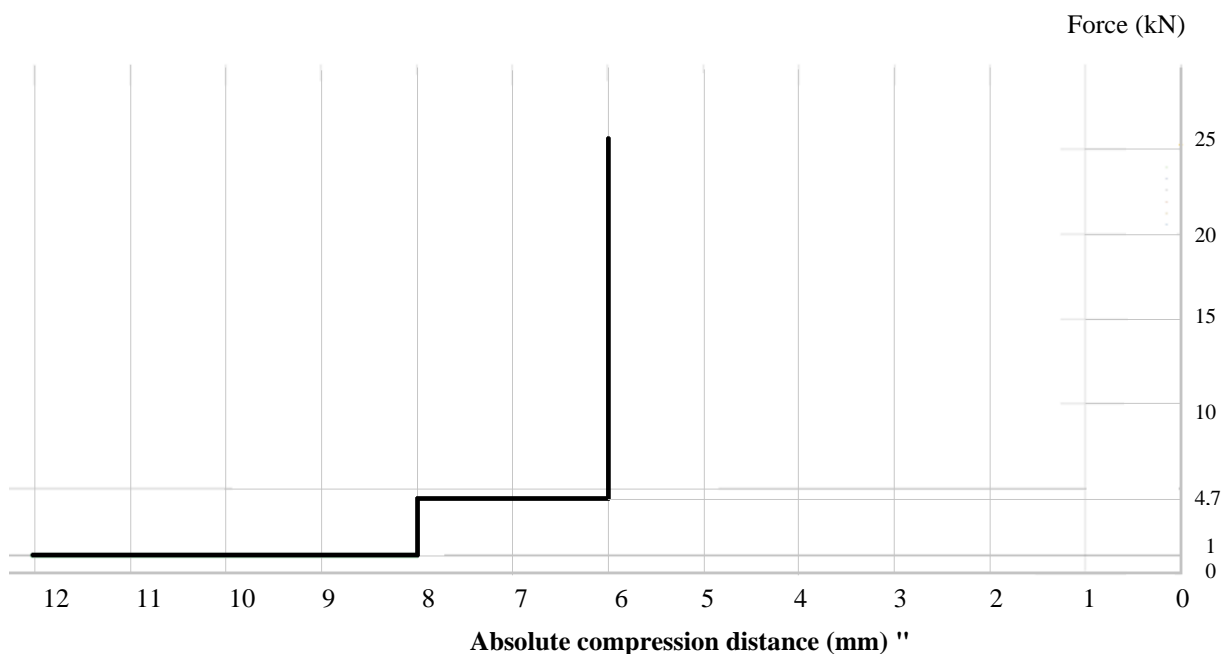
Set the zero displacement setting.

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



Annex 20, Part 1, paragraphs 1.4.1., amend to read:

"1.4.1. Definition of deformable speaker simulator**1.4.1.1. Component and material specifications**

The speaker simulator is illustrated in Figure 6 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

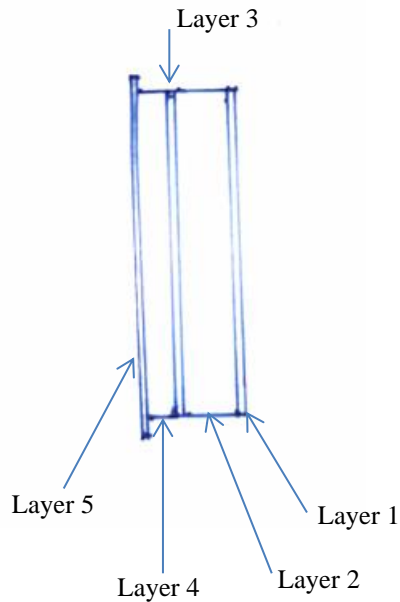
Dimensions

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 ± 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: ±0,1 mm
Material: Aluminium 5056 (ISO 209, Part 1)
Foil Thickness: 0.038 mm ± 15 per cent
Cell Size: 3.175 mm ± 20 per cent
Density: 97.71 kg/m³ ± 20 per cent
Crush Strength: 3.689 MPa ± 10 per cent
- 1.4.1.1.5. Layer 5: Backing sheet**
Diameter: 40 mm/45 mm
Tolerance: +0-1 mm
Thickness: 1 mm ± 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 6
Speaker simulator



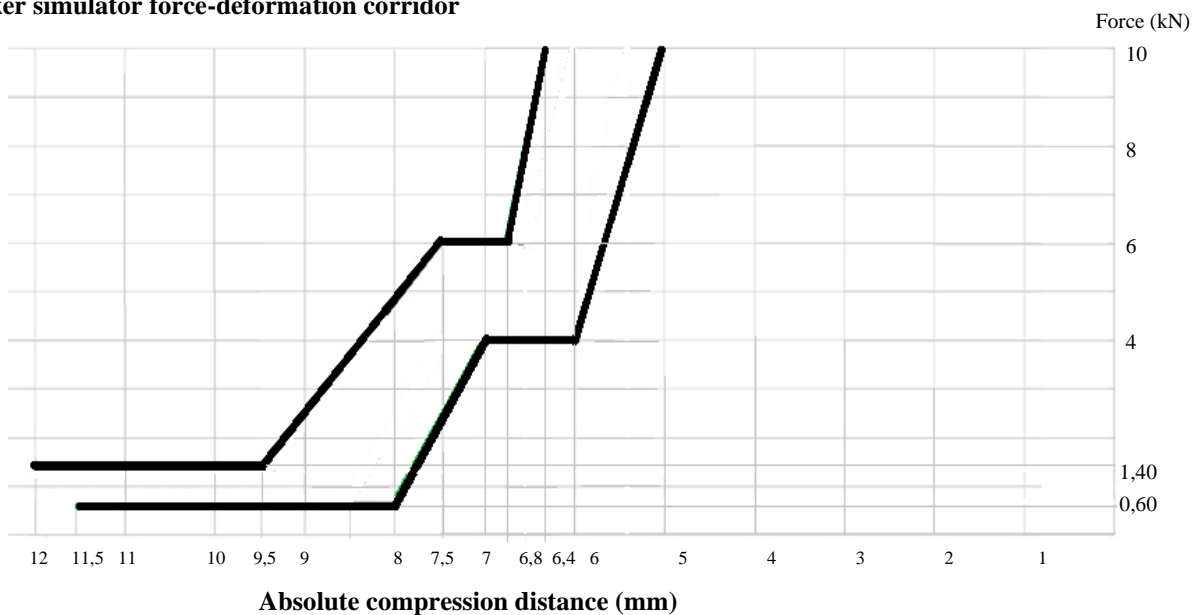
1.4.1.2. Aluminium honeycomb certification and simulator characterization

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 7.

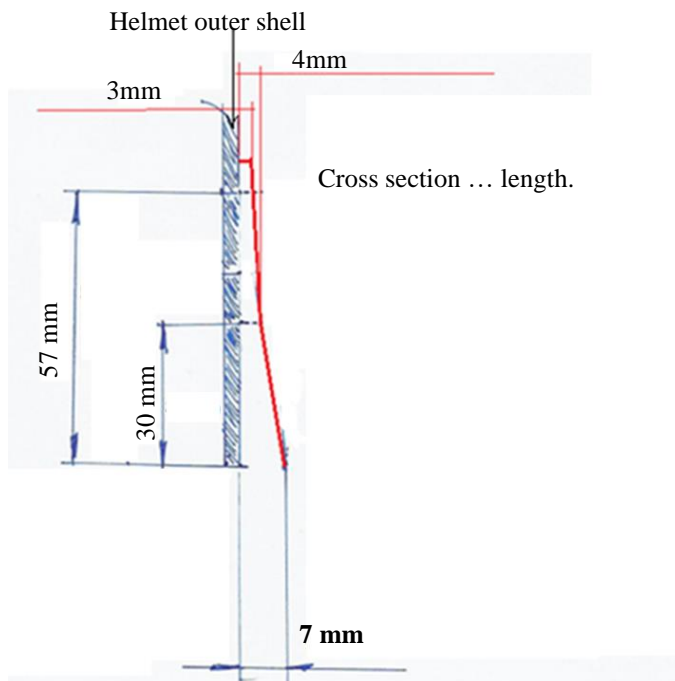
Figure 7
Speaker simulator force-deformation corridor



- 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 paragrah 1 above for the honeycomb layers will be after precrush.
 For layer 2, the initial thickness dimension of the honeycomb will be 12 mm.
 For layer 4, the initial thickness dimension of the honeycomb will be 9 mm.
 Precrushed side of Layer 2 shall be bonded to Layer 1.
 Precrushed side of Layer 4 shall be bonded to Layer 3."

Annex 20, Part 2, paragraph 2.1., Figure 6, amend to read:

"Figure 8
Free protective padding space for accessories clamping for front and side locations of UA helmets



Annex 20, Part 2, paragraph 2.2., amend to read:

"2.2. Helmet ...
 The helmet ... and 55 mm height and 56 mm ..."

Annex 20, Part 2, paragraph 2.3., amend to read:

"2.3. The ... of 40 mm height by 80 mm length can be inserted ..."

Annex IV

Draft amendments to UN Regulation No. 100 (Electric power trained vehicles)

Adopted text based on GRSP-70-26 (see paragraph 17 of this report)

Paragraph 5.1.3.1., amend to read:

"5.1.3.1. Electric ...
... according to Annex **5A** "Isolation resistance measurement method for vehicle-based tests"."

Paragraph 6.4.1.1., amend to read:

"6.4.1.1. Vehicle based test
Compliance ... UN Regulation No. 137 (**02** series of amendments or later)..."

Paragraph 6.4.2.1.1., amend to read:

"6.4.2.1.1. Vehicle based dynamic test
Compliance ...UN Regulation No. 137 (**02** series of amendments or later) for ..."

Annex V

Draft amendments to UN Regulation No. 127 (Pedestrian safety)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/28 (see paragraph 18 of this report)

Paragraph 2.1., amend to read:

"2.1. ...
 (b) At the rear, by a WAD **2,500**¹ or a line 82.5 mm ...
 ..."

Paragraph 2.43., amend to read:

"2.43. "Wrap Around Distance (WAD)" means ... The vehicle is positioned in the normal ride attitude.
 ... of 1,700 mm (WAD1700) and of **2,500 mm (WAD-2500)**¹."

Paragraph 2.44., amend to read

"2.44. "Windscreen test area" ...
 ...
 ... obscuration limit **or in case of absence of the opaque obscuration, from the visible edge respectively.**
 For (b): ... rear **visible** edge of the windscreen.
 Tests assigned to ... impactor."

Paragraph 2.45., amend to read:

"2.45. ...
 (b) At the rear, by a **WAD 2,500**² or the front of the windscreen test area, whichever is most forward at a given lateral position.
 ..."

Paragraph 4.2., amend to read

"4.2. ... at present **03** corresponding to the **03** series of amendments ..."

Insert new paragraphs 11.5 to 11.13., to read:

"11.5. ...
 ...

11.9. Until 1 September 2028, Contracting Parties applying this Regulation shall continue to grant type approvals using the test proceedings related to atypical windscreen fracture behaviour (see annex 5 paragraphs 4.8. and 5.8.) and specific provisions related to WAD 2,100 boundary (see paragraphs 2.1. and 2.45.).

¹ or WAD 2,100 in accordance with paragraphs 11.9 to 11.11.

² from WAD 2,100 ~~front~~ boundary, if applicable, in accordance with paragraphs 11.9 to 11.11.

- 11.10.** Until 1 September 2029, Contracting Parties applying this Regulation shall continue to accept type approvals issued using the specific provisions related to WAD 2,100 boundary (see paragraphs 2.1. and 2.45.)
- 11.11.** As from 1 September 2029, Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued for a vehicle with a WAD 2,100 boundary on the bonnet top (see paragraphs 2.1. and 2.45.)
- 11.12.** Contracting Parties applying this Regulation may grant type approvals according to any preceding series of amendments to this Regulation.
- 11.13.** Contracting Parties applying this Regulation shall continue to grant extensions of existing approvals to any preceding series of amendments to this Regulation."

Annex 1, Part 2, item 16.1., amend to read:

"16.1. Cowl Monitoring area:

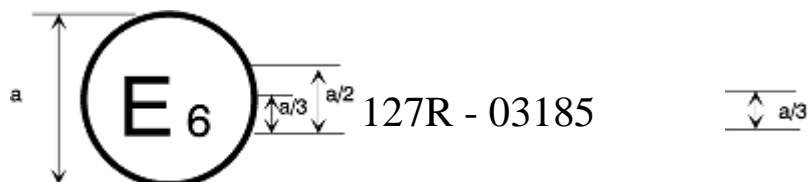
<i>point</i>	<i>WAD</i>	<i>Y-coordinate³</i>	<i>Impact speed</i>	<i>HIC value</i>
1.				
2.				
...				

WAD 2,100 boundary in accordance with paragraphs 11.9 to 11.11: applicable / not applicable"

Annex 2, amend to read:

"Arrangements of approval marks

(See paragraphs 4.4. to 4.4.2. of this Regulation)



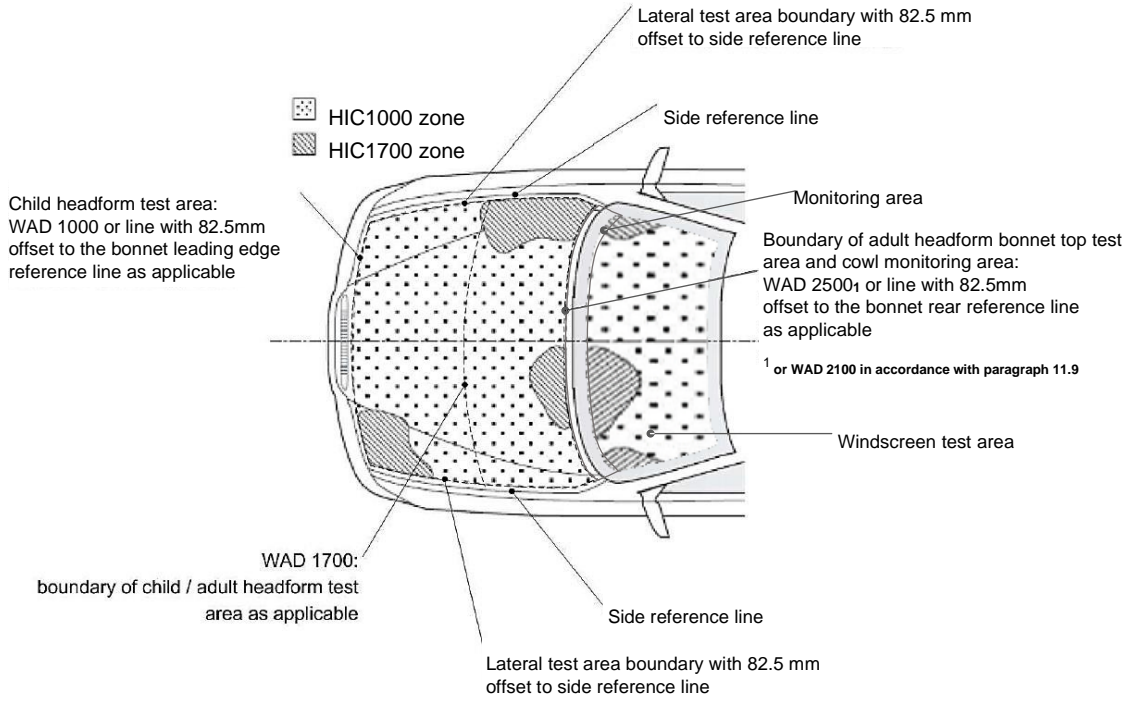
a = 8 mm min

The ... by the **03** series of amendments."

³ Coordinate system as defined by appendix 2 to annex 1 of the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.6 - <https://unece.org/transport/standards/transport/vehicle-regulations-wp29/resolutions>

Annex 5, Figure 5., replace by:

"Figure 5



..."

Annex VI

Draft amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/7 (see paragraph 20 of this report)

Paragraph 6.6.4.5.1., amend to read:

"6.6.4.5.1. Main injury assessment criterion — Head containment

At the start of the lateral impact test, side protection shall be positioned at the same horizontal level and longitudinal position as that of the dummy's head centre of gravity, between the vertical longitudinal planes of the head and the door panel.

During the loading phase of lateral impact testing, up to 80 ms, head containment shall be assessed by the following criteria:

- (a) No head ... panel;
- (b) **No part of the head shall pass beyond the vertical longitudinal plane identified by a red on top of the door panel (top view camera). This vertical longitudinal plane is defined in annex 6, appendix 3, Figure 1 ("head containment plane"). This criterion is ..."**

Annex VII

Draft amendments to UN Regulation No. 136 (Electric vehicle L)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/22 (see paragraph 24 of this report)

Insert new paragraph 2.47., to read:

"2.47. "Specific voltage condition" means the condition that the maximum voltage of a galvanically connected electrical circuit between a DC live part and any other live part (DC or AC) is ≤ 30 V AC (rms) and ≤ 60 V DC.

***Note 1:* When a DC live part of such an electrical circuit is connected to electrical chassis and the specific voltage condition applies, the maximum voltage between any live part and the electrical chassis is ≤ 30 V AC (rms) and ≤ 60 V DC.**

***Note 2:* For pulsating DC voltages (alternating voltages without change of polarity) the DC threshold shall be applied."**

Annex VIII

[English only]

List of GRSP informal working groups

<i>Informal working group</i>	<i>Chair</i>	<i>Expiry date of the mandate [pending WP.29 decision]</i>	<i>Secretary</i>
Harmonized side impact dummies	Mr. David SUTULA (USA) Phone: +1 202 366 32 73 Fax: +1 202 493 29 90 Email: david.sutula@dot.gov	Suspended	
Head Restraints (GTR7-Phase 2)	Mr. Bernard FROST (UK) Phone: +44(0)207 9442107 Fax: +44(0)207 9449623 Email: bernie.frost@dft.gsi.gov.uk	Dissolved	OICA
UN GTR No. 9 on Pedestrian Safety Deployable – Pedestrian Protection Systems (DPPS)	Mr. Jin Seop PARK (Republic of Korea) Email: jspark@kotsa.or.kr	November 2022	OICA
UN GTR No. 20 (EVS) – Phase 2	Mr. Martin KOUBEK (USA) and vice-chaired by EC, Japan, and China) Phone: +1 202 366 4026 Email: martin.koubek@dot.gov	June 2023	Japan
Three-dimensional H-point machine	Mr. Luis MARTINEZ (Spain) Phone: +34 91 336 53 00 Fax: +34 91 336 53 02 Email: luis.martinez@upm.es	[...]	
UN GTR No. 13 (HFCV) – Phase 2	Mr. Martin KOUBEK (USA)(co-chaired by Japan and vice-chaired by China and Republic of Korea) Phone: +1 202 366 4026 Email: martin.koubek@dot.gov	[December 2022]	[...]
Protective helmets	Mr. Luca ROCCO Phone: +39 06 4158 3268 Fax: +39 06 4158 3253 Email: luca.rocco@mit.gov.it	Suspended	
Securing children in buses and coaches	Ms. Marta ANGLES Phone: +34 977 166 020 Fax: ++34 977 166 009 Email: mangles@idiada.com]	March 2023	

Annex IX

[English only]

Decisions submitted to silence procedure following formal meetings with remote participation of the Working Party on Passive Safety (GRSP), 10 December 2021

Adopted text based on GRSP-70-34-Rev.3 (see paragraph 46 of this report)

<i>Decision No.</i>	<i>Agenda item</i>	<i>Decision</i>
1	1	In accordance with Chapter III, Rule 7 of the Rules of Procedure (TRANS/WP.29/690/Rev.1) of the World Forum for Harmonization of Vehicle Regulations (WP.29), GRSP considered and adopted the agenda (ECE/TRANS/WP.29/GRSP/2021/17) proposed for the seventieth session, the running order (GRSP-70-10-Rev.2), virtual meeting guidelines (GRSP-70-08) and the annotations (GRSP-70-16-Rev.2).
2	23	GRSP elected Mr M. Koubek (USA) as Chair and Mr. H. G. Kim (Rep. of Korea) as Vice Chair for the GRSP sessions scheduled for 2022
3	8	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/24 as amended by GRSP-70-14. The secretariat was requested to submit the proposal as draft Supplement 2 to the 06 series of amendment to UN Regulation No. 22 (Protective helmets), for consideration and vote at the June 2021 sessions of WP.29 and to the AC.1.
4	14	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/23, not amended. The secretariat was requested to submit the proposal as draft Supplement 4 to the 01 series of amendment and as Supplement 3 to the 02 series of amendments to UN Regulation No. 137 (Frontal impact with focus on restraint systems) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.
5	16	GRSP agreed to revise ECE/TRANS/WP.29/2021/29, Proposal for Supplement 2 to UN Regulation No. 153 (Fuel system integrity and electric power train safety at rear-end collision), through a small drafting group of interested experts and resume consideration on a revised proposal on this subject at its May 2022 session.
6	24(g)	GRSP noted that since 1999 over 2300 lateral impact barriers produced (used by Technical Services for type approval testing) had a parameter (front plate elongation break requirement) not complying with the requirement requested by UN Regulation No. 95. GRSP requested its experts to investigate and report at its May 2022 session on the consequences of non-compliance of the barriers that had possibly led to non-compliance to UN Regulation No. 95 of 20 years of vehicle production.
7	6	GRSP agreed to resume discussion on a revised version of ECE/TRANS/WP.29/GRSP/2021/20 (UN Regulation No. 16), updating drawings of fixtures of booster seats, at its May 2022 session requiring

<i>Decision No.</i>	<i>Agenda item</i>	<i>Decision</i>
		more evidence in crash situation in real vehicles, in side impact and offset configuration
8	6	GRSP agreed to resume discussion on a revised version of ECE/TRANS/WP.29/GRSP/2021/25 (UN Regulation No.16), on the extension of the support-leg, at its May 2022 session requesting more evidence in real crash.
9	6	GRSP requested a study reservation on ECE/TRANS/WP.29/GRSP/2021/19 (UN Regulation No. 16), concerning the safety-belts of seat positions equipped with the lower ISOFIX anchorages, and resume discussion at its May 2022 session.
10	6	GRSP agreed to resume discussion ECE/TRANS/WP.29/GRSP/2019/15 (UN Regulation No.16), on frontal air-bag in rear seats, on the basis of a possible revised proposal.
11	6	GRSP agreed to resume discussion on the proposal from the expert from Finland to introduce three-points safety belts on buses on the basis of broader data.
12	11	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/7 as amended by GRSP-70-05 (UN Regulation No. 129). The secretariat was requested to submit the proposal as draft Supplement 7 to the 03 series of amendment to UN Regulation No. 129 (Enhanced Child Restraint Systems) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.
13	11	GRSP agreed to resume discussion on a revised version of ECE/TRANS/WP.29/GRSP/2021/26 (UN Regulation No. 129), on the extension of the support-leg, at its May 2022 session requesting more evidence in real crash.
14	11	GRSP endorsed in principle, as a pragmatic solution, the proposal from the expert from CLEPA introducing the neck tension force limits based on measured type-approval monitoring data as proposed in GRSP-68-05. GRSP requested to continue share information at its May 2022 session on this subject awaiting an official proposal from the expert from CLEPA based on GRSP-68-05.
15	15	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/27 not amended. The secretariat was requested to submit the proposal as draft Supplement 2 to the original version of UN Regulation No. 145 (ISOFIX anchorage systems, ISOFIX top-tether anchorages and i-size) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.
16	9	GRSP adopted GRSP-70-26. The secretariat was requested to submit the proposal as draft Supplement 2 to the 03 series of amendments to UN Regulation No. 100 (Electric power trained vehicles) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.
17	7	GRSP agreed to resume consideration at its next sessions on the basis of GRSP-70-27 and accident data (UN Regulation No. 17), and GRSP-70-27 will be kept as an informal document for the May 2022 session.
18	7	The expert from OICA withdrew ECE/TRANS/WP.29/GRSP/2020/12 and GRSP agreed to remove this subject (height of head restraints/low roof construction) from the agenda of the next session

<i>Decision No.</i>	<i>Agenda item</i>	<i>Decision</i>
19	2(a)	The informal task force on Amendment 3 reported it had not reached an agreement by the time of the December 2021 session of GRSP. Therefore, GRSP is not able to recommend Amendment 3 to AC.3 at this time.
20	10	GRSP adopted ECE/TRANS/WP.29/2021/28 as amended by GRSP-70-21-Rev.1. The secretariat was requested to submit the proposal as draft 03 series of amendments to UN Regulation No. 127 (Pedestrian safety) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.
21	10	GRSP agreed to distribute GRSP-70-17 (superseding ECE/TRANS/WP.29/2019/18) with an official symbol at its May 2022 session.
22	5	GRSP adopted ECE/TRANS/WP.29/2021/18 as amended by GRSP-70-31. The secretariat was requested to submit the proposal as draft 05 series of amendments to UN Regulation No. 12 (Steering mechanism) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.
23	3	GRSP agreed to extend the mandate of the IWG on Hydrogen and Fuel Cells Vehicles until December 2022 and submitted this request for endorsement to AC.3 March 2022 session.
24	12	GRSP adopted ECE/TRANS/WP.29/2021/21 not amended. The secretariat was requested to submit the proposal as draft 02 series of amendments to UN Regulation No. 135 (Pole Side Impact) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.1.
25	2(b)	GRSP agreed that the Informal Working Group on Deployable Pedestrian Protection Systems shall finish its work under the mandate given by AC.3 without getting occupied and distracted with other side discussions.
26	2(b)	GRSP, agreed, that the request by Japan to allow optional alternatives could be temporarily resolved by including the statement in the preamble (Part A) in brackets. This to give to Contracting Parties further time to consider and a final decision on removing those brackets could be made when the draft is reviewed by GRSP in May 2022.
27	13	GRSP adopted ECE/TRANS/WP.29/2021/22 as amended by GRSP-70-24. The secretariat was requested to submit the proposal as draft 01 series of amendments to UN Regulation No. 136 (Electric vehicle L) for consideration and vote at the June 2022 sessions of WP.29 and to the AC.
28	13	GRSP noted that removable Rechargeable Electric Energy Storage System approval does not seem to cover replacement units. Following the request of the expert from EC GRSP asked CPs to reflect whether or not this should be facilitated in the future and to report at the next GRSP sessions.
29	24(h)	GRSP endorsed with no amendments ECE/TRANS/WP.29/2021/148 on vehicle whole life compliance.

<i>Decision No.</i>	<i>Agenda item</i>	<i>Decision</i>
30	18	GRSP agreed the ad hoc group of experts on female occupant protection can continue to review existing research/share ongoing research and when a decision would be reached an IWG would perhaps be needed.
31	20	GRSP agreed that there are no need to make a decision on questions raised by the expert from Rep. of Korea on safety issues related to autonomous vehicles (GRSP-70-15) and that these should first be considered by GRVA and its sub-groups.
32	22	GRSP agreed that status of priorities of GRSP (contained in GRSP-70-11) doesn't need to be updated until the next submission of priorities in December 2022, since this reflects plans for 2021, and it isn't a document that needs updating every time GRSP would make progress on an issue. The document GRSP-70-11 accurately reflects the 2021 priorities submitted by GRSP to WP.29.
33	24(a)	GRSP requested non-European Union Contracting Parties to the 1958 Agreement to report about their intention to continue/discontinue sales after 1 September 2023, of Child Restraint Systems type approved according to UN Regulation No. 44.
34	24(f)	GRSP agreed to continue discussion on the issue of children left in cars sharing data and outcome of research at its future sessions.
