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EAST AFRICAN STANDARD

Road vehicles — Strength of seats and their anchorages for large passenger buses

EAST AFRICAN COMMUNITY

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

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East African Community

P O Box 1096

Arusha

Tanzania

Tel: 255 27 2504253/8

Fax: 255-27-2504481/2504255

E-Mail: eac@eachq.org

Web: www.each.int

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Road vehicles — Strength of seats and their anchorages of large passenger buses

1 Scope

1.1 This Regulation applies to seats in vehicles of categories M2 and M3¹, except vehicles of class I, as defined in paragraph 2.1.1 of Regulation No. 36 and class A, as defined in paragraph 2.1.1 of Regulation No. 52, in respect of:

1.1.1 Every passenger seat intended to be installed facing forwards;

1.1.2 The seat anchorages provided in the vehicle and intended to be fitted with the seats indicated in paragraph 1.1, or any other type of seat likely to be fitted on these anchorages.

1.2 As an alternative to this Regulation and at the request of the manufacturer vehicles of category M2 may be approved to Regulation No. 17.

1.3 Vehicles where some seats benefit from the derogation provided in paragraph 7.4 to Regulation No. 14 shall be approved to this Regulation.

2 Definitions

For the purposes of this Regulation:

2.1

Approval of a seat

means an approval of a seat type as a component in relation to the protection of the occupants of forward-facing seats with regard to their strength and the design of the seat backs;

2.2

Approval of a vehicle

means an approval of a vehicle type with regard to the strength of the parts of the vehicle structure to which seats are to be secured, and with regard to the installation of seats;

2.3

Seat type

means seats which do not differ essentially with respect to the following characteristics likely to affect their strength and their aggressiveness:

2.3.1

Structure, shape, dimensions and materials of the load bearing parts;

2.3.2

Types and dimensions of the seat back adjustment and locking system;

2.3.3

Dimensions, structure and materials of the attachments and supports (e.g. legs);

2.4

Vehicle type

means vehicles which do not differ essentially in respect of:

2.4.1

the constructional features relevant to this Regulation; and,

¹ As defined in the Consolidated resolution on the Construction of vehicles (R.E.3), Annex 7 (document TRANS/WP.29/78/Rev.1)

2.4.2

the type or types of type approved seat(s) fitted to the vehicle, if any.

2.5

Seat

means a structure likely to be anchored to the vehicle structure, including its trim and attachment fittings, intended to be used in a vehicle, and to seat one or more adult persons;

2.6

Individual seat

means a seat designed and constructed for the accommodation of one seated passenger;

2.7

Double seat

means a seat designed and constructed for the accommodation of two seated passengers side by side; two seats side by side and having no interconnection shall be regarded as two individual seats;

2.8

Row of seats

means a seat designed and constructed for the accommodation of three or more seated passengers side by side; several individual or double seats arranged side by side shall not be regarded as a row of seats;

2.9

Seat cushion

means the part of the seat which is arranged almost horizontally and designed to support a seated passenger;

2.10

Seat-back

means the part of the seat that is almost vertical, designed to support the passenger's back, shoulders and, possibly, his head;

2.11

Adjustment system

means the device by which the seat or its parts can be adjusted to a position suited to the seated occupant;

2.12

Displacement system

means a device enabling the seat or one of its parts to be displaced laterally or longitudinally without a fixed intermediate position of the seat or one of its parts, to facilitate access by passengers;

2.13

Locking system

means a device ensuring that the seat and its parts are maintained in the position of use;

2.14

Anchorage

means a part of the floor or of the body of a vehicle to which a seat may be fixed;

2.15

Attachment fittings

means bolts or other components used to attach the seat to the vehicle;

2.16

Trolley

means the test equipment made and used for dynamic reproduction of road accidents involving frontal collision;

2.17**Auxiliary seat**

means a seat for the manikin mounted on the trolley to the rear of the seat to be tested. This seat shall be representative of the seat to be used in the vehicle behind the seat to be tested.

2.18**Reference plane**

means the plane passing through the points of contact of the heels of the manikin, used for the determination of the H point and the actual angle of torso for the seating position of motor vehicles according to the prescriptions of annex 4;

2.19**Reference height**

means the height of the top of the seat above the reference plane;

2.20**Manikin**

a manikin corresponding to the specifications for HYBRID II or III ¹⁾

2.21**Reference zone**

means the space between two vertical longitudinal planes, 400 mm apart and symmetrical with respect to the H-point, and defined by rotation from vertical to horizontal of the headform apparatus, described in Regulation No. 21, annex 1. The apparatus shall be positioned as described in that annex of Regulation No. 21 and set to its maximum length of 840 mm and its minimum length of 736 mm for residual limitation of said space.

2.22**3-point belt**

for the purposes of this Regulation also includes belts with more than three anchorage points

2.23**Seat spacing**

means, in the case of seats facing in the same direction, the distance between the front of a seat squab and the back of the seat squab of the seat preceding it, measured horizontally at the height of 620 mm above the floor

3 Application for approval

3.1 The application for approval of a seat shall be submitted by the seat manufacturer or by his duly accredited representative.

3.2 The application for approval of the vehicle shall be submitted by the vehicle manufacturer or by his duly accredited representative.

3.3 The application for approval of a seat or a vehicle shall be accompanied by the following documents in triplicate and the following particulars:

3.3.1 For approval of a seat:

3.3.1.1 A detailed description of the seat, its attachment fittings and its adjustment, displacement and locking systems;

¹⁾ The technical specifications and detailed drawings of HYBRID II and III, corresponding to the principal dimensions of the fiftieth percentile male of the United States of America, and the specifications for its adjustment for this test are deposited with the Secretary-General of the United Nations and may be consulted on request at the secretariat of the Economic Commission for Europe, Palais des Nations, Geneva, Switzerland.

3.3.1.2 Drawings, on an appropriate scale and in sufficient detail, of the seat, its attachment fittings and adjustment, displacement and locking systems;

3.3.2 For approval of a vehicle:

3.3.2.1 A detailed description of the parts of the structure of the vehicle used as anchorages;

3.3.2.2 Drawings, on an appropriate scale and in sufficient detail, of the parts of the vehicle used as anchorages.

3.4 The following shall be submitted to the technical service responsible for the approval tests:

3.4.1 Two seats representative of the type to be approved, in the case of approval of a seat,

3.4.2 A part of the vehicle structure, in the case of approval of a vehicle.

4 Approval

4.1 If the seat submitted for approval under this Regulation meets the relevant requirements of paragraph 5 below, approval of that seat type shall be granted.

4.2 If the vehicle submitted for approval under this Regulation meets the relevant requirements of paragraph 6 and 7 below, approval of that vehicle type shall be granted.

4.3 An approval number shall be assigned to each type approved. Its first two digits (at present 01, corresponding to the 01 series of amendments) shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party shall not assign the same number to any other seat type or any other vehicle type.

4.4 Notice of approval or of extension or refusal of approval of a seat type and/or a vehicle type pursuant to this Regulation shall be communicated to the Parties to the 1958 Agreement applying this Regulation, by means of a form conforming to the model in annex 1 and/or annex 2 to this Regulation.

4.5 There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every seat conforming to a seat type approved under this Regulation and to every vehicle conforming to a vehicle type approved under this Regulation an international approval mark consisting of:

4.5.1 A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval;²⁾

4.5.2 The number of this Regulation, followed by the letter R, a dash and the approval number, placed to the right of the circle prescribed in paragraph 4.5.1;

4.6 The approval mark shall be clearly legible and shall be indelible.

²⁾ 1 for Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for the Czech Republic, 9 for Spain, 10 for Serbia, 11 for the United Kingdom, 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 (vacant), 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland, 21 for Portugal, 22 for the Russian Federation, 23 for Greece, 24 for Ireland, 25 for Croatia, 26 for Slovenia, 27 for Slovakia, 28 for Belarus, 29 for Estonia, 30 (vacant), 31 for Bosnia and Herzegovina, 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35 (vacant), 36 for Lithuania, 37 for Turkey, 38 (vacant), 39 for Azerbaijan, 40 for The former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (Approvals are granted by its Member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia, 46 for Ukraine, 47 for South Africa, 48 for New Zealand, 49 for Cyprus, 50 for Malta, 51 for the Republic of Korea, 52 for Malaysia and 53 for Thailand, 54 and 55 (vacant) and 56 for Montenegro. Subsequent numbers shall be assigned to other countries in the chronological order in which they ratify or accede to the 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, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

4.7 As the case may be, the approval mark shall be placed on the seat or seats or on, or close to, the data plate affixed to the vehicle by the manufacturer.

4.8 Examples of arrangements of approval marks are given in annex 3.

5 Requirements for seats

5.1 Each type of seat shall be subject to the test requirements of either appendix 1 (dynamic test) or appendices 5 and 6 (static test) at the request of the manufacturer.

5.2 The tests which the seat type has passed shall be recorded in the communication form concerning the approval of a seat type and conforming to the model in annex 1.

5.3 Every adjustment and displacement system provided shall incorporate a locking system, which shall operate automatically.

5.4 The adjustment and locking systems shall not be required to be in full working order after the test.

6 Requirements for seat anchorages in a vehicle type

6.1 The anchorages for the seats of the vehicle shall be capable of withstanding:

6.1.1 either the test described in appendix 2;

6.1.2 or, if a seat is mounted on the part of the vehicle structure being tested, the tests prescribed in appendix 1. The seat need not to be an approved seat provided that it satisfies the requirements of paragraph 3.2.1 of the above mentioned appendix.

6.2 Permanent deformation, including breakage, of an anchorage or of the surrounding area shall be permissible provided that the prescribed force has been sustained throughout the prescribed period.

6.3 When there is more than one type of anchorage on a vehicle, each variant shall be tested in order to obtain an approval for the vehicle.

6.4 One test may be used to approve simultaneously a seat and a vehicle.

6.5 In the case of vehicles of category M3, seat anchorages shall be deemed to comply with the requirements of paragraphs 6.1 and 6.2 if the safety-belt anchorages of the corresponding seating positions are fitted directly to the seats to be installed and these belt anchorages comply with the requirements of Regulation No. 14, if necessary with the derogation provided in paragraph 7.4.

7 Requirements for installation of seats in a vehicle type

7.1 All forward-facing seats installed shall be approved to the requirements of paragraph 5 of this Regulation and subject to the following conditions:

7.1.1 the seat shall have a reference height of at least 1 m; and

7.1.2 the H-point of the seat immediately behind shall be less than 72 mm higher than the H-point of the seat in question or, if the seat behind has the H-point more than 72 mm higher, the seat in question shall be tested and approved for installation in such a position.

7.2 When approved to appendix 1, test 1 and 2 shall apply, except as follows:

7.2.1 Test 1 shall not apply where the rear of the seat cannot be struck by an unrestrained passenger (i.e. there is no forward-facing seat directly behind the seat to be tested).

7.2.2 Test 2 shall not apply

7.2.2.1 if the rear of the seat cannot be struck by a restrained passenger; or

7.2.2.2 if the seat behind is fitted with a 3-point belt with anchorages that comply fully with Regulation No. 14 (without derogation); or

7.2.2.3 if the seat fulfils the requirements of appendix 6 to this Regulation.

7.3 When approved to appendices 5 and 6, all tests shall apply, except as follows:

7.3.1 The test of appendix 5 shall not apply if the rear of the seat cannot be struck by an unrestrained passenger (i.e. there is no forward-facing seat directly behind the seat to be tested).

7.3.2 The test of appendix 6 shall not apply:

7.3.2.1 if the rear of the seat cannot be struck by a restrained passenger; or

7.3.2.2 if the seat behind is fitted with a 3-point belt with anchorages that comply fully with Regulation No. 14 (without derogation)

8 Conformity of production

The conformity of production procedures shall comply with those set out in the Agreement, appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements:

8.1 Seats and or vehicles approved to this Regulation shall be so set out in paragraphs 5, 6 and 7.

8.2 In order to verify that the requirements of paragraph 8.1 are met, suitable controls of the production shall be carried out. In this case, suitable controls means checking the dimensions of the product as well as the existence of procedures for the effective control of the quality of products.

8.3 The competent authority which has granted type approval may at any time verify the conformity control methods applicable to each production unit and carried out for the approval. The normal frequency of these verifications shall be once a year.

9 Penalties for non-conformity of production

9.1 The approval granted in respect of a seat type and/or a vehicle type pursuant to this Regulation may be withdrawn if the requirements set forth above are not met.

9.2 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 1 and/or annex 2 to this Regulation.

10 Modification and extension of approval of the seat type and/or the vehicle type

10.1 Every modification of the seat type and/or the vehicle type shall be notified to the administrative department which approved the seat type and/or the vehicle type. The department may then either:

10.1.1 Consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the seat and/or the vehicle still complies with the requirements; or

10.1.2 Require a further test report from the technical service responsible for conducting the tests.

10.2 Confirmation or refusal of approval, specifying the alterations shall be communicated by the procedure specified in paragraph 4.4 above to the Parties to the Agreement applying this Regulation.

10.3 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 1 and/or annex 2 to this Regulation.

11 Production definitely discontinued

If the holder of the approval completely ceases to manufacture a vehicle type approved in accordance with this Regulation, he 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 1 and or annex 2 to this Regulation.

12 Transitional provisions

12.1 As from the official date of entry into force of the 01 series of amendments, no Contracting Party applying this Regulation shall refuse to grant ECE approvals under this Regulation as amended by the 01 series of amendments.

12.2 As from 1 October 1999 for vehicles of category M₂ with a maximum mass not exceeding 3,500 kg, and as from the sixtieth day after the entry into force of the 01 series of amendments to this Regulation for vehicles of category M₃, Contracting Parties applying this Regulation shall grant ECE approvals only if the requirements of this Regulation, as amended by the 01 series of amendments, are satisfied.

12.3 As from 1 October 2001 for vehicles of category M₂ with a maximum mass not exceeding 3,500 kg, and as from 1 October 1999 for vehicles of category M₃, Contracting Parties applying this Regulation may refuse to recognize approvals which were not granted in accordance with the 01 series of amendments to this Regulation.

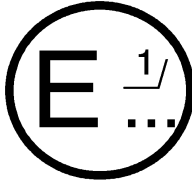
13 Names and addresses of technical services responsible for conducting approval tests and of administrative departments

The Parties to the 1958 Agreement applying this Regulation shall communicate to the United Nations Secretariat the names and addresses of the technical services responsible for conducting approval tests and of the administrative departments which grant approval and to which forms certifying approval or extension or refusal or withdrawal of approval, issued in other countries, are to be sent.

Annex 1

Communication

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



issued by: Name of administration:

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

concerning: 2/ APPROVAL GRANTED

APPROVAL EXTENDED

APPROVAL REFUSED

APPROVAL WITHDRAWN

PRODUCTION DEFINITELY DISCONTINUED

of a seat type or types with regard to its (their) strength pursuant to Regulation/No./80

Approval No. Extension No.

1. Trade name or mark of the seat:

2. Seat Type:

3. Manufacturer's name and address:

4. If applicable, name and address of the manufacturer's representative:
.....

5. Additional information:

5.1 Brief description of the seat type, its attachment fittings and its adjustment, displacement and locking systems including the minimum distance between fitting points:
.....

5.2. Position and arrangement of seats:.....

5.3. Seats, if any, which incorporate a safety belt anchorage:.....

5.4. Energy absorption test of the rear part of the seat-back: yes/no

5.5. Drawings showing the area of the rear part of the seat-back verified for energy dissipation:.....

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- 5.6. Seat approved in accordance with Paragraph 5.1 of this Regulation (dynamic test): yes/no 2/
- 5.6.1. Test 1 according to Appendix 1: yes/no 2/
- 5.6.2. Test 2 according to Appendix 1: yes/no 2/
- 5.6.3. Description of the safety-belts and anchorages used for the purpose of Test 2:.....
.....
- 5.6.4. Type of auxiliary seat used for Test 2 (if different from the type of seat approved):.....
- 5.7. Seat approved in accordance with paragraph 5.1 of this Regulation (static test): yes/no 2/
- 5.8. Test according to Appendix 5: yes/no 2/
- 5.9. Test according to Appendix 6: yes/no 2/"
- 6. Seat submitted for approval on:
- 7. Technical service, responsible for the approval test:
- 8. Date of report issued by that service:
- 9. Number of report issued by that service:
- 10. Approval granted/refused/extended/withdrawn: 2/
- 11. Position of approval mark on the seat:
-
- 12. Place:
- 13. Date:
- 14. Signature:
- 15. The following documents, bearing the approval number shown above, are available on request:

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

2/ Strike out what does not apply.

3/ "D" corresponds to the test described in paragraph 2 of annex 4 and "S" to the test described in paragraph 3 of annex 4.

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Annex 2

Communication

(maximum format: A4 (210 × 297 mm))

issued by:

Name of administration:



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

concerning: 2/ APPROVAL GRANTED

APPROVAL EXTENDED

APPROVAL REFUSED

APPROVAL WITHDRAWN

PRODUCTION DEFINITELY DISCONTINUED

of a type of: vehicle with regard to the strength of the seat anchorages pursuant to Regulation No. 80

Approval No. Extension No.

1. Trade name or mark of the vehicle:

2. Vehicle Type:

3. Manufacturer's name and address:

4. If applicable, name and address of the manufacturer's representative:

5. Additional information:

5.1 Brief description of the vehicle type according to its anchorages and minimum value of the distance between the anchorages:

5.2 Make and type of type approved seats (if any):.....

5.3 For each row of seats: individual/bench, fixed/adjustable, fixed back/adjustable back, tipping back/inclining back 2/

5.4 Position and arrangement of seats (type approved seats and other seats):.....

5.5. Seats, if any, which incorporate a safety belt anchorages:.....

6. Vehicle submitted for approval on:

7. Technical service, responsible for the approval test:

8. Date of report issued by that service:

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- 9. Number of report issued by that service:
- 10. Approval granted/refused/extended/withdrawn: 2/
- 11. Location of approval mark on the vehicle:
- 12. Place:
- 13. Date:
- 14. Signature:
- 15. The following documents, bearing the approval number shown above, are available on request:

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

2/ Strike out what does not apply.

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