

**Definitions in Regulations under the responsibility of GRRF**

**Contents**

BIAS BELTED (GRRF, GRB)..... 2

BIAS PLY (GRRF, GRB)..... 2

BRAKING SIGNAL (GRRF)..... 3

BRAKING SYSTEM (GRRF) ..... 3

CARCASS (GRRF) ..... 3

COMMON SPACE (GRRF, GRSG)..... 4

CONTROL (GRRF, GRSG)..... 4

CORD (GRRF, GRB) ..... 4

DISTRIBUTION OF MASS AMONG THE AXLES (GRRF)..... 4

EMERGENCY BRAKING SIGNAL (GRRF)..... 4

EXTRA LOAD (GRRF) ..... 5

IDENTIFICATION CODE (GRRF)..... 5

INERTIA (GRRF, GRB) ..... 5

LADEN VEHICLE (GRRF, GRE, GRSG) ..... 5

LOAD INDEX (GRRF)..... 5

LOWER AREA OF TYRE (GRRF, GRB)..... 6

MANUFACTURER (GRPE, GRRF, GRSG)..... 6

MAXIMUM MASS (GRRF, GRE, GRSG, GRPE) ..... 7

MAXIMUM SPEED “V<sub>max</sub>” (GRB, GRPE, GRRF) ..... 7

NOMINAL RIM DIAMETER “d” (GRRF, GRB)..... 8

NOMINAL VALUE (GRRF) ..... 8

NORMAL TYRE (GRRF, GRB)..... 8

OUTER DIAMETER “D” (GRRF, GRB) ..... 8

OVER-ALL WIDTH/OVERALL WIDTH (GRE, GRRF, GRB) ..... 9

PRINCIPAL GROOVES (GRRF, GRB)..... 9

RADIAL (GRRF, GRB) ..... 9

REINFORCED (GRRF, GRB) ..... 9

RETREADING (GRRF)..... 10

RIGID PLASTIC GLAZING (GRSG, GRRF, GRB)..... 10

SECTION WIDTH "S" (GRRF, GRB)..... 10

SERVICE DESCRIPTION (GRRF)..... 11

SIDEWALL (GRRF, GRB).....	11
SIDEWALL VENEER (GRRF) .....	11
SNOW TYRE (GRRF, GRB) .....	11
SPEED CATEGORY (GRRF, GRB) .....	11
SPEED SYMBOL (GRRF).....	12
STEERING CONTROL (GRSP, GRRF) .....	13
TEMPORARY USE SPARE TYRE (GRRF, GRB) .....	13
TEST PRESSURE “Ptest” (GRRF, GRSG) .....	13
TEST RIM (GRRF, GRB) .....	13
THEORETICAL RIM (GRRF, GRB) .....	13
TRACTION TYRE (GRRF, GRB).....	13
TRANSMISSION (GRRF).....	14
TREAD (GRRF, GRB).....	14
TYPE OF COUPLING DEVICE OR COMPONENT (GRRF) .....	14
TYRE CATEGORIES OF USE (GRRF).....	14
TYRE CLASS (GRRF, GRB) .....	15
TYRE SIZE DESIGNATION (GRRF, GRB) .....	15
UNLADEN MASS “MV” (GRSG, GRPE, GRRF, GRSP).....	29
UNLADEN VEHICLE MASS (GRRF, GRSP) .....	29
WHEEL (GRRF) .....	30

**BIAS BELTED (GRRF, GRB)**

*(UN, Reg.30, 75 and 117)* describes a pneumatic-tyre structure of diagonal (bias-ply) type in which the carcass is restricted by a belt comprising two or more layers of substantially inextensible cord material laid at alternate angles close to those of the carcass.

*(UN, Reg.106)* describes a tyre structure of diagonal (bias-ply) type in which the carcass is restricted by a belt comprising two or more layers of substantially inextensible cord material laid at alternate angles close to those of the carcass.

*(UN, Reg.108 and 109)* describes a pneumatic-tyre structure of diagonal (bias-ply) type in which the carcass is stabilized by a belt, comprising two or more layers of substantially inextensible cord material laid at alternate angles close to those of the carcass.

**BIAS PLY (GRRF, GRB)**

*(UN, Reg.30, 54, 75, 108, 109 and 117)* describes a pneumatic-tyre structure in which the ply cords extend to the beads and are laid at alternate angles substantially less than 90° to the centreline of the tread.

*(UN, Reg.106)* describes a tyre structure in which the ply cords extend to the bead and are laid at alternate angles of substantially less than 90° to the centreline of the tread.

## BRAKING SIGNAL (GRRF)

(UN, Reg.13) it is a logic signal indicating brake activation.

(UN, Reg.13H) it is a logic signal indicating brake activation. When a vehicle is equipped with the means to indicate emergency braking, activation and de-activation of the emergency braking signal shall only be generated by the application of the service braking system when the following conditions are fulfilled. At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer.

## BRAKING SYSTEM (GRRF)

(UN, Reg.13) means the combination of parts whose function is progressively to reduce the speed of a moving vehicle or bring it to a halt, or to keep it stationary if it is already halted; these functions are specified below. The equipment consists of the control, the transmission, and the brake proper.

- Service braking system:

The service braking system must make it possible to control the movement of the vehicle and to halt it safely, speedily and effectively, whatever its speed and load, on any up or down gradient. It must be possible to graduate this braking action. The driver must be able to achieve this braking action from his driving seat without removing his hands from the steering control.

- Secondary braking system:

The secondary braking system must make it possible by application of the service brake control to halt the vehicle within a reasonable distance in the event of failure of the service braking system. It must be possible to graduate this braking action. The driver must be able to obtain this braking action from his driving seat without removing his hands from the steering control. For the purposes of these provisions it is assumed that not more than one failure of the service braking system can occur at one time.

- Parking braking system:

The parking braking system must make it possible to hold the vehicle stationary on an up or down gradient even in the absence of the driver, the working parts being then held in the locked position by a purely mechanical device. The driver must be able to achieve this braking action from his driving seat.

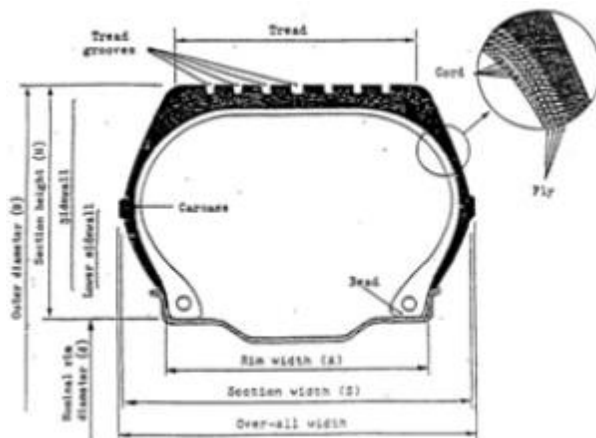
(UN, Reg.78 and 90) means the combination of parts consisting of the control, transmission, and brake, but excluding the engine, whose function it is to progressively reduce the speed of a moving vehicle, bring it to a halt, and keep it stationary when halted.

## CARCASS (GRRF)

(UN, Reg.30, 54, 75 and 117) means that part of a pneumatic tyre other than the tread and the rubber sidewalls which, when inflated, bears the load.

(UN, Reg.106) means that part of a tyre other than the tread and the rubber sidewalls which, when inflated, bears the load.

(UN, Reg.108 and 109) means that structural part of a pneumatic-tyre other than the tread and outermost "rubber" of the sidewalls which, when inflated, supports the load.



### COMMON SPACE (GRRF, GRSG)

(UN, Reg.13H) means an area on which more than one tell-tale; indicator, identification symbol, or other message may be displayed but not simultaneously.

(UN, Reg.121, 130 and 131) means an area on which two or more information functions (e.g. symbol) may be displayed but not simultaneously.

### CONTROL (GRRF, GRSG)

(UN, Reg.13) means the part actuated directly by the driver, or in the case of some trailers, by an assistant, to furnish to the transmission the energy required for braking or controlling it. This energy may be the muscular energy of the driver, or energy from another source controlled by the driver or in appropriate cases the kinetic energy of a trailer, or a combination of these various kinds of energy.

(UN, Reg.13H) means the part actuated directly by the driver to furnish to the transmission the energy required for braking or controlling it. This energy may be the muscular energy of the driver, or energy from another source controlled by the driver, or a combination of these various kinds of energy.

(UN, Reg.60) means any part of the vehicle or a device directly actuated by the driver which changes the state or functioning of the vehicle or any part thereof.

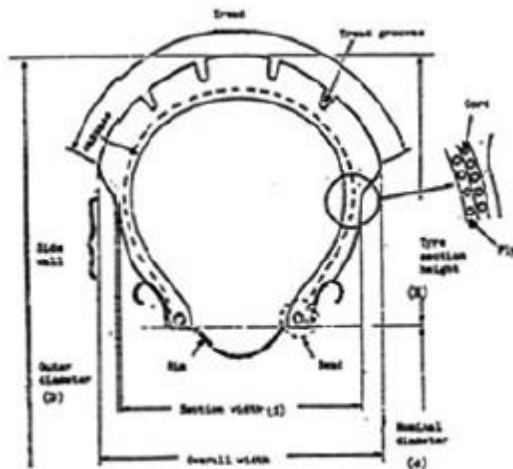
(UN, Reg.78) means the part actuated directly by the rider in order to supply or control the energy required for breaking the vehicle to the transmission.

(UN, Reg.121) means that hand-operated part of a device that enables the driver to bring about a change in the state or functioning of a vehicle or vehicle's subsystem.

### CORD (GRRF, GRB)

(UN, Reg.30, 54, 75, 108, 109 and 117) means the strands forming the fabric of the plies in the pneumatic tyre.

(UN, Reg.106) means the strands forming the fabric of the plies in the tyre.



### DISTRIBUTION OF MASS AMONG THE AXLES (GRRF)

(UN, Reg.13 and 13H) means the distribution of the effect of the gravity on the mass of the vehicle and/or its contents among the axles.

(UN, Reg.111) means the proportion of the maximum permissible mass borne by each axle, as declared by the vehicle manufacturer.

### EMERGENCY BRAKING SIGNAL (GRRF)

(UN, Reg.13) it is a logic signal indicating emergency braking.

(UN, Reg.13H) it is a logic signal indicating emergency braking. When a vehicle is equipped with the means to indicate emergency braking, activation and de-activation of the emergency braking signal shall only be generated by the application of the service braking system when the following conditions are fulfilled. At the time of type approval, compliance with this requirement shall be confirmed by the vehicle manufacturer.

#### **EXTRA LOAD (GRRF)**

(UN, Reg.30) means a pneumatic-tyre structure 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.

(UN, Reg.117) describes a pneumatic-tyre structure in which the carcass is more resistant than that of the corresponding standard tyre.

#### **IDENTIFICATION CODE (GRRF)**

(UN, Reg.13 and 13H) identifies the brake discs or brake drums covered by the braking system approval. It contains at least the manufacturer's trade name or trademark and an identification number.

(UN, Reg.90) identifies the brake discs or brake drum covered by the braking system approval according to, vehicles of categories M<sub>2</sub>, M<sub>3</sub>, N and O with regard to braking, but does not cover:

- Vehicles with a design speed not exceeding 25 km/h.
- Trailers which may not be coupled to power-driven vehicles with a design speed exceeding 25 km/h.
  - Vehicles fitted for invalid drivers.

It contains at least the manufacturer's trade name or trademark and an identification number.

The vehicle manufacturer shall provide on request of the technical service and/or approval authority the necessary information, which makes the link between the braking system type approval and the corresponding identification code.

#### **INERTIA (GRRF, GRB)**

(UN, Reg.13) means braking by utilizing the forces generated by the trailer's moving up on the towing vehicle.

(UN, Reg.117) Ratio of the torque applied to a rotating body to the rotational acceleration of this body. The rotating body can be, for example, a tyre assembly or machine drum.

#### **LADEN VEHICLE (GRRF, GRE, GRSG)**

(UN, Reg.13, 13H and 111) means, except where otherwise stated, a vehicle so laden as to attain its "maximum mass".

(UN, Reg.26) means the vehicle laden to the maximum permitted technical mass. Vehicles equipped with hydropneumatic, hydraulic or pneumatic suspension or a device for automatic levelling according to load shall be tested with the vehicle in the most adverse normal running condition specified by the manufacturer.

(UN, Reg.48, 65, 77, 87, 91, 98, 104, 112 and 123) means a vehicle loaded to its technically permissible maximum mass, as stated by the manufacturer, who shall also fix the distribution of this mass between the axles.

#### **LOAD INDEX (GRRF)**

(UN, Reg.108) means a numerical code which indicates the maximum load the tyre can support.

(UN, Reg.109) means a numerical code which indicates the load the tyre can carry at the speed corresponding to the associated speed symbol and when operated in conformity with the service conditions specified by the manufacturer. A pneumatic tyre can have more than one load index to indicate its load capacity when used in single or dual (twin) formation, or to indicate an alternative load capacity (Unique point) on which a load variation is not permitted.

The list of load indices and the corresponding loads are shown in the next table:

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	1450	161	4625	201	14500	241	46250
2	47.5	42	150	82	475	122	1500	162	4750	202	15000	242	47500
3	48.7	43	155	83	487	123	1550	163	4875	203	15500	243	48750
4	50	44	160	84	500	124	1600	164	5000	204	16000	244	50000
5	51.5	45	165	85	515	125	1650	165	4150	205	16500	245	51500
6	53	46	170	86	530	126	1700	166	5300	206	17000	246	53000
7	54.5	47	175	87	545	127	1750	167	5450	207	17500	247	54500
8	56	48	180	88	560	128	1800	168	5600	208	18000	248	56000
9	58	49	185	89	580	129	1850	169	5800	209	18500	249	58000
10	60.0	50	190	90	600	130	1900	170	6000	210	19000	250	60000
11	61.5	51	195	91	615	131	1950	171	6150	211	19500	251	61500
12	63.0	52	200	92	630	132	2000	172	6300	212	20000	252	63000
13	65.0	53	206	93	650	133	2060	173	6500	213	20600	253	65000
14	67.0	54	212	94	670	134	2120	174	6700	214	21200	254	67000
15	69.0	55	218	95	690	135	2180	175	6900	215	21800	255	69000
16	71.0	56	224	96	710	136	2240	176	7100	216	22400	256	71000
17	73.0	57	230	97	730	137	2300	177	7300	217	23000	257	73000
18	75.0	58	236	98	750	138	2360	178	7500	218	23600	258	75000
19	77.5	59	243	99	775	139	2430	179	7750	219	24300	259	77500
20	80	60	250	100	800	140	2500	180	8000	220	25000	260	80000
21	82.5	61	257	101	825	141	2575	181	8250	221	25750	261	82500
22	85	62	265	102	850	142	2650	182	8500	222	26500	262	85500
23	87.5	63	272	103	875	143	2725	183	8750	223	27250	263	87500
24	90	64	280	104	900	144	2800	184	9000	224	28000	264	90000
25	92.5	65	290	105	925	145	2900	185	9250	225	29000	265	92500
26	95	66	300	106	950	146	3000	186	9500	226	30000	266	95000
27	97.5	67	307	107	975	147	3075	187	9750	227	30750	267	97500
28	100	68	315	108	1000	148	3150	188	10000	228	31500	268	100000
29	103	69	325	109	1030	149	3250	189	10300	229	32500	269	103000
30	106	70	335	110	1060	150	3350	190	10600	230	33500	270	106000
31	109	71	345	111	1090	151	3450	191	10900	231	34500	271	109000
32	112	72	355	112	1120	152	3550	192	11200	232	35500	272	112000
33	115	73	365	113	1150	153	3650	193	11500	233	36500	273	115000
34	118	74	375	114	1180	154	3750	194	11800	234	37500	274	118000
35	121	75	387	115	1215	155	3875	195	12150	235	38750	275	121500
36	125	76	400	116	1250	156	4000	196	12500	236	40000	276	125000
37	128	77	412	117	1285	157	4125	197	12850	237	41250	277	128500
38	132	78	425	118	1320	158	4250	198	13200	238	42500	278	132000
39	136	79	437	119	1360	159	4375	199	13600	239	43750	279	136000

**LOWER AREA OF TYRE (GRRF, GRB)**

(UN, Reg.30 and 117) means the area included between the point of maximum section width of the tyre and the area designed to be covered by the edge of the rim.

However, in case of tyres identified by the “tyre to rim fitment configuration” symbol “A” or “U”, it means the area of the tyre which is seating on the rim.

(UN, Reg.108 and 109) 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.

**MANUFACTURER (GRPE, GRRF, GRSG)**

(UN, Reg.49) means the person or body who is responsible to the approval authority for all aspects of the type-approval or authorisation process and for ensuring conformity of production. It is not essential that the person or body be directly involved in all stages of the construction of the vehicle, system, component or separate technical unit which is the subject of the approval process.

(UN, Reg.90) means the organization which can assume technical responsibility for the brake lining assemblies or drum brake linings or brake drums and discs and can demonstrate that it possesses the necessary means to achieve conformity of production.

(UN, Reg.116, 118, 121, 122 and RE3) means the person or body who is responsible to the approval authority for all aspects of the type approval process and for ensuring conformity of production. It is not es-

essential that the person or body is directly involved in all stage of the construction of the vehicle, system, component or separate technical unit which is the subject of the approval process.

(UN, Reg.132) means the person or body who is responsible to the Type Approval Authority for all aspects of the type-approval and can demonstrate that it possesses the features required and the necessary means to achieve quality assessment and conformity of production. It is not essential that the person or body be directly involved in all stages of the construction of the vehicle, system, component or separate technical unit which is the subject of the approval process.

#### MAXIMUM MASS (GRRF, GRE, GRSG, GRPE)

(UN, Reg.13, 13H, 58 and 64) means the maximum mass stated by the vehicle manufacturer to be technically permissible. This mass may be higher than the “permissible maximum mass” laid down by the national administration.

(UN, Reg. 50, 53, 78 and 113) see “Gross vehicle mass” definition.

(UN, Reg.51, 83 and 84) means the technically permissible maximum mass declared by the vehicle manufacturer. This mass may be greater than the maximum mass authorized by the national administration.

(UN, Reg.73 and 93) means the mass stated by the vehicle manufacturer to be technically permissible. This mass may be higher than the “permissible maximum mass” laid down by the national administration.

(UN, Reg.101) means the technically permissible maximum mass declared by the manufacturer. This mass may be greater than the maximum mass authorized by the national administration.

(UN, Reg.111) means the technically permissible maximum mass stated by the vehicle manufacturer. This mass may be higher than the “permissible maximum mass” laid down by the national administration.

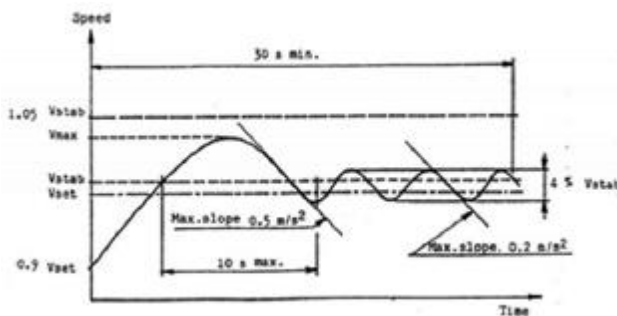
#### MAXIMUM SPEED “V<sub>max</sub>” (GRB, GRPE, GRRF)

(UN, Reg.41) means the maximum vehicle speed as defined in ISO 7117:1995. The symbol V<sub>max</sub> denotes the maximum speed.

(UN, Reg.68) means:

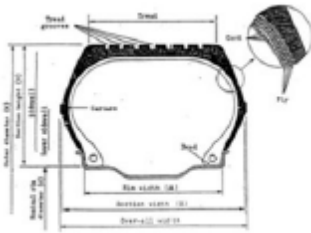
- For thermal engine driven vehicles, the maximum steady speed.
- For electric vehicles, the highest average value of the speed, which the vehicle can maintain twice over a distance of 1 km.

(UN, Reg.89) is the maximum speed reached by the vehicle in the first half of the period of the response curve.



**NOMINAL RIM DIAMETER “d” (GRRF, GRB)**

(UN, Reg.30, 54, 75 and 117) means the diameter of the rim on which a tyre is designed to be mounted.



(UN, Reg.106, 108 and 109) means a conventional number denoting the nominal diameter of the rim on which a tyre is designed to be mounted and corresponding to the diameter of the rim expressed either by size codes (number below 100 - see table for equivalence with millimetres) or in mm (numbers above 100) but not both.

"d" symbol expressed by codes	value to be used for the calculation (mm)	"d" symbol expressed by codes	value to be used for the calculation (mm)	"d" symbol expressed by codes	value to be used for the calculation (mm)
4	102	18	457	46	1168
5	127	19	483	48	1219
6	152	20	508	50	1270
7	178	21	533	52	1321
8	203	22	559	54	1372
9	229	24	610		
10	254	26	660	14.5	368
11	279	28	711	15.5	394
12	305	30	762	16.5	419
13	330	32	813	17.5	445
14	356	34	864	19.5	495
15	381	36	914	20.5	521
15.3	389	38	965	22.5	572
16	406	40	1016	24.5	622
16.1	409	42	1067	26.5	673
17	432	44	1118	30.5	775

**NOMINAL VALUE (GRRF)**

(UN, Reg.13) is defined, for a power-driven vehicle, as the characteristic which can be demonstrated at Type Approval and which relates the braking rate of the vehicle on its own to the level of the braking input variable.

For a trailer, is defined, as the characteristic which can be demonstrated at Type Approval and which relates the braking rate to the coupling head signal.

(UN, Reg.13H) definitions for braking reference performance are required to put a value on the transfer function of the braking system, relating output to input for vehicles individually.

Also is defined as the characteristic which can be demonstrated at type approval and which relates the braking rate of the vehicle on its own to the level of the braking input variable.

**NORMAL TYRE (GRRF, GRB)**

(UN, Reg.30 and 117) means a tyre intended for normal, everyday on-road use.

(UN, Reg.54) means a tyre intended for normal, on-road use.

(UN, Reg.64) being a tyre that is suitable for all normal, on-road, conditions of use.

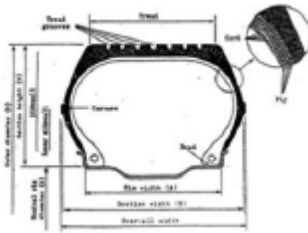
**OUTER DIAMETER “D” (GRRF, GRB)**

(UN, Reg.30, 54, 75 and 117) means the overall diameter of an inflated new pneumatic tyre.

(UN, Reg.106) means the overall diameter of an inflated new tyre.

(UN, Reg.108 and 109) means the overall diameter of an inflated, newly retreaded tyre.

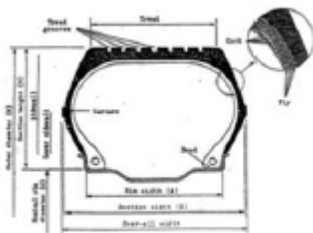




### OVER-ALL WIDTH/OVERALL WIDTH (GRE, GRRF, GRB)

(UN, Reg.50, 53, 74, 86 and 113) means the distance between the two vertical planes in the “extreme outer edge”.

(UN, Reg.54 and 117) means the linear distance between the outsides of the sidewalls of an inflated pneumatic tyre, including labelling (marking), decoration and protective bands or ribs.



(UN, Reg.30 and 117) means the linear distance between the outsides of the sidewalls of an inflated pneumatic tyre, including labelling (marking), decoration and protective bands or ribs.

(UN, Reg.48, 65, 77, 87, 91, 98, 104, 112 and 123) means the distance between the two vertical planes defined in “extreme outer edge on either side of the vehicle”.

(UN, Reg.75) means the linear distance between the outsides of the side walls of an inflated pneumatic tyre, including labelling (marking), decoration and protective bands or ribs; in the case of tyres where the tread is wider than the section width, the overall width corresponds to the tread width.

(UN, Reg.106) means the linear distance between the outside of the sidewalls of an inflated tyre, including labelling (marking), decoration and protective bands or ribs.

(UN, Reg.108 and 109) 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.

### PRINCIPAL GROOVES (GRRF, GRB)

(UN, Reg.30) means the wide circumferential grooves positioned in the central zone of the tyre tread, which have the treadwear indicators located in the base.

(UN, Reg.108) means the wide grooves situated in the central zone of the tread, which cover approximately three-quarters of the breadth of the tread.

(UN, Reg.117) means the wide circumferential grooves positioned in the central zone of the tyre tread, which, in the case of passenger and light truck (commercial) tyres, have the tread wear indicators located in the base.

### RADIAL (GRRF, GRB)

(UN, Reg.30, 54, 75, 108, 109 and 117) describes a pneumatic-tyre structure in which the ply cords extend to the beads and are laid substantially at 90° to the centreline of the tread, the carcass being stabilized by an essentially inextensible circumferential belt.

(UN, Reg.106) Describes a tyre structure in which the ply cords extend to the beads and are laid substantially at 90° to the centreline of the tread, the carcass being stabilized by an essentially inextensible circumferential belt.

### REINFORCED (GRRF, GRB)

(UN, Reg.30 and 117) See “Extra load” definition.

(UN, Reg.75) describes a pneumatic tyre structure in which the carcass is more resistant than that of the corresponding normal tyre.

### RETREADING (GRRF)

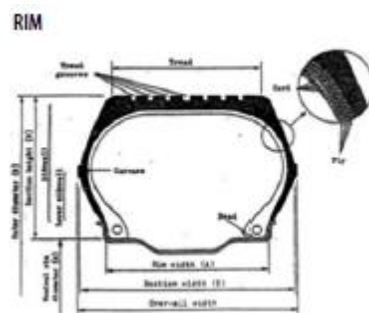
(UN, Reg.108) means the generic term for reconditioning a used tyre by replacing the worn tread with new material. It may also include renovation of the outermost sidewall surface. It covers the following process methods:

- Top capping: replacement of the tread.
- Re-capping: replacement of the tread and with the new material extending over part of the sidewall.
- Bead to bead: replacement of the tread and renovation of the sidewall including all or part of the lower area of the tyre.

(UN, Reg.109) means the generic term for reconditioning a used tyre by replacing the worn tread with new material. It may also include renovation of the outermost sidewall surface and replacement of the crown plies or the protective breaker.

### RIGID PLASTIC GLAZING (GRSG, GRRF, GRB)

(UN, Reg.43) means a plastic glazing material which does not deflect vertically more than 50 mm in the flexibility test.

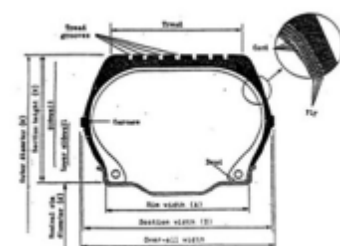


(UN, Reg.30, 54, 75, 106 and 117) means the support for a tyre-and-tube assembly, or for a tubeless tyre, on which the tyre beads are seated.

(UN, Reg.108 and 109) means the support, either for a tyre-and-tube assembly or for a tubeless tyre, on which the tyre beads are seated.

(UN, Reg.124) means that part of the wheel on which the tyre is mounted and supported.

### SECTION WIDTH "S" (GRRF, GRB)



(UN, Reg.30, 54, 75 and 117) means the linear distance between the outsides of the sidewalls of an inflated pneumatic tyre, excluding elevations due to labelling (marking), decoration or protective bands or ribs.

(UN, Reg.106) means the linear distance between the outsides of the sidewalls of an inflated tyre, excluding elevations due to labelling (marking), decoration or protective bands or ribs.

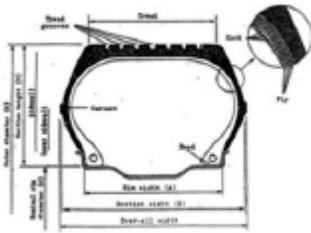
(UN, Reg.108 and 109) means the linear distance between the outside of the sidewalls of an inflated pneumatic tyre, when fitted to the specified measuring rim, but excluding elevations due to labelling (marking), decoration or protective bands or ribs.

**SERVICE DESCRIPTION (GRRF)**

(UN, Reg.106) means the association of a load capacity index with a speed category symbol.  
 In case of implement tyres the service description is supplemented with the relevant symbol for the type of application concerned (traction or trailer).  
 (UN, Reg.108 and 109) means the specific combination of the load index and speed symbol of the tyre.

**SIDEWALL (GRRF, GRB)**

(UN, Reg.30, 54, 75, 108, 109 and 117) means the part of a pneumatic tyre between the tread and the bead.  
 (UN, Reg.106) means the part of the tyre, excluding the tread, which is visible when the tyre, fitted to a rim, is viewed from the side.



**SIDEWALL VENEER (GRRF)**

(UN, Reg.108) is material used to cover the sidewalls of the casing thereby allowing the required markings to be formed.  
 (UN, Reg.109) is a material used to cover the sidewalls of the casing thereby allowing the required markings to be formed. This material can also be used to protect the outside of the tyre against abrasion in service. In this case the protective rubber layer is called additional sidewall protection (ASP).

**SNOW TYRE (GRRF, GRB)**

(UN, Reg.30 and 75) means a tyre whose tread pattern and whose structure are primarily designed to ensure in mud and fresh or melting snow a performance better than that of an ordinary (road-type) tyre. The tread pattern of a snow tyre generally consists of groove (rib) and/or solid-block elements more widely spaced than on an ordinary (road-type) tyre.  
 (UN, Reg.54 and 117) means a tyre whose tread pattern, tread compound or structure are primarily designed to achieve in snow conditions a performance better than that of a normal tyre with regard to its ability to initiate or maintain vehicle motion.

**SPEED CATEGORY (GRRF, GRB)**

(UN, Reg.30, 54 and 117) means the maximum speed which the tyre can sustain, expressed by speed category symbol, as shown in the table below:

Speed-category symbol	Maximum speed (km/h)
F	80
G	90
J	100
K	110
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190

-	---
U	200
H	210
V	240
W	270
Y	300

(UN, Reg.75) The speeds, expressed by the speed category symbol as shown in the table below.

Speed category symbol	Corresponding speed (km/h)
B	50
F	80
G	90
J	100
K	110
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190
U	200
H	210
V	240
W	270

Tyres suitable for maximum speeds in excess of 240 km/h are identified by means of letter codes “V” or “Z” placed within the tyre size designation in front of the indications of the structure.

(UN, Reg.106), the reference speed expressed by the speed category symbol, as shown in the table below:

Speed category symbol	Reference speed (km/h)
A2	10
A4	20
A6	30
A8	40
B	50
D	65

### SPEED SYMBOL (GRRF)

(UN, Reg.108) means an alphabetical symbol indicating the speed at which the tyre can carry the load given by the associated load index.

The speed symbols and corresponding speeds are as shown in the table below:

Speed symbol	Corresponding maximum speed (km/h)
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190
U	200
H	210
V	240

(UN, Reg.109) Means an alphabetical symbol indicating the speed at which the tyre can carry the load given by the associated load index.

The speed symbols and corresponding speeds are as shown in the table below:

Speed symbol	Corresponding maximum speed (km/h)
F	80
G	90
J	100
K	110
L	120
M	130
N	140
P	150
Q	160
R	170
S	180
T	190
U	200
H	210

### **STEERING CONTROL (GRSP, GRRF)**

*(UN, Reg.12)* means the steering device, usually the steering wheel, which is actuated by the driver.

*(UN, Reg.79)* means the part of the steering equipment which controls its operation; it may be operated with or without direct intervention of the driver. For steering equipment in which the steering forces are provided solely or partly by the muscular effort of the driver the steering control includes all parts up to the point where the steering effort is transformed by mechanical, hydraulic or electrical means.

### **TEMPORARY USE SPARE TYRE (GRRF, GRB)**

*(UN, Reg.30 and 117)* means a tyre different from a tyre intended to be fitted to any vehicle for normal driving conditions; but intended only for temporary use under restricted driving conditions.

*(UN, Reg.64)* being a tyre that is specifically designed to be different from a normal tyre and intended only for temporary-use under restricted driving conditions.

### **TEST PRESSURE “P<sub>test</sub>” (GRRF, GRSG)**

*(UN, Reg.64)* means the actual pressure of the tyre(s) selected for each tyre position after deflation during the test procedure.

*(UN, Reg.67)* means the pressure to which the component is subjected during the approval test.

*(UN, Reg.110)* means the pressure to which a component is taken during acceptance testing.

### **TEST RIM (GRRF, GRB)**

*(UN, Reg.30, 75 and 117)* means the rim on which a tyre is required to be fitted for testing.

*(UN, Reg.54 and 117)* means the rim on which a tyre must be fitted for load/speed endurance testing.

*(UN, Reg.106)* means the rim on which a tyre must be fitted for the performance test.

*(UN, Reg.108 and 109)* 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.

### **THEORETICAL RIM (GRRF, GRB)**

*(UN, Reg.30, 54 and 117)* means the notional rim whose width would be equal to x times the nominal section width of a tyre. The value of x shall be specified by the manufacturer of that tyre.

*(UN, Reg.75)* means the rim whose width would be equal to X times the nominal section width of a tyre. The value of X shall be specified by the manufacturer of the tyre.

*(UN, Reg.106)* means the notional rim whose width would be equal to X times the nominal section width of a tyre; the value “X” must be specified by the tyre manufacturer or the reference rim width is that mentioned in the “tyre size designation”.

### **TRACTION TYRE (GRRF, GRB)**

*(UN, Reg.106)* means a tyre designed primarily for the equipment of driven axles of implements or agricultural machinery, excluding sustained high torque services. The tread pattern of the tyre generally consists of lugs or cleats. The type of application is identified with the symbol.



(UN, Reg.117) means a tyre in class C2 or C3 bearing the inscription TRACTION and intended to be fitted primarily to the drive axle(s) of a vehicle to maximize force transmission in various circumstances.

### TRANSMISSION (GRRF)

(UN, Reg.13 and 13H) means the combination of components comprised between the control and the brake and linking them functionally. The transmission may be mechanical, hydraulic, pneumatic, electric or mixed. Where the braking power is derived from or assisted by a source of energy independent of the driver, the reserve of energy in the system is likewise part of the transmission.

The transmission is divided into two independent functions: the control transmission and the energy transmission. Whenever the term “transmission” is used alone in Regulation 13 and Regulation 13H, it means both the “control transmission” and the “energy transmission”.

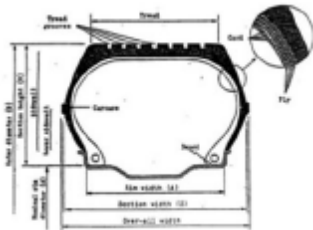
(UN, Reg.78) means the combination of components that provide the functional link between the control and the brake.

### TREAD (GRRF, GRB)

(UN, Reg.30, 54, 75 and 117) means that part of a pneumatic tyre which comes into contact with the ground, protects the carcass against mechanical damage and contributes to ground adhesion.

(UN, Reg.106) means that part of a tyre which comes into contact with the ground.

(UN, Reg.108 and 109) 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.



### TYPE OF COUPLING DEVICE OR COMPONENT (GRRF)

(UN, Reg.55) means a device or component which does not differ in such essential respects as:

- The manufacturer's or supplier's trade name or mark.
- The class of coupling.
- The external shape, principal dimensions or fundamental difference in design including materials used.
- The characteristic values D, Dc, S, V and U.

(UN, Reg.102) means devices which do not differ in such essential respects as:

- The make and type of the device.
- The operating principle.
- The means of attachment to vehicles.
- The overall dimensions at minimum and maximum extension.
- The limits of the operating angles.
  - The kinematic characteristics in relation to the angles of articulation;

### TYRE CATEGORIES OF USE (GRRF)

(UN, Reg.108)

- Normal tyre: is a tyre intended for normal road use only.
- Snow tyre: is a tyre whose tread pattern, or tread pattern and structure, is primarily designed to ensure, in mud and fresh or melting snow, a performance better than that of a normal tyre. The tread pattern of a snow tyre generally consists of groove (rib) and solid block elements more widely spaced than on a normal 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.
- “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.

(UN, Reg.109)

- Normal tyre is a tyre intended for normal road use only.
- Special use tyre is a tyre intended for mixed use, both on and off road and/or at restricted speed.

- Snow tyre is a tyre whose tread pattern, or tread pattern and structure, is primarily designed to ensure, in mud and fresh or melting snow, a performance better than that of a Normal Tyre. The tread pattern of a snow tyre generally consists of groove and solid block elements more widely spaced than on a normal tyre.

### TYRE CLASS (GRRF, GRB)

(UN, Reg.54) means one of the following groupings:

- Class C2 tyres: Tyres identified by a load capacity index in single formation lower or equal to 121 and a speed category symbol higher or equal to “N”;
- Class C3 tyres: Tyres identified by:
  - i. A load capacity index in single formation higher or equal to 122.
  - ii. A load capacity index in single formation lower or equal to 121 and a speed category symbol lower or equal to “M”.

(UN, Reg.117) means one of the following groupings:

- Class C1 tyres: Tyres conforming to Regulation No. 30.
- Class C2 tyres: Tyres conforming to Regulation No. 54 and identified by a load capacity index in single formation lower or equal to 121 and a speed category symbol higher or equal to “N”.
- Class C3 tyres: Tyres conforming to Regulation No. 54 and identified by:
  - iii. A load capacity index in single formation higher or equal to 122.
  - iv. A load capacity index in single formation lower or equal to 121 and a speed category symbol lower or equal to “M”.

### TYRE SIZE DESIGNATION (GRRF, GRB)

(UN, Reg.30 and 117) A designation showing:

- The nominal section width. This width must be expressed in mm, except in the case of the types of tyre for which the size designation is shown in the table below.
- The nominal aspect ratio except in the case of certain types of tyre, for which the size designation, or, depending on the tyre design type, the nominal outer diameter expressed in mm, are shown in the following table:

Table I. Size of tyres in Diagonal Construction (European tyres)

Super Ballon Series	Low Section Series	Super Low Section Series 2/	Ultra Low Section
4.80-10	5.50-12	155-13/6.15-13	5.9-10
5.20-10	6.00-12	165-13/6.45-13	6.5-13
5.20-12	7.00-13	175-13/6.95-13	6.9-13
5.60-13	7.00-14	155-14/6.15-14	7.3-13
5.90-13	7.50-14	165-14/6.45-14	
6.40-13	8.00-14	175-14/6.95-14	
5.20-14	6.00-15	185-14/7.35-14	
5.60-14		195-14/7.75-14	
5.90-14			
6.40-14			
5.60-15			
5.90-15			
6.40-15			
6.70-15			
7.10-15			
7.60-15			
8.20-15			

2/ The following size designations are accepted: 185-14/7.35-14 or 185-14 or 7.35-14 or 7.35-14/185-14.

Table II. Size in millimetric Series - Radial  
(European tyres)

125 R 10
145 R 10
125 R 12
135 R 12
145 R 12
155 R 12
125 R 13
135 R 13
145 R 13
155 R 13
165 R 13
175 R 13
185 R 13
125 R 14
135 R 14
145 R 14
155 R 14
165 R 14
175 R 14
185 R 14
195 R 14
205 R 14
215 R 14
225 R 15
235 R 15
175 R 16
185 R 16
205 R 16

Table III. Size of the 45 Series - Radial on TR  
Metric 5° Rims

280/45 R 415
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- A conventional number denoting the nominal rim diameter and corresponding to its diameter expressed either by codes (numbers below 100) or in millimetres (numbers above 100).
- The letter “T” in front of the nominal section width in case of T-type temporary use spare tyres.
- An indication of the tyre to rim fitment configuration when it differs from the standard configuration.

(UN, Reg.54 and 117) means a designation showing:

The nominal section width (S1). This width must be expressed in mm, except in the case of types of tyre for which the size designation is shown in the tables below.

The nominal aspect ratio, except in the case of certain types of tyre for which the size designation is shown in the tables below or, depending on the tyre design type, the nominal outer diameter expressed in mm.

#### EUROPEAN TYRES

Code designated sizes mounted on 5° tapered rims or flat base rims. radial and diagonal constructions.



Tyre size designation (+)	Measuring rim width code
9.00R15	6.00
9.00R16(*)	6.50
9.00R20	7.00
10.00R15	7.50
10.00R20	7.50
10.00R22	7.50
11.00R16	6.50
11.00R20	8.00
11.00R22	8.00
11.00R24	8.00
12.00R20	8.50
12.00R22	8.50
12.00R24	8.50
13.00R20	9.00
14.00R20	10.00
14.00R24	10.00
16.00R20	13.00
80 Series	
12/80 R 20	8.50
13/80 R 20	9.00
14/80 R 20	10.00
14/80 R 24	10.00
14.75/80 R 20	10.00
15.5/80 R 20	10.00
Wide Base Tyres for Multipurpose Trucks	
7.50 R 18 MPT	5.50
10.5 R 18 MPT	9
10.5 R 20 MPT	9
12.5 R 18 MPT	11
12.5 R 20 MPT	11
14.5 R 20 MPT	11
14.5 R 24 MPT	11

(+) Tyres in diagonal construction are identified by a hyphen in place of the letter “R”.  
 (\*) The tyre size designation may be supplemented with the letter “C”.

Code designated sizes mounted on 15° tapered rims - radial

Tyre size designation	Measuring rim width code
7 R 17.5 (*)	5.25
7 R 19.5	5.25
8 R 17.5 (*)	6.00
8 R 19.5	6.00
8 R 22.5	6.00
8.5 R 17.5	6.00
9 R 17.5	6.75
9 R 19.5	6.75
9 R 22.5	6.75
9.5 R 17.5	6.75
9.5 R 19.5	6.75
10 R 17.5	7.50
10 R 19.5	7.50
10 R 22.5	7.50
11 R 22.5	8.25
11 R 24.5	8.25
12 R 22.5	9.00
13 R 22.5	9.75
15 R 19.5	11.75
15 R 22.5	11.75
16.5 R 19.5	13.00
16.5 R 22.5	13.00
18 R 19.5	14.00
18 R 22.5	14.00
70 Series	
10/70 R 22.5	7.50
11/70 R 22.5	8.25
12/70 R 22.5	9.00
13/70 R 22.5	9.75

(\*) The tyre size designation may be supplemented with the letter “C”.

Tyres for light commercial vehicles - radial and diagonal constructions

Tyre size designation (+)	Measuring rim width code
Metric Designated	
145 R 10 C	4.00
145 R 12 C	4.00
145 R 13 C	4.00
145 R 14 C	4.00
145 R 15 C	4.00
155 R 12 C	4.50
155 R 13 C	4.50
155 R 14 C	4.50
165 R 13 C	4.50
165 R 14 C	4.50
165 R 15 C	4.50
175 R 13 C	5.00
175 R 14 C	5.00
175 R 16 C	5.00
185 R 13 C	5.50

185 R 14 C	5.50
185 R 15 C	5.50
185 R 16 C	5.50
195 R 14 C	5.50
195 R 15 C	5.50
195 R 16 C	5.50
205 R 14 C	6.00
205 R 15 C	6.00
205 R 16 C	6.00
215 R 14 C	6.00
215 R 15 C	6.00
215 R 16 C	6.00
245 R 16 C	7.00
17 R 15 C	5.00
17 R 380 C	5.00
17 R 400 C	150 mm
19 R 400 C	150 mm
Code Designated	
5.60 R 12 C	4.00
6.40 R 13 C	5.00
6.70 R 13 C	5.00
6.70 R 14 C	5.00
6.70 R 15 C	5.00

(+) Tyres in diagonal construction are identified by a hyphen in place of the letter “R”.

Tyres for special applications - radial and diagonal construction

Tyre size designation (+)	Measuring rim width code
Code Designated	
15x4 1/2-8	3.25
16x6-8	4.33
18x7	4.33
18x7-8	4.33
21x8-9	6.00
21x4	2.32
22x4 1/2	3.11
23x5	3.75
23x9-10	6.50
25x6	3.75
27x10-12	8.00
28x9-15	7.00
Metric designated	
200-15	6.50
250-15	7.50
300-15	8.00

(+) Tyres in diagonal construction are identified by a hyphen in place of the letter “R”.

#### UNITED STATES TYRES

Tyres for light commercial vehicles (LT tyres)

Diagonal and radial

Tyre size designation (+)	Measuring rim width code
6.00-16LT	4.50
6.50-16LT	4.50
6.70-16LT	5.00
7.00-13LT	5.00
7.00-14LT	5.00
7.00-15LT	5.50
7.00-16LT	5.50
7.10-15LT	5.00
7.50-15LT	6.00
7.50-16LT	6.00
8.25-16LT	6.50
9.00-16LT	6.50
G78-15LT	6.00
H78-15LT	6.00
L78-15LT	6.50
L78-16LT	6.50
7-14.5LT (*)	6.00
8-14.5LT (*)	6.00
9-14.5LT (*)	7.00
7-17.5LT	5.25
8-17.5LT	5.25

(+) Tyres in Radial construction are identified by the letter “R” in place of “-”.

(\*) The suffix “MH” may replace “LT” in the tyre size designation.

Tyres for light commercial vehicles (high flotation tyres) diagonal and radial

Tyre size designation (+)	Measuring rim width code
9-15LT	8.00
10-15LT	8.00
11-15LT	8.00
24x7.50-13LT	6
27x8.50-14LT	7
28x8.50-15LT	7
29x9.50-15LT	7.5
30x9.50-15LT	7.5
31x10.50-15LT	8.5
31x11.50-15LT	9
31x13.50-15LT	11
31x15.50-15LT	12
32x11.50-15LT	9
33x12.50-15LT	10
35x12.50-15LT	10
37x12.50-15LT	10
37x14.50-15LT	12
8.00-16.5LT	6.00
8.75-16.5LT	6.75
9.50-16.5LT	6.75
10-16.5LT	8.25

30x9.50-16.5LT	7.50
31x10.50-16.5LT	8.25
33x12.50-16.5LT	9.75
37x12.50-16.5LT	9.75
37x14.50-16.5LT	11.25
33x9.50 R15LT	7.50
35x12.50 R16.5LT	10.00
37x12.50 R17LT	10.00

(+) Tyres in Radial construction are identified by the letter “R” in place of “-”.

Code designated tyres mounted on 5° tapered or flat base rims Diagonal and radial

Tyre size designation (+)	Measuring rim width code
6.50-20	5
7.00-15TR	5.5
7.00-18	5.5
7.00-20	5.5
7.50-15TR	6
7.50-17	6
7.50-18	6
7.50-20	6
8.25-15TR	6.5
8.25-20	6.5
9.00-15TR	7
9.00-20	7
10.00-15TR	7.5
10.00-20	7.5
10.00-22	7.5
11.00-20	8
11.00-22	8
11.00-24	8
11.50-20	8
12.00-20	8.5
12.00-24	8.5
14.00-20	10
14.00-24	10

(+) Tyres in Radial construction are identified by the letter “R” in place of “-”.

Code designated tyres for special services

Diagonal and radial

Tyre size designation	Measuring rim width code
10.00-20ML	7.5
11.00-22ML	8
13.00-24ML	9
14.00-20ML	10
14.00-24ML	10
15-19.5ML	11.75
24 R 21	18

Code designated tyres mounted on 15° tapered rims

Diagonal and radial

Tyre size designation (+)	Measuring rim width code
8-19.5	6.00
8-22.5	6.00
9-22.5	6.75
10-22.5	7.50
11-22.5	8.25
11-24.5	8.25
12-22.5	9.00
12-24.5	9.00
12.5-22.5	9.00
12.5-24.5	9.00
14-17.5	10.50
15-19.5	11.75
15-22.5	11.75
16.5-22.5	13.00
18-19.5	14.00
18-22.5	14.00

(+) Tyres in Radial construction are identified by the letter “R” in place of “-”.

A conventional number “d” (the “d” symbol) denoting the nominal diameter of the rim and corresponding to its diameter expressed either in codes (number below 100) or in millimetres (numbers above 100). Numbers corresponding to both types of measurement may be used together in the designation.

The values of the “d” symbols expressed in millimetres are shown below:

Nominal rim diameter code “d” symbol	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	482
20	508
21	533
22	559
24	610
25	635
14.5	368
16.5	419
17.5	445
19.5	495
20.5	521
22.5	572
24.5	622
26	660
28	711
30	762

An indication of the tyre to rim fitment configuration when it differs from the standard configuration and is not already expressed by the symbol “d” denoting the nominal rim diameter code.

**(UN, Reg.64)** means a combination of figures that uniquely identify the geometric size of the tyre, comprising the nominal section width, the nominal aspect ratio and the nominal diameter.

**(UN, Reg.75)** is a designation showing:

The nominal section width (S<sub>1</sub>) must be expressed in mm except in the case of types of tyre for which the size designation is shown in the table below.

The nominal aspect ratio, except in the case of certain types of tyre, for which the size designation is shown in the table below.

Tyres for motor cycles. Sizes with rim diameter code 12 and below

Tyre size

2.50 - 8

2.50 - 9

2.50 - 10

2.50 - 12

2.75 - 8

2.75 - 9

2.75 - 10

2.75 - 12

3.00 - 4

3.00 - 5

3.00 - 6

3.00 - 7

3.00 - 8

3.00 - 9

3.00 - 10

3.00 - 12

3.25 - 8

3.25 - 9

3.25 - 10

3.25 - 12

3.50 - 4

3.50 - 5

3.50 - 6

3.50 - 7

3.50 - 8

3.50 - 9

3.50 - 10

3.50 - 12

4.00 - 5

4.00 - 6

4.00 - 7

4.00 - 8

4.00 - 10

4.00 - 12

4.50 - 6

4.50 - 7

4.50 - 8

4.50 - 9

4.50 - 10

4.50 - 12

5.00 - 8

5.00 - 10

5.00 - 12

6.00 - 6

6.00 - 7

6.00 - 8

6.00 - 9

Tyres for mopeds. Sizes with rim diameter code 12 and below

Tyre size

2 - 12

2-1/2 - 12

2-1/2 - 8

2-1/2 - 9

2-3/4 - 9

3 - 10

3 - 12

Tyres for motor cycles. Normal section size

Tyre size

1 3/4 - 19

2 - 14

2 - 15

2 - 16

2 - 17

2 - 18

2 - 19

2 - 20

2 - 21

2 - 22

2 1/4 - 14

2 1/4 - 15

2 1/4 - 16

2 1/4 - 17

2 1/4 - 18

2 1/4 - 19

2 1/4 - 20

2 1/4 - 21

2 1/4 - 22

2 1/2 - 14

2 1/2 - 15

2 1/2 - 16

2 1/2 - 17

2 1/2 - 18

2 1/2 - 19

2 1/2 - 20

2 1/2 - 21

2 1/2 - 22

2 3/4 - 14

2 3/4 - 15

2 3/4 - 16

2 3/4 - 17

2 3/4 - 18

2 3/4 - 19

2 3/4 - 20

2 3/4 - 21

2 3/4 - 22

3 - 16

3 - 17

3 - 18

3 - 19

3 1/4 - 16

3 1/4 - 17

3 1/4 - 18

3 1/4 - 19

Tyres for motor cycles. Normal section sizes

Tyre size

2.00 - 14

2.00 - 15

2.00 - 16

2.00 - 17

2.00 - 18

2.00 - 19

2.25 - 14

2.25 - 15

2.25 - 16

2.25 - 17

2.25 - 18

2.25 - 19

2.50 - 14

2.50 - 15

2.50 - 16

2.50 - 17

2.50 - 18

2.50 - 19

2.50 - 21

2.75 - 14

2.75 - 15

2.75 - 16

2.75 - 17

2.75 - 18

2.75 - 19

2.75 - 21

3.00 - 14

3.00 - 15

3.00 - 16

3.00 - 17

3.00 - 18



3.00 - 19	Tyres for motor cycles. Low section size
3.00 - 21	Tyre size
3.00 - 23	3.60 - 18
3.25 - 14	
3.25 - 15	3.60 - 19
3.25 - 16	4.10 - 18
3.25 - 17	
3.25 - 18	4.10 - 19
3.25 - 19	5.10 - 16
3.25 - 21	5.10 - 17
3.50 - 14	5.10 - 18
3.50 - 15	4.25/85 - 18
3.50 - 16	4.60 - 16
3.50 - 17	4.60 - 17
3.50 - 18	4.60 - 18
3.50 - 19	6.10 - 16
3.50 - 21	Tyres for motor cycle derivatives
3.75 - 16	Tyre size
3.75 - 17	3.00 - 8C
3.75 - 18	3.00 - 10C
3.75 - 19	3.00 - 12C
4.00 - 16	3.50 - 8C
4.00 - 17	3.50 - 10C
4.00 - 18	3.50 - 12C
4.00 - 19	4.00 - 8C
4.25 - 16	4.00 - 10C
4.25 - 17	4.00 - 12C
4.25 - 18	4.50 - 8C
4.25 - 19	4.50 - 10C
4.50 - 16	4.50 - 12C
4.50 - 17	5.00 - 8C
4.50 - 18	5.00 - 10C
4.50 - 19	5.00 - 12C
5.00 - 16	Motor cycle tyres. Low pressure sizes
5.00 - 17	Tyre size
5.00 - 18	5.4 - 10
5.00 - 19	5.4 - 12
	5.4 - 14
	5.4 - 16
	6.7 - 10

6.7 - 12

6.7 - 14

Motor cycle tyres. Sizes and dimensions of American tyres

Tyre size

MH90 - 21

MJ90 - 18

MJ90 - 19

ML90 - 18

ML90 - 19

MM90 - 19

MN90 - 18

MP90 - 18

MR90 - 18

MS90 - 17

MT90 - 16

MT90 - 17  
 MU90 - 15M/C

MU90 - 16  
 MV90 - 15M/C  
 MP85 - 18  
 MR85 - 16  
 MS85 - 18  
 MT85 - 18  
 MU85 16M/C  
 MV85 - 15M/C

A conventional number “d” denoting the nominal diameter of the rim and corresponding to its diameter expressed either by code (numbers below 100) or in millimetres’ (numbers above 100).  
 The values in millimetres of the symbol “d” when indicated by a code are as follows:

Symbol “d” indicated by one or two figures according to the nominal rim diameter	Value of “d” in mm
4	102
5	127
6	152
7	178
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

(UN, Reg.106) means a designation showing:

- The nominal section width (S1). This value must be expressed in mm.
- The nominal aspect ratio (Ra).
- An indication of the structure, placed in front of the nominal rim diameter marking, as follows:
  - i. On diagonal (bias-ply) tyres, the symbol “-” or the letter “D”.
  - ii. On radial-ply tyres, the letter “R”.
  - iii. On bias-belted tyres, the letter “B”.
- The conventional number “d” denoting the nominal rim diameter.
- Optionally, the letters “IMP” after the nominal rim diameter marking in case of Implement tyres.
- Optionally, the letters “FRONT” after the nominal rim diameter marking in case of Tractor steering wheel tyres.
  - The letters “IF” before the nominal section width in case of “Improved Flexion Tyre”.
  - The letters “VF” before the nominal section width in case of “Very High Flexion Tyre”.

(UN, Reg.108) means a designation showing:

- The nominal section width. This must be expressed in millimetres, except in cases of tyres for which the size designation are shown in the tables below, or depending on the tyre design type, the nominal outer diameter expressed in millimetres “mm”.
- The nominal aspect ratio except in cases of tyres for which the size designation are shown in the following tables:

Table I. Size of tyres in Diagonal Construction (European tyres)

Super Ballon Series	Low Section Series	Super Low Section Series 2/	Ultra Low Section
4.80-10	5.50-12	155-13/6.15-13	5.9-10
5.20-10	6.00-12	165-13/6.45-13	6.5-13
5.20-12	7.00-13	175-13/6.95-13	6.9-13
5.60-13	7.00-14	155-14/6.15-14	7.3-13
5.90-13	7.50-14	165-14/6.45-14	
6.40-13	8.00-14	175-14/6.95-14	
5.20-14	6.00-15	185-14/7.35-14	
5.60-14		195-14/7.75-14	
5.90-14			
6.40-14			
5.60-15			
5.90-15			
6.40-15			
6.70-15			
7.10-15			
7.60-15			
8.20-15			

2/ The following size designations are accepted: 185-14/7.35-14 or 185-14 or 7.35-14 or 7.35-14/185-14.

Table II. Size in millimetric Series - Radial  
(European tyres)

125 R 10  
145 R 10  
125 R 12  
135 R 12  
145 R 12  
155 R 12  
125 R 13  
135 R 13  
145 R 13  
155 R 13  
165 R 13  
175 R 13  
185 R 13  
125 R 14  
135 R 14  
145 R 14  
155 R 14  
165 R 14  
175 R 14  
185 R 14  
195 R 14  
205 R 14  
215 R 14  
225 R 14  
125 R 15

135 R 15  
 145 R 15  
 155 R 15  
 165 R 15  
 175 R 15  
 185 R 15  
 195 R 15  
 205 R 15  
 215 R 15  
 225 R 15  
 235 R 15  
 175 R 16  
 185 R 16  
 205 R 16

Table III. Size of the 45 Series - Radial on TR  
 Metric 5° Rims

280/45 R 415

- 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.
- The values of the “d” symbols 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

(UN, Reg.109) means a designation showing:

- The nominal section width. This must be expressed in millimetres.
- The nominal aspect ratio. The distance from the rim to the tread, in a properly mounted and inflated tire not supporting a car, is of the width of the tire. the number tells you how tall the tire is.
  - A conventional number (d): 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.

The values of the “d” symbols 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
24	610
25	635
14.5	368
16.5	419
17.5	445
19.5	495
20.5	521
22.5	572
24.5	622
26	660
28	711
30	762

An indication of the tyre to rim fitment configuration when it differs from the standard configuration and is not already expressed by the symbol “d” denotes the nominal rim diameter code.

**(UN, Reg.124)** means a designation showing the nominal section width, the nominal aspect ratio and the conventional number that denotes the nominal rim diameter.

#### **UNLADEN MASS “MV” (GRSG, GRPE, GRRF, GRSP)**

**(UN, Reg.34 and 73)** means the mass of the vehicle in running order, unoccupied and unladen but complete with fuel, coolant, lubricants, tools and a spare wheel, if it is provided as standard equipment by the vehicle manufacturer.

**(UN, Reg.36 and 52)** means the unladen kerb mass (MK) (kg) of the vehicle, with the addition of 75 kg for the mass of the crew member corresponding to the seat, if any, specially assigned to this crew member. The vehicle shall be complete with 90 per cent of the capacity of all additional liquid tanks. Where facilities such as a kitchen or toilet are fitted, the fresh water tanks shall be full and the waste tanks empty.

**(UN, Reg.49 and 83)** means the mass of the vehicle in running order without the uniform mass of the driver of 75 kg, passenger or load, but with the fuel tank 90 per cent full and the usual set of tools and spare wheel on board, where applicable.

**(UN, Reg.58)** means the mass of the vehicle in running order, unoccupied and unladen but complete with fuel, coolant, lubricant, tools and a spare wheel, if provided as standard equipment by the vehicle manufacturer.

**(UN, Reg.68)** means the mass of the vehicle in running order without occupants or load, but with the fuel tank full (if any), cooling liquid, service and traction batteries, oils, onboard charger, portable charger, tools and spare wheel, if provided in series by the manufacturer of the vehicle.

**(UN, Reg.84 and 89)** means the mass of the vehicle in running order without crew, passengers or load, but with the fuel tank full and the usual set of tools and spare wheel on board, where applicable.

**(UN, Reg.95)** means the mass of the vehicle in running order without driver, passengers or load, but with the fuel tank filled to 90 per cent of its capacity and the usual set of tools and spare wheel on board, where applicable.

**(UN, Reg.101)** means the mass of the vehicle in running order without crew, passengers or load, but with the fuel tank full (if any), cooling liquid, service and traction batteries, oils, onboard charger, portable charger, tools and spare wheel, whatever is appropriate for the vehicle considered and if provided by the manufacturer of the vehicle.

#### **UNLADEN VEHICLE MASS (GRRF, GRSP)**

**(UN, Reg.78)** means the nominal mass of the vehicle as indicated by the manufacturer(s) including all factory fitted equipment for normal operation of that vehicle (e.g. fire extinguisher, tools, spare wheel), plus coolant, oils, 90 per cent of fuel and 100 per cent of other gas or liquids, as specified by the manufacturer.

**(UN, Reg.127)** means the nominal mass of a complete vehicle as determined by the following criteria:

- Mass of the vehicle with bodywork and all factory fitted equipment, electrical and auxiliary equipment for normal operation of vehicle, including liquids, tools, fire extinguisher, standard spare parts, chocks and spare wheel, if fitted.
- The fuel tank shall be filled to at least 90 per cent of rated capacity and the other liquid containing systems (except those for used water) to 100 per cent of the capacity specified by the manufacturer

**WHEEL (GRRF)**

*(UN, Reg.64)* means a complete wheel consisting of a rim and a wheel disc.

*(UN, Reg.124)* means a rotating load-carrying member between the tyre and the axle. It usually consists of two major parts:

- The rim.
- The wheel disc.

The rim and wheel disc may be integral, permanently attached, or detachable.