



Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Noise and Tyres****Seventy-ninth session**

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Item 7 (c) of the provisional agenda

Tyres: UN Regulations on retreaded tyres**Proposal for the 01 series of amendments to UN Regulation
No. 108****Submitted by the small working group on retreaded tyres***

The text reproduced below was prepared by the experts from the small working group on retreaded tyres with the aim to move the prescriptions for snow grip performance of retreaded tyres from UN Regulation No. 108 to a new dedicated UN Regulation on type approval of retreaded tyres of classes C1, C2 and C3 with respect to their snow grip performance and/or classification as traction tyre. The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



I. Proposal

Table of contents,

Add a new chapter 13 to read:

"13. Transitional provisions"

Annex 4, amend to read:

~~"Annex 4-List of load indices and corresponding load capacities~~ **"Load-capacity indices"**

Annex 7, amend to read:

~~"Annex 7 - Procedure for load/speed endurance~~ **"performance tests"**

Annex 9 and its Appendices 1 and 2, delete:

~~"Annex 9 - Procedures for snow performance testing relative to snow tyre for use in severe snow conditions~~

~~Appendix 1 - Pictogram definition of Alpine Symbol~~

~~Appendix 2 - Test reports and test data for C1 tyres"~~

Paragraph 1.1., amend to read:

"1. Scope

This Regulation covers the production of retreaded **pneumatic** tyres ^{*/, **/} designed primarily for vehicles of category M1, N1, O1 and O2. ^{1*/, 2**/} However, it does not apply to the production of:"

Paragraph 1.1., amend to read:

"1.1. Retreaded tyres with a speed ~~category symbol capability~~ below 120 km/h or above 300 km/h;"

Paragraph 1.3., amend to read:

"1.3. Tyres originally produced without **UN Regulation No. 30** type approval ~~and without either an "E" or "e" mark;~~"

Paragraph 1.4., amend to read:

"1.4. Tyres designed **primarily** for the equipment of **vintage** cars ~~produced prior to 1939;~~"

Paragraph 1.5., amend to read:

"1.5. Tyres designed ~~exclusively~~ **primarily** for competitions ~~or off road use and marked accordingly;~~"

Paragraph 1.6., amend to read:

"1.6. Tyres designated as ~~"T-type"~~ **"T-type"** temporary use spares."

Add a new paragraph 1.7. to read:

"1.7. Tyres of "Run flat tyre" structure ^{3/}."

^{*/} For the purpose of this Regulation "tyres" means "pneumatic tyres".

^{**/} Retreaded tyres are refurbished tyres after retreading process.

^{1*/} As defined in Annex 7 to the Consolidated Resolution on the Construction of Vehicles (R.E.3) (document TRANS/WP.29/78/Rev.1 as last amended by Amend. 4).

^{2**/} This Regulation defines requirements for tyres as a component. It does not limit their installation on any categories of vehicles.

^{3/} Tyres having the letters "RF" placed in front of the rim diameter marking (e.g. 235/45 RF 17).

Paragraph 2.1., amend to read:

- "2.1. ~~"Range of retreaded pneumatic tyres"~~ means **"Range of retreaded pneumatic tyres"** means a range of retreaded pneumatic tyres as quoted in paragraph 4.1.4."

Paragraphs 2.2, 2.2.1., 2.2.2. and 2.2.3., amend to read:

- "2.2. ~~"Structure"~~ **"Structure"** of a pneumatic tyre means the technical characteristics of the tyre's carcass. The following structures are distinguished in particular:
- 2.2.1. ~~"Diagonal"~~ **"Diagonal"** or ~~"Bias ply"~~ **"bias-ply"** describes a pneumatic tyre **tyre** structure in which the ply cords **that** extend to the beads ~~and~~ are laid at alternate angles substantially less than 90° to the centreline of the tread.
- 2.2.2. ~~"Bias belted"~~ **"Bias-belted"** describes a pneumatic tyre ~~tyre~~ structure of diagonal (bias ply) type in which ~~the carcass is stabilized~~ **the ply cords that extend to the beads are laid at alternate angles of substantially less than 90° to the centre line of the tread, the structure being restricted** by a belt, comprising two or more layers of substantially inextensible cord material ~~laid at alternate angles close to those of the carcass.~~
- 2.2.3. ~~"Radial"~~ **"Radial"** or ~~"radial ply"~~ **"radial-ply"** describes a tyre structure in which the ply cords extend to the beads and are laid substantially at 90° to the ~~centreline~~ **centre line** of the tread, ~~the carcass being stabilized by an essentially inextensible circumferential belt in a zone including most of the side wall and located outside the bead and the essentially inextensible circumferential belt that stabilizes the carcass.~~

Paragraphs 2.3., 2.3.1. and 2.3.2., amend to read:

- "2.3. **"Category of use":**
- 2.3.1. "Normal tyre" means a tyre intended for normal on-road use.
- 2.3.2. "Snow tyre" means a tyre whose tread pattern, tread compound or ~~structure,~~ **are** ~~construction is~~ primarily designed to achieve, in **mud and/or** snow conditions a performance better than that of a normal tyre with regard to its ability to initiate ~~or maintain~~ **and control** vehicle motion."

Paragraph 2.7.2., delete:

- ~~"2.7.2. **"Bias belted"** describes a pneumatic tyre structure of diagonal (bias ply) type in which the carcass is stabilised by a belt, comprising two or more layers of substantially inextensible cord material laid at alternate angles close to those of the carcass;"~~

Paragraph 2.3.2.1., renumber as 2.55. and amend to read:

- ~~"2.553.2.1. **"Snow Tyre for use in severe snow conditions"** means a snow tyre or a special use tyre whose major features including tread pattern, tread compound or structure is are specifically designed to be used in severe snow conditions and that fulfils the requirements of paragraph 7.2.6.1. of this UN Regulation No. [XXX]."~~

Paragraph 2.3.4., amend to read:

- "2.3.4. ~~Temporary use spare tyre~~ **"Temporary use spare tyre"** is a tyre different from that intended to be fitted to any vehicle for normal driving conditions but intended only for temporary use under restricted driving conditions."

Paragraph 2.3.3.1., renumber as 2.56. and amend to read:

- ~~"2.563.3.1. **"Professional off-road tyre"** is a special use tyre primarily used for service in severe off-road conditions."~~

Paragraphs 2.3.5., delete:

~~"2.3.5. "T" type temporary use spare tyre is a type of temporary use spare tyre designed for use at inflation pressures higher than those established for standard and reinforced tyres."~~

Paragraph 2.3.6., renumber as 2.54. and amend to read:

"2.54.6. "Reinforced" or "Extra Load" means a ~~pneumatic-tyre structure-tyre~~ designed to carry more load at a higher inflation pressure than the load carried by the corresponding standard version tyre at the standard inflation pressure as specified in ISO 4000-1:2010**2021**."

Paragraphs 2.4. to 2.20., amend to read:

- "2.4. ~~"Bead"~~ **"Bead"** means the part of a ~~pneumatic-tyre-tyre~~ which is of such shape and ~~structure-construction~~ as to fit the rim and hold the tyre on it.
- 2.5. ~~"Cord"~~ **"Cord"** means the strands forming the fabric of the plies in the pneumatic-tyre.
- 2.6. ~~"Ply"~~ **"Ply"** means a layer of "rubber" coated parallel cords.
- 2.7. ~~"Belt"~~ **"Belt"** applies to a radial ply or bias belted tyre and means a layer or layers of material or materials underneath the tread, laid substantially in the direction of the centre line of the tread to restrict the carcass in a circumferential direction.
- 2.8. ~~"Breaker"~~ **"Breaker"** applies to a diagonal ply tyre and means an intermediate ply between the carcass and tread.
- 2.9. ~~"Chafer"~~ **"Chafer"** means material in the bead area to protect the carcass against chafing or abrasion by the wheel rim.
- 2.10. ~~"Carcass"~~ **"Carcass"** means that structural part of a pneumatic-tyre other than the tread and outermost "rubber" of the sidewalls which, when inflated, supports the load.
- 2.11. ~~"Tread"~~ **"Tread"** means that part of a pneumatic-tyre which is designed to come into contact with the ground, protects the carcass against mechanical damage and contributes to ground adhesion.
- 2.12. ~~"Sidewall"~~ **"Sidewall"** means the part of a pneumatic tyre between the tread and the area designed to be covered by the rim flange.
- 2.13. ~~"Lower area of tyre"~~ **"Lower area of the sidewall"** means the area included between the line of maximum section width of the tyre and the area designed to be covered by the edge of the rim.
- 2.14. ~~"Tread groove"~~ **"Tread pattern groove"** means the space between ~~the two~~ adjacent ribs or blocks in the tread pattern.
- 2.15. ~~"Principal grooves"~~ **"Principal grooves"** means the wide **circumferential** grooves ~~situated~~ **positioned** in the central zone of the **tyre** tread, which ~~cover~~ **have the tread-wear indicators located in the base**.
- 2.16. ~~"Section width"~~ **"Section width (S)"** means the linear distance between the outside of the sidewalls of an inflated pneumatic-tyre, when fitted to the specified measuring rim, but excluding elevations due to labelling (marking), decoration or protective bands or ribs.
- 2.17. ~~"Overall width"~~ **"Overall width"** means the linear distance between the outside of the sidewalls of an inflated pneumatic-tyre, when fitted to the specified measuring rim, and including labelling (marking), decoration or protective bands or ribs.
- 2.18. ~~"Section height"~~ **"Section height (H)"** means a distance equal to half the difference between the outer diameter of the tyre and the nominal rim diameter.

- 2.19. ~~"Nominal aspect ratio"~~ **"Nominal aspect ratio (Ra)"** means one hundred times the number obtained by dividing the number expressing the nominal section height by the number expressing the nominal section width, both dimensions being in the same units.
- 2.20. ~~"Outer diameter"~~ **"Outer diameter (D)"** means the overall diameter of an inflated, newly retreaded tyre."

Paragraphs 2.21. and 2.21.1., amend to read:

- "2.21. ~~"Tyre size designation"~~ **"Tyre size designation"** means a designation showing:
- 2.21.1. ~~The nominal section width~~ **The nominal section width (S₁)**. This must be expressed in millimetres, except in cases of tyres for which the size designation is shown in the first column of the tables in annex 5 to this Regulation."

Add new paragraphs 2.21.2.1. and 2.21.1.2. to read:

- 2.21.1.1. Optionally the letter "P" in front of the nominal section width.**
- 2.21.1.2. Optionally the letters "HL" in front of the nominal section width in the case of Extra Load tyres."**

Paragraph 2.21.2., amend to read:

- "2.21.2. ~~The nominal aspect ratio~~ **The nominal aspect ratio** except in cases of tyres for which the size designation is shown in the first column of the tables in annex 5 to this Regulation, or, depending on the tyre design type, the nominal outer diameter expressed in mm.;"

Add new paragraphs 2.21.3., 2.21.3.1., 2.21.3.2., 2.21.3.2. and 2.21.3.4. to read:

- 2.21.3. An indication of the structure as follows:**
- 2.21.3.1. on diagonal (bias-ply) tyres, no marking or the letter "D" placed in front of the rim diameter marking;**
- 2.21.3.2. on radial-ply tyres, the letter "R" placed in front of the rim-diameter marking;**
- 2.21.3.3. on bias-belted tyres, the letter "B" placed in front of the rim-diameter marking;**
- 2.21.3.4. on radial-ply tyres suitable for speeds in excess of 240 km/h but not exceeding 300 km/h (tyres marked with the speed-category symbol "W" or "Y" as part of the service description), the letter "R", placed before the rim diameter marking, may be replaced with the inscription "ZR"."**

Paragraph 2.21.3.(former), renumber as 2.21.4. and amend to read:

- "2.21.43. ~~A conventional number "d"~~ **A conventional number "d** (the "d" symbol) denoting the nominal rim diameter of the rim and corresponding to its diameter expressed either by codes (numbers below 100) or in millimetres (numbers above 100). Numbers corresponding to both types of measurements may be used in the designation."

Paragraph 2.21.3.1. (former), renumber as 2.21.4.1. and amend to read:

- "2.21.43.1. The values of the "d" symbols **for code-designated rims** expressed in millimetres are shown below:

Nominal Rim Diameter Code - "d"	Value of the "d" symbol expressed in mm
8	203
9	229
10	254
11	279
12	305
13	330

14	356
15	381
16	406
17	432
18	457
19	483
20	508
21	533
22	559
23	584
24	610
25	635
26	660
27	686
28	711
29	737
30	762

Paragraph 2.21.4. (former), renumber as 2.21.5.:

"2.21.54. an indication of the tyre to rim fitment configuration when it differs from the standard configuration."

Paragraph 2.22., amend to read:

"2.22. ~~"Nominal rim diameter (d)"~~ "**Nominal rim diameter (d)**" means the diameter of the rim on which a tyre is designed to be mounted."

Paragraphs 2.23. and 2.23.1., amend to read:

"2.23. ~~"Rim"~~ "**Rim**" means the support, either for a tyre-and-tube assembly or for a tubeless tyre, on which the tyre beads are seated.

2.23.1. ~~"Tyre to rim fitment configuration"~~ "**Tyre to rim fitment configuration**" means the type of rim to which the tyre is designed to be fitted. In the case of non-standard rims this will be identified by a symbol applied to the tyre, for example, "CT", "TR", "TD" or "A"."

Paragraphs 2.24. to 2.33., amend to read:

"2.24. ~~"Measuring rim"~~ "**Measuring rim**" means the rim specified as a 'measuring rim width' or 'design rim width' for a particular tyre size designation in any edition of one or more of the International Tyre Standards.

2.25. ~~"Test rim"~~ "**Test rim**" means any rim specified as approved or recommended or permitted in one of the International Tyre Standards for a tyre of that size designation and type.

2.26. ~~"International Tyre Standard"~~ "**International Tyre Standard**" means any one of the following standard documents:

(a) The European Tyre and Rim Technical Organisation (ETRTO) ^{4/}: 'Standards Manual'

(b) The European Tyre and Rim Technical Organisation (ETRTO) ^{4/}:

~~'Engineering Design Information—obsolete data';~~ '**Previous Standard Data**';

The tyre standards can be obtained from the following addresses:

^{4/} ETRTO, 78, Rue Defacqz 78 — B-1060 Avenue d'Auderghem 22-28 - B 1040 Brussels, Belgium

- (c) The Tire and Rim Association Inc. (TRA) ^{52/}: 'Year Book'
- (d) The Japan Automobile Tire Manufacturers Association (JATMA) ^{63/}: 'Year Book'
- (e) The Tyre and Rim Association of Australia (TRAA) ^{74/}: 'Standards Manual'
- (f) The ~~Associação~~ **Associação** Latino Americana de Pneus e Aros (ALAPA) ^{85/}: 'Manual de Normas ~~Técnicas~~ **Técnicas**'
- (g) The Scandinavian Tyre and Rim Organisation (STRO) ^{96/}: 'Data Book'
- 2.27. ~~"Chunking"~~ **"Chunking"** means the breaking away of pieces of rubber from the tread.
- 2.28. ~~"Cord separation"~~ **"Cord separation"** means the parting of the cords from their rubber coating.
- 2.29. ~~"Ply separation"~~ **"Ply separation"** means the parting of adjacent plies.
- 2.30. ~~"Tread separation"~~ **"Tread separation"** means the pulling away of the tread from the carcass.
- 2.31. ~~"Tread wear indicators"~~ **"Tread wear indicators"** means the projections within the tread grooves designed to give a visual indication of the degree of wear of the tread.
- 2.32. ~~"Service description"~~ **"Service description"** means the ~~specific combination~~ **the association** of the load index and speed symbol of the tyre ~~with a speed-category symbol (for example, "94H")~~.
- 2.33. ~~"Load index"~~ **"Load-capacity index"** means a ~~numerical code which indicates the maximum load the tyre can support~~ **number associated to the reference mass a tyre can carry when operated in conformity with the requirements governing utilization specified by the original tyre manufacturer or the retreader.**

The list of load indices and the corresponding loads are shown in annex 4 to this Regulation."

Paragraph 2.34., 2.34.1. and 2.34.2., amend to read:

- "2.34. ~~"Speed symbol"~~ **"Speed category"** means:
- 2.34.1. ~~An alphabetical symbol indicating the~~ **The speeds, indicated by a symbol,** at which the tyre can carry the load ~~given~~ **indicated** by the associated load index.
- 2.34.2. ~~The symbols of speed symbols categories and corresponding speeds are as shown in the table below:~~

<i>Speed category symbol</i>	<i>Corresponding speed (km/h)</i>
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190
U	200

^{52/} TRA, 175 Montrose West Avenue, Suite 150, Copley, Ohio, 44321 USA

^{63/} JATMA, 9th Floor, Toranomom Building No. 1-12, 1-Chome Toranomom Minato-ku, Tokyo 105, Japan

^{74/} TRAA, Suite 1, Hawthorn House, 795 Glenferrie Road, Hawthorn, Victoria, 3122 Australia

^{85/} ALAPA, Avenida Paulista 2444-12º andar **Andar**, conj. 124, 01310-300 Sao Paulo, ~~SP~~ **S.P.** Brazil

^{96/} STRO, Älggatan 48 A, Nb, S-216 15 Malmö, Sweden

H	210
V	240
W	270
Y	300

Paragraphs 2.35., 2.35.1. and 2.35.2., amend to read:

- "2.35. "Maximum load rating" **"Maximum load rating"** means the maximum mass which the tyre is rated to support.
- 2.35.1. For speeds not exceeding 210 km/h, the maximum load rating shall not exceed the value corresponding to the load index for the tyre.
- 2.35.2. For speeds greater than 210 km/h but not exceeding 300 km/h, the maximum load rating shall not exceed the percentage of the value associated with the ~~load capacity~~ **load-capacity** index of the tyre, given in the table below, with reference to the **tyre speed category symbol and to the** speed capability of the vehicle to which the tyre is to be fitted:

<i>Tyre speed category symbol</i>	<i>Maximum speed – km/h</i>	<i>Maximum load rating - %</i>
V	210	100.0 100.0
	215	98.5 98.5
	220	97.0 97.0
	225	95.5 95.5
	230	94.0 94.0
	235	92.5 92.5
	240	91.0 91.0
W	240	100
	250	95
	260	90
	270	85
Y	270	100
	280	95
	290	90
	300	85

For intermediate maximum speeds a linear interpolation of the maximum load rating is permissible."

Paragraph 2.36.1., amend to read:

- "2.36.1 "Retreading production unit" **"Retreading production unit"** means a site or group of localized sites where finished retread tyres are produced."

Paragraphs 2.37., 2.37.1., 2.37.2. and 2.37.3., amend to read:

- "2.37. "Retreading" **"Retreading"** means the generic term for ~~reconditioning~~ **refurbishing** a used tyre by replacing the worn tread with new material. It may also include renovation of the outermost sidewall surface. It covers the following process methods:
- 2.37.1. "Top capping" **"Top capping"** - replacement of the tread.
- 2.37.2. "Re-capping" **"Re-capping"** - replacement of the tread and with the new material extending over part of the sidewall.
- 2.37.3. "Bead to bead" **"Bead to bead"** - replacement of the tread and renovation of the sidewall including all or part of the lower area of the tyre."

Paragraphs 2.38., 2.39. and 2.40., amend to read:

- "2.38. ~~"Casing"~~ **"Casing"** is the worn tyre comprising carcass and remaining tread and sidewall material.
- 2.39. ~~"Buffing"~~ **"Buffing"** is the process of removing old material from the casing to prepare the surface for the new material.
- 2.40. ~~"Repair"~~ **"Repair"** is the remedial work carried out to damaged casings within recognized limits."

Paragraphs 2.41., 2.41.1., 2.41.2., 2.41.3. and 2.41.4., amend to read:

- "2.41. ~~"Tread material"~~ **"Tread material"** is material in a condition suitable for replacing the worn tread. It can be in several forms for example:
- 2.41.1. ~~"Camel back"~~ **"Camel-back"** - pre-cut lengths of material which have been extruded to give the required cross section profile and subsequently fitted cold to the prepared casing. The new material must be cured.
- 2.41.2. ~~"Strip wound"~~ **"Strip-wound"** - a ribbon of tread material which is directly extruded and wound on to the prepared casing and built up to the required cross sectional contour. The new material must be cured.
- 2.41.3. ~~"Direct extrusion"~~ **"Direct extrusion"** - tread material extruded to give the required cross sectional profile and directly extruded on to the prepared casing. The new material must be cured.
- 2.41.4. ~~"Pre-cured"~~ **"Pre-cured"** - a previously formed and cured tread applied directly to the prepared casing. The new material must be bonded to the casing."

Paragraphs 2.42. to 2.47., amend to read:

- "2.42. ~~"Sidewall veneer"~~ **"Sidewall veneer"** is material used to cover the sidewalls of the casing thereby allowing the required markings to be formed.
- 2.43. ~~"Cushion gum"~~ **"Cushion gum"** is material used as a bonding layer between new tread and casing and for repairing minor damage.
- 2.44. ~~"Cement"~~ **"Cement"** is an adhesive solution to hold new materials in place prior to the curing process.
- 2.45. ~~"Cure"~~ **"Cure"** is the term used to describe the change in physical properties of the new material which is brought about usually by the application of heat and pressure for a set period of time under controlled conditions.
- 2.46. ~~"Radial run out"~~ **"Radial run out"** means the variation in radius of the tyre measured around the outer circumference of the tread surface.
- 2.47. ~~"Imbalance"~~ **"Imbalance"** means a measurement of the variation in distribution of mass around the centre axis of the tyre. It can be measured as either "Static" or "Dynamic" imbalance."

Paragraphs 2.48. to 2.53., delete:

- ~~"2.48. **"Representative tyre size"** means the tyre size which is submitted to the test described in Annex 9 to this Regulation to assess the performance of a range of tyres produced by the retreading production facility with regard to their performance for use in severe snow conditions. It can be either a retreaded tyre produced with a pre-cured tread or a retreaded tyre with mould cure process.~~
- ~~2.49. **"Standard reference test tyre "** or **"SRTT"** means a tyre that is produced, controlled and stored in accordance with the standards of ASTM International:~~
- ~~————— (a) E1136 17 for the size P195/75R14 and referred to as "SRTT14",~~
- ~~————— (b) F2493 20 for the size P225/60R16 and referred to as "SRTT16",~~

- ~~2.50. "Control tyre" means a new production tyre that is used to establish the snow grip performance of tyre sizes unable to be fitted to the same vehicle as the standard reference test tyre—see paragraph 3.4.3. of Annex 9 to this Regulation~~
- ~~2.51. "Snow grip index (SG)" means the snow grip performance of a candidate tyre relative to the performance of the applicable SRTT.~~
- ~~2.52. "Candidate tyre" means a tyre, that is submitted to one of the procedures for snow performance testing relative to snow tyre for use in severe snow conditions—see Annex 9 to this Regulation.~~
- ~~2.53. Class C1 tyres: Tyres conforming to UN Regulation No. 30."~~

Add new paragraphs 2.48., 2.49., 2.50., 2.51., 2.52. and 2.53. to read:

- "2.48. "Supplier of the tread used for retreading process" means the person or body who is responsible to the Type Approval Authority for all aspects of the type-approval under UN Regulation No. [XXX].**
- 2.49. "Tread used for retreading process" means either a pre-cured tread or the specification of the major features of the tread used for mould cure process.**
- 2.50. "Tyre Manufacturer" means the person or body who was responsible to the TAA having granted the original type approval of new tyres and for ensuring the conformity of production under the applicable Regulation for new tyres.**
- 2.51. "Material manufacturer / material supplier" means the person or body who provides to the retreader the retreading or repair materials.**
- 2.52. "Brand name/trademark" means the identification of the brand or trademark as defined by the retreader and marked on the sidewall(s) of the tyre. The brand name/trademark may be the same as that of the retreader.**
- 2.53. "Trade description/commercial name" means an identification of a range of tyres as given by the retreader. It may coincide with the brand name/trademark."**

Paragraph 2.54.(former), renumber as 2.57. and amend to read:

- ~~"2.574. "Void to fill ratio"—"Void to fill ratio" means the ratio between the area of voids in a reference surface and the area of this reference surface calculated from the mould drawing."~~

Add new paragraphs 2.58., 2.59., 2.60. and 2.61. to read:

- "2.58. "Extended Mobility Tyre (EMT)" describes a tyre with a radial structure allowing the tyre, mounted on the appropriate wheel and in the absence of any supplementary component, to provide the vehicle with the basic tyre functions at a speed of 80 km/h and a distance of 80 km when operating in flat tyre running mode.**
- 2.59. "Flat tyre running mode" describes the state of the tyre, essentially maintaining its structural integrity, while operating at an inflation pressure between 0 and 70 kPa.**
- 2.60. "Basic tyre functions" means the normal capability of an inflated tyre in supporting a given load up to a given speed and transmitting the driving, the steering and the braking forces to the ground on which it runs.**
- 2.61. "Deflected section height" is the difference between the deflected radius, measured from the centre of the rim to the surface of the drum, and one half the nominal rim diameter as defined in paragraph 2.22. of this Regulation."**

Paragraph 3.2.1., amend to read:

"3.2.1. The **retreader's name or the brand name / trademark** ~~or trade mark.~~"

Add a new paragraph 3.2.2. to read:

"3.2.2. The trade description/commercial name (see paragraph 2. of this Regulation). However, the trade description is not required when it coincides with the brand name/trademark."

Paragraphs 3.2.2., 3.2.3., 3.2.3.1., 3.2.3.2. and 3.2.3.3., renumber as 3.2.3., 3.2.4., 3.2.4.1., 3.2.4.2. and 3.2.4.3.:

"3.2.32. The tyre-size designation as defined in paragraph 2.21.

3.2.43. An indication of the structure as follows:

3.2.43.1. On diagonal (bias-ply) tyres; no indication, or the letter "D" placed in front of the rim diameter marking.

3.2.43.2. On radial-ply tyres; the letter "R" placed in front of the rim-diameter marking and optionally the word "RADIAL".

3.2.43.3. On bias belted tyres; the letter "B" placed in front of the rim diameter marking and in addition the words "BIAS-BELTED".

Paragraph 3.2.4. (former), renumber as 3.2.5. and amend to read:

"3.2.54. The service description ~~comprising:~~ **as defined in paragraph 2.32.**"

Paragraph 3.2.4.1. and 3.2.4.2. (former), delete:

~~"3.2.4.1. An indication of the tyre's nominal load capacity in the form of the load index prescribed in paragraph 2.33."~~

~~"3.2.4.2. An indication of the tyre's nominal speed capability in the form of the symbol prescribed in paragraph 2.34."~~

Paragraph 3.2.5. (former), renumber as 3.2.6.:

3.2.65. The word "TUBELESS" if the tyre is designed for use without an inner tube.

Paragraph 3.2.6. and 3.2.6.1. (former), renumber as 3.2.7. and 3.2.7.1. and amend to read:

"3.2.76. The inscription M+S or MS or M.S. or M & S ~~in the case of a snow tyre~~ **if the tyre is classified in the category of use "snow tyre" or if the tyre is classified in the category of use "special use tyre" when declared by the tyre manufacturer at paragraph 4.1.5.3.1. as complying also with the definition given in paragraph 2.3.2.**

3.2.76.1. The "Alpine" symbol (3-peak-mountain with snowflake) ~~shall be added~~ if the snow tyre **or the special use tyre** is classified as "snow tyre for use in severe snow conditions". ~~In addition, in case a pre-cured tread is used for the retreading process, the inscription M+S or MS or M.S. or M & S and the "Alpine" symbol shall be marked, at least once, on both sides of the tread shoulder. In both cases, the~~ **The "Alpine" symbol ("3-peak-mountain with snowflake") shall conform to the symbol described in Annex 79, Appendix 1 to UN Regulation No. 117.**

Paragraph 3.2.6.2. (former), renumber as 3.2.7.2. and amend to read:

"3.2.76.2. The inscription "ET" and/or "POR" if the tyre is classified in the category of use "Special use tyre". In addition, they may also bear the inscription M+S or M.S or M&S.

ET means Extra Tread and POR means Professional Off Road."

Add a new paragraph 3.2.8. to read:

"3.2.8. The word "REINFORCED" or the words "EXTRA LOAD" if the tyre is a reinforced tyre."

Paragraph 3.2.7. and 3.2.7.1. (former), delete:

~~"3.2.7. The date of retreading as follows:~~

~~3.2.7.1. Up to 31 December 1999, either as prescribed in paragraph 3.2.7.2. or in the form of a group of three digits, the first two showing the week number and the third, the year of the decade of manufacture. The date code can cover a period of production from the week indicated by the week number up to and including the week number plus three. For example, the marking "253" could indicate a tyre which was retreaded in weeks 25, 26, 27 or 28 of the year 1993.~~

~~The date code may be marked on one sidewall only."~~

Paragraph 3.2.7.2. (former), renumber as 3.2.9. and amend to read:

"3.2.97.2. As from 1 January 2000; **The date of retreading** in the form of a group of four digits, the first two showing the week number and the second two showing the year in which the tyre was retreaded. The date code can cover a period of production from the week indicated by the week number up to and including the week number plus three. For example, the marking "2503" could indicate a tyre which was retreaded in weeks 25, 26, 27 or 28 of the year 2003.

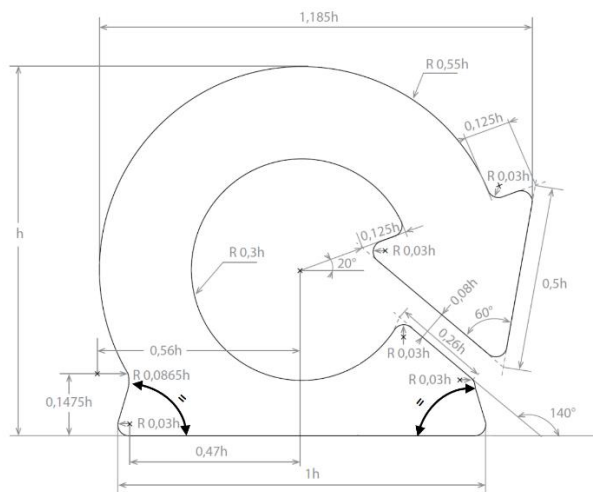
The date code may be marked on one sidewall only."

Paragraphs 3.2.8. (former), renumber as 3.2.10. and amend to read:

"3.2.108. The term "RETREAD" or "REMOULD" (after 1 January 1999 only the word "RETREAD" shall be used). At the request of the retreader, the same term in other languages may also be added."

Add new paragraphs 3.2.11. and 3.2.12. to read:

"3.2.11. The symbol below if the tyre is an EMT, where "h" is at least 12 mm.



3.2.12. The letters "ERS" (meaning "Extended Radial Structure") for tyres with radial structure having a carcass where the ply cords are not laid substantially at 90° to the centre line of the tread across the complete cross section of the tyre."

Add a new paragraph 3.4.1. to read:

"3.4.1. In the case of retreaded tyre classified as "snow tyre for use in severe snow conditions", the approval mark referred to in paragraph 5.4. to UN Regulation No. [XXX] and shown in its Annex 2 shall be affixed in addition."

Paragraphs 3.5., 3.5.1. and 3.5.2., amend to read:

"3.5. The markings referred to in paragraph 3.2. and the approval mark prescribed in paragraphs 3.4. and 5.8. shall be clearly legible and indelible. They shall be raised above or sunk below the tyre surface or shall be permanently marked on to the tyre.

3.5.1. ~~The markings shall be situated in the lower area of the tyre on at least one of its sidewalls, except for the inscriptions mentioned in paragraphs 3.2.1. and 3.2.6.1.~~ **[Reserved]**

3.5.2. In the case that the date of **retreading as defined in paragraph 3.2.9. is not moulded, it shall be applied not later than 5 working days after the completion of the retreading process at the facility concerned** manufacture is not moulded, it shall be applied not later than 24 hours after the tyre is removed from the mould."

Paragraph 3.7., amend to read:

"3.7. The original "E" or "e" approval mark and **approval** number shall be removed."

Paragraph 4.1.3., amend to read:

"4.1.3. The ~~trade-brand name(s)-or-~~trademark(s) to be applied to the retreaded tyres produced."

Add a new paragraph 4.1.4. to read:

"4.1.4. The trade description(s)/commercial name(s) (see paragraph 2.) which could be applied to the retreaded tyres produced."

Paragraphs 4.1.4., 4.1.4.1. and 4.1.4.2. (former), renumber as 4.1.5., 4.1.5.1. and 4.1.5.2.:

"4.1.54. The following information in relation to the range of tyres to be retreaded:

4.1.54.1. the range of tyre sizes;

4.1.54.2. the structure of tyres (diagonal or bias ply, bias-belted or radial);"

Paragraph 4.1.4.3. (former), renumber as 4.1.5.3. and amend to read:

"4.1.54.3. the category of use of tyres (normal **tyre** or snow tyres, or special use tyre, or for temporary use);"

Add a new paragraph 4.1.5.3.1. to read:

"4.1.5.3.1. For the tyres belonging to the category of use "special use tyre" those which may bear the inscription M+S or M.S or M&S."

Paragraph 4.1.4.3.1. (former), renumber as 4.5.3.2. and amend to read:

"4.1.54.3.-12. ~~For snow tyres the~~ **The list of tyres classified as tyres for use in severe snow conditions. having to fulfil the requirements of paragraph 7.2."**

Paragraph 4.1.4.3.1.1. (former), renumber as 4.1.5.3.2.1. and amend to read:

"4.1.54.3.-12.1. For **retreaded** tyres ~~retreaded-produced~~ by using either a pre-cured tread material or mould cure **process tread material** with ~~a~~ **the same** tread pattern covered by paragraph 6.6.3.1. the list shall clearly identify the tyres in order to make the relevant link with the list(s) quoted in paragraph 6.6.3.1. b). The following table is as example:

Tyre Size Designation, Load indexes, Speed symbol	TM1	TM2	TM3
185/60 R 14 82 H	TPM1/TPR1, TAR1/TL1	-	TPM2/TPR2, TAR2/TL2
195/65 R 15 91 H	TPM1/TPR1, TAR1/TL1	-	-
205/55 R 16 94 V XL	-	TPM3/TPR3, TAR3/TL3	TPM4/TPR4, TAR4/TL4
235/60 R 17 102 H	-	-	-
255/45 R 18 99 V	-	TPM5/TPR5, TAR5/TL5	-

Notes:

TM: ~~Identification~~ **Brand name/trademark** of the **Pre-Cured** Tread Manufacturer

TPM: ~~Identification~~ **Trade description/commercial name** of the Tread Pattern by the **Pre-**

Cured Tread tread-Manufacturer

TPR: ~~Identification~~-Trade description/commercial name of the Tread Pattern by the Retreader if different of TPM

TAR: ~~Number of the test report~~-Number of the approval granted according to UN Regulation No. [XXX] to the type of retreaded tyre produced by using either a pre-cured tread or mould cure process with a tread having the same major features including tread pattern.

TL: ~~Reference of the list linked to the test report"~~

Paragraph 4.1.4.3.1.2.(former), renumber as 4.1.5.3.2.2. and amend to read:

"4.1. 54.3.42.2. For **retreaded** tyres ~~retreaded~~-**produced** by using either mould cure **process** or pre-cured tread material with the same major features including tread pattern(s) as a new **type of tyre type** and covered by paragraph 6.6.3.2. the list shall clearly identify the tyres in order to make the relevant link with the list(s) quoted in paragraph 6.6.3.2. **ab). The following table is an example:**

<i>Tyre Size Designation, Load indexes, Speed symbol</i>	<i>TM1</i>	<i>TM2</i>	<i>TM3</i>
185/60 R 14 82 H	TPM1/TPR1, TA1	-	TPM2/TPR2,TA2
195/65 R 15 91 H	TPM1/TPR1, TA1	-	-
205/55 R 16 94 V XL	-	TPM3/TPR3, TA3	TPM4/TPR4, TA4
235/60 R 17 102 H	-	-	-
255/45 R 18 99 V	-	TPM5/TPR5, TA5	-

Notes:

TM: Brand name/trademark of the Tyre Manufacturer

TPM: Trade description/commercial name of the Tread Pattern by the Tyre Manufacturer

TPR: Trade description/commercial name of the Tread Pattern by the Retreader

TA: Number of the approval granted according to UN Regulation No. [XXX] to the type of retreaded tyre produced by using a pre-cured tread or mould cure process with a tread having the same major features including tread pattern of new tyres approved according to UN Regulation No. 117."

Paragraphs 4.1.4.3.1.3. (former), renumber as 4.1.5.3.2.3. and amend to read:

"4.1. 54.3.42.3. For **retreaded** tyres ~~retreaded~~-**produced** by using mould cure ~~tread material~~-**process with a tread pattern** covered by paragraph 6.6.3.3. the list shall clearly identify the tyres in order to make the relevant link with the list(s) quoted in paragraph 6.6.3.3. b). **The following table is an example:**

<i>Tyre Size Designation, Load indexes, Speed symbol</i>	<i>TPR1</i>	<i>TPR2</i>	<i>TPR3</i>
185/60 R 14 82 H	TA1	-	TA3
195/65 R 15 91 H	TA1	-	-
205/55 R 16 94 V XL	-	TA2	TA3
235/60 R 17 102 H	-	-	-
255/45 R 18 99 V	-	TA2	-

Notes:

TPR: Trade description/commercial name of the Tread Pattern by the Retreader

TA: Number of the approval granted according to UN Regulation No. [XXX] to the type of retreaded."

Paragraphs 4.1.4.4., 4.1.4.5., 4.1.4.6. and 4.1.4.7., renumber as 4.1.5.4., 4.1.5.5., 4.1.5.6. and 4.1.5.7.:

"4.1. 54.4. the system of retreading and the method of application of the new materials to be used, as defined in paragraphs 2.37. and 2.41.;

- 4.1. 54.5. the maximum speed symbol of the tyres to be retreaded;
- 4.1. 54.6. the maximum load index of the tyres to be retreaded.
- 4.1. 54.7. the nominated International Tyre Standard to which the range of tyres conform."

Paragraphs 4.2., 4.2.1. and 4.2.2., delete:

~~"4.2. The application for approval shall be accompanied by:~~

~~4.2.1. Details of the major features, including the tread pattern, with respect to the effects on the snow grip performance of the range of tyre sizes listed as required by paragraph 4.1.4.3.1. This may be by means of descriptions supplemented by drawings and/or photographs which must be sufficient to allow the type approval authority or technical service to determine whether any subsequent changes to the major features will adversely affect the tyre performance. The effects of changes to minor details of tyre construction on tyre performances will be evident and determined during checks on conformity of production;~~

~~4.2.2. In the case of applications relating to special use tyres, a copy of the mould drawing of the tread pattern shall be supplied in order to allow verification of the void to fill ratio."~~

Paragraph 4.3., renumber as 4.2.:

"4.23. At the request of the Type Approval Authority, the Retreader shall submit samples of tyres for test or copies of test reports from the technical services, communicated as given in paragraph 12. of this Regulation."

Paragraph 5.4., amend to read:

"5.4. Before granting approval the authority must be satisfied that retreaded tyres conform to this Regulation and that the tests have been successfully carried out:

(a) ~~On on~~ at least five and not necessarily more than 20 samples of retreaded tyres representative of the range of tyres produced by the retreading production unit when prescribed according to paragraphs 6.7. and 6.8. ~~and;~~

(b) ~~On at least one sample of retreaded tyres, of each pattern covered by paragraph 6.4.4.3., representative of the range of tyres produced by the retreading production unit when prescribed according to paragraph 6.6.2.* In case of paragraphs 6.4.4.1. and 6.4.4.2., the Type Approval Authority might request a test of compliance for the retreaded tyre. Testing of sampled sizes may be confined to a worst case selection*, at the discretion of the Type Approval Authority or designated Technical Service."~~

Paragraph 5.8.1., amend to read:

"5.8.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which granted approval^{107/}; and"

^{107/} 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 Yugoslavia, 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, 32-36 (vacant), 37 for Turkey, 38-39 (vacant), 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) and 43 for Japan. 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

Paragraph 6.1., amend to read:

- "6.1. Tyres shall not be accepted for retreading unless they have been type approved and bear either an "E" or "e" mark, ~~except that this requirement shall not be mandatory until 1 January 2000 at the latest.~~"

Paragraphs 6.6.3.1., 6.6.3.2. and 6.6.3.3., amend to read:

- "6.6.3.1. For **retreaded** tyres ~~retreaded-produced~~ by using pre-cured tread material(s) and/or ~~an identical tread pattern design in a~~ **by using** mould cure **process** ~~product with the same a-tread pattern not covered by paragraph 6.6.3.2. having to fulfil the requirements of paragraph 7.2. *and type approved pursuant to UN Regulation No. [XXX],~~ the retreader shall ensure that the ~~material manufacturer(s) or the material-supplier(s) of the tread(s) used for retreading process pre-cured tread(s)~~ provides to the Type Approval Authority and the Technical Service issuing the approval according to this regulation and optionally to the retreader:
- (a) A copy of the **UN Regulation No. [XXX] certificate(s), as issued by the relevant Type Approval Authority.** ~~test report(s) as in Annex 10, Appendix 2 and/or 3 of the representative tyre size(s) (see definition in paragraph 2.) demonstrating compliance of the pre-cured tread(s) to the requirements of paragraph 7.2.;~~
 - (b) The list(s) of tyre sizes **annexed to UN Regulation No.[XXX] certificate(s).** ~~to which it can be applied for the retreading process and validated by the same designated Technical Service and TAA which issued the test report(s) in paragraph 6.4.4.1. (a).~~ The list(s) shall include at least the tyres defined in paragraph 4.1.54.3.-2.1.
 - (c) **The drawing(s) of the tread pattern(s) covered by UN Regulation No. [XXX] certificate(s) including the major features with respect to the snow performance;**
 - (de) A copy of the **last report of the Conformity of Production as required in Regulation No. [XXX].** ~~measures taken to ensure the conformity of production. These measures shall include test results demonstrating that the minimum levels of the snow performances required in paragraph 7.2.1 will be maintained, and demonstrating periodically the compliance with the requirement defined in paragraph 9.2.3. or 9.4.3.~~
 - (d) ~~In case of mould cure product, the material manufacturer(s) or the material supplier(s) shall provide, in addition: the drawing(s) of the tread pattern(s) including the major features with respect to the snow performance to demonstrate the tread is technically identical to the pre-cured version with respect to the snow performance;~~
- 6.6.3.2. For **retreaded** tyres ~~retreaded-produced~~ by using mould cure **process** and/or pre-cured tread material(s) ~~with the same major features including tread pattern(s) as a new type of tyre type-approved according to UN Regulation No. 117 having fulfilled the requirements about minimum snow performance in severe snow conditions,~~ the retreader shall ensure that the manufacturer of the new tyre type provides to the Type Approval Authority and Technical Service issuing the approval according to this regulation and optionally to the retreader:
- (a) A copy of the **UN Regulation No. [XXX] certificate(s), as issued by the relevant Type Approval Authority based on UN Regulation No.**

Prescriptions, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

* ~~If a tread pattern can be applied by mould cure and pre-cure retread processes, the snow test may be performed with a representative tyre size retreaded with only one of the two possible processes and the snow performance test report can be used for both cases as long as the major features of the tread are technically identical. This will be proven by means of written official permission by the holder of the tread snow performance report.~~

117 certificate(s) and a copy of the appropriate test report(s) issued by a designated Technical Service** demonstrating compliance of the new tyre to the minimum snow performance in severe snow conditions.

- (b) The list(s) of tyre sizes **annexed to the Regulation No. [XXX] certificate(s) to which it can be applied for the retreading process and validated by the same designated Technical Service** and/or Type Approval Authority that issued the UN Regulation No. 117 certificate(s).** The list(s) shall include at least the tyres defined in paragraph 4.1.54.3.-4.2.2.
- (c) The drawing(s) of the tread pattern(s) covered by the UN Regulation No. 117 certificate(s) including the major features with respect to the snow performance;
- (d) A copy of the last report of the conformity of production as required in UN Regulation No. 117, ~~and demonstrating periodically the compliance with the requirement defined in paragraph 9.2.4. or 9.4.4.~~

6.6.3.3. For **retreaded** tyres ~~retreaded-produced~~ by using mould cure **process tread material(s) and design(s)** not covered by paragraphs 6.6.3.1. or 6.6.3.2. ~~in case of mould cure and pre-cured, having to fulfil the requirements of paragraph 7.2.*,~~ **and type approved pursuant to UN Regulation No. [XXX]** the retreader shall provide to the Type Approval Authority (TAA) and the Technical Service issuing the approval according to this Regulation:

- (a) A copy of the **UN Regulation No. [XXX] certificate(s), as issued by the relevant Type Approval Authority** test report(s) as in Annex 10; Appendix 2 and/or 3 of the representative tyre size(s) (see definition in paragraph 2.) demonstrating compliance of the mould cure tread(s) to the requirements of paragraph 7.2.;
- (b) The list(s) of tyre sizes **annexed to UN Regulation No. [XXX] certificate(s), to which it can be applied for the retreading process and validated by the same designated Technical Service and TAA which issued the test report(s) requested in paragraph 6.4.4.3. (a).** The list(s) shall include at least the tyres defined in paragraph 4.1.54.3.-4.2.3.;
- (c) **The drawing(s) of the tread pattern(s) including the major features with respect to the snow performance;**
- (de) A copy of the **last report of the Conformity of Production as required in UN Regulation No. [XXX],** measures taken to ensure the conformity of production. ~~These measures shall include test results demonstrating that the minimum levels of the snow performances required in paragraph 7.2.1. will be maintained and demonstrating periodically the compliance with the requirement defined in paragraph 9.2.2. or 9.4.2.;~~
- (d) ~~The drawing(s) of the tread pattern(s) including the major features with respect to the snow performance."~~

Add a new paragraph 6.6.3.4. to read:

"6.6.3.4. For retreaded tyres produced by using pre-cured tread and approved pursuant to UN Regulation No. [XXX], the retreader shall ensure the packaging of the pre-cured tread bear the sticker with the approval marking till it is open and start to be used for the retreading process unless the approval marking is displayed on the tread shoulder."

Paragraph 6.8., delete:

~~"6.8. Performance tests"~~

** Refer to the designated Technical Services listed in the document ECE/TRANS/WP.29/343 in its latest revision.

Paragraphs 6.8.1. and 6.8.1.1., renumber as 6.8. and 6.8.1.:

~~"6.8.1.~~ Load/speed endurance test:

~~6.8.1.1.~~ Tyres retreaded to comply with this Regulation shall be capable of meeting the load/speed endurance test as specified in annex 7 to this Regulation."

Add a new paragraph 6.8.1.1. to read:

"6.8.1.1. In case EMT retreaded tyres the above load speed test is carried out on one tyre, inflated as per paragraph 1. of Annex 7, at the load and speed conditions marked on the tyre. Another load/speed test must be carried out on a second sample of the same tyre type as specified in paragraph 3. of Annex 7. The second test may be carried out on the same sample if the manufacturer agrees."

Paragraph 6.8.1.2., renumber as 6.8.2.:

~~"6.8.1.2.~~ A retreaded tyre which after undergoing the load/speed endurance test does not exhibit any tread separation, ply separation, cord separation, chunking or broken cords shall be deemed to have passed the test."

Paragraph 6.8.1.3., renumber as 6.8.4.:

~~"6.8.1.3.~~ **Except for tyres with radial structure, the** The outer diameter of the tyre, measured six hours after the load/speed endurance test, must not differ by more than ± 3.5 per cent from the outer diameter as measured before the test."

Paragraphs 6.8.2., 6.8.2.1. and 6.9., delete:

~~"6.8.2. Snow test~~

~~6.8.2.1. Retreaded Snow Tyres for use in severe snow conditions to comply with this regulation shall be capable of meeting snow performance test as specified in Annex 9 to this Regulation.~~

~~6.9. Tread pattern of a tyre"~~

Add a new paragraph 6.8.3. to read:

"6.8.3. If an EMT which, after undergoing the test as specified in paragraph 3. of Annex 7, does not exhibit a change in the deflected section height, compared to the deflected section height at the start of the test, higher than 20 per cent and retains the tread connected to the two sidewalls, it is deemed to have passed the test."

Paragraphs 6.9.1. and 6.9.2., renumber as 7.2. and 7.3. and amend to read:

~~"6.9.1.7.2.~~ In order to be ~~classified~~ categorized as a "special use tyre" a tyre shall have a block tread pattern in which the blocks are larger and more widely spaced than for normal tyres and have the following characteristics:

- (a) ~~A~~ a tread depth ≥ 911 mm; ~~and~~
- (b) ~~A~~ a void-to-fill ratio ≥ 3035 per cent.

~~6.9.2.7.3.~~ In order to be classified as a "professional off-road tyre", a tyre shall have all of the following characteristics:

- (a) ~~A~~ a tread depth ≥ 11 mm; ~~and~~
- (b) ~~A~~ a void-to-fill ratio ≥ 35 per cent; ~~and~~
- (c) ~~A~~ a maximum speed category rating of $\leq Q-160$ km/h."

Paragraph 7.1.4., amend to read:

"7.1.4.1. The actual overall width may be less than the section width or widths determined in paragraph 7.1.1."

Paragraphs 7.2. and 7.2.1., delete:

~~"7.2. In order to be classified as a "snow tyre for use in severe snow conditions", the retreaded tyre to comply with this Regulation shall meet the performance requirements of paragraph 7.2.1. The retreaded tyre size shall meet these requirements based on a test method of Annex 9 by which:~~

- ~~(a) — The mean fully developed deceleration ("mfdd") in a braking test;~~
~~(b) — Or alternatively an average traction force in a traction test;~~
~~(c) — Or alternatively the average acceleration in an acceleration test of the candidate tyre is compared to that of a Standard Reference Test Tyre (SRTTS).~~

~~The relative performance shall be indicated by a snow grip index.~~

~~7.2.1. For Class C1 tyres, the minimum snow index value, as calculated in the procedure described in Annex 9 and compared with the SRTT shall be as follows:~~

<i>Class of tyre</i>	<i>Snow grip index (brake on snow method) (a)</i>	<i>Snow grip index (spin traction method) (b)</i>
	Ref.s = C1 SRTT 14, SRTT16	Ref.s = C1 SRTT 14, SRTT16
C1	1.07	1.10

Notes:

~~(a) See paragraph 3. of Annex 9 to this Regulation~~

~~(b) See paragraph 2. of Annex 9 to this Regulation"~~

Paragraph 9., amend to read:

"9. 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.23), with the following requirements:"

Paragraphs 9.2. and 9.2.1., amend to read:

"9.2. The holder of the approval shall ensure that, at least the following number of tyres, representative of the range being produced, is checked and tested as prescribed in this Regulation:

9.2.1. 0.01 per cent of the total annual production but in any case not less than 5 tyres and not necessarily more than 20 tyres during each year of production, and spread throughout that year;"

Paragraphs 9.2.2., 9.2.3. and 9.2.4., delete:

~~"9.2.2. At least 1 tyre once every two years in order to verify conformity of the performance of the snow tyres for use in severe snow conditions fulfilling paragraph 6.8.2. and covered by paragraph 6.6.3.3.~~

~~9.2.3. At least 1 tyre once every four years in order to verify conformity of the performance of the snow tyres for use in severe snow conditions fulfilling paragraph 6.8.2. and covered by paragraph 6.6.3.2. The retreader can use the snow performance periodic test results obtained by the tread manufacturer or tread supplier for this purpose;~~

~~9.2.4. At least 1 tyre once every four years in order to verify conformity of the performance of the snow tyres for use in severe snow conditions fulfilling paragraph 6.8.2. and covered by paragraphs 6.6.3.2. The retreader can use the current snow performance periodic test results obtained by the owner of the original UN Regulation No. 117 approval certificate."~~

Paragraphs 9.4. and 9.4.1., amend to read:

"9.4. The authority which has approved the retreading production unit may at any time verify the conformity control methods applied in each production facility.

~~including among others the prescriptions defined in the paragraph 6.4.4.1.(c), 6.6.3.2.(d) and 6.6.3.3.(e) For each production facility, the type Approval Authority shall take samples at random and at least the following number of tyres, representative of the range being produced, shall be checked and tested as prescribed in this Regulation:~~

- 9.4.1. 0.01 per cent of the total annual production but in any case not less than than **five 5 tyres** and not necessarily more than 20 **tyres** during each and every production year."

Paragraphs 9.4.2., 9.4.3. and 9.4.4., delete:

- ~~"9.4.2. At least 1 tyre once every two years in order to verify conformity of the performance of the snow tyres for use in severe snow conditions fulfilling paragraph 6.6.2. and covered by paragraph 6.6.3.3.~~

- ~~9.4.3. At least one tyre once every four years in order to verify conformity of the performance of the snow tyres for use in severe snow conditions fulfilling paragraph 6.8.2. and covered by paragraphs 6.6.3.1. The retreader can use the snow performance periodic test results obtained by the tread manufacturer or tread supplier for this purpose.~~

- ~~9.4.4. At least one tyre once every four years in order to verify conformity of the performance of the snow tyres for use in severe snow conditions fulfilling paragraph 6.8.2. and covered by paragraphs 6.6.3.2. The retreader can use the current snow performance periodic test results obtained by the owner of the original UN Regulation No. 117 approval certificate."~~

Paragraph 10.1., amend to read:

- "10.1. The approval granted in respect of a retreading production unit pursuant to this Regulation may be withdrawn if the requirements of paragraph 9 are not complied with or if the retreading production unit or the retreaded tyres produced by that retreading production unit have failed to meet the requirements prescribed in ~~that~~ paragraph 9."

Paragraphs 12.1., 12.2. and 12.3., amend to read:

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

- 12.2. The Parties to the 1958 Agreement which apply this Regulation may **designate** use laboratories of tyre manufacturers or retreading production units ~~and may designate, as approved test laboratories, those which are situated either in the territory of that Party or in the territory of another Party to the 1958 Agreement subject to a preliminary acceptance of this procedure by the competent administrative department of the latter.~~

- 12.3. Where a Party to the 1958 Agreement applies paragraph 12.2., it may, if it **so** desires, be represented at the tests **by one or more persons of its choice.**"

Paragraph 12.4., delete:

- ~~"12.4. Until 1 September 2024, Contracting Parties applying this Regulation may continue to grant type approvals according to the 02 series of amendments to this Regulation, based on snow performance test described in Annex 9 to this Regulation using SRTT14 as reference tyre."⁽⁴⁹⁾~~

⁽⁴⁹⁾ SRTT14 will be available from the supplier until the end of October 2021.

Add a new chapter 13. and paragraphs 13.1., 13.2., 13.3. and 13.4. to read:

"13. Transitional provisions

- 13.1. 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 or refuse to accept type approvals under this Regulation as amended by the 01 series of amendments.
- 13.2. Contracting Parties applying this Regulation shall continue to accept type approvals of, and to grant extensions of approvals to, the retreading production units to the preceding series of amendments to this Regulation which are not affected by the changes introduced by the 01 series of amendments.
- 13.3. As from [1 September 2025], Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued according to the preceding series of amendments, first issued after [1 September 2025].
- 13.4. Until [1 September 2028], Contracting Parties applying this Regulation shall accept type approvals issued according to the preceding series of amendments, first issued before [1 September 2025]."

Annex 1, add new items 4.1., 4.2. and 4.3. and footnote ^{3/}, to read:

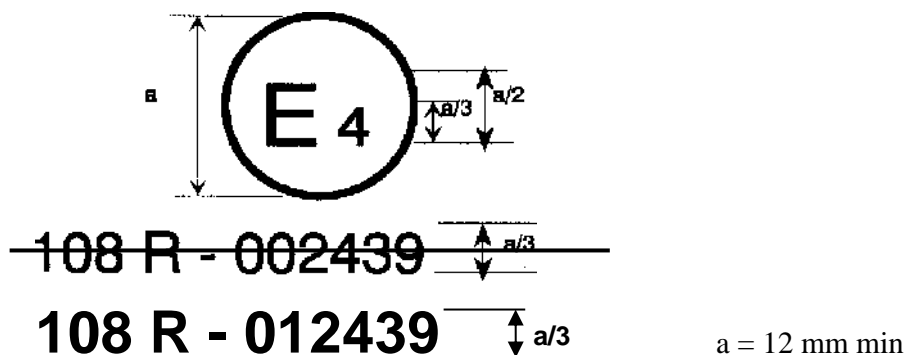
- "4.1. Brand name(s)/trademark(s) ^{3/}
- 4.2. Trade description(s)/ Commercial name(s) ^{3/}
- 4.3. Information in relation to the range of tyres as defined in paragraphs 4.1.5. of this Regulation:

^{1/} Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).
^{2/} Delete that which does not apply.
^{3/} A list of brand name(s)/trademark(s) or Trade description(s)/ Commercial name(s) may be annexed to this communication."

"Annex 2, amend to read:

Annex 2

ARRANGEMENT OF APPROVAL MARK

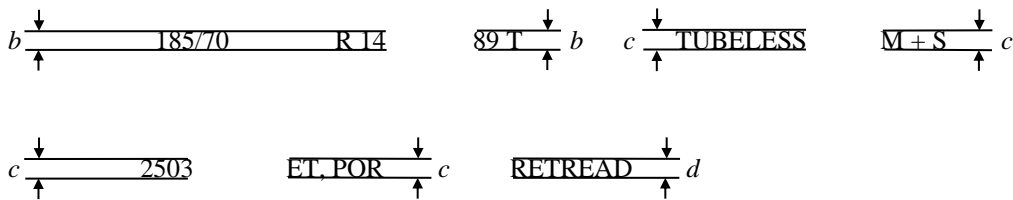


The above approval mark affixed to a retreaded tyre shows that the retreading production unit concerned has been approved in the Netherlands (E4) under approval number 108R0012439, meeting the requirements of **01 series of amendments** to this Regulation ~~in its original form (00)~~.

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

Annex 3, paragraph 1, amend to read:

"1. Example of the markings to be borne by retreaded tyres placed on the market after the entry into force of this Regulation



b : 6 mm (min.)
 c : 4 mm (min.)
 d : 3 mm (min.)
 and from 1998, 4 mm (min.)

These markings define a retreaded tyre:

having a nominal section width of 185;

having a nominal aspect ratio of 70;

of radial-ply structure (R);

having a nominal rim diameter of code 14;

having a service description "89T" indicating a ~~load capacity~~ **load capacity** of 580 kg corresponding to a load index of "89" and a maximum speed capability of 190 km/h corresponding to a speed symbol "T";

for fitting without an inner tube ("TUBELESS");

complying with the definition of snow ~~tyre type~~ (M+S);

retreaded in the weeks 25, 26, 27 or 28 of the year 2003

complying with the requirement of ~~special use~~ **special use tyre (ET)** and professional off-road ~~tyre (POR) or extra tread (ET) type.~~

Annex 4, amend to read:

"Annex 4

LIST OF LOAD INDICES AND CORRESPONDING LOAD CAPACITIES
 Load index (LI) and load capacity - kg

LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg
0	45	40	140	80	450	120	1400	160	4500	200	14000	240	45000

1	46.2	41	145	81	462	121	1 450	161	4 625	201	14 500	241	46 250
2	47.5	42	150	82	475	122	1 500	162	4 750	202	15 000	242	47 500
3	48.7	43	155	83	487	123	1 550	163	4 875	203	15 500	243	48 750
4	50	44	160	84	500	124	1 600	164	5 000	204	16 000	244	50 000
5	51.5	45	165	85	515	125	1 650	165	5 150	205	16 500	245	51 500
6	53	46	170	86	530	126	1 700	166	5 300	206	17 000	246	53 000
7	54.5	47	175	87	545	127	1 750	167	5 450	207	17 500	247	54 500
8	56	48	180	88	560	128	1 800	168	5 600	208	18 000	248	56 000
9	58	49	185	89	580	129	1 850	169	5 800	209	18 500	249	58 000
10	60	50	190	90	600	130	1 900	170	6 000	210	19 000	250	60 000
11	61.5	51	195	91	615	131	1 950	171	6 150	211	19 500	251	61 500
12	63	52	200	92	630	132	2 000	172	6 300	212	20 000	252	63 000
13	65	53	206	93	650	133	2 060	173	6 500	213	20 600	253	65 000
14	67	54	212	94	670	134	2 120	174	6 700	214	21 200	254	67 000
15	69	55	218	95	690	135	2 180	175	6 900	215	21 800	255	69 000
16	71	56	224	96	710	136	2 240	176	7 100	216	22 400	256	71 000
17	73	57	230	97	730	137	2 300	177	7 300	217	23 000	257	73 000
18	75	58	236	98	750	138	2 360	178	7 500	218	23 600	258	75 000
19	77.5	59	243	99	775	139	2 430	179	7 750	219	24 300	259	77 500
20	80	60	250	100	800	140	2 500	180	8 000	220	25 000	260	80 000
21	82.5	61	257	101	825	141	2 575	181	8 250	221	25 750	261	82 500
22	85	62	265	102	850	142	2 650	182	8 500	222	26 500	262	85 000
23	87.5	63	272	103	875	143	2 725	183	8 750	223	27 250	263	87 500
24	90	64	280	104	900	144	2 800	184	9 000	224	28 000	264	90 000
25	92.5	65	290	105	925	145	2 900	185	9 250	225	29 000	265	92 500
26	95	66	300	106	950	146	3 000	186	9 500	226	30 000	266	95 000
27	97.5	67	307	107	975	147	3 075	187	9 750	227	30 750	267	97 500
28	100	68	315	108	1 000	148	3 150	188	10 000	228	31 500	268	100 000
29	103	69	325	109	1 030	149	3 250	189	10 300	229	32 500	269	103 000
30	106	70	335	110	1 060	150	3 350	190	10 600	230	33 500	270	106 000
31	109	71	345	111	1 090	151	3 450	191	10 900	231	34 500	271	109 000
32	112	72	355	112	1 120	152	3 550	192	11 200	232	35 500	272	112 000
33	115	73	365	113	1 150	153	3 650	193	11 500	233	36 500	273	115 000
34	118	74	375	114	1 180	154	3 750	194	11 800	234	37 500	274	118 000
35	121	75	387	115	1 215	155	3 875	195	12 150	235	38 750	275	121 500
36	125	76	400	116	1 250	156	4 000	196	12 500	236	40 000	276	125 000
37	128	77	412	117	1 285	157	4 125	197	12 850	237	41 250	277	128 500
38	132	78	425	118	1 320	158	4 250	198	13 200	238	42 500	278	132 000
39	136	79	437	119	1 360	159	4 375	199	13 600	239	43 750	279	136 000

LOAD-CAPACITY INDICES

Li = Load-capacity index

kg = Corresponding mass of the vehicle which is to be carried.

Li	kg	Li	kg	Li	kg	Li	kg
0	45	31	109	61	257	91	615
1	46.2	32	112	62	265	92	630
2	47.5	33	115	63	272	93	650
3	48.7	34	118	64	280	94	670
4	50	35	121	65	290	95	690
5	51.5	36	125	66	300	96	710
6	53	37	128	67	307	97	730
7	54.5	38	132	68	315	98	750
8	56	39	136	69	325	99	775

9	58	40	140	70	335	100	800
10	60	41	145	71	345	101	825
11	61.5	42	150	72	355	102	850
12	63	43	155	73	365	103	875
13	65	44	160	74	375	104	900
14	67	45	165	75	387	105	925
15	69	46	170	76	400	106	950
16	71	47	175	77	412	107	975
17	73	48	180	78	425	108	1 000
18	75	49	185	79	437	109	1 030
19	77.5	50	190	80	450	110	1 060
20	80	51	195	81	462	111	1 090
21	82.5	52	200	82	475	112	1 120
22	85	53	206	83	487	113	1 150
23	87.5	54	212	84	500	114	1 180
24	90	55	218	85	515	115	1 215
25	92.5	56	224	86	530	116	1 250
26	95	57	230	87	545	117	1 285
27	97.5	58	236	88	560	118	1 320
28	100	59	243	89	580	119	1 360
29	103	60	250	90	600	120	1 400
30	106						

Annex 6,

Paragraph 1.1., amend to read:

"1.1. The tyre shall be mounted on the test rim specified by the retreader and inflated to the pressure of ~~3 to 3.5 bar~~ **300 to 350 kPa.**"

Paragraphs 1.2.1. to 1.2.4., amend to read:

"1.2.1. for standard bias belted tyres - to ~~1.7 bar~~ **170 kPa**;

1.2.2 for diagonal (bias ply) tyres - to:

Ply rating	Pressure (kPa) for Speed symbol		
	Speed category symbol		
	L, M, N	P, Q, R, S	T, U, H, V
4	1.7 170	2.0 200	-
6	2.1 210	2.4 240	2.6 260
8	2.5 250	2.8 280	3.0 300

1.2.3. for standard radial tyres - to ~~1.8 bar~~ **180 kPa**;

1.2.4. for reinforced tyres - to ~~2.3 bar~~ **220 kPa.**"

Annex 7,

Title, amend to read:

" **Annex 7****PROCEDURE FOR LOAD/SPEED ENDURANCE PERFORMANCE TESTS**

(IN PRINCIPLE IN ACCORDANCE WITH ANNEX 7 OF UN REGULATION No. 30)"

Paragraph 1.2., amend to read:

"1.2. Inflate the tyre to the appropriate pressure as given (in ~~bar~~ **kPa**) in the table below:

Speed Category category symbol	Diagonal (bias-ply) tyres			Radial Tyres		Bias-belted tyres
	Ply-rating			Standard	Reinforced	Standard
	4	6	8			
L, M, N	2.3-230 2.7-270	2.7-270 3.0-300	3.0-300 3.3-330	2.4-240 2.6-260	-	-
P, Q, R, S	2.6-260 3.0-300	3.0-300 3.3-330	3.3-330 3.5-350	2.8-280 3.0-300	3.2-320 3.4-340	2.8-280 2.6-260
T, U, H	2.8-280 3.2-320	3.2-320 3.5-350	3.5-350 3.7-370	3.0-300 3.2-320	3.4-340 3.6-360	2.8-280 2.6-260
V	3.0-300 3.4-340	3.4-340 3.7-370	3.7-370 3.9-390	3.0-300 3.2-320	3.4-340 3.6-360	-
W, Y	-	-	-	3.2-320 3.4-340	3.6-360 3.8-380	-

Paragraphs 2.2.1 and 2.2.2., amend to read:

"2.2.1. the maximum load rating corresponding to the ~~Load Index-load capacity index~~ **index** for tyres with Speed Symbols L to H inclusive,

2.2.2. the maximum load rating associated with a maximum speed (see paragraph 2.35.2 of this Regulation) of:

- 240 km/h in case of tyres of ~~Speed~~ **speed category** symbol "V",
- 270 km/h in case of tyres of ~~Speed~~ **speed category** symbol "W",
- 300 km/h in case of tyres of ~~Speed~~ **speed category** symbol "Y"."

Paragraph 2.4., amend to read:

"2.4. During the test the temperature in the test-room must be maintained at between ~~20°C and 30°C~~ **20°C and 30°C** unless the tyre manufacturer or retreader agrees to a higher temperature."

Paragraph 3., renumber as 4.:

"~~4~~3. Equivalent test methods

If a method other than that described in paragraph 2 of this annex is used, its equivalence must be demonstrated."

Add a new paragraph 3. and subparagraphs 3.1. to 3.9. to read:

"3. **Procedure to assess the "flat tyre running mode" of "extended mobility tyres"**

3.1. **Mount a new tyre on a test rim corresponding to the following specifications:**

- (a) **Measuring rim width, according to ISO 4000-1**
- (b) **Contour with hump (round or flat) on both rim sides, according to ISO 4000 2.**

- 3.2. Inflate it to an inflation pressure of 250 kPa and condition the tyre-and-wheel assembly at a test room temperature at $25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ for not less than three hours.**
- 3.3. Remove the valve insert and wait until the tyre deflates completely.**
- 3.4. Mount the tyre-and-wheel assembly to a test axle and press it against the outer surface of a smooth wheel $1.70\text{ m} \pm 1\text{ per cent}$ or $2.0\text{ m} \pm 1\text{ per cent}$ in diameter.**
- 3.5. Apply to the test axle the test load equal to 60 per cent of the maximum load rating corresponding to the load capacity index of the tyre.**
- 3.6. Test speed: 80 km/h in case of $2.0\text{ m} \pm 1\text{ per cent}$ drum diameter, or 75 km/h in case of $1.7\text{ m} \pm 1\text{ per cent}$ drum diameter**
- 3.7. During the test the temperature of the test room must be maintained at $25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$.**
- The temperature sensor shall be at a distance not less than 0.15 m and not more than 1.00 m from the tyre sidewall.**
- 3.8. Conduct the test, without interruption in conformity with the following particulars:**
- 3.8.1. Accelerate the tyre-and-wheel assembly from zero speed to the constant test speed within 5 minutes;**
- 3.8.2. Measure the deflected section height (Z1).**
- 3.8.3. Run the tyre-and-wheel assembly at the constant test speed and the constant test load for 60 minutes;**
- 3.8.4. Measure the deflected section height (Z2).**
- 3.9. Calculate the change in per cent of the deflected section height compared to the deflected section height at the start of the test as $[(Z1-Z2)/Z1] \times 100$."**

Annex 9, delete.

Annex 9, Appendices 1, 2 and 3, delete.

II. Justification

1. This new series of amendments to UN Regulation No. 108 is proposed in order to address the following difficulties that the retreaders and the Type Approval Authorities have been facing in practice with regards to the approval of retreading facilities producing “tyres for use in severe snow conditions” and the verification of the conformity of production of these retreaded tyres:

- (a) Acceptance of snow test reports provided by the tread material suppliers or new tyre manufacturers as a proof of compliance to the snow requirements and their consequent marking with “Alpine” symbol;
- (b) Unclear situation concerning the repartition of responsibilities between the retreader and the material suppliers or new tyre manufacturers, especially concerning the verification of the Conformity of Production of retreaded tyres either relying on tests under control plan of the tread supplier or on the compliance statement of new tyres approved according to Regulation No. 117 with a tread having the same major features including tread pattern of the retreaded tyres.

2. The proposal has been elaborated considering the removal of the prescriptions of snow grip performance of retreaded tyres from UN Regulation No. 108 and their implementation on a new specific UN Regulation on type approval of retreaded tyres of classes C1, C2 and C3 with respect to this performance. The rationale behind this proposal is to segregate type approval of retreading workshop from the performances of the retreaded tyres which result from the tread pattern used for the retreading process.

3. Additionally, the full text of the UN Regulation has been made subject of editorial corrections where needed and aligned as much as possible to the text of the up-to-date version of UN Regulation No. 30.
