Goodyear Truck Tyres.

Technical Data Book

Tyre Range and Application Map
Technical Data
Retread Information
Regrooving Guidelines
Tyre Technology

GOODYEAR

Contents

Truck Tyre Range and Application Map

	ON ROAD FUEL EFFICIENT	ON ROAD MILEAGE	MIXED SERVICE	OFFROAD	URBAN	COACH	WINTER
STEER	FUELMAX S 22.5”	KMAX S 22.5”					ULTRA GRIP MAX S 22.5”
	LHS II+ 5-rib 22.5”	RHS II 22.5”	MSS II 19.5”, 20”, 22.5” and 24”		UrbanMax MCS 22.5”		ULTRA GRIP WTS 5-rib 22.5”
	LHS II+ 6-rib 22.5”	RHS II+ 17.5” and 19.5”	MSS 375/90R22.5 and 445/75R22.5	ORS 22.5”	UrbanMax MCA 19.5” and 22.5”	Marathon Coach 22.5”	ULTRA GRIP WTS 6-rib 22.5”
DRIVE	FUELMAX D 22.5”	KMAX D 22.5”	MSD II 20”, 22.5” and 24”	ORD 14.00R20	UrbanMax MCA 19.5” and 22.5”	Marathon Coach 22.5”	ULTRA GRIP MAX D 22.5”
	LHD II+ 22.5”	RHD II+ 22.5”	MSD II Super Single 385/55R22.5	ORD 22.5” and 24”	UrbanMax MCD Super Single 22.5”		
		RHD II+ 17.5” and 19.5”	MSD II Super Single 495/45R22.5	ORD 365/85R20 and 375/90R22.5	UrbanMax MCD * Traction 22.5”	ULTRA GRIP Coach 22.5”	ULTRA GRIP WTD 22.5”
TRAILER	FUELMAX T 22.5”	KMAX T 19.5” and 22.5”					ULTRA GRIP MAX T 22.5”
	FUELMAX T 435/50R19.5	RHT II 22.5”					
	LHT II 22.5”	RHT II 17.5” and 19.5”	MST II 22.5”				ULTRA GRIP WTT 22.5”

On Road Fuel Efficient Tyre Range.

LEGEND

M+S (Mud and Snow) indicates that a tyre has better snow traction than a regular tyre (see details on page 80)

3PMSF (Three Peak Mountain Snowflake) indicates that a tyre has passed a minimum performance threshold requirement on snow (see details on page 80)

TreadMax retreads are produced exclusively in-house and utilise the same casing, tread pattern and materials as new tyres - resulting in a similar to new tyre performance (see details on page 58)

FRT (Free Rolling Tyre) indicates that the tyre should only be fitted to free rolling axles, such as trailer applications (see details on page 80)

FUELMAX S 22.5”

FUELMAX S features IntelliMax Groove Technology, an optimised cavity shape and other innovations resulting in improved fuel efficiency and up to 6% better rolling resistance compared to its predecessor*.

- IntelliMax Groove Technology. Optimised rolling resistance during tyre wear
- High Net to Gross to optimise wearable rubber volume with reduced tread depth. Improved rolling resistance and mileage
- Optimised Cavity shape. Excellent compromise for rolling resistance, mileage and handling
- Optimised blade angles. Rolling resistance and wet grip enhancement
- Edge blades. Improved wet grip

*Comparative tests made by Goodyear GIC*L on size 315/70R22.5 show that new Goodyear FUELMAX S and FUELMAX D steer and drive tyres offer an improvement in rolling resistance of up to 6% and 10% respectively vs. Goodyear Marathon LHS II + and LHD II + tyres.

Technical Data

Size	Load Index	Speed Symbol	Comments			
295/60R22.5	150/147 (149/146)	L (K)		C	C	72))
295/80R22.5	154/149	M	High Load version	B	B	70)
315/60R22.5	154/148	L	High Load version	B	B	71))
315/70R22.5	156/150	L	High Load version	B	B	71))

Size	Load Index	Speed Symbol	Comments			
315/80R22.5	156/150 (154/150)	L (M)		B	B	71))
385/55R22.5	160 (158)	K (L)		A	C	70)
385/65R22.5	160 (158)	K (L)		B	C	71))

FUELMAX D 22.5”

Up to 10% improved rolling resistance compared to its predecessor*. Thanks to a high-net-to gross ration in combination to low tread depth the new FUELMAX D tyre leads to lower rolling resistance and improved mileage. FUELMAX D also features the M+S and 3 Peak Mountain snow flake resulting in excellent winter traction and meeting legal winter requirements.

- High Net-to-Gross ratio. Improved rolling resistance and higher mileage
- Extra wide tread width. Better rolling resistance and mileage
- Reduced Non-skid depth. Better rolling resistance and noise
- Directional tread design. Better traction and noise
- Rain drop / flexomatic blades. Improved mileage, traction and handling

* Comparative tests made by Goodyear GIC*L on size 315/70R22.5 show that new Goodyear FUELMAX S and FUELMAX D steer and drive tyres offer an improvement in rolling resistance of up to 6% and 10% respectively vs. Goodyear Marathon LHS II + and LHD II + tyres.

Technical Data

Size	Load Index	Speed Symbol	Comments			
295/60R22.5	150/147 (149/146)	K (L)		C	B	72) M+S TreadMax
295/80R22.5	152/148	M		C	B	72) M+S TreadMax
315/60R22.5	152/148	L		C	C	73) M+S TreadMax

Size	Load Index	Speed Symbol	Comments			
315/70R22.5	154/150 (152/148)	L (M)		B	B	72) M+S TreadMax
315/80R22.5	156/150 (154/150)	L (M)		C	B	72) M+S TreadMax

FUELMAX T 19.5” and 22.5”

FUELMAX T features a multi – radius cavity and a special tread compound resulting in ultra low rolling resistance, superb fuel savings, improved mileage performance and good braking in wet conditions.

FRT

- Multi-radius cavity
  Ultra low rolling resistance and superb fuel savings
- Special tread compound
  High mileage potential and good wet grip

Technical Data

Size	Load Index	Speed Symbol	Comments			
435/50R19.5	160	J		A	C	71)) TreadMax
385/55R22.5	160 (158)	K (L)		A	C	70) TreadMax

Size	Load Index	Speed Symbol	Comments			
385/65R22.5	160 (158)	K (L)		B	C	72)) TreadMax

Marathon LHS II+ 22.5”

Marathon LHS II + features a dedicated tread compound using the Silefex technology designed to lower the fuel consumption and emissions while keeping wet grip performance and mileage potential at a premium level.

- Wide tread, 5 rib layout (6 rib for 65, 55 and 50 series) for excellent mileage, even wear and good handling/stability
- “Flexomatic Blades” and “Edge Blading” on grooves for excellent braking on wet, even wear and high mileage
- Latest technology carcass geometry and materials for reduced weight, enhanced damage resistance, durability and retreadability
- Low rolling resistance (-7% vs LHS II)*

* Internal evaluation performed by Goodyear Innovation Center Luxembourg in 2011 on 315/70R22.5

Technical Data

Size	Load Index	Speed Symbol	Comments			
295/60R22.5	150/147 (149/146)	K (L)	LHS II version	C	B	71))
295/80R22.5	152/148	M	LHS II version	C	B	69)
	152/148	M	LHS LR8 version	C	B	70)
315/80R22.5	156/154 (150/150)	L (M)	LHS LR8 version	C	C	70)
	158/150	L	High Load version	B	B	70)

Size	Load Index	Speed Symbol	Comments			
355/50R22.5	154 (152)	K (L)		B	B	72))
	156 (152)	K (L)	High Load version	B	B	72))
375/50R22.5	156	K	LHS II version	B	B	71))
385/65R22.5	160 (158)	K (L)		C	B	72))

Marathon LHD II+ 22.5”

Marathon LHD II + features a dedicated tread compound using the Silefex technology designed to lower the fuel consumption and emission while keeping good wet traction performance and mileage potential at a premium level.

- Wide tread with large shoulder ribs for excellent mileage, traction and braking as well as even wear pattern
- “3D-BIS” waffle blade technology for traction and braking performance and improved handling and stability
- Latest technology carcass geometry and materials for reduced weight, enhanced damage resistance, durability and retreadability
- Reduced rolling resistance (-7% vs LHD II)*

* Internal evaluation performed by Goodyear Innovation Center Luxembourg in 2011 on 315/70R22.5

Technical Data

Size	Load Index	Speed Symbol	Comments			
295/55R22.5	147/145	K		C	D	73)) M+S
295/60R22.5	150/147 (149/146)	K (L)	LHD II version	C	C	74))) M+S

Size	Load Index	Speed Symbol	Comments			
315/80R22.5	156/150 (154/150)	L (M)	LHD II version	D	C	74))) M+S
495/45R22.5	169	K	LHD version	C	C	72)) M+S

Marathon LHT II 19.5” and 22.5”

The Marathon LHT II has been developed to support fleet efficiency and reduce cost per km. It features super low rolling resistance (up to 26% improvement*) combined to improved mileage performance, good braking on wet and low noise emissions. Additional payload through reduced tyre weight is another feature of the marathon trailer tyres.

- Fuel savings
- Excellent mileage
- Good braking on wet
- Increased payload
- Good durability and retreadability

FRT

* TUV report : No 76242917

Technical Data

Size	Load Index	Speed Symbol	Comments			
265/55R19.5	141/140 (142/142)	J (G)	LHT version	C	C	73))
435/50R19.5	160	J		A	C	71))
11R22.5	148/145 (146/143)	J (L)	LHT version	C	C	68)

Size	Load Index	Speed Symbol	Comments			
275/70R22.5	152/148 (148/145)	J (L)		C	C	70)
385/55R22.5	160 (158)	K (L)		A	C	70)
385/65R22.5	160 (158)	K (L)		B	C	72))

On Road Mileage Tyre Range.

LEGEND

M+S (Mud and Snow) indicates that a tyre has better snow traction than a regular tyre (see details on page 80)

3PMSF (Three Peak Mountain Snowflake) indicates that a tyre has passed a minimum performance threshold requirement on snow (see details on page 80)

TreadMax retreads are produced exclusively in-house and utilise the same casing, tread pattern and materials as new tyres - resulting in a similar to new tyre performance (see details on page 58)

FRT (Free Rolling Tyre) indicates that the tyre should only be fitted to free rolling axles, such as trailer applications (see details on page 80)

KMAX S 22.5”

Up to 30% more mileage compared to its predecessor*. Thanks to its computer modeled tread profile for optimised tyre pressure distribution, the KMAX S tyre offers regular wear, high mileage, robustness, good braking on wet and excellent handling.

- IntelliMax Rib Technology: Stiffer tread. High mileage and regular wear
- Wide tread, optimised foot print. High mileage
- Robust, wide shoulders. Improved robustness
- Specific blading frequency and geometry. Excellent braking on wet

*Comparative tests made by Goodyear Innovation Centre Luxembourg on size 315/80R22.5 between July 2011 and June 2013 show that new Goodyear KMAX S and KMAX D steer and drive tyres offer an improvement in mileage potential of up to 30% and 35% respectively vs. Goodyear RHS II and RHD II+ tyres.

Technical Data

Size	Load Index	Speed Symbol	Comments				
295/60R22.5	150/147 (149/146)	K (L)		C	B	71	M+S
295/80R22.5	154/149	M	High Load version	C	B	72	M+S
315/60R22.5	154/148	L	High Load version	C	B	71	M+S
315/70R22.5	156/150	L	High Load version	C	B	72	M+S

Size	Load Index	Speed Symbol	Comments				
315/80R22.5	156/150 (154/150)	L (M)		C	B	71	M+S
355/50R22.5	156 (152)	K (L)	High Load version	Under development			M+S
385/65R22.5	160 (158)	K (L)		B	B	70	M+S

KMAX D 22.5”

Up to 35% more mileage compared to its predecessor*. The KMAX D offers high mileage potential, high traction performance and low noise emission thanks to optimised tyre pressure distribution, the right number of pitches, the non-skid optimised block geometry and a higher wearable rubber volume compared to its predecessors. The KMAX D also meets established winter requirements carrying both the M+S and the 3 Peak Mountain Snow Flake symbol.

- High Net-to-Gross ratio. Improved rolling resistance and higher mileage
- Extra wide tread width. Better rolling resistance and mileage
- Increased Non-skid depth. Improved mileage
- Directional V-shape tread design. Better traction and noise
- Flexomatic blades. Improved mileage, traction and handling

*Comparative tests made by Goodyear Innovation Centre Luxembourg on size 315/80R22.5 between July 2011 and June 2013 show that new Goodyear KMAX S and KMAX D steer and drive tyres offer an improvement in mileage potential of up to 30% and 35% respectively vs. Goodyear RHS II and RHD II+ tyres.

Technical Data

Size	Load Index	Speed Symbol	Comments				
295/55R22.5	147/145	K		C	B	72	M+S
295/60R22.5	150/147 (149/146)	K (L)		C	B	72	M+S TreadMax
295/80R22.5	152/148	M		D	C	72	M+S TreadMax

Size	Load Index	Speed Symbol	Comments				
315/60R22.5	152/148	L		D	B	73	M+S TreadMax
315/70R22.5	154/150 (152/148)	L (M)		D	C	72	M+S TreadMax
315/80R22.5	156/150 (154/150)	L (M)		D	C	71	M+S TreadMax

KMAX T 19.5” and 22.5”

KMAX T offers superb mileage performance thanks to multi radius cavity shape and high wearable rubber volume associated to an innovative tread compound which also resists to groove cracking and tread chunking.

- Improved casing and tuned footprint. Improved mileage performance
- Innovative tread compound. Fuel saving potential
- High wearable rubber volume. Excellent Mileage potential
- Reduced stone holding. Resistance to groove cracking
- Improved edge blades. Excellent braking on wet

FRT

Technical Data

Size	Load Index	Speed Symbol	Comments				
435/50R19.5	160	J	RFID	B	C	73	M+S
385/55R22.5	160 (158)	K (L)		B	B	71	M+S TreadMax
385/65R22.5	160 (158)	K (L)		B	B	71	M+S TreadMax
	164 (158)	K (L)	High Load version	B	C	71	M+S

Size	Load Index	Speed Symbol	Comments				
425/65R22.5	165	K		B	B	72	M+S
445/65R22.5	169	K		B	B	72	M+S

Regional RHS II 22.5”

The regional haul steer generation tyre coping with the demanding requirements of modern regional haul service, dedicated for high mileage and a wide application range. The combination of a specifically developed tread pattern with an innovative high silica content tread compound results in excellent mileage performance, excellent wet braking, even wear and reduced rolling resistance.

- Wide tread, 5 rib pattern, groove edge blading, for excellent mileage, even wear and superb handling and stability
- High density, flexomatic blading, for outstanding braking on wet surfaces combined with high mileage
- Advanced technology, high silica tread compound, for high mileage combined with reduced rolling resistance, good tear and damage resistance

Technical Data

Size	Load Index	Speed Symbol	Comments			
11R22.5	148/145 (146/145)	L (M)		C	B	69)
	148/145	L	RHS version	D	C	70)
12R22.5	152/148	L		C	B	70)
	152/148	L	HCT	C	B	71))
	152/148	L	RHS version			
13R22.5	156/150 (154/150)	L (M)		D	C	70)
275/70R22.5	148/145	M		D	B	71))
295/60R22.5	150/147 (149/146)	K (L)		C	B	70)
295/80R22.5	152/148	M	HCT	C	B	71))
	152/148	M	CCC	C	B	69)

Size	Load Index	Speed Symbol	Comments			
305/70R22.5	153/150 (150/148)	L (M)		C	B	70)
315/70R22.5	154/150 (152/148)	L (M)		C	B	71))
315/80R22.5	156/150 (154/150)	L (M)		C	B	71))
	156/150 (154/150)	L (M)	RHS version	C	B	71))
	156/150 (154/150)	L (M)	CCC	C	B	70)
	158/150	L	High Load version	C	A	70)
	156/150 (154/150)	L (M)	HCT	C	B	71))
385/65R22.5	160 (158)	K (L)		B	B	71))

Regional RHS II 17.5” and 19.5”

The 17.5” and 19.5” steer generation tyres feature KMax Technology – a combination of advanced technology design and construction features. The wide, 5 rib tread pattern, with high density flexomatic blading results in excellent mileage performance, good handling and stability as well as good braking on wet. Latest technology tread compounds, carcass and belt materials assure good durability and retreadability of these steer tyres.

RHS II in 17.5” & 19.5” sized tyres are developed for a wide application range, covering today’s multiple service types in regional and distribution operations.

- Wide, 5 rib tread pattern for high mileage, good handling and even wear
- Flexomatic blading on center ribs, for improved braking on wet and mileage
- Rib edge blading on outer grooves result in even wear pattern and better wet braking
- Specifically developed groove geometries result in reduced stone holding

Technical Data

Size	Load Index	Speed Symbol	Comments			
8.5R17.5	121/120	M	RHS version	E	C	69)
9.5R17.5	129 /127	M		D	C	71)) M+S
205/75R17.5	124 /122	M	RHS II+ version	D	B	73)) M+S
215/75R17.5	128 /126	M	High Load version	D	B	72)) M+S
225/75R17.5	129 /127	M		E	B	72)) M+S
235/75R17.5	132 /130	M		E	C	72)) M+S
245/70R17.5	136 /134	M	RHS II+ version	D	B	71)) M+S

Size	Load Index	Speed Symbol	Comments			
265/70R17.5	139 /136	M	RHS II+ version	C	B	72)) M+S
	139 /136	M		D	C	72))
245/70R19.5	136 /134	M		E	C	72)) M+S
265/70R19.5	140 /138	M		D	C	72)) M+S
285/70R19.5	146 /144 (144/142)	L (M)		D	C	71)) M+S
305/70R19.5	148 /145	M		D	C	72)) M+S

Regional RHD II 22.5”

The regional haul drive generation tyre coping with the demanding requirements of modern regional haul service. The tyre is designed for high mileage and a wide application range and features KMax Technology developed to increase mileage performances without compromising other tyre characteristics.

RHD II brings a further improvement in mileage, handling and wear type thanks to a tuned tread pattern configuration.It suits a wide application range, from long haul to local delivery.

- Wide tread, 5 rib directional pattern, for excellent mileage, even wear and superb handling and stability
- Special, directional groove tapers, highly bladed pattern, for improved wet braking and mileage performances, excellent traction and winter grip
- New technology, high silica tread compound, for high mileage combined with good tear and damage resistance
- Dedicated carcass geometry, latest technology carcass materials resulting in enhanced robustness, durability and retreadability

Technical Data

Size	Load Index	Speed Symbol	Comments			
11R22.5	148/145	L	RHD version	E	C	73)) M+S
	148/145	L		D	C	78))) M+S
12R22.5	152/148	L		E	C	78)))
	152/148	L	HCT	D	C	77))) M+S
13R22.5	156/150 (154/150)	L (M)		D	C	78))) M+S
275/70R22.5	148/145	M		D	D	77))) M+S
295/60R22.5	150/147 (149/146)	K (L)		D	D	75))) M+S

Size	Load Index	Speed Symbol	Comments			
295/80R22.5	152/148	M	HCT	D	C	77))) M+S
305/70R22.5	153/150 (150/148)	L (M)		D	C	77))) M+S
315/70R22.5	154 /150 (152/148)	L (M)	RHD II+ version	D	C	76))) M+S
315/80R22.5	156/150 (154/150)	L (M)		D	C	78))) M+S
	156/150 (154/150)	L (M)		D	B	77))) M+S
	156//150 (154/150)	L (M)	HCT	C	B	77))) M+S

Regional RHD II 17.5” and 19.5”

The 17.5” and 19.5” generation drive tyres, feature KMax Technology – a combination of advanced technology design and construction features. The wide tread pattern, featuring a high net to gross center area, with 3D BIS blading, results in high mileage, good all season traction performance and even wear type. Advanced technology tread compounds, carcass and belt materials assure good durability and retreadability of these drive tyres.

RHD II in 17.5” & 19.5” sized tyres are developed for a wide application range, covering today’s multiple service types in regional and distribution operation.

- A wide tread pattern with high net-to-gross area, resulting in excellent mileage, good handling and even wear type
- The high density blading combined to the specific block distribution in the center ribs results in excellent traction performance and all season capabilities
- Latest technology 3D BIS blades for improved traction and braking on wet and wintery roads
- Specifically designed groove geometries to reduce stone holding

Technical Data

Size	Load Index	Speed Symbol	Comments			
8.5R17.5	121/120	M	RHD version	E	C	73)) M+S
9.5R17.5	129 /127	M		E	C	71) M+S
205/75R17.5	124 /122 (126/124)	M (G)	RHD II + version	D	B	73) M+S
215/75R17.5	126 /124	M	RHD II + version	D	B	73) M+S
225/75R17.5	129 /127	M		E	B	74)) M+S
235/75R17.5	132 /130	M		D	B	73) M+S

Size	Load Index	Speed Symbol	Comments			
245/70R17.5	136 /134	M	RHD II + version	D	B	73) M+S
265/70R17.5	139 /136	M		D	D	73) M+S
245/70R19.5	136 /134	M		D	C	74) M+S
265/70R19.5	140 /138	M		D	B	74)) M+S
285/70R19.5	146 /144 (144/142)	L (M)		D	C	75)) M+S
305/70R19.5	148 /145	M		D	D	73) M+S

Regional RHT II 22.5”

Goodyear RHT II (22.5”) offers a superb mileage performance thanks to its multi radius cavity shape and its high wearable rubber volume associated to an innovative tread compound which offers resistance to groove cracking and tread chunking.

- Superb mileage potential (+30% vs RHT*) and wear evenness
- Excellent robustness and high resistance in shoulder wear
- Reduced stone catching and resistant to groove cracking
- Low rolling resistance for fuel efficiency
- High wet grip level

FRT

* Based on mileage evaluation in two fleets in Spain and in France from 2010 to 2011

Technical Data

Size	Load Index	Speed Symbol	Comments				
385/55R22.5	160 (158)	K (L)		B	B	71)))	M+S

Size	Load Index	Speed Symbol	Comments				
385/65R22.5	160 (158)	K (L)	HCT	B	B	70)	M+S

Regional RHT II 17.5” and 19.5”

Goodyear RHT II (15.5, 17.5” and 19.5”) has been developed to cover the various low platform trailer applications like car transportation in long and regional haul services. This tread pattern provides improved mileage potential and shoulder wear robustness.

- Excellent mileage potential (+9% vs Marathon LHT lpt*) and even wear profile
- Excellent robustness and damage resistance provided by the 4-rib pattern and the strong shoulder ribs
- Reduced stone catching and resistant to groove cracking

FRT

*Based on mileage evaluation in a car transportation fleet in Germany from 2010 to 2011

Technical Data

Size	Load Index	Speed Symbol	Comments				
9.5R17.5	143/141	J		C	B	70)	M+S
205/65R17.5	129/127 (132 /132)	K (F)		C	B	71)))	M+S
215/75R17.5	135/133	J (F)		C	C	69)	M+S
235/75R17.5	143/141 (144 /144)	J (F)		C	B	69)	M+S
245/70R17.5	143/141 (146 /146)	J		B	C	69)	M+S

Size	Load Index	Speed Symbol	Comments				
245/70R19.5	141/140	J (F)		C	B	70)	M+S
265/70R19.5	143/141	J		C	B	70)	M+S
285/70R19.5	150/148	J		B	B	71)))	M+S
435/50R19.5	160	J	RFID	B	C	73)))	M+S

Mixed Service Tyre Range.

LEGEND

M+S (Mud and Snow) indicates that a tyre has better snow traction than a regular tyre (see details on page 80)

3PMSF (Three Peak Mountain Snowflake) indicates that a tyre has passed a minimum performance threshold requirement on snow (see details on page 80)

TreadMax retreads are produced exclusively in-house and utilise the same casing, tread pattern and materials as new tyres - resulting in a similar to new tyre performance (see details on page 58)

FRT (Free Rolling Tyre) indicates that the tyre should only be fitted to free rolling axles, such as trailer applications (see details on page 80)

Omnitrac MSS II 19.5”, 20”, 22.5” and 24”

The Goodyear Omnitrac MSS II features a wide tread, 4-rib and 5-rib pattern for excellent mileage and even wear, combining latest technology materials and design features. Its robust tread pattern provides high mileage in on road use and good damage resistance. The specific groove layouts ensure good self cleaning and reduced stone holding.

- Excellent mileage, even wear pattern
- Improved on/off road braking
- Good damage resistance and stability
- Reduced stone holding/drilling, good self cleaning
- Excellent durability and retreadability

Technical Data

Size	Load Index	Speed Symbol	Comments					
265/70R19.5	143/141 (140/138)	J (L)		D	B	71))	M+S	
12.00R20	154 /150	K		C	B	71))	M+S	
11R22.5	148 /145	K	MSS version	D	B	70)	M+S	
12R22.5	152 /148	K		C	B	70)	M+S	
13R22.5	156 /150	K		D	B	70)	M+S	TreadMax
	156 /150	K	MSS version	D	C	70)	M+S	
	156 /150	K	HCT	C	B	70)	M+S	
275/70R22.5	148 /145	K		D	B	72))	M+S	

Size	Load Index	Speed Symbol	Comments					
295/80R22.5	152 /148	K		D	B	71))	M+S	
315/80R22.5	156 /150	K		D	B	70)	M+S	TreadMax
	156 /150	K	HCT	D	B	70)	M+S	
385/65R22.5	160 (158)	K (L)		C	B	73))	M+S	
12.00R24	160 /156	K		C	B	71))	M+S	
	160 /156	K	MSS * version	C	C	70)	M+S	
325/95R24	162 /160	K		C	B	71))	M+S	

Omnitrac MSS 375/90R22.5 and 445/75R22.5

The Goodyear Omnitrac MSS 445/75R22.5 and 375/90R22.5 are especially designed for high load vehicles in mixed service and on-road applications.

- Specific tear- and wear-resistance
- Added protection against cuts, chipping and chunking
- Excellent traction, handling
- Increased cargo payload and flotation characteristics

Technical Data

Size	Load Index	Speed Symbol	Comments					
375/90R22.5	164	G		C	B	70)	M+S	

Size	Load Index	Speed Symbol	Comments					
445/75R22.5	170	J		C	B	71))	M+S	

Omnitrac MSD II 20”, 22.5” and 24”

The Omnitrac MSD II with a specifically developed robust tread pattern provides excellent traction in on and off road conditions, high mileage in on road use and good damage resistance. The specific groove layouts ensure good self cleaning and reduced stone holding.

- Excellent traction and braking
- High mileage, even wear pattern
- Improved on/off road braking
- Excellent self cleaning
- Enhanced traction on unpaved surfaces
- Improved traction on mud
- Excellent durability and retreadability

Technical Data

Size	Load Index	Speed Symbol	Comments					
12.00R20	154 /150	K		E	B	73	))	M+S
12R22.5	152 /148	K	HCT	D	B	71	)	M+S
13R22.5	156 /150	K		E	B	73	))	M+S TreadMax
	156 /150	K	HCT	D	B	73	))	M+S
295/80R22.5	152 /148	K		E	B	73	))	M+S

Size	Load Index	Speed Symbol	Comments					
315/80R22.5	156 /150	K		E	B	74	))	M+S TreadMax
	156 /150	K	HCT	E	B	74	))	M+S
12.00R24	160 /156	K		C	B	73	))	M+S
325/95R24	162 /160	K		C	B	73	))	M+S

Omnitrac MSD II Super Single
385/55R22.5 and 495/45R22.5

1st in industry – “Super Single” drive axle tyres for mixed service/ construction site applications. The super single range is the best alternative to “dual mounted” drive axle tyre fitments on mixed service trucks. The tread pattern is specifically developed to provide excellent traction and braking on mud and wet surfaces, combined to good damage resistance.

- Light weight super single mixed-service drive tyre
- Wide tread providing an excellent mileage
- Slalom centerline groove for improved on/off-road braking and traction
- Good stone drilling resistance and groove self cleaning
- Excellent durability and retreadability

Technical Data

Size	Load Index	Speed Symbol	Comments					
385/55R22.5	160	K		C	C	73	))	M+S

Size	Load Index	Speed Symbol	Comments					
495/45R22.5	169	K		C	D	74	))	M+S

Omnitrac MST II 22.5”

Goodyear MST II features a wide tread and multi radii cavity for even wear and a mileage increase of 14%.* A Zig-Zag centerline groove and off-set block edge design offer an improved on/ off road traction and massive centerline ribs increase the damage resistance.

- Excellent mileage, increased resistance to cuts, chipping and chunking
- Excellent wet grip
- Self-cleaning
- Excellent traction and resistance to chunking
- Increased durability and retreadability

FRT

*Based on mileage performance of the MST II 385/65R22.5 compared to the Goodyear MST 385/65R22.5 in two fleets in Germany and in Belgium from 2009 to 2011.

Technical Data

Size	Load Index	Speed Symbol	Comments					
385/65R22.5	160 (158)	K (L)		C	B	72	))	M+S TreadMax
	160 (158)	K (L)	HCT	C	B	71	))	M+S

Size	Load Index	Speed Symbol	Comments					
445/65R22.5	169	K		B	B	71	))	M+S

Offroad Tyre Range.

LEGEND

M+S (Mud and Snow) indicates that a tyre has better snow traction than a regular tyre (see details on page 80)

3PMSF (Three Peak Mountain Snowflake) indicates that a tyre has passed a minimum performance threshold requirement on snow (see details on page 80)

TreadMax retreads are produced exclusively in-house and utilise the same casing, tread pattern and materials as new tyres - resulting in a similar to new tyre performance (see details on page 58)

FRT (Free Rolling Tyre) indicates that the tyre should only be fitted to free rolling axles, such as trailer applications (see details on page 80)

Offroad ORS 22.5”

The Omnitrac ORS steer tyre provides excellent mileage while featuring damage resistant tread patterns.

- Road handling and lateral stability
- Excellent mileage
- Even wear profile
- High damage, traction and wet skid resistance
- Maximised stone penetration protection

Technical Data

Size	Load Index	Speed Symbol	Comments				
315/80R22.5	156/150	K		D	B	70)	M+S

Offroad ORD 14.00R20, 365/85R20 and 375/90R22.5

Originally developed for special military, airport fire brigade and road maintenance applications, the Goodyear Offroad ORD gives excellent off-road traction, stone holding resistance and balanced wear around the circumference.

- Optimum durability and retreadability
- Exceptional off-road traction and cutting resistance
- Resistance to tearing and cutting for more kilometres
- Self-cleaning to avoid stone holding and increase traction

Technical Data

Size	Load Index	Speed Symbol	Comments				
14.00R20	164 /160 (166/160)	J (G)	CCC	D	C	75))	M+S

Size	Load Index	Speed Symbol	Comments				
365/85R20	164	J		D	B	75))	M+S
375/90R22.5	164	G		E	B	74))	M+S

Offroad ORD 22.5” and 24”

The Goodyear Offroad ORD is a specific tyre for off-road applications.
It provides excellent damage resistance and enhanced traction properties even on soft or sandy surfaces.

- Secure off-road traction and high mileage
- Exceptional resistance to tearing and cutting
- Excellent resistance to stone holding and self-cleaning ability

Technical Data

Size	Load Index	Speed Symbol	Comments				
12R22.5	152 /148	J		E	B	75))	M+S
13R22.5	156 /150 (154/150)	G (J)		E	B	76))	M+S

Size	Load Index	Speed Symbol	Comments				
12.00R24	160 /156	G		D	C	75))	M+S
325/95R24	162 /160	G		D	C	75))	M+S

Urban Tyre Range.

LEGEND

M+S (Mud and Snow) indicates that a tyre has better snow traction than a regular tyre (see details on page 80)

3PMSF (Three Peak Mountain Snowflake) indicates that a tyre has passed a minimum performance threshold requirement on snow (see details on page 80)

TreadMax retreads are produced exclusively in-house and utilise the same casing, tread pattern and materials as new tyres - resulting in a similar to new tyre performance (see details on page 58)

FRT (Free Rolling Tyre) indicates that the tyre should only be fitted to free rolling axles, such as trailer applications (see details on page 80)

UrbanMax MCA 19.5” and 22.5”

The MCA municipal tyre, featuring UrbanMax Technology, a combination of latest technology tread pattern and state of the art materials.
UrbanMax MCA tyres are specifically developed to provide excellent mileage in “stop & go” applications. In addition it provides good braking and traction on wet. MCA tyres are usable as steer or as all position tyres on municipal vehicles. All season use possible (M+S marked).

- Wide tread, 5 robust ribs, for suberb mileage and even wear
- Centerline blocks with edge and flexomatic blading for good braking on wet and all season capability.
- Reinforced sidewalls, with wear indicators, to resist to curb scuffing and enhanced durability and damage resistance
- Regroovable and retreadable

Technical Data

Size	Load Index	Speed Symbol	Comments				
265/70R19.5	140 /138	L		D	C	72))	M+S
11R22.5	148 /145 (152 /148)	J (E)		E	C	72))	M+S
275/70R22.5	148 /145 (152 /148)	J (E)		E	C	71)	M+S TreadMax

Size	Load Index	Speed Symbol	Comments				
275/70R22.5	150 /145 (152 /148)	J (E)	High Load version	D	C	71)	M+S
295/80R22.5	152 /148 (154 /150)	J (E)		E	C	70)	M+S
315/60R22.5	152 /148	J		D	C	71))	M+S

UrbanMax MCS 22.5”

The UrbanMax MCS* is a municipal tyre featuring UrbanMax technology that provides high performance on road and excellent damage resistance.

- Reinforced sidewalls
- Maximised stone penetration protection
- High tearing and cutting resistance
- Even wear profile

Technical Data

Size	Load Index	Speed Symbol	Comments				
305/70R22.5	152/148 (154/150)	J (E)		D	C	71))	M+S

UrbanMax MCD* Traction 22.5”

The MCD* Traction is a municipal tyre featuring UrbanMax technology specifically developed to provide excellent mileage in normal and winter applications. Also providing superb mileage and good braking.

- Flexomatic blading and 3D-BIS providing mileage, handling and rolling resistance
- Blade density providing winter and wet performance
- Non-intrusive shoulder decreasing damage
- Optimised footprint and pressure distribution for even wear and enhanced tread damage resistance
- Reinforced sidewall providing trouble free lifelong protection

Technical Data

Size	Load Index	Speed Symbol	Comments				
275/70R22.5	148/145 (152/148)	J (E)		E	C	72)	M+S TreadMax

UrbanMax MCD Super Single 22.5”

Specifically designed super single tyre for urban bus applications. The 455/45R22.5 is an alternative to dual mounted 275/70R22.5 tyres, providing more inside space, reduced weight and lower rolling resistance.

- Reduced weight
- Lower Rolling Resistance
- Increased inside space

Technical Data

Size	Load Index	Speed Symbol	Comments				
455/45R22.5	166	J		C	C	73))	M+S TreadMax

Coach Tyre Range.

LEGEND

M+S (Mud and Snow) indicates that a tyre has better snow traction than a regular tyre (see details on page 80)

3PMSF (Three Peak Mountain Snowflake) indicates that a tyre has passed a minimum performance threshold requirement on snow (see details on page 80)

TreadMax retreads are produced exclusively in-house and utilise the same casing, tread pattern and materials as new tyres - resulting in a similar to new tyre performance (see details on page 58)

FRT (Free Rolling Tyre) indicates that the tyre should only be fitted to free rolling axles, such as trailer applications (see details on page 80)

Marathon Coach 22.5”

Asymmetric pattern dedicated for all position fitment on long haul and intercity coach applications. Providing excellent mileage, resistance to shoulder wear and high comfort level.

- Excellent mileage potential and even wear
- Excellent Ride/Handling and Comfort
- High resistance to irregular wear and tread cracks
- Low noise level
- Reduced rolling resistance
- Excellent wet skid performance
- Long lasting carcass & tyre life

Technical Data

Size	Load Index	Speed Symbol	Comments					
295/80R22.5	154/149	M	High Load version	C	B	69	M+S	TreadMax

Size	Load Index	Speed Symbol	Comments				
315/80R22.5	156/150 (154/150)	L (M)		B	B	69	M+S

ULTRA GRIP Coach 22.5”

Specific high blade density winter traction drive tyre for long haul and intercity coaches. Decoupled blocks and high tear resistance compound lead to a combination of mileage performance and snow traction.

- High grip/traction on snowy/icy road
- Extended mileage
- Even wear profile
- Road handling & lateral stability
- Stone damage & cut resistances
- Robust shoulder rib

Technical Data

Size	Load Index	Speed Symbol	Comments					
295/80R22.5	154/149	M	High Load version	D	C	72	M+S	TreadMax

Size	Load Index	Speed Symbol	Comments				
315/80R22.5	156/150 (154/150)	L (M)		D	C	73	M+S

Winter Tyre Range.

LEGEND

M+S (Mud and Snow) indicates that a tyre has better snow traction than a regular tyre (see details on page 80)

3PMSF (Three Peak Mountain Snowflake) indicates that a tyre has passed a minimum performance threshold requirement on snow (see details on page 80)

TreadMax retreads are produced exclusively in-house and utilise the same casing, tread pattern and materials as new tyres - resulting in a similar to new tyre performance (see details on page 58)

FRT (Free Rolling Tyre) indicates that the tyre should only be fitted to free rolling axles, such as trailer applications (see details on page 80)

ULTRA GRIP MAX S 22.5”

The new ULTRA GRIP MAX S steer tyre provides excellent cornering stability and optimum braking performance on snow and ice, to allow you to face the toughest winter conditions.

Thanks to ULTRA GRIP MAX Technology the ULTRA GRIP MAX S is the ideal choice for fleets looking for winter performance throughout the life of the tyre.

- Improved snow grip throughout tyre life
- 30% more snow grip compared to its predecessor when tyres are half worn*
- Optimum lateral grip for good cornering stability, especially on snow and ice
- Excellent braking performance on slippery surfaces like snow & ice
- High mileage potential and good carcass resistance
- Strong braking performance on winter roads

Technical Data

Size	Load Index	Speed Symbol	Comments	
315/70R22.5	156/150	L	High Load version	C B 73)) M+S

Size	Load Index	Speed Symbol	Comments	
315/80R22.5	156/150 (154/150)	L (M)		M+S

* Comparative tests made by Goodyear GIC*L on size 315/80R22.5 show that the new Goodyear ULTRA GRIP MAX S offers an improvement in snow grip of up to 30% compared to Goodyear ULTRA GRIP WTS. Actual results may vary based on, but not restricted to, road and weather conditions, tyre size, tyre pressure and vehicle maintenance.

ULTRA GRIP MAX D 22.5”

The new ULTRA GRIP MAX D drive tyre provides traction on snow and ice throughout the tyre life allowing you to still have winter traction capability at Three Peak Mountain Snowflake standard level when the tyre is 50% worn.

Thanks to Goodyear ULTRA GRIP MAX Technology ULTRA GRIP MAX D is the ideal choice for fleets looking for mobility in extreme winter conditions

- Improved snow grip and mileage
- 40% more snow grip compared to its predecessor when tyres are half worn*
- 15% more mileage compared to its predecessor*
- Even tyre wear with high mileage potential and low noise emission
- Outstanding traction on slippery surfaces like snow and ice throughout the tyre life
- Improved performance of worn tyre compared to its predecessor
- Excellent tread durability and carcass resistance, improving retreadability compared to its predecessor

Technical Data

Size	Load Index	Speed Symbol	Comments		
315/70R22.5	154/150 (152/148)	L (M)		E C 74)	M+S TreadMax

Size	Load Index	Speed Symbol	Comments		
315/80R22.5	156/150 (154/150)	L (M)		D B 73)	M+S TreadMax

* Comparative tests made by Goodyear GIC*L on size 315/80R22.5 show that:
- the new Goodyear ULTRA GRIP MAX D offers an improvement in snow grip of up to 40% compared to Goodyear ULTRA GRIP WTD;
- the new Goodyear ULTRA GRIP MAX D drive tyres offer an improvement in mileage potential of up to 15% compared to Goodyear ULTRA GRIP WTD.

Actual results may vary based on, but not restricted to, road and weather conditions,, tyre size, tyre pressure and vehicle maintenance.

ULTRA GRIP MAX T 22.5”

The new ULTRAGRIP MAX T trailer tyre provides excellent lateral stability and snow grip, to allow you to face the toughest winter conditions.

The ULTRA GRIP MAX T is the ideal choice for fleets looking for a winter solution for their trailers.

- Resistance against carcass damage and increased mileage potential
- Good grip on slippery surfaces for excellent braking performances on winter roads
- Good lateral stability and even wear
- Good grip on slippery surfaces for excellent braking capabilities

FRT

Technical Data

Size	Load Index	Speed Symbol	Comments	
385/55R22.5	160 (158)	K (L)		M+S

Size	Load Index	Speed Symbol	Comments	
385/65R22.5	160 (158)	K (L)		M+S

ULTRA GRIP WTS 22.5”

The ULTRA GRIP WTS steer axle tyre provides a wide, deep tread pattern, specific “Z” blades and a specific technology tread compound, resulting in excellent mileage and traction and braking on wet, snow and ice roads.

WTS City design includes as well reinforced sidewall for better damage resistance in urban applications.

- Excellent braking and traction on wet and snow
- Superb lateral grip, handling and steering stability
- High mileage, even wear pattern
- High mileage, even wear pattern
- Usable as “all position” fitment

Technical Data

Size	Load Index	Speed Symbol	Comments				
275/70R22.5	148/145 (152/148)	J (E)	City version	E	C	73	)) M+S
295/60R22.5	150/147 (149/146)	K (L)		C	C	71	) M+S
295/80R22.5	152/148	L		D	B	73	)) M+S
315/60R22.5	152/148	L		C	B	73	)) M+S

Size	Load Index	Speed Symbol	Comments				
315/80R22.5	156/150 (154/150)	K (L)		C	B	74	)) M+S
355/50R22.5	154 (152)	K (L)		D	B	73	)) M+S
385/55R22.5	160 (158)	K (L)		C	B	73	)) M+S
385/65R22.5	160 (158)	K (L)		C	B	74	)) M+S

ULTRA GRIP WTD 22.5”

The ULTRA GRIP WTD drive axle tyre is designed to provide outstanding traction on snowy, icy roads while featuring dedicated technology tread compounds and carcass constructions. The WTD tyre is dedicated for use in severe winter conditions. With a specific blading technology, traction, stability and braking are improved while still providing high mileage performance.

WTD City design includes as well reinforced sidewall for better damage resistance in urban applications.

- Excellent winter traction and braking (snow and ice)
- Superb lateral grip, handling and steering stability
- High mileage, even wear pattern

Technical Data

Size	Load Index	Speed Symbol	Comments				
275/70R22.5	148/145 (152/148)	J (E)	City version	E	D	73	) M+S
295/60R22.5	150/147 (149/146)	K (L)		D	C	74	)) M+S
295/80R22.5	152/148	L		E	C	75	)) M+S

Size	Load Index	Speed Symbol	Comments				
315/60R22.5	152/148	L		E	D	74	)) M+S
315/70R22.5	154/150 (152/148)	K (L)		D	B	74	)) M+S

ULTRA GRIP WTT 22.5”

Goodyear ULTRA GRIP WTT truck tyre range has been developed to cope with today’s demanding winter transport operations. This trailer axle tyre features excellent performance in winter conditions, keeping fleet efficiency at maximum level by providing good mileage and all season capability.
The 265/70R19.5 ULTRA GRIP WTT winter trailer tyre complements the steer and drive tyre range, for specific severe winter conditions. The WTT was developed for the use on paved national roads as well as on unpaved and forest roads. The high level of carcass robustness against external damages meets the needs of latter application.

- 4-rib design for massive rib distribution and excellent damage resistance
- Wide tread width for an extended mileage and a good lateral stability
- Excellent snow / mud traction thanks to staggered blocks and semi-open shoulders

FRT

Technical Data

Size	Load Index	Speed Symbol	Comments				
265/70R19.5	143/141	J		D	B	72	)) M+S

Technical Data.

GOODYEAR

Goodyear Technical Data

Size	Goodyear Design	Load / Speed index	Single Point marking[1]	Additional Markings / comments	Tyre Dimensions[2]: Overall Diametre mm (+/-1.5%)	Overall Section Width mm (+/- 1.5%)	Static Loaded Radius (mm)	Rolling Circumf. (mm)	Nominal pressure (bar)	Max load: Single Axle load (kg)	Max load: Dual Axle load (kg)	Rim Data: Recomm. Rim width	Rim Data: Permitted Rims	Rim Data: Minimal Dual spacing	Load index	Single / dual mounting	Load Capacity per axel (in kg) at inflation pressure (in bar) — Tyre pressure in bar: 5.0	5.5	6.0	6.5	7.0	7.25	7.5	7.75	8.0	8.25	8.5	8.75	9.0
17.5" sizes - 65 series																												
205/65R17.5	RHT II	129/127 K	(132/132 F)	FRT[3]	716	209	334	2169	9.00	3700	7000	6.00	6.00-6.75	231	129	S	2310	2500	2680	2850	3030	3110	3200	3280	3370	3450	3530	3620	**3700**
															127	D	4370	4720	5060	5400	5730	5890	6050	6210	6370	6530	6690	6840	**7000**
17.5" sizes - 70 series																												
245/70R17.5	RHS II+	136/134 M			790	258	368	2411	8.50	4480	8480	7.50	6.75-7.50	279	143	S	3480	3760	4030	4300	4560	4690	4820	4950	5070	5200	5330	**5450**	
	RHD II+	136/134 M			793	256	369	2421	8.50	4480	8480				141	D	6580	7100	7620	8120	8620	8860	9100	9350	9590	9830	10060	**10300**	
	RHT II	143/141 J	(146/146 F)	FRT[3]	795	253	366	2427	8.75	5450	10300				136	S	2930	3160	3390	3610	3840	3940	4050	4160	4270	4370	**4480**		
															134	D	5550	5990	6420	6840	7260	7470	7670	7880	8080	8280	**8480**		
265/70R17.5	RHS II +	139/136 M			819	265	379	2500	8.00	4860	8960	7.50	6.75-8.25	295	139	S	3340	3600	3860	4120	4370	4490	4620	4740	**4860**				
	RHS II	139 /136 M			819	265	379	2500	8.00	4860	8960				136	D	6150	6640	7120	7590	8050	8280	8510	8740	**8960**				
	RHD II	139/136 M			822	263	380	2509	8.00	4860	8960																		
17.5" sizes - 75 Series																												
205/75R17.5	RHS II+	124/122 M			761	209	356	2323	7.50	3200	6000	6.00	5.25-6.75	231	124	S	2310	2500	2680	2850	3030	3110	**3200**					
	RHD II+	124/122 M	(126/124 G)		764	209	358	2332	7.50	3200	6000				122	D	4340	4680	5020	5350	5680	5840	**6000**					
215/75R17.5	RHS II+ HL	128/126 M		High Load	778	215	362	2375	7.50	3600	6800	6.00	6.00-6.75	239	135	S	2850	3080	3300	3520	3730	3840	3940	4050	4150	4260	**4360**	
	RHD II+	126/124 M			780	218	364	2381	7.25	3400	6400				133	D	5390	5820	6240	6650	7050	7260	7450	7650	7850	8050	**8240**		
	RHT II	135/133 J		FRT[3]	769	211	356	2347	8.50	4360	8240				128	S	2600	2810	3010	3210	3410	3500	**3600**						
															126	S	2530	2730	2920	3120	3310	**3400**							
															126	D	4340	4680	5020	5350	5680	5840	**6800**						
															124	D	4750	5130	5500	5860	6220	**6400**							
225/75R17.5	RHS II	129/127 M			790	235	368	2411	7.25	3700	7000	6.75	6.00-6.75	254	129	S	2750	2970	3180	3390	3600	**3700**							
	RHD II	129/127 M			793	235	369	2421	7.25	3700	7000				127	D	5200	5610	6020	6410	6810	**7000**							
235/75R17.5	RHS II	132/130 M			809	239	377	2469	7.75	4000	7600	6.75	6.75-7.50	278	143	S	3480	3760	4030	4300	4560	4690	4820	4950	5070	5200	5330	**5450**	
	RHD II	132/130 M			810	239	379	2479	7.75	4000	7600				141	D	6580	7100	7620	8120	8620	8860	9100	9350	9590	9830	10060	**10300**	
	RHT II	143/141 J	(144/144 F)	FRT[3]	802	241	369	2448	8.75	5450	10300				132	S	2820	3040	3260	3470	3690	3790	3900	**4000**					
															130	D	5350	5780	6190	6600	7010	7210	7400	**7600**					
17.5" sizes - Standard Series																												
8.5R17.5	RHS	121/120 M			808	207	376	2466	6.25	2900	5600	5.25	5.25-6.75	233	121	S	2430	2620	**2810**										
	RHD	121/120 M			805	207	374	2457	6.25	2900	5600				120	D	4680	5060	**5420**										
9.5R17.5	RHS II	129/127 M			847	241	392	2585	7.50	3700	7000	6.00	6.00-6.75	261	143	S	3480	3760	4030	4300	4560	4690	4820	4950	5070	5200	5330	**5450**	
	RHD II	129/127 M			855	237	400	2610	7.50	3700	7000				141	D	6580	7100	7620	8120	8620	8860	9100	9350	9590	9830	10060	**10300**	
	RHT II	143/141 J		FRT[3]	846	246	390	2582	8.75	5450	10300	6.75	6.00-6.75	270	129	S	2680	2890	3100	3300	3500	3600	**3700**						
															127	D	5060	5460	5860	6240	6620	6810	**7000**						
19.5" sizes - 50 Series																												
435/50R19.5	FUELMAX T	160 J		FRT[3]	920	429	421	2788	9.00	9000		14.00	14.00-15.00		160	S	5620	6070	6510	6940	7360	7570	7780	7990	8190	8390	8600	8800	**9000**
	KMAX T	160 J		FRT[3]	925	427	423	2803	9.00	9000																			
	LHT II	160 J		FRT[3]	920	429	421	2788	9.00	9000																			
	RHT II	160 J		FRT[3]	925	427	423	2803	9.00	9000																			
19.5" sizes - 55 Series																												
265/55R19.5	LHT	141/140 J	(142/142 G)	FRT[3]	783	269	364	2390	9.00	5150	10000	8.25	8.25	297	141	S	3220	3470	3720	3970	4210	4330	4450	4570	4690	4800	4920	5040	**5150**
															140	D	6250	6740	7230	7710	8180	8410	8640	8870	9100	9330	9550	9780	**10000**
19.5" sizes - 70 Series																												
245/70R19.5	RHS II	136/134 M			849	255	393	2592	8.25	4480	8480	6.75	6.75-7.50	270	141	S	3370	3640	3900	4160	4410	4530	4660	4780	4910	5030	**5150**	
	RHD II	136/134 M			853	255	395	2604	8.25	4480	8480				140	D	6540	7060	7570	8070	8560	8810	9050	9290	9530	9760	**10000**		
	RHT II	141/140 J		FRT[3]	848	252	389	2589	8.50	5150	10000	7.50	6.75-7.50	287	136	S	3000	3240	3470	3700	3930	4040	4150	4260	4370	**4480**			
															134	D	5680	6130	6570	7010	7440	7650	7860	8070	8270	**8480**			
265/70R19.5	RHS II	140/138 M			870	267	404	2656	7.75	5000	9440	6.75	6.75-8.25	295															
	MSS II	143/141 J	(140/138 L)		872	269	405	2662	8.50	5450	10300	6.75	7.50-8.25	295	143	S	3560	3850	4120	4400	4670	4800	4930	5060	5190	5320	**5450**		
	RHD II	140/138 M			873	267	406	2665	7.75	5000	9440	6.75	6.75-8.25	295	141	D	6740	7270	7800	8310	8820	9070	9320	9570	9810	10060	**10300**		
	RHT II	143/141 J		FRT³	866	266	400	2643	8.50	5450	10300	7.50	7.50-8.25	295	140	S	3520	3800	4070	4340	4610	4740	4870	**5000**					
	WTT	143/141 J		FRT³	876	266	405	2674	8.50	5450	10300				138	D	6650	7170	7690	8200	8700	8950	9200	**9440**					
	MCA	140/138 L			873	271	406	2665	7.75	5000	9440	7.50	6.75-8.25	295															

[1] Additional Service Description based on UNECE Regulation N° 54 located on the sidewall of the tyre in a circle close to the principal service Description. Load/speed variations do not apply to the additional Service Description.

[2] Measured tyre dimension using the Goodyear recommended rim.

[3] FRT = "Free Rolling Tyre": this tyre may only be fitted on a trailer or tag axle and not on a drive or steer axle.

[4] HCT = Hot Climate Technology: Tyre made with specific technical features to cope with special conditions in hot climate countries.

Goodyear Technical Data

Size	Goodyear Design	Load / Speed index	Single Point marking[1]	Additional Markings / comments	Tyre Dimensions[2] Overall Diametre mm (+/-1.5%)	Overall Section Width mm (+/- 1.5%)	Static Loaded Radius (mm)	Rolling Circumf. (mm)	Nominal pressure (bar)	Max load Single Axle load (kg)	Max load Dual Axle load (kg)	Rim Data Recomm. Rim width	Rim Data Permitted Rims	Rim Data Minimal Dual spacing	Load index	Single / dual mounting	Load Capacity per axel (in kg) at inflation pressure (in bar) Tyre pressure in bar 5.0	5.5	6.0	6.5	7.0	7.25	7.5	7.75	8.0	8.25	8.5	8.75	9.0
285/70R19.5	RHS II	146/144 L	(144/142 M)		897	291	413	2738	9.00	6000	11200	8.25	7.50-9.00	311	150	S	4190	4520	4840	5160	5480	5640	5790	5940	6100	6250	6400	6550	**6700**
	RHD II	146/144 L	(144/142 M)		903	291	416	2756	9.00	6000	11200				148	D	7870	8500	9110	9710	10310	10600	10890	11180	11470	11750	12040	12320	**12600**
	RHT II	150/148 J		FRT[3]	892	289	410	2723	9.00	6700	12600	8.25	8.25-9.00	318	146	S	3750	4050	4340	4620	4910	5050	5190	5320	5460	5600	5730	5870	**6000**
															144	D	7000	7550	8100	8630	9160	9420	9680	9940	10190	10450	10700	10950	**11200**
305/70R19.5	RHS II	148/145 M			927	290	428	2830	8.50	6300	11600	8.25	8.25-9.00	318	148	S	4120	4450	4770	5080	5390	5550	5700	5850	6000	6150	**6300**		
	RHD II	148/145 M			931	290	430	2842	8.50	6300	11600				145	D	7590	8190	8780	9360	9930	10210	10490	10770	11050	11330	**11600**		
20" sizes - 85 Series																												
365/85R20	ORD	164 J			1124	358	511	3465	8.00	10000		10.00	10.00		164	S	6870	7410	7940	8470	8990	9240	9500	9750	**10000**				
20" sizes - Standard Series																												
12.00R20	MSS II	154/150 K			1126	313	526	3437	8.50	7500	13400	8.50	7.50-9.00	360	154	S	4910	5290	5680	6050	6420	6600	6790	6970	7140	7320	**7500**		
	MSD II	154/150 K			1133	313	530	3458	8.50	7500	13400				150	D	8760	9460	10140	10810	11470	11800	12120	12450	12770	13080	**13400**		
14.00R20	ORD	164/160 J	(166/160 G)		1258	377	573	3840	7.50	10000	18000	10.00	9.00-10.00	426	164	S	7230	7800	8370	8920	9460	9730	**10000**						
															160	D	13010	14040	15060	16050	17030	17520	**18000**						
22.5" sizes - 45 Series																												
455/45R22.5	MCD	166 J			985	450	449	2985	9.00	10600		15.00	15.00		166	S	6620	7150	7660	8170	8670	8920	9160	9400	9650	9890	10130	10360	**10600**
495/45R22.5	LHD	169 K			1018	505	471	3085	9.00	11600	11600	17.00	16.00-17.00		169	S	7250	7820	8390	8940	9490	9760	10030	10290	10560	10820	11080	11340	**11600**
	MSD II	169 K			1020	502	466	3091	9.00	11600	11600																		
22.5" sizes - 50 Series																												
355/50R22.5	KMAX S HL	156 K							9.00	8000																			
	LHS II+ HL	156 K	(152 L)		933	354	432	2866	9.00	8000		11.75	11.75		156	S	5000	5390	5780	6170	6540	6730	6910	7100	7280	7460	7640	7820	**8000**
	LHS II+	154 K	(152 L)		932	356	432	2824	9.00	7500					154	S	4690	5060	5420	5780	6130	6310	6480	6650	6830	7000	7160	7330	**7500**
	WTS	154 K	(152 L)		935	359	433	2833	9.00	7500																			
375/50R22.5	LHS II	156 K			951	366	440	2882	9.00	8000		11.75	11.75-12.15		156	S	5000	5390	5780	6170	6540	6730	6910	7100	7280	7460	7640	7820	**8000**
22.5" sizes - 55 Series																												
295/55R22.5	KMAX D	147/145 K								6150	11600	9.00	9.00-9.75	329	147	S	3840	4150	4450	4740	5030	5170	5320	5460	5600	5740	5880	6010	**6150**
	LHD II+	147/145 K			886	290	413	2685	9.00	6150	11600				145	D	7250	7820	8390	8940	9490	9760	10030	10290	10560	10820	11080	11340	**11600**
385/55R22.5	FUELMAX S	160 K	(158 L)		989	387	456	3034	9.00	9000		11.75	11.75-12.25		160	S	5620	6070	6510	6940	7360	7570	7780	7990	8190	8390	8600	8800	**9000**
	LHS II+	160 K	(158 L)		994	384	456	3012	9.00	9000																			
	WTS	160 K	(158 L)		995	386	457	3015	9.00	9000																			
	MSD II	160 K			996	386	457	3018	9.00	9000																			
	FUELMAX T	160 K	(158 L)	FRT[3]	989	386	455	3019	9.00	9000																			
	KMAX T	160 K	(158 L)	FRT[3]	995	387	457	3015	9.00	9000																			
	LHT II	160 K	(158 L)	FRT[3]	989	388	455	3019	9.00	9000																			
	RHT II	160 K	(158 L)	FRT[3]	995	387	457	3015	9.00	9000																			
	UG MAX T	160 K	(158 L)	FRT[3]	995	386	457	3015	9.00	9000																			
22.5" sizes - 60 Series																												
295/60R22.5	FUELMAX S	150/147 K	(149/146 L)		924	290	429	2833	9.00	6700	12300	9.00	9.00-9.75	329	150	S	4190	4520	4840	5160	5480	5640	5790	5940	6100	6250	6400	6550	**6700**
	KMAX S	150/147 K	(149/146 L)		927	285	432	2841	9.00	6700	12300				147	D	7690	8290	8890	9480	10060	10350	10630	10910	11190	11470	11750	12030	**12300**
	LHS II	150/147 K	(149/146 L)		928	292	429	2812	9.00	6700	12300																		
	RHS II	150/147 K	(149/146 L)		927	293	429	2809	9.00	6700	12300																		
	WTS	150/147 K	(149/146 L)		928	291	429	2812	9.00	6700	12300																		
	FUELMAX D	150/147 K	(149/146 L)		933	290	434	2863	9.00	6700	12300																		
	KMAX D	150/147 K	(149/146 L)		937	288	435	2858	9.00	6700	12300																		
	LHD II	150/147 K	(149/146 L)		938	292	434	2842	9.00	6700	12300																		
	RHD II	150/147 K	(149/146 L)		937	293	434	2839	9.00	6700	12300																		
	WTD	150/147 K	(149/146 L)		940	296	433	2848	9.00	6700	12300																		
315/60R22.5	FUELMAX S HL	154/148 L		High Load	952	307	440	2923	9.00	7500	12600	9.00	9.00-9.75	344	154	S	4690	5060	5420	5780	6130	6310	6480	6650	6830	7000	7160	7330	**7500**
	KMAX S HL	154/148 L		High Load	955	307	441	2937	9.00	7500	12600				152	S	4440	4790	5130	5470	5810	5970	6140	6300	6460	6620	6780	6940	**7100**
	WTS	152/148 L			958	308	444	2903	9.00	7100	12600				148	D	7870	8500	9110	9710	10310	10600	10890	11180	11470	11750	12040	12320	**12600**
	FUELMAX D	152/148 L			965	310	448	2961	9.00	7100	12600																		
	KMAX D	152/148 L			968	308	450	2961	9.00	7100	12600																		
	WTD	152/148 L			970	309	450	2939	9.00	7100	12600																		
	MCA	152/148 J			963	316	446	2918	9.00	7100	12600																		

[1] Additional Service Description based on UNECE Regulation N° 54 located on the sidewall of the tyre in a circle close to the principal service Description. Load/speed variations do not apply to the additional Service Description.

[2] Measured tyre dimension using the Goodyear recommended rim.

[3] FRT = "Free Rolling Tyre": this tyre may only be fitted on a trailer or tag axle and not on a drive or steer axle.

[4] HCT = Hot Climate Technology: Tyre made with specific technical features to cope with special conditions in hot climate countries.

Goodyear Technical Data

Size	Goodyear Design	Load / Speed index	Single Point marking[1]	Additional Markings / comments	Tyre Dimensions[2] Overall Diametre mm (+/-1.5%)	Overall Section Width mm (+/- 1.5%)	Static Loaded Radius (mm)	Rolling Circumf. (mm)	Nominal pressure (bar)	Max load Single Axle load (kg)	Max load Dual Axle load (kg)	Rim Data Recomm. Rim width	Rim Data Permitted Rims	Rim Data Minimal Dual spacing	Load index	Single / dual mounting	Load Capacity per axel (in kg) at inflation pressure (in bar) Tyre pressure in bar 5.0	5.5	6.0	6.5	7.0	7.25	7.5	7.75	8.0	8.25	8.5	8.75	9.0
22.5" sizes - 65 Series																												
385/65R22.5	FUELMAX S	160 K	(158 L)		1074	380	499	3278	9.00	9000																		
	KMAX S	160 K	(158 L)		1078	379	500	3299	9.00	9000																		
	LHS II+	160 K	(158 L)		1077	377	499	3263	9.00	9000																		
	RHS II	160 K	(158 L)		1077	377	499	3263	9.00	9000																		
	WTS	160 K	(158 L)		1082	382	498	3278	9.00	9000																		
	MSS II	160 K	(158 L)		1078	380	499	3266	9.00	9000																		
	FUELMAX T	160 K	(158 L)	FRT[3]	1072	388	497	3248	9.00	9000		11.75	11.75-12.25		164	S	6250	6740	7230	7710	8180	8410	8640	8870	9100	9330	9550	9780	**10000**
	KMAX T	160 K	(158 L)	FRT[3]	1081	388	502	3275	9.00	9000					160	S	5620	6070	6510	6940	7360	7570	7780	7990	8190	8390	8600	8800	**9000**
	KMAX T HL	164 K	(158 L)	FRT[3]/High Load	1083	386	498	3281	9.00	10000																		
	LHT II	160 K	(158 L)	FRT[3]	1072	388	497	3248	9.00	9000																		
	RHT II HCT	160 K	(158 L)	FRT[3]/ HCT[4]	1081	388	503	3303	9.00	9000																		
	MST II	160 K	(158 L)	FRT[3]	1085	387	504	3288	9.00	9000																		
	MST II HCT	160 K	(158 L)	FRT[3]/HCT[4]	1085	387	504	3288	9.00	9000																		
	UG MAX T	160 K	(158 L)	FRT[3]	1082	382	498	3278	9.00	9000																		
425/65R22.5	KMAX T	165 K			1128	419	517	3418	8.25	10300		13.00	12.25-14.00		165	S	6900	7450	7980	8510	9030	9290	9540	9800	10050	**10300**			
445/65R22.5	KMAX T	169 K		FRT[3]	1157	437	529	3506	9.00	11600		13.00	13.00-14.00		169	S	7250	7820	8390	8940	9490	9760	10030	10290	10560	10820	11080	11340	**11600**
	MST II	169 K		FRT[3]	1159	434	530	3512	9.00	11600		14.00	13.00-15.00																
22.5" sizes - 70 Series																												
275/70R22.5	RHS II	148/145 M			966	274	447	2949	9.00	6300	11600																		
	WTS CITY	148/145 J	(152/148 E)		979	271	459	2988	9.00	6300	11600																		
	MSS II	148/145 K			973	275	455	2970	9.00	6300	11600				152	S	4440	4790	5130	5470	5810	5970	6140	6300	6460	6620	6780	6940	**7100**
	MCA HL	150/145 J	(152/148 E)	High Load	972	273	457	2976	9.00	6700	11600				150	S	4190	4520	4840	5160	5480	5640	5790	5940	6100	6250	6400	6550	**6700**
	MCA	148/145 J	(152/148 E)		976	271	457	2979	9.00	6300	11600	7.50	7.50-8.25	303	148	S	3940	4250	4550	4860	5150	5300	5440	5590	5730	5880	6020	6160	**6300**
	RHD II	148/145 M			972	272	455	2967	9.00	6300	11600				148	D	7870	8500	9110	9710	10310	10600	10890	11180	11470	11750	12040	12320	**12600**
	MCD	148/145 J	(152/148 E)		976	276	459	2985	9.00	6300	11600				145	D	7250	7820	8390	8940	9490	9760	10030	10290	10560	10820	11080	11340	**11600**
	WTD CITY	148/145 J	(152/148 E)		977	268	458	2982	9.00	6300	11600																		
	LHT II	152/148 J	(148/145 L)	FRT[3]	963	273	451	2940	9.00	7100	12600																		
305/70R22.5	RHS II	153/150 L	(150/148 M)		1000	298	462	3053	9.00	7300	13400				153	S	4560	4920	5280	5630	5970	6140	6310	6480	6640	6810	6970	7140	**7300**
	MCS*	152/148 J	(154/150 E)		1008	301	462	3077	9.00	7100	12600	8.25	8.25-9.00	334	152	S	4440	4790	5130	5470	5810	5970	6140	6300	6460	6620	6780	6940	**7100**
	RHD II	153/150 L	(150/148 M)		1010	295	471	3083	9.00	7300	13400				150	D	8370	9040	9690	10330	10960	11270	11580	11890	12200	12500	12800	13100	**13400**
															148	D	7870	8500	9110	9710	10310	10600	10890	11180	11470	11750	12040	12320	**12600**
315/70R22.5	FUELMAX S HL	156/150 L		High Load	1009	311	467	3086	9.00	8000	13400																		
	KMAX S HL	156/150 L		High Load	1015	314	470	3103	9.00	8000	13400																		
	RHS II	154/150 L	(152/148 M)		1015	314	471	3098	9.00	7500	13400																		
	UG MAX S HL	156/150 L		High Load	1014	314	468	3092	9.00	7500	13400				156	S	5000	5390	5780	6170	6540	6730	6910	7100	7280	7460	7640	7820	**8000**
	FUELMAX D	154/150 L	(152/148 M)		1013	312	471	3100	9.00	7500	13400	9.00	9.00-9.75	351	154	S	4690	5060	5420	5780	6130	6310	6480	6650	6830	7000	7160	7330	**7500**
	KMAX D	154/150 L	(152/148 M)		1021	313	475	3110	9.00	7500	13400				150	D	8370	9040	9690	10330	10960	11270	11580	11890	12200	12500	12800	13100	**13400**
	RHD II+	154/150 L	(152/148 M)		1019	315	471	3110	9.00	7500	13400																		
	UG MAX D	154/150 L	(152/148 M)		1018	312	469	3090	9.00	7500	13400																		
	WTD	154/150 K	(152/148 L)		1025	314	472	3129	9.00	7500	13400																		
22.5" sizes - 75 Series																												
445/75R22.5	MSS	170/ J		FRT[3]	1236	451	566	3773	8.00	12000		14.00	13.00-14.00		170	S	8240	8890	9530	10160	10780	11090	11400	11700	**12000**				

[1] Additional Service Description based on UNECE Regulation N° 54 located on the sidewall of the tyre in a circle close to the principal service Description. Load/speed variations do not apply to the additional Service Description.

[2] Measured tyre dimension using the Goodyear recommended rim.

[3] FRT = "Free Rolling Tyre": this tyre may only be fitted on a trailer or tag axle and not on a drive or steer axle.

[4] HCT = Hot Climate Technology: Tyre made with specific technical features to cope with special conditions in hot climate countries.

Goodyear Technical Data

Size	Goodyear Design	Load / Speed index	Single Point marking[1]	Additional Markings / comments	Tyre Dimensions[2] Overall Diametre mm (+/-1.5%)	Overall Section Width mm (+/- 1.5%)	Static Loaded Radius (mm)	Rolling Circumf. (mm)	Nominal pressure (bar)	Max load Single Axle load (kg)	Max load Dual Axle load (kg)	Rim Data Recomm. Rim width	Rim Data Permitted Rims	Rim Data Minimal Dual spacing	Load index	Single / dual mounting	Load Capacity per axel (in kg) at inflation pressure (in bar) Tyre pressure in bar 5.0	5.5	6.0	6.5	7.0	7.25	7.5	7.75	8.0	8.25	8.5	8.75	9.0
22.5" sizes - 80 Series																												
295/80R22.5	FUELMAX S HL	154/149 M		High Load	1048	302	488	3198	8.50	7500	13000	9.00	8.25-9.00	335														
	KMAX S HL	154/149 M		High Load	1057	302	491	3217	8.50	7500	13000																	
	LHS II	152/148 M			1053	299	489	3214	8.50	7100	12600																	
	RHS II	152/148 M		CCC	1054	298	489	3217	8.50	7100	12600																	
	RHS II HCT	152/148 M		HCT[4]	1052	295	491	3211	8.50	7100	12600																	
	WTS	152/148 L			1056	294	489	3223	8.50	7100	12600																	
	MSS II	152/148 K			1057	300	491	3226	8.50	7100	12600				154	S	4910	5290	5680	6050	6420	6600	6790	6970	7140	7320	**7500**	
	LHS LR8	152/148 M		LR8	1047	295	484	3196	8.50	7100	12600				152	S	4640	5010	5370	5730	6080	6250	6420	6590	6760	6930	**7100**	
	MARATHON COACH	154/149 M		High Load	1050	299	486	3205	8.50	7500	13000				149	D	8500	9180	9840	10490	11130	11450	11760	12070	12380	12690	**13000**	
	MCA	152/148 J	(154/150 E)		1061	198	494	3239	8.50	7100	12600	8.25	8.25-9.00	326	148	D	8240	8890	9540	10170	10790	11090	11400	11700	12000	12300	**12600**	
	FUELMAX D	152/148 M			1054	305	490	3210	8.50	7100	12600																	
	KMAX D	152/148 M			1065	305	496	3227	8.50	7100	12600																	
	RHD II HCT	152/148 M		HCT[4]	1062	296	495	3242	8.50	7100	12600																	
	ULTRA GRIP COACH	154/149 M		High Load	1061	298	492	3239	8.50	7500	13000																	
	WTD	152/148 L			1064	297	494	3248	8.50	7100	12600																	
	MSD II	152/148 K			1065	298	497	3251	8.50	7100	12600																	
315/80R22.5	FUELMAX S	156/150 L	(154/150 M)		1080	313	501	3294	8.50	8000	13400																	
	KMAX S	156/150 L	(154/150 M)		1084	313	502	3298	8.50	8000	13400																	
	LHS II+ HL	158/150 L		High Load	1080	316	499	3297	9.00	8500	13400																	
	LHS	156/150 L	(154/150 M)		1096	318	501	3315	8.50	8000	13400																	
	RHS II HL	158/150 L		High Load	1080	317	501	3297	9.00	8500	13400																	
	RHS II	156/150 L	(154/150 M)	CCC	1080	317	501	3297	8.50	8000	13400																	
	RHS II	156/150 L	(154/150 M)		1080	317	501	3297	8.50	8000	13400																	
	RHS	156/150 L	(154/150 M)		1096	318	498	3297	8.50	8000	13400																	
	RHS II HCT	156/150 L	(154/150 M)	HCT[4]	1081	317	502	3300	8.50	8000	13400																	
	WTS	156/150 K	(154/150 L)		1083	316	500	3306	8.50	8000	13400																	
	MSS II	156/150 K			1086	316	502	3315	8.50	8000	13400				158	S	5310	5730	6150	6550	6950	7150	7350	7540	7740	7930	8120	8310	**8500**
	MSS II HCT	156/150 K							8.50	8000	13400				156	S	5230	5650	6050	6450	6850	7040	7240	7430	7620	7810	**8000**	
	ORS	156/150 K			1085	315	502	3312	8.50	8000	13400	9.00	9.00-9.75	351	150	D	8760	9460	10140	10810	11470	11800	12120	12450	12770	13080	**13400**	
	UG MAX S	156/150 L	(154/150 M)		1086	315	495	3300	8.50	8000	13400																	
	MARATHON COACH	156/150 L	(154/150 M)		1081	315	500	3300	8.50	8000	13400																	
	FUELMAX D	156/150 L	(154/150 M)		1083	315	502	3297	8.50	8000	13400																	
	KMAX D	156/150 L	(154/150 M)		1094	313	510	3307	8.50	8000	13400																	
	LHD II	156/150 L	(154/150 M)		1087	316	503	3318	8.50	8000	13400																	
	RHD II	156/150 L	(154/150 M)		1091	307	505	3330	8.50	8000	13400																	
	RHD II HCT	156/150 L	(154/150 M)	HCT[4]	1091	307	505	3330	8.50	8000	13400																	
	ULTRA GRIP COACH	156/150 L	(154/150 M)		1093	314	506	3336	8.50	8000	13400																	
	UG MAX D	156/150 L	(154/150 M)		1090	314	496	3289	8.50	8000	13400																	
	MSD II HCT	156/150 K		HCT[4]	1095	306	507	3342	8.50	8000	13400																	
	MSD II	156/150 K			1094	316	506	3339	8.50	8000	13400																	

[1] Additional Service Description based on UNECE Regulation N° 54 located on the sidewall of the tyre in a circle close to the principal service Description. Load/speed variations do not apply to the additional Service Description.

[2] Measured tyre dimension using the Goodyear recommended rim.

[3] FRT = "Free Rolling Tyre": this tyre may only be fitted on a trailer or tag axle and not on a drive or steer axle.

[4] HCT = Hot Climate Technology: Tyre made with specific technical features to cope with special conditions in hot climate countries.

Goodyear Technical Data

Size	Goodyear Design	Load / Speed index	Single Point marking[1]	Additional Markings / comments	Tyre Dimensions[2] Overall Diametre mm (+/-1.5%)	Overall Section Width mm (+/- 1.5%)	Static Loaded Radius (mm)	Rolling Circumf. (mm)	Nominal pressure (bar)	Max load Single Axle load (kg)	Max load Dual Axle load (kg)	Rim Data Recomm. Rim width	Rim Data Permitted Rims	Rim Data Minimal Dual spacing	Load Capacity per axel (in kg) at inflation pressure (in bar) Load index	Single / dual mounting	Tyre pressure in bar 5.0	5.5	6.0	6.5	7.0	7.25	7.5	7.75	8.0	8.25	8.5	8.75	9.0
22.5" sizes - Standard Series																												
11R22.5	RHS II	148/145 L	(146/145 M)		1058	274	492	3230	8.50	6300	11600	7.50	7.50-8.25	305	148	S	4120	4450	4770	5080	5390	5550	5700	5850	6000	6150	**6300**		
	MSS	148/145 K			1059	274	492	3233	8.50	6300	11600				145	D	7590	8190	8780	9360	9930	10210	10490	10770	11050	11330	**11600**		
	MCA	148/145 J	(152/148 E)		1065	284	499	3251	8.50	6300	11600																	
	RHD II	148/145 L			1064	275	497	3248	8.50	6300	11600																	
	RHD	148/145 L			1070	274	497	3266	8.50	6300	11600																	
	LHT	148/145 J	(146/143 L)	FRT[3]	1054	275	492	3217	8.50	6300	11600																	
12R22.5	RHS II	152/148 L			1083	296	502	3306	8.50	7100	12600	8.25	8.25-9.00	329	152	S	4640	5010	5370	5730	6080	6250	6420	6590	6760	6930	**7100**		
	RHS II HCT	152/148 L		HCT[4]	1085	287	507	3321	8.50	7100	12600				148	D	8240	8890	9540	10170	10790	11090	11400	11700	12000	12300	**12600**		
	RHS	152/148 L			1084	299	503	3309	8.50	7100	12600																	
	MSS II	152/148 K			1091	298	508	3330	8.50	7100	12600																	
	RHD II	152/148 L			1091	299	509	3330	8.50	7100	12600																	
	RHD II HCT	152/148 L		HCT[4]	1094	287	509	3330	8.50	7100	12600																	
	MSD II HCT	152/148 K		HCT[4]	1095	294	512	3342	8.50	7100	12600																	
	ORD	152/148 J			1102	296	512	3364	8.50	7100	12600																	
13R22.5	RHS II	156/150 L	(154/150 M)		1120	318	519	3419	8.75	8000	13400	9.00	9.00-9.75	351	156	S	5110	5520	5920	6310	6690	6880	7070	7260	7450	7630	7820	**8000**	
	MSS II	156/150 K			1130	314	525	3449	8.75	8000	13400				150	D	8560	9240	9910	10560	11210	11530	11850	12160	12470	12780	13090	**13400**	
	MSS II HCT	156/150 K		HCT[4]					8.75	8000	13400																	
	MSS	156/150 K			1131	317	522	3452	8.75	8000	13400																	
	RHD II	156/150 L	(154/150 M)		1134	316	526	3462	8.75	8000	13400																	
	MSD II	156/150 K			1139	314	530	3477	8.75	8000	13400																	
	MSD II HCT	156/150 K		HCT[4]					8.75	8000	13400																	
	ORD	156/150 G	(154/150 J)		1140	319	533	3480	8.75	8000	13400																	
22.5" sizes - 90 Series																												
375/90R22.5	MSS	164 G			1244	376	571	3797	7.50	10000		11.75	10.5-11.75		164	S	7230	7800	8370	8920	9460	9730	**10000**						
	ORD	164 G			1262	392	580	3852	7.50	10000																		
24" sizes																												
12.00R24	MSS II	160/156 K			1219	315	566	3694	8.50	9000	16000	8.50	8.50-9.00	360	160	S	5890	6350	6810	7260	7710	7920	8140	8360	8570	8790	**9000**	
	MSS *	160/156 K			1219	314	567	3721	8.50	9000	16000				156	D	10470	11290	12110	12910	13700	14090	14480	14860	15240	15620	**16000**	
	MSD II	160/156 K			1232	315	572	3733	8.50	9000	16000																	
	ORD	160/156 G			1235	312	571	3770	7.75	9000	16000																	
325/95R24	MSS II	162/160 K			1220	312	564	3724	8.50	9500	18000	9.00	8.50-10.00	374	162	S	6210	6710	7190	7670	8130	8360	8590	8820	9050	9280	**9500**	
	MSD II	162/160 K			1229	312	570	3752	8.50	9500	18000				160	D	11770	12710	13620	14520	15410	15850	16280	16720	17150	17580	**18000**	
	ORD	162/160 G			1233	319	571	3764	8.50	9500	18000																	

[1] Additional Service Description based on UNECE Regulation N° 54 located on the sidewall of the tyre in a circle close to the principal service Description. Load/speed variations do not apply to the additional Service Description.

[2] Measured tyre dimension using the Goodyear recommended rim.

[3] FRT = "Free Rolling Tyre": this tyre may only be fitted on a trailer or tag axle and not on a drive or steer axle.

[4] HCT = Hot Climate Technology: Tyre made with specific technical features to cope with special conditions in hot climate countries.

Retread Information and Regrooving Guidelines.

GOODYEAR

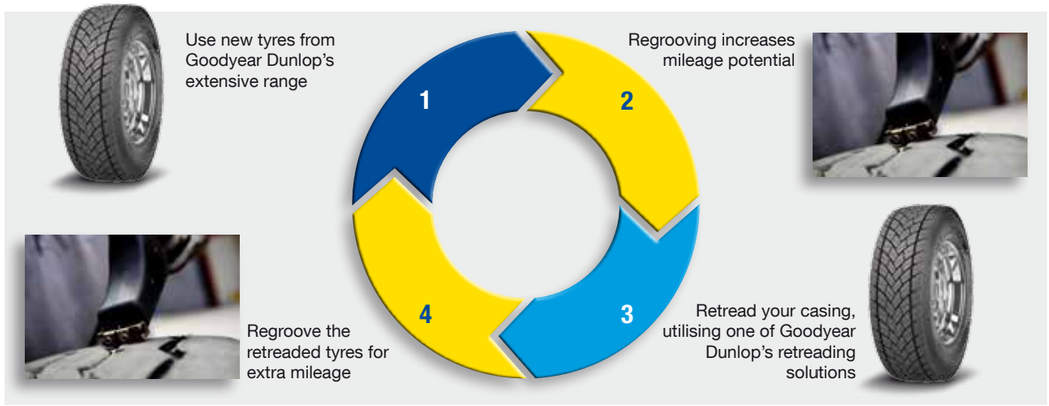
Retread Information

Why retreading?

REASON 1

Retreading gives a tyre multiple lives

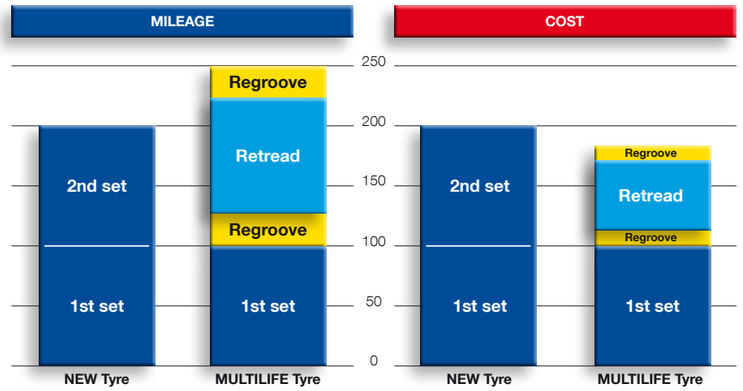
New Goodyear Dunlop tyres feature high quality casings, produced with the latest technology and materials, and an intelligent construction. Excellent durability and damage resistance properties further add to their performance. Thanks to these features, Goodyear Dunlop tyres last longer, plus tyre life does not need to end after it is worn! Our new tyres are made as an ideal basis for regrooving and retreading.



REASON 2

Retreads substantially reduce operating costs

When compared to buying new tyres again after the first lifecycle of a new tyre, retreading and regrooving offers a substantial cost reduction. On the one hand, the price of a Goodyear Dunlop retreaded tyre lies between 50% and 70% than that of a new tyre.
On the other hand, it increases mileage. Moreover, by using more retreads, increasing the retread ratio and increasing the use of suitable cases of worn tyres, fleets can reduce their overall annual operational costs even further.



REASON 3

Goodyear Dunlop Retread performance is similar to new tyres

It may come as a surprise that the performance of Goodyear Dunlop retreaded tyres is similar to that of new tyres. However, knowing that the team that develops Goodyear Dunlop's new tyres, also develops the retreads, and that the design and profile of retreads is identical to the new tyre, it simply makes sense.

Moreover, the compound used is carefully selected to ensure top-level performance, as you can expect from any premium Goodyear Dunlop product.

REASON 4

Retreading has a positive impact on the environment

Prolonging the lifespan of a tyre by retreading has a positive impact on the environment in several ways. Retreads use fewer raw materials, produce less waste (both during manufacturing and because casings are re-used) and mean less energy waste.

For example, producing a retread consumes about 66% less oil than production of a new tyre.

Regrooving Guidelines

Depending on conditions of use and maintenance, Goodyear's high-quality tyre casings can give each tyre multiple lives (new, regrooved, retread, regrooved retread) lowering operating costs.

Regrooving basics

1. A regrooved tyre is a tyre, either new or retreaded, on which the tread pattern has been renewed or a new tread pattern has been produced by cutting into the tread deeper than the original moulded groove depth.

2. The regrooving of truck tyres should be entrusted solely to fully trained operators.

3. Only proven regrooving tools with electrically heated blades should be used.

4. A minimum of remaining undertread rubber is essential to avoid damage at the top breaker belt, groove cracking and/or stone damage.

5. If regrooved according to the recommendations outlined in this manual, Goodyear tyres can, in principle, be mounted on all wheel positions. However, since it has become standard practice for users to normally fit new tyres on front axles, the regrooved tyres will usually be mounted on the rear axles or trailer positions.

6. Tyres which are heavily damaged in the tread area (e.g. rib tearing, multiple cutting and chipping) should not be regrooved but retreaded.

All tyres that are marked 'Regroovable' in the sidewall areas have extra undertread thickness for regrooving purposes.

Regrooving recommendations

1. Under NO circumstances should the tyre be completely worn before regrooving. It is strongly recommended to regroove when 3 to 6 mm of the original design is still left.

2. Determine the blade setting depth for each individual tyre as follows:
   a) Measure the remaining groove depth AT THE POINT OF LOWEST TREAD DEPTH;
   b) Set the blade in the cutter head to the 'minimum remaining groove depth' + 3 mm maximum regrooving depth. This will maintain a 3 mm gauge under the regrooved tread.

3. While regrooving, hold the cutter so that the underside of the cutting head is flush against the tread surface.

4. The maximum regrooving depth for all Goodyear tyres is 3 mm.

5. If the wear is irregular, probing of the remaining undertread gauge is necessary to ensure that 3 mm of undertread will remain after regrooving.

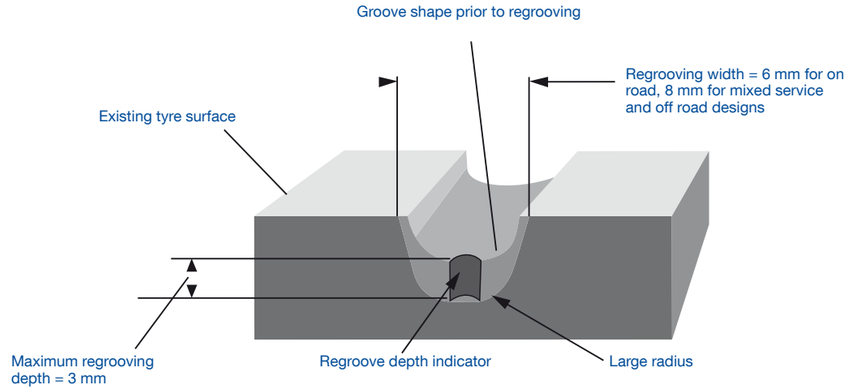
Regrooving Goodyear remould tyres

Provided that the retreading process is on Goodyear casings carried out by Goodyear Authorised Retreader, Goodyear remould tyres may be regrooved to the same pattern as the new tyre, with a maximum regrooving depth of 3 mm.

Regrooving parametres

Regroove Goodyear truck tyres when there is still sufficient tread depth. Suggested remaining tread depths are: 3-4 mm for regular highway use; 5-6 mm in operating conditions where penetration damage is likely.

Regrooving depth indicators are moulded into the tyre design.
They allow regrooving tools to be set to the optimum depth.



On Road Fuel Efficient

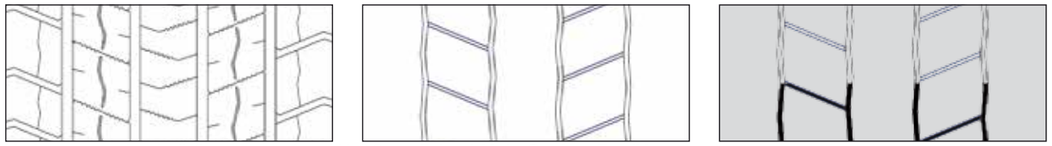
FUELMAX S 22.5”

New tyre tread | 80% worn | Regrooved tyre

Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

FUELMAX D 22.5”

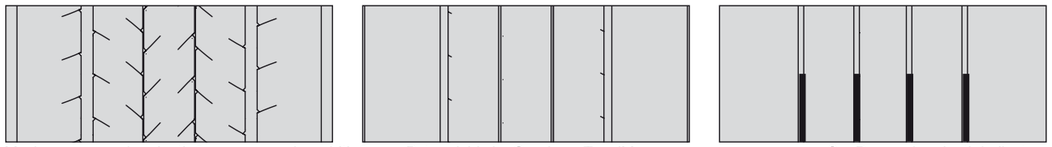
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

FUELMAX T 19.5” and 22.5”

New tyre tread | 80% worn | Regrooved tyre

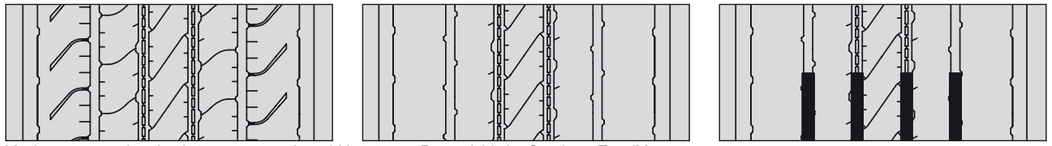


Maximum regrooving depth 3 mm, regrooving width 6 mm. Retreadable by Goodyear TreadMax.

O = Regrooving depth indicators

Marathon LHS II+ 22.5

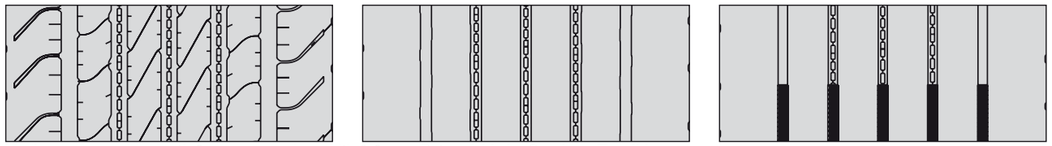
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Marathon LHS II+ 65, 55 and 50 series

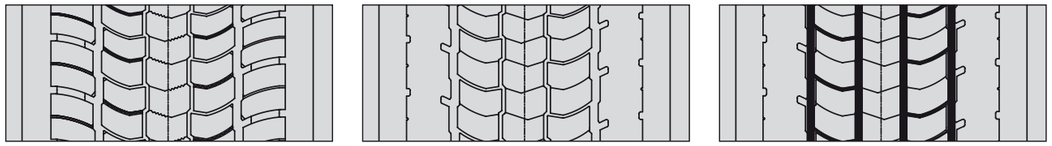
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Marathon LHD II+ 22.5

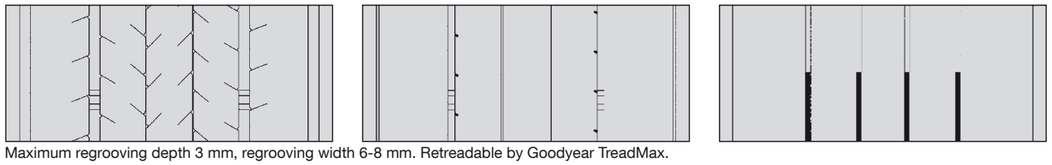
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Marathon LHT II 22.5

New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Marathon LHT II 435/50R19.5

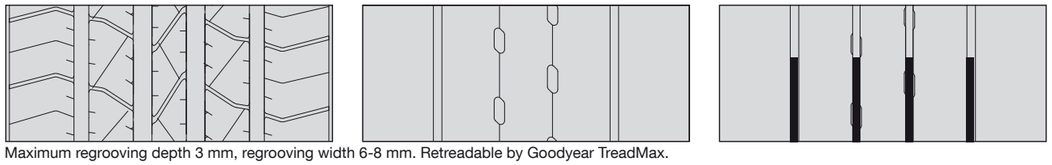
New tyre tread | 80% worn | Regrooved tyre

Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

On Road Mileage

KMAX S 22.5”

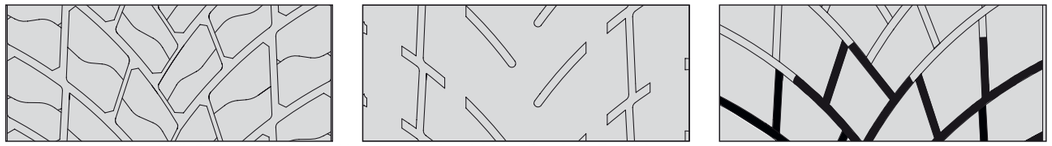
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

KMAX D 22.5”

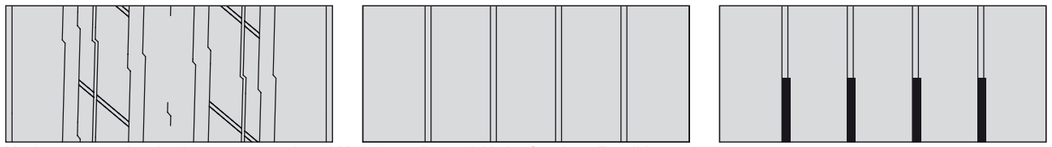
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

KMAX T 19.5” and 22.5”

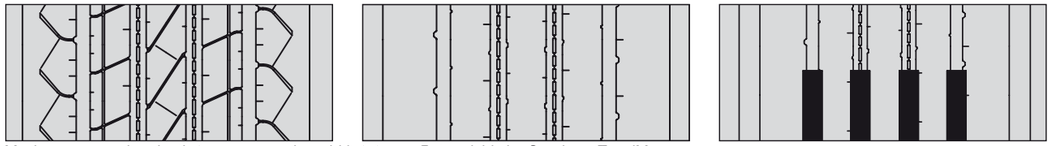
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Regional RHS II 22.5

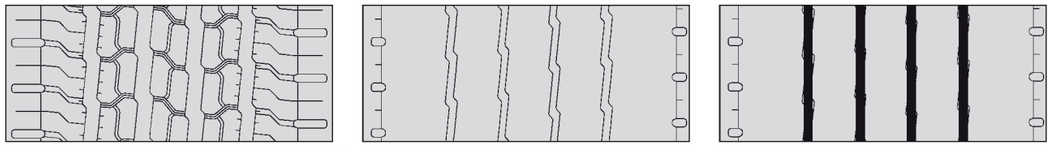
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Regional RHS II 17.5 and 19.5

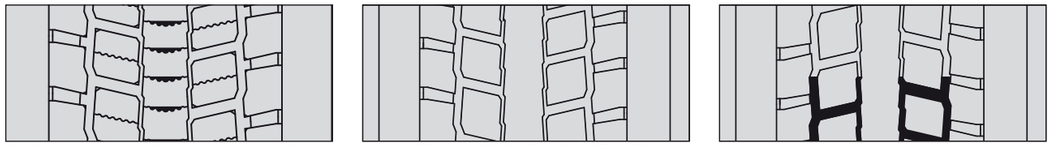
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Regional RHD II 22.5

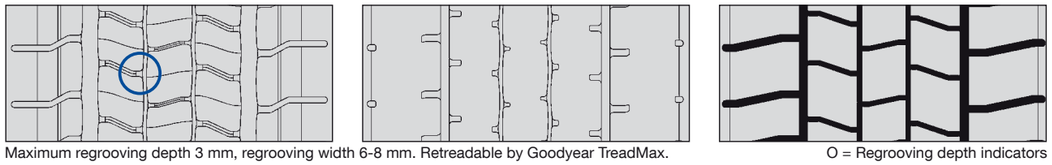
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Regional RHD II 17.5 and 19.5

New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

O = Regrooving depth indicators

Regional RHT II 22.5”

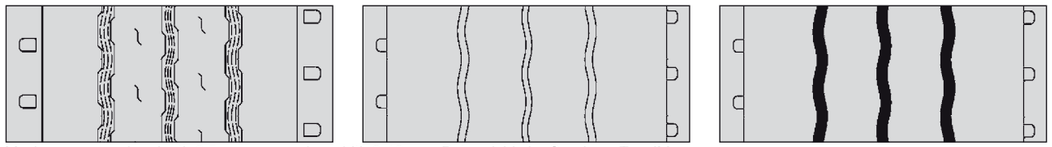
New tyre tread | 80% worn | Regrooved tyre

Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

O = Regrooving depth indicators

Regional RHT II 17.5” and 19.5”

New tyre tread | 80% worn | Regrooved tyre

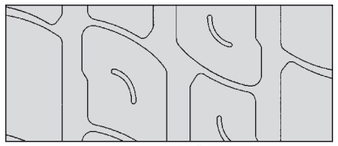


Maximum regrooving depth 2.5 mm, regrooving width 8-10 mm. Retreadable by Goodyear TreadMax.

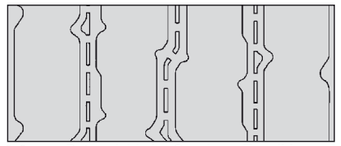
Mixed Services

Omnitrac MSS II 4 ribs

New tyre tread



80% worn



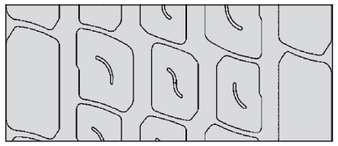
Regrooved tyre

Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

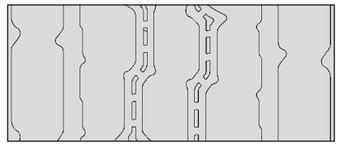
O = Regrooving depth indicators

Omnitrac MSS II 5 ribs

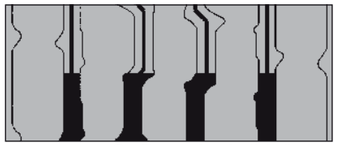
New tyre tread



80% worn



Regrooved tyre

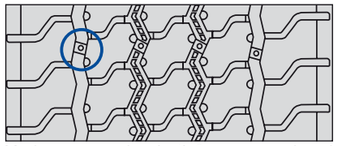


Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

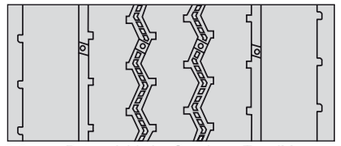
O = Regrooving depth indicators

Omnitrac MSS 375/90R22.5 and 445/75R22.5

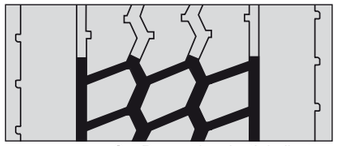
New tyre tread



80% worn



Regrooved tyre

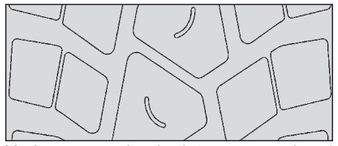


Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

O = Regrooving depth indicators

Omnitrac MSD II 20", 22.5" and 24"

New tyre tread



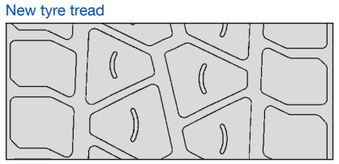
80% worn

Regrooved tyre

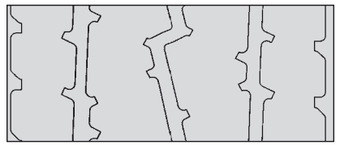
Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Omnitrac MSD II 385/55R22.5

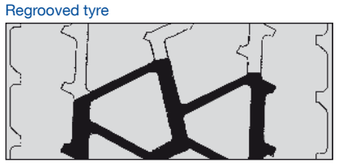
New tyre tread



80% worn



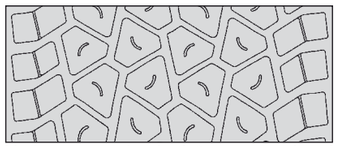
Regrooved tyre



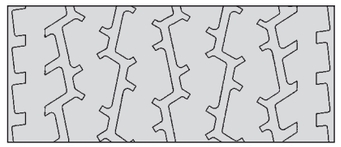
Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Omnitrac MSD II 495/45R22.5

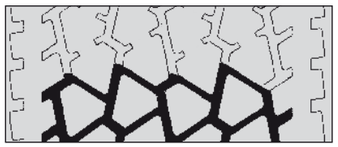
New tyre tread



80% worn



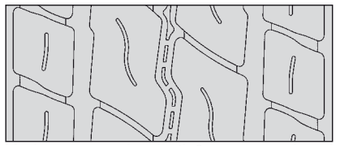
Regrooved tyre



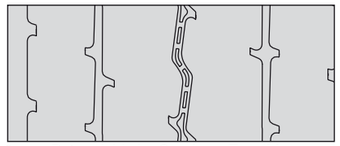
Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Omnitrac MST II 22.5"

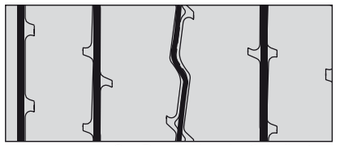
New tyre tread



80% worn



Regrooved tyre



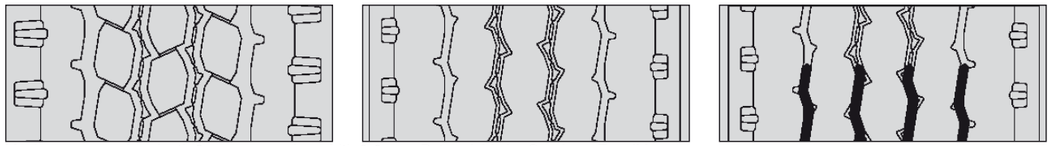
Maximum regrooving depth 3 mm, regrooving width 8 mm. Retreadable by Goodyear TreadMax.

O = Regrooving depth indicators

Offroad

Offroad ORS 22.5”

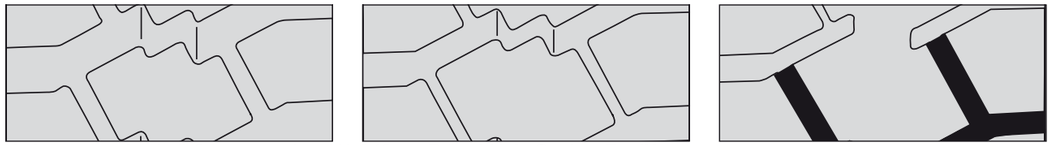
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Offroad ORD 22.5” and 24”

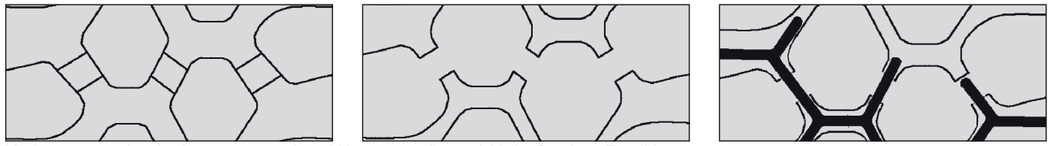
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 8-10 mm. Retreadable by Goodyear TreadMax.

Offroad ORD 365/85R20 and 375/90R22.5

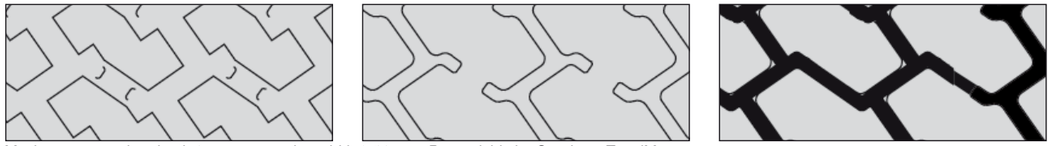
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 8-10 mm. Retreadable by Goodyear TreadMax.

Offroad ORD 14.00R20

New tyre tread | 80% worn | Regrooved tyre

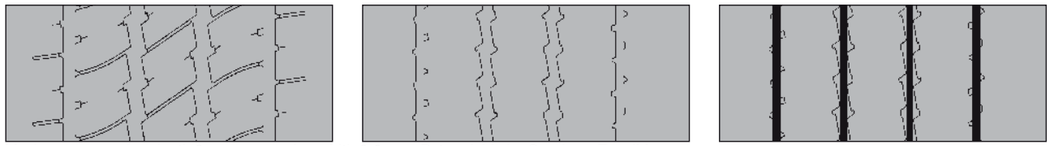


Maximum regrooving depth 3 mm, regrooving width 8-10 mm. Retreadable by Goodyear TreadMax.

Urban

UrbanMax MCA 19.5” and 22.5”

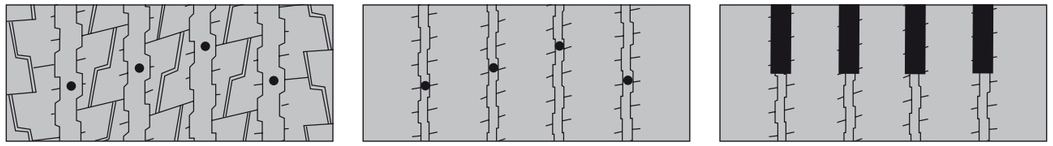
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

UrbanMax MCS 22.5”

New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 8-10 mm. Retreadable by Goodyear TreadMax.

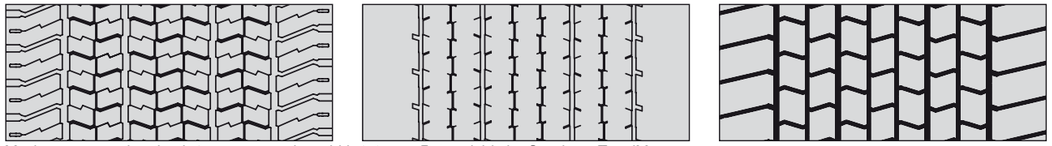
UrbanMax MCD Traction 22.5”

New tyre tread | 80% worn | Regrooved tyre

Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

UrbanMax MCD Super Single 22.5”

New tyre tread | 80% worn | Regrooved tyre

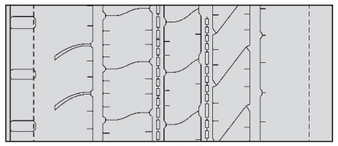


Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

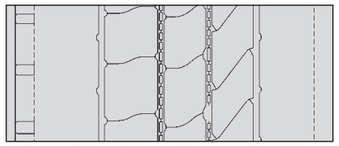
Coach

Marathon Coach 22.5”

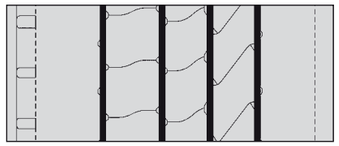
New tyre tread



80% worn



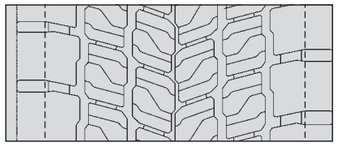
Regrooved tyre



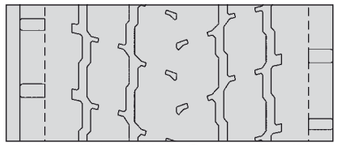
Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

ULTRA GRIP Coach 22.5”

New tyre tread



80% worn



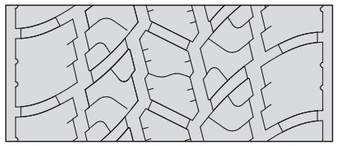
Regrooved tyre

Maximum regrooving depth 3 mm, regrooving width 6-10 mm. Retreadable by Goodyear TreadMax.

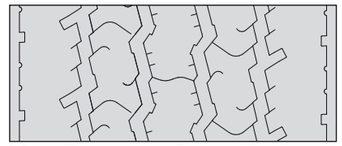
Winter

ULTRA GRIP MAX S 22.5”

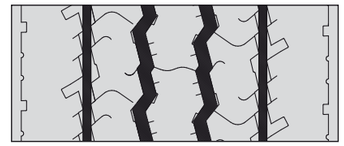
New tyre tread



80% worn



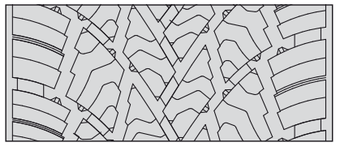
Regrooved tyre



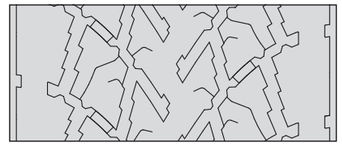
Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

ULTRA GRIP MAX D 22.5”

New tyre tread



80% worn

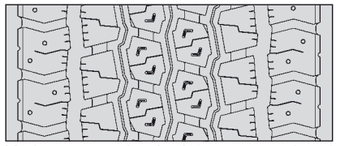


Regrooved tyre

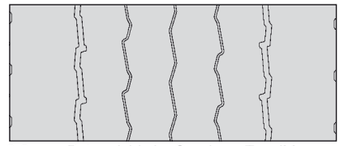
Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

ULTRA GRIP MAX T 22.5”

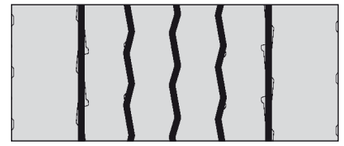
New tyre tread



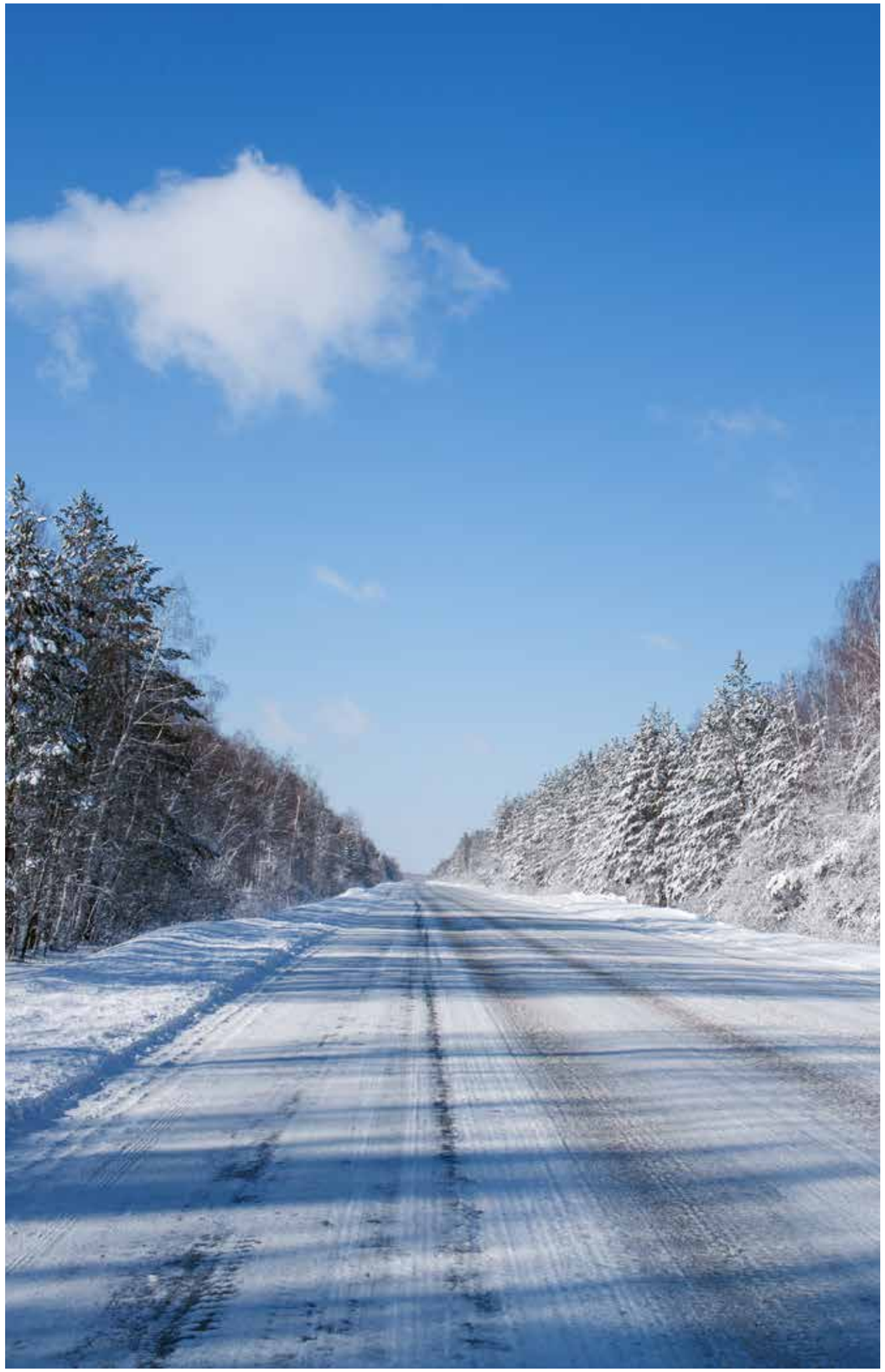
80% worn



Regrooved tyre



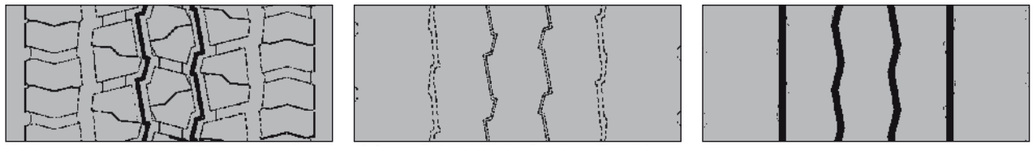
Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.



Winter

UltraGrip WTS 5-rib

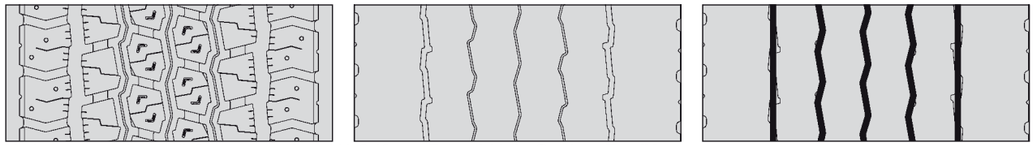
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

UltraGrip WTS 6-rib

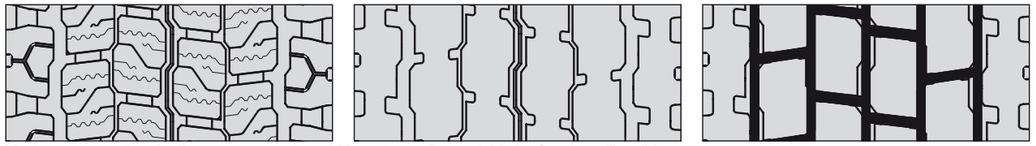
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-10 mm. Retreadable by Goodyear TreadMax.

UltraGrip WTD 22.5”

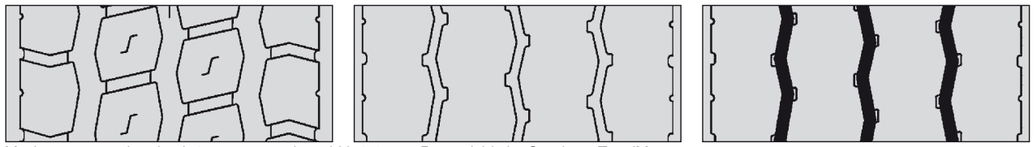
New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-10 mm. Retreadable by Goodyear TreadMax.

UltraGrip WTT 22.5”

New tyre tread | 80% worn | Regrooved tyre



Maximum regrooving depth 3 mm, regrooving width 6-8 mm. Retreadable by Goodyear TreadMax.

Tyre Technology.

Tyre construction and tyre terminology

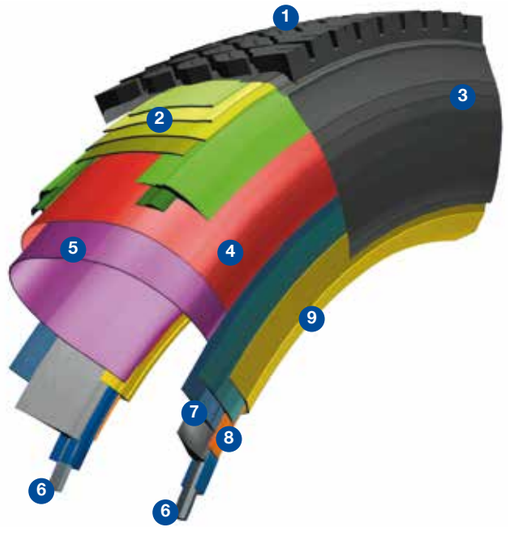
Truck tyres are a high value investment whose performance potential can be dramatically influenced by a multitude of service parametres – which can be globally identified as operating and maintenance conditions. In other words, the true cost per kilometre is not only a function of the tyre quality and price, but is primarily a direct consequence of the actual running conditions of the tyre. In order to be able to optimise these conditions, it is essential to first of all be familiar with the construction characteristics of a tyre and to understand its mechanical properties.

It will also be advisable to have a basic knowledge of vehicle dynamics and to recognise the importance of environmental factors such as road design and ambient temperature.

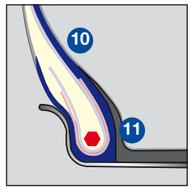
This brochure is designed to convey these elementary rules and guidelines and to therefore help minimise fleet operating expenses. For further clarifications and updated facts and figures, please consult with your Goodyear truck tyre specialist.

Tyre construction

The commercially available tyre is a composite product, made up from rubber compounds and textile, steel synthetic reinforcements. The major components of the Goodyear radial ply, steel carcass and belt tyre are described below.



Tube-Type



Features

1 Tread
2 Belt Package
3 Sidewall
4 Ply
5 Innerliner
6 Bead Bundle
7 Apexes
8 Chipper
9 Chafer
10 Tube*
11 Flap*

* Only applicable to tube type tyres

NOTE: Whilst every care has been taken in the production of this publication, no responsibility can be accepted for any loss or damage arising out of undetected errors or mis-printing which may have occurred.

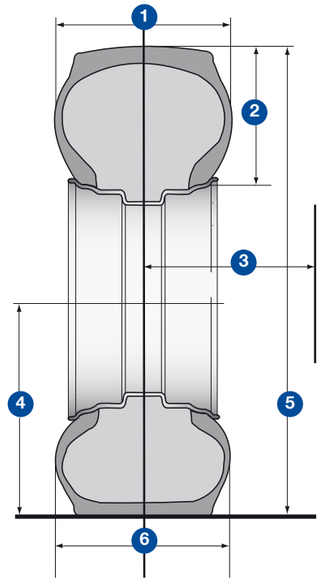
Tyre terminology

- **Tread**
  Provides primarily traction and wear and protects the carcass underneath.
- **Belt**
  Multiple, low angle, steel cord layers provide strength to the tyre, stabilise the tread and prevent penetrations into the carcass.
- **Sidewall**
  Provides protection for the ply and withstands flexing and weathering.
- **Ply**
  The radial (90°) ply transmits all load, braking and steering forces between the wheel and the road and withstands the burst loads of the tyre under operating pressure.
- **Innerliner**
  A layer of rubber in tubeless tyres specially compounded to prevent loss of air.
- **Bead bundle**
  The steel bead bundle properly seats and seals the tyre on the rim and maintains it in position.
- **Apex**
  Rubber filler in the bead and lower sidewall area to provide progressive transition from the stiff bead area into the flexible sidewall.
- **Chafer**
  A layer of hard rubber that resists erosion of the bead zone by the rim flange.
- **Tube***
  A separate air chamber, compounded to prevent loss of air, inserted into tube-type tyres.
- **Flap***
  A rubber band placed between tube and rim. Protects the tube from chafing and prevents damage to the tube by the rim.

*Only applicable to tube type tyres.

Tyre dimension definitions

Tyre companies throughout the world are members of regional tyre manufacturers associations (ETRTO for Europe), which establish tyre dimensions and tolerances, load carrying capacities and inflation pressures for the different tyre categories and sizes. The basic tyre and rim dimension nomenclature is explained below.



1 **Section Width (SD)**
The width of the inflated tyre section, excluding any lettering or decoration.

2 **Section Height (SH)**
The distance from the bead seat to the outer tread contour of the inflated tyre at centerline.

3 **Minimum Dual Spacing**
The minimum recommended distance between centerlines of dual mounted tyres to avoid kissing in the flex area.

4 **Static Loaded Radius (SLR)**
The standing height from the road surface to the axle center under nominal tyre load/inflation conditions.

5 **Outside Diametre (OD)**
The diametre of an unloaded tyre, mounted on its recommended rim and inflated to recommended pressure.

6 **Loaded Section Width (LSW)**
The width of the loaded cross-section.

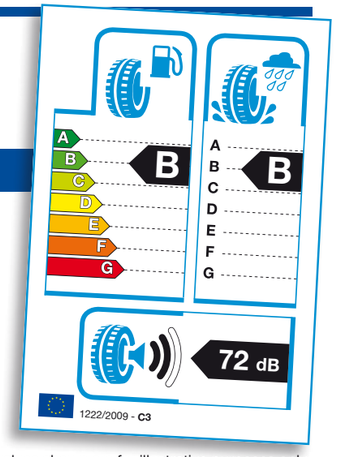
Aspect Ratio
The section height (SH) expressed as a percentage of the section width (SD).

Truck Tyre Label

What is it?

Thanks to new legislation, commercial vehicle operators are to be helped in choosing their tyres. Tyre labeling, which the European Union introduces on 1st November 2012, will ensure that tyres sold in the EU are accompanied by data related to their fuel efficiency, wet grip and exterior noise.

Clear and informative, the label information resembles that on existing energy efficiency labels with A being the highest performing and G the lowest.



Label values shown are for illustrative purposes only.
Values for a certain tyre line/size may vary.

What does change?

Dealers have to provide information about the tyre label to the buyer at the time of purchase.

This can be done in two different ways:

- By including the information on the receipt
- By handing over a separate note

What does it mean?

FUEL EFFICIENCY / ROLLING RESISTANCE
A = Most fuel efficient tyre
F = Least fuel efficient tyre
(Class G will not be used for truck tyres)

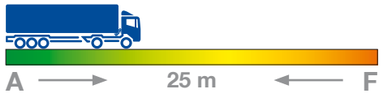
A rolling tyre deforms and dissipates energy, and is one of the resistive forces acting on a vehicle. The energy that is lost in this way is known as 'rolling resistance' and directly impacts on fuel consumption and the environment. With lower rolling resistance the tyre deformation requires less energy, less fuel and, in turn, less CO2 is emitted. A win-win situation.

Effects may vary according to the vehicle and driving conditions. However, the difference between a complete set of new A-class and F-class tyres could reduce a truck's fuel consumption by up to 15%.*

WET GRIP / BRAKING
A = Shortest braking distance
F = Longest braking distance
(Class G will not be used for truck tyres)

Tyres with excellent grip in the wet have shorter braking distances on slippery roads, essential for safety.

Effects may vary according to the vehicle, driving conditions and test method adopted. However, in the case of full braking, the difference between A-class and F-class tyres could be up to 30% shorter braking distance. This means for a typical truck driving at 80 km/h up to 25 m shorter braking distance.**



NOISE EMISSION / EXTERIOR NOISE
Measured in decibels (dB)
Three classes

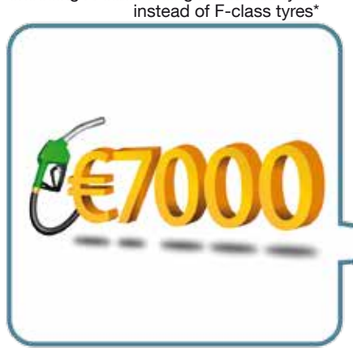
A tyre's exterior noise grading is expressed in decibels (dB) and accompanied by one, two or three sound waves on the label.

One wave corresponds to the quietest tyre, three to the noisiest. In fact, three waves is the current limit, while two meets future laws and one is a further 3dBs below. The quieter the tyre the more environmental-friendly it is.

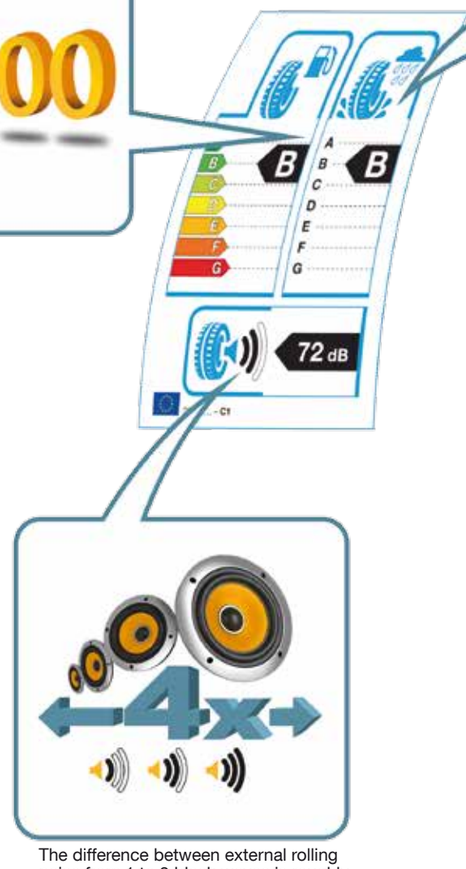
* Calculations based on tests made by the Goodyear Innovation Center Luxembourg 2012. For more details see verso.
** The calculation is based on a typical truck with semi-trailer operating at 40 tonnes GTW.

Benefits of the labeling at a glance

Possible annual saving generated by choosing A-class rolling resistance tyres instead of F-class tyres*



Difference of braking distance between an A and F-class for a typical truck driving at 80 km/h



The difference between external rolling noise from 1 to 3 black waves is roughly four times the noise level

Calculations based on tests made by the Goodyear Innovation Center Luxembourg 2012.

Not the full story. What's not covered?

While we're completely in favour of the introduction of tyre labeling, it's essential to remember that it doesn't tell customers everything they need to know. So while it's a great starting point for customers to get information that is comparable, reliable and objective, it's by no means exhaustive. After all, tyres are more than simply black and round; they're a complex piece of engineering. It's therefore important to look at the bigger picture.

- Tyre labeling only covers fuel efficiency, wet grip and exterior noise.
- Key criteria such as mileage performance, traction and retreadability are not covered.
- Winter conditions are not taken into consideration.

*The calculation is based on the following assumption: Average fuel consumption of vehicle 32.3l/100km → 323l/1000km → 14.7% potential savings = 47.5l less fuel consumption per 1000 km → fuel price 1.50 EUR/liter = 71.25 EUR/1000km → 100,000 km mileage/year = 7,125 EUR savings/year.

Tyre markings

Size markings

There are various forms of tyre size marking and these differ in order to differentiate between tyre types. The size markings should be treated the same as a part number on a vehicle, so the motorist should ensure that the tyres on his vehicle carry the precise markings indicated in the vehicle handbook or are an approved alternative fitment.

Service description

In accordance with the European regulation (ECE-R54), all tyres intended for commercial vehicles will be marked with a “Service Description” located near to the tyre size marking. This consists of a code which indicates operating limits of load and speed and includes a “load index” for single and dual tyre fitment and a “speed symbol” (e.g. 156/150 L).

An additional marking may be used to show the corresponding tyre loads for an alternative higher speed or for an alternative higher load. This additional marking will be placed in a circle.

Free Rolling Tyre (FRT)

‘FRT’ stands for ‘Free Rolling Tyre’ and is a legal marking according to the UNECE Regulation No. 54, which indicates that the tyre is specifically designed and intended for the equipment of trailer axles and axles of motor vehicles other than front steering and all drive axles.

Therefore these trailer tyres marked ‘FRT’ should be used exclusively on trailer axles and axles of motor vehicles other than front steering and all drive axles and should not be fitted in any other position.

Goodyear Dunlop will not warrant and cannot be held accountable for any potential liability claim involving FRT tyres fitted outside these recommendations.

Winter tyre markings: M+S and 3PMSF

M+S

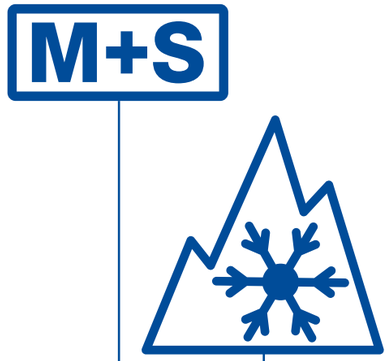
M+S (also M.S. or M&S) has been the widely used marking on winter tyres, stipulated in EU legislation.[1]

On 1 November 2012 Regulation 117 made a new marking official in the EU – **the “Alpine” symbol**, or the three-peak-mountain with snowflake (“3PMSF”). Unlike the M+S marking, the 3PMSF can only be legally used if the tyre passes a minimum performance threshold requirement on snow, the so called “snow grip index”.

However, M+S remains as a permitted marking, but not legally linked to a minimum guaranteed performance in winter conditions. M+S tyres have better snow traction than regular tyres but do not necessarily pass the snow grip threshold legal requirement to qualify for the new three-peak snowflake identification.

[1] Council Directive 92/23/EEC of 31 March 1992 relating to tyres for motor vehicles and their trailers and to their fitting.

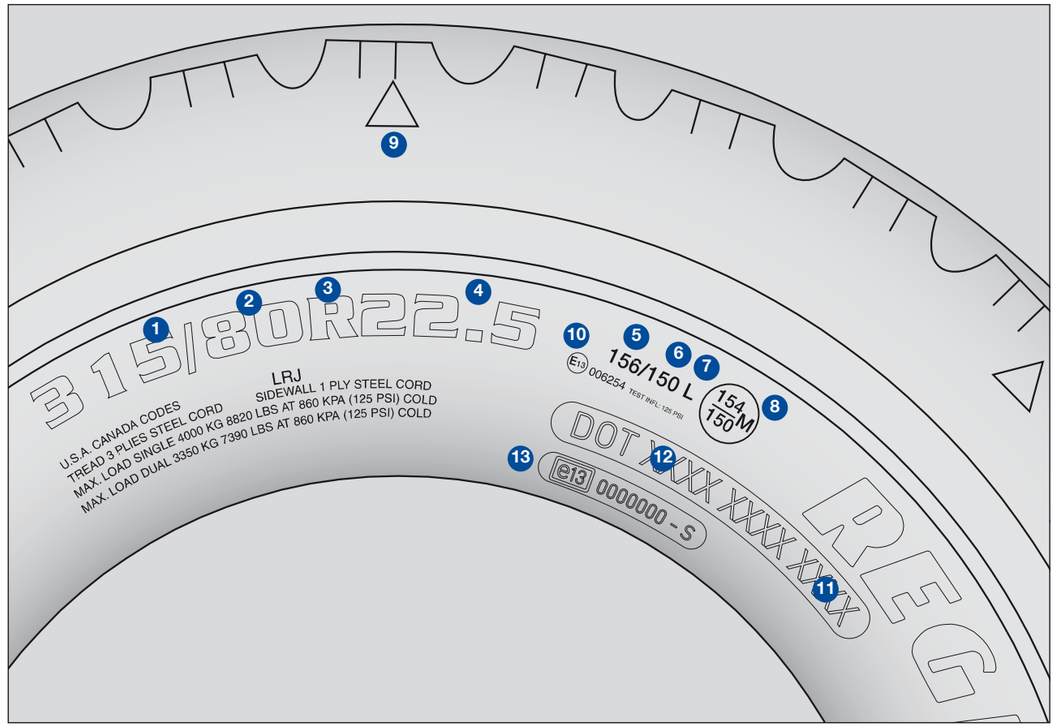
Most of Goodyear Dunlop truck and bus tyres are marked with the **M+S** symbol and some of them already qualify for the new **3PMSF** marking.



Size definitions

Listed below are the size designations that are being used on truck tyres. With each size is an explanation of what each component describes.

12	/		R	22.5	152/148	M
Section width in inches			R-radial	Rim diametre in inches	Load index (single/dual mounted)	Speed symbol
295	/	80	R	22.5	152/148	M
Section width in mm		Aspect ratio	R-radial	Rim diametre in inches	Load index (single/dual mounted)	Speed symbol
365	/	80	R	20.0	160	J
Section width in mm		Aspect ratio	R-radial	Rim diametre in inches	Load index (single/dual mounted)	Speed symbol



The position of the major tyre markings are as shown;

1. Tyre Section width (mm or inches)
2. Aspect ratio SH / SD
3. Radial construction (R=Radial)
4. Rim Diametre (inches)
5. Load Index (Max. load per tyre - single tyre)
6. Load Index (Max. load per tyre - dual mounted)
7. Speed Symbol
8. Alternative load indices when used with alternative speed
9. TWI - Tread Wear Indicator
10. ECE Homologation number
11. Date code (week, year)
12. DOT Manufacturing Code
13. Noise number - indicates that the tyre conforms to ECE noise regulations

USA and Canada
In accordance with US Safety Regulation MVSS 109 for Car tyres, and 119 for Truck tyres, the maximum load of the tyre in pounds (LBS) and its corresponding air pressure in pounds per square inch (PSI) must be shown on the tyre.

Additionally, the tyre must be marked D.O.T. (Department of Transportation) to insure that it conforms to all valid regulations in these countries.

Load Index and Speed Symbol

These parametres are established by ETRTO and are the two most important service factors determining tyre performance.

Load indices and speed symbols are shown on both tyre sidewalls. Example: 149/145 L. The first number denotes the tyre load carrying capacity in SINGLE application, while the second number refers to DUAL fitment. The letter "L" defines the maximum speed limit. Unmarked Radial tyres are allowed up to a speed of 110 km/h. (Bias ply tyres are confined to 100 km/h).

Retreaded tyres can be run up to a maximum speed of 110 km/h, unless they are marked otherwise.

Special purpose tyres, for specific heavy duty applications must have the respective speed limitations identified on the sidewall.

The speed and load service identifications below are required by the European ECE-R54 regulation. The scale below shows the relationship between the Load Index (LI) and actual load values in kilograms (kg).

Load Index

LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg
51	195	71	345	91	615	111	1090	131	1950	151	3450
52	200	72	355	92	630	112	1120	132	2000	152	3550
53	206	73	365	93	650	113	1150	133	2060	153	3650
54	212	74	375	94	670	114	1180	134	2120	154	3750
55	218	75	387	95	690	115	1215	135	2180	155	3875
56	224	76	400	96	710	116	1250	136	2240	156	4000
57	230	77	412	97	730	117	1285	137	2300	157	4125
58	236	78	425	98	750	118	1320	138	2360	158	4250
59	243	79	437	99	775	119	1360	139	2430	159	4375
60	250	80	450	100	800	120	1400	140	2500	160	4500
61	257	81	462	101	825	121	1450	141	2575	161	4625
62	265	82	475	102	850	122	1500	142	2650	162	4750
63	272	83	487	103	875	123	1550	143	2725	163	4875
64	280	84	500	104	900	124	1600	144	2800	164	5000
65	290	85	515	105	925	125	1650	145	2900	165	5150
66	300	86	530	106	950	126	1700	146	3000	166	5300
67	307	87	545	107	975	127	1750	147	3075	167	5450
68	315	88	560	108	1000	128	1800	148	3150	168	5600
69	325	89	580	109	1030	129	1850	149	3250	169	5800
70	335	90	600	110	1060	130	1900	150	3350	170	6000

The LOAD INDEX denotes the maximum load a given tyre can carry at the maximum speed as indicated by the speed symbol.

Speed Symbol

Speed symbol	Speed (km/h)
E	70
F	80
G	90
J	100
K	110
L	120
M	130
N	140

The SPEED SYMBOL denotes the maximum speed at which a given tyre can carry the load indicated by the load index.

Interaction of Load and Speed

Below information is based on the "European Tyre and Rim Technical Organisation - Standards Manual" - Load Variation with Speed section.

Variations in Load Carrying Capacity with Speed (%)

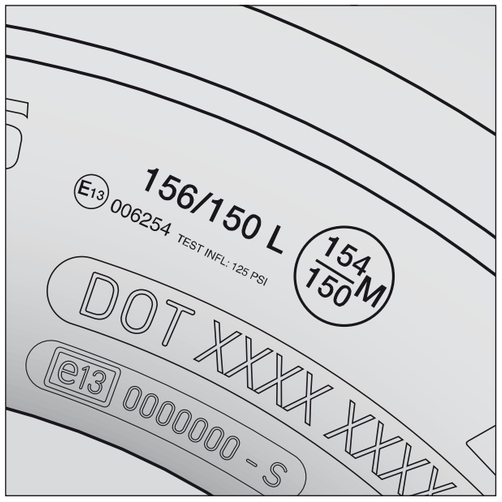
Speed km/h	F 80 km/h	G 90 km/h	J 100 km/h	K 110 km/h	L 120 km/h	M 130 km/h	Inflation Pressure (%)* Compensation
Static	+150	+150	+150	+150	+150	+150	+40
5	+110	+110	+110	+110	+110	+110	+40
10	+80	+80	+80	+80	+80	+80	+30
15	+65	+65	+65	+65	+65	+65	+25
20	+50	+50	+50	+50	+50	+50	+21
25	+35	+35	+35	+35	+35	+35	+17
30	+25	+25	+25	+25	+25	+25	+13
35	+19	+19	+19	+19	+19	+19	+11
40	+15	+15	+15	+15	+15	+15	+10
45	+13	+13	+13	+13	+13	+13	+9
50	+12	+12	+12	+12	+12	+12	+8
55	+11	+11	+11	+11	+11	+11	+7
60	+10	+10	+10	+10	+10	+10	+6
65	+7.5	+8.5	+8.5	+8.5	+8.5	+8.5	+4
70	+5	+7	+7	+7	+7	+7	+2
75	+2.5	+5.5	+5.5	+5.5	+5.5	+5.5	+1
80	**0**	+4	+4	+4	+4	+4	0
85	2	+3	+3	+3	+3	+3	0
90	**0**	+2	+2	+2	+2	+2	0
95		+1	+1	+1	+1	+1	0
100		**0**	0	0	0	0	0
105			0	0	0	0	0
110			**0**	0	0	0	0
115				0	0	0	0
120				**0**	0	0	0
125						0	0
130						**0**	**0**

NOTES: Increment to be applied in the absence of any specific agreement with the tyre manufacturer. These increments do only apply to the "nominal" load/speed indices.

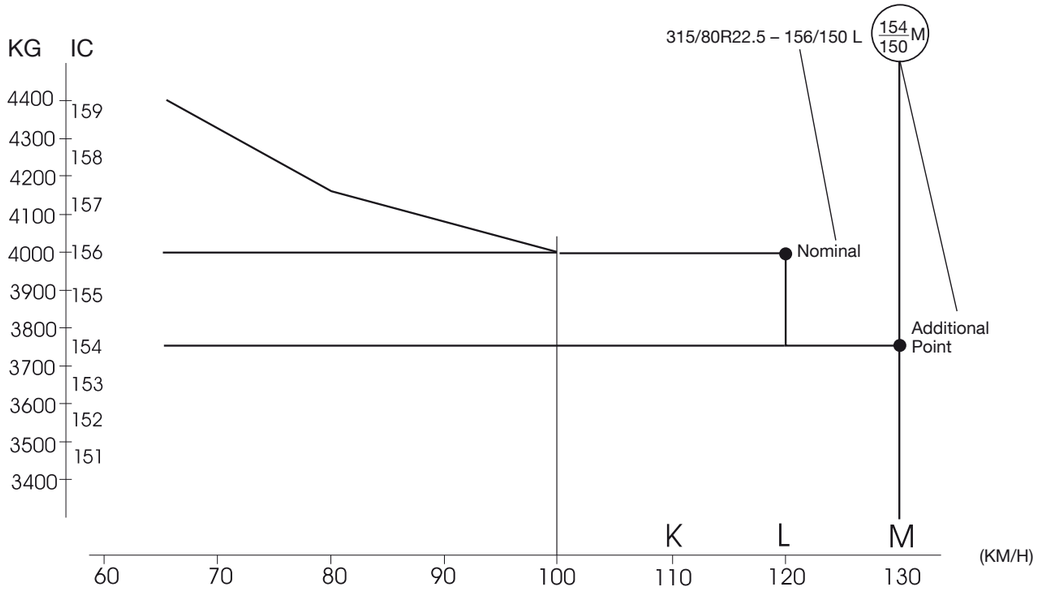
Additional load/speed markings

The tyre manufacturer has the possibility to add to the “nominal” load/speed indices an additional load/speed index with different load index and different speed index. This additional load/speed index is circled.

For other load benefits due to maximum speed variations please consult the table and notes in the “Interaction of Load and Speed” section.



NOTES: ETRTO tables apply only to nominal LI/SI marking.



Notes concerning “Variations in load capacity with speed (%)”

(Below notes refer to the ETRTO (European Tyre and Rim Technical Organisation) Guidelines, in case more details are required, please refer to the actual valid ETRTO Standards Manual)

- For the application being considered, “SPEED” means:

  either the maximum speed capability of the motor vehicle

  or any overriding national requirement/legislation for the type of motor vehicle

  or, in case of “special applications”, the specific conditions of use.

- The load carrying capacity of tyres in dual fitments is twice the load carrying capacity in single up to 40 km/h. Bonus loads will not be permitted for speeds of 40 km/h and above if the wheel axles are rigidly fixed to the body of vehicle.

- Bonus loads are not applicable for trailers and semi-trailers at speeds over 65 km/h.

- **General definitions**

  Buses (Category M3 vehicles in the EU Directive) are subdivided into three classes depending on the intended type of use. Category M3 vehicles, for the carriage of passengers, have more than eight seats in addition to the driver’s seat and exceed 5 tonnes in overall weight.

  Class I
  Urban-bus or City bus – foreseen for urban use with frequent stops, these vehicles have spaces for standing passengers and allow movements of passengers.

  Class II
  Suburban bus or Interurban bus – foreseen for passenger transport within a given district, these vehicles have no specific spaces for standing passengers, but allow them to keep standing in the gangway for some distances during the trip.

  Class III
  Touring coach – These vehicles mainly foreseen for long distances, are conceived for transportation of sitting passengers only.

  On the basis of the specific conditions of use of the buses designed for urban or suburban services and irrespective of their actual maximum speed capability, the following bonus loads apply:

  Class I
  + 15% of the load indices marked on the tyre, when the average speed does not exceed 40 km/h.

  Class II
  + 10% of the load indices marked on the tyre, when the operating speed is restricted to 60 km/h.

  Class III
  no bonus load Class

- For the equipment of special public service vehicles in urban and suburban applications (for instance road sweepers, fire tenders, etc.), on the basis of specific conditions of use and irrespective of the actual maximum speed capabilities of the vehicle, a bonus load of 10% applies with respect to the load indices marked on the tyre.

- In any case, it is recommended to avoid the maximum permissible load capacity if the resulting inflation pressure is higher than 1000 kPa. In that case, the load capacity shall be reduced accordingly.

- It is imperative to consult Rim/Wheel Manufacturers for the choice of rims and wheels suitable for the load carrying capacities and the inflation pressures required for applications at speeds of 40 km/h and below.

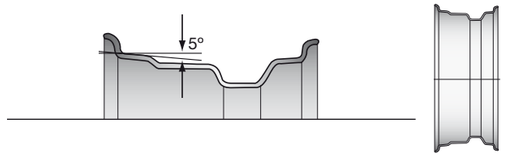
Rims and Wheels

For truck tyres, there are essentially 3 basic rim types available on the market:

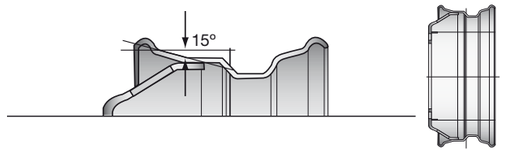
- **one-piece tubeless drop center rims**
- **multi-piece tube-type flat base rims**
- **multi-piece tubeless flat base rims**

One-piece tubeless drop center

5° Drop center Rim – (13”, 14”, 17” etc...) symmetric and asymmetric rims for standard and low section light truck (C) tyres.



15° Drop center Rim – (17.5”, 19.5”, 22.5” etc...) rims for standard and wide section (Low Aspect Ratio, Super Single) tyres.



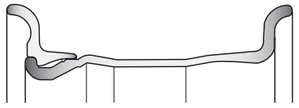
Two and four-piece tube-type flat base

(Mainly 20”) rims for high aspect ratio tyres. It will be important to avoid interchanging of parts from both systems.

NOTE: Each system is usually identified accordingly (stamped 2P or 4P).

Two-piece tube-type flat base

Combination Side Ring



Four-piece tube-type flat base

Lock ring

Side ring

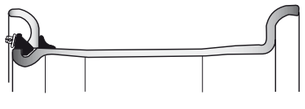
Bead seat band

Four-piece tube-type flat base

Lock ring

Side ring

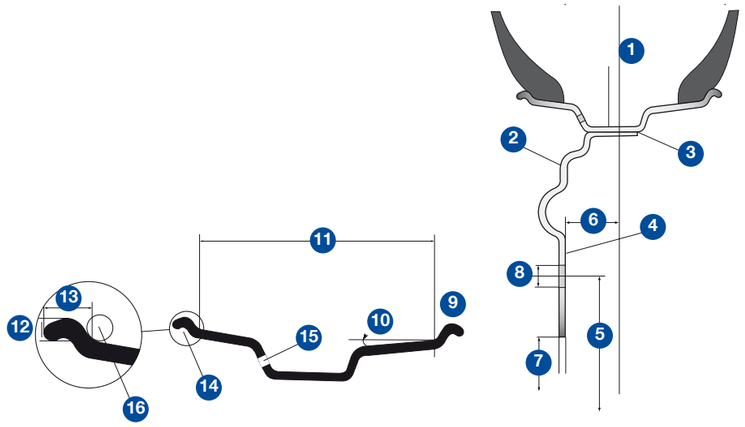
Bead seat band



(20”) rims for mainly 80-series tyres. They require a new sealing gasket for each new tyre.

Complete wheel details are shown below:

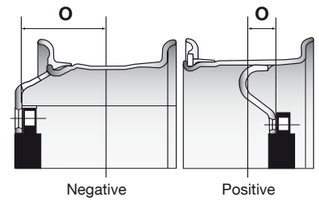
1 Drop center
2 Disc
3 Rim/disc junction
4 Hub contact face
5 Pitch (bolt) circle diametre
6 Offset
7 Center hole diametre
8 Stud hole diametre
9 Rim flange
10 Taper
11 Rim Width
12 Rim flange height
13 Rim flange width
14 Rim flange radius
15 Valve hole
16 Ball tape



NOTE: Rim diametres can only be accurately measured by means of a special ball tape.

All wheels have a given offset (O) which does not only provide for the necessary brake drum space, but which also determines track width, kingpin offset, handling characteristics and wheel bearing load. On dual assemblies, it also influences the dual spacing.

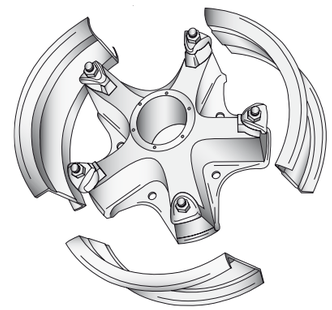
Tyre fitters and mechanics must therefore pay attention that:
- specific vehicles are fitted with the correct offset wheels.
- wheels with different offsets are not mixed up on the same axle.



Wheel offsets can be positive, negative or zero. The offset is defined as the distance from the wheel center to the inside face of the disc (against the hub) and is called positive whenever this inside face is located outside of the centerline, negative when located inside, zero when matching the centerline exactly.

As a general maintenance rule, assembling and disassembling of multi-piece rims should only be done with specially designed tools. This will not only assure the safety of the fitter, but will also avoid usage of hammers and other inadequate equipment which could sooner or later damage or break vital rim parts. Also, for 1-piece tubeless rims, proper tooling is essential, since it will otherwise be extremely difficult or even impossible to mount such tyres safely and without bead area damage.

For demountable 1- or multiple-piece spoke-type wheels, the following additional precautions should be taken:
- Contact surfaces between rim and star should not be painted to guarantee perfected centring.
- Bolts should be tightened clockwise (not crosswise) – without exceeding the recommended maximum torque given by the vehicle manufacturer.
- Bolts and clamps should be re-checked at 50-100 km after wheel fitment and re-tightened if necessary.
- In case of dual mounting, the spacer ring should be pre-centred over the centering cams (placed on spokeheads).



Tubes and Flaps

Only use “Radial” marked tubes and flaps in Radial Tyres. Preferably fit a new tube and a new flap when mounting a new tyre. Due to their inherent construction, Radial Tyres impose far greater local stresses on Inner tubes than Bias Tyres. “Radial” marked Tubes are specially compounded to withstand these stresses and their use in Radial Tyres is mandatory. “Radial” marked Tubes may also be used in Bias Tyres, but in this application, unmarked Bias Tubes are perfectly satisfactory.

The higher stresses in Radial Tyres render the tube more susceptible to Flap Edge Cutting, and the use of “Radial” marked flaps, specially compounded such that they will not harden excessively in service is mandatory.

Tubes

Tubes are designed within well defined limits of Radial and Total Stretch. A tube too large will be liable to buckling, and to early failure. A tube too small will be stretched excessively, leading to reduced rub resistance, and poorer air retention. In an emergency, a small tube is better than a large tube, since the failure mode is less likely to be catastrophic.

In case of necessity, a tube may be reused, if,
- There is no apparent damage and
- If the tube has not grown excessively during the first life. It is suggested that for a tube to be reused, a residual radial stretch of at least 15% is required.

NOTE: The fitment of tubes to “tubeless” tyres is not recommended.

Flaps

The flap is designed to:
- Protect the tube from the roughness of the rim.
- To prevent the tube being pinched by the component parts of multi-pieced rims.
- To prevent the tube being pushed through the valve slot.

As a rule we can say that flaps are necessary for any rim which has a valve slot as against a valve hole.

All Drop center rims including passenger, truck and farm, have a valve hole on the side of the well and require an off center valve on the tube. They do not require a Flap.

Drop center truck rims occasionally have the valve hole on center, but these are normally only fitted with run out tubes in emergency cases which is a practice not endorsed by Goodyear.

All flat base rims with a removable flange have a valve slot extending from the centerline of the rim to the edge. These rims require a flap, and a tube with an on center valve.

All Semi Drop center rims have a short valve slot, which may be on or off center dependant on the type of rim, and upon the rim manufacturer, and require flaps and tubes with respectively on or off center valvehole, and tube valve.

Rim slot cover plates

Even the best flaps, subjected as they are to high pressure and temperature, (wheel temperatures as high as 200°C have been measured on the inside rear position in City Bus service in Europe) are liable to be pushed through the rim slot in service.

Flaps are designed with fabric, or heavy rubber reinforcement in the valve slot area to overcome this problem, but for critical applications, the use of commercially available rim slot coverplates, or even a large diametre metal washer are recommended. Since the push through, and possible failure occurs next to the bead, rather than around the valve, Bridge plates, are not really effective, and their use in Europe is decreasing.

Medium truck – 20/24”

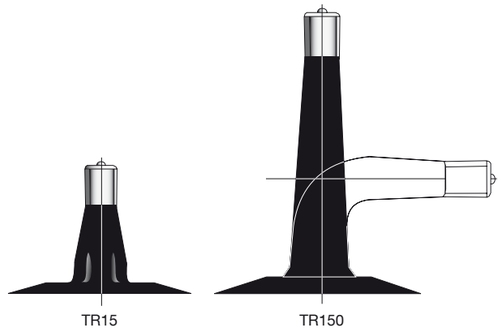
Tyre size	Tube	Rim	Flap
12.00R20	12.00R20	8.0	20R8.5
		8.5	20R8.5
		9.0	20R9.5
14.00R20	14.00R20	10.0	20R9.0
12.00R24	12.00R24	8.0	24R8.5
		8.5	24R8.5
		9.0	24R9.0

Valves

Three types of Inner Tube Valve exist in Commercial service:

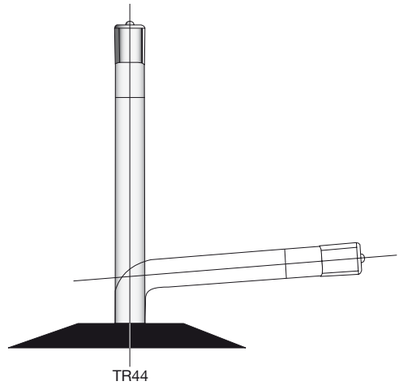
Rubber covered valves

Rubber covered valves which may be rigid as for the TR15, or hand bendable as for the TR150.



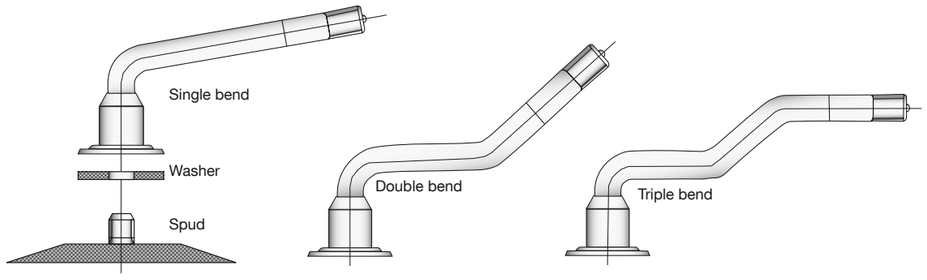
One-piece metal valves

One-piece metal valves, such as the TR44 series. These are generally supplied with the required bent form, and may be single, double or triple bent.



Two-piece metal valves

European style two-piece metal valves consist of a spud (a short threaded metal tube) vulcanised onto the tube and a pre-bent extension which screws onto the spud, using a rubber washer as the air seal.



Fitting extension valves

Extensions are actually coded in the form V*-**-**, but to avoid confusion are generally referred to as the designation of the one piece metal valve to which they are equivalent.

The weakest part of the design of the extension type valves is the rubber washer. The washer is compressed when the valve is tightened, and loses its elasticity with age. Rubber washers should never be reused since they harden and take a permanent set. Similarly, extensions should never be backed off to make them line up with the rim slots.

The correct procedure is to wind the extension onto the stem until it just contacts the washer. Take another half turn. Then mount the tyre/tube/flap assembly, and line the extension up with the slot by tightening further.

Valve caps

Valves must always be fitted with a valve cap.

The valve core is present to allow the internal air pressure to be measured and changed. It is the valve cap which is the primary air seal. Valve caps are always made of metal and have a rubber sealing ring. The plastic dust caps are not suitable for field service. They are designed to prevent damage to the Tube/Valve/Valve Core during transportation from point of manufacture to point of use.

Valve cores

Valve cores are available in two lengths, two temperature ranges, and with either internal or external springs. Fortunately all these cores are interchangeable. It is recommended to use the short core, internal spring, heat resistant type. These are recognisable since the small rubber collar around the core is coloured red.

Conversion from T&RA to reference numbers

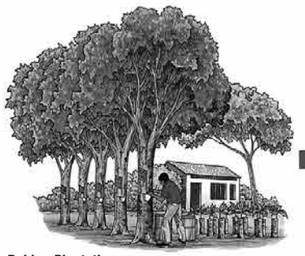
T&RA	Single	ETRTO Double	Triple
TR75	V3.02.27		
TR76	V3.02.8		
TR78	V3.02.12	V3.04.6	V3.06.5
TR175	V3.02.10	V3.04.4	V3.06.3
TR177	V3.02.9	V3.04.3/10	V3.06.1
TR178	V3.02.14		
TR179	V3.02.15		V3.06.6
TR285			V3.07.1

NOTE: Goodyear primarily manufactures truck tubes with spud/screw on extension type valves.

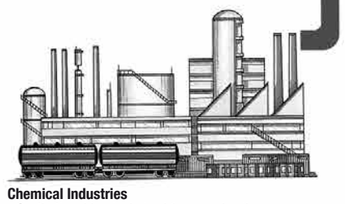
The tyre manufacturing process

Raw Materials

Textile Industries
Early tyre fabric was made from cotton fibre. Today's tyre carcasses are made of fibres such as nylon, rayon, polyester, fibreglass, etc.



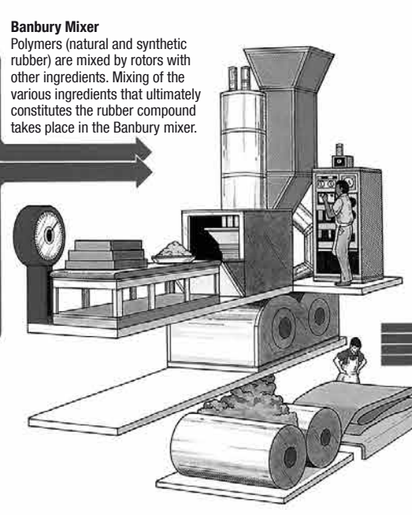
Rubber Plantation
Natural rubber is obtained mainly from the Hevea tree in the form of latex which is tapped by cutting through the outer bark of the tree. Liquid latex is collected in little cups and then coagulated to obtain solid rubber. Goodyear operates its own plantations in several parts of the world.



Chemical Industries
- Synthetic rubber is derived from crude oil.
- Carbon black, used in rubber compounds to provide increased strength, is produced mainly by burning crude oil in special furnaces.
- Other chemical ingredients such as sulphur, plasticisers, accelerators, antioxidants, etc needed in the tyre manufacturing process, are supplied by various chemical industries.

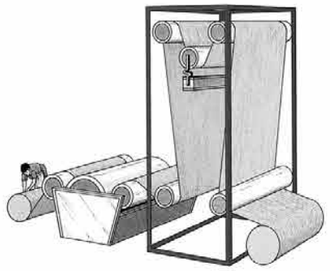
Steel Industries
High tensile steel wire is used to constitute the bead; the rigid base of a tyre. Cable wire is also used in radial tyres, both for belt and carcass material.

Banbury Mixer
Polymers (natural and synthetic rubber) are mixed by rotors with other ingredients. Mixing of the various ingredients that ultimately constitutes the rubber compound takes place in the Banbury mixer.

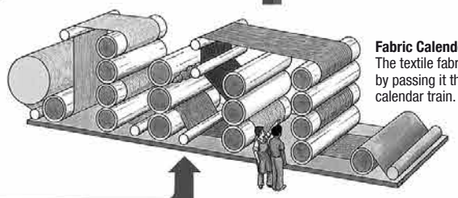


Bead, Belt, Carcass Wire Manufacture
Rough drawing of the rod wire is followed by brass plating and fine drawing. A cord is constituted of several wires by a cabling operation.

Fabric Manufacture
Textile fibres are twisted into cords which are woven into fabric with cords running only lengthwise and are held together by threads. The fabric is then impregnated with a special cement to improve adhesion with rubber and is then processed through the exclusive Goodyear 3T unit.

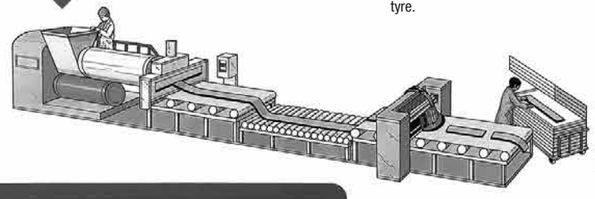


Fabric Bias Cutter and Sheet Calender
The calendered fabric treatment is cut to certain widths and angles to be used as breaker and reinforcement for the body of the tyre. Rubber coatings are applied to the fabric to facilitate adhesion and retention in the finished tyre.

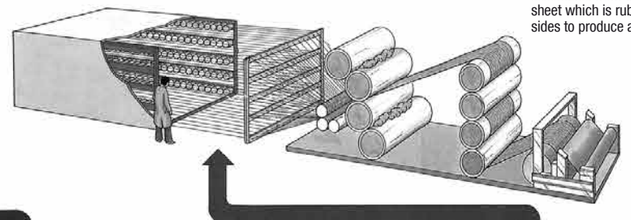


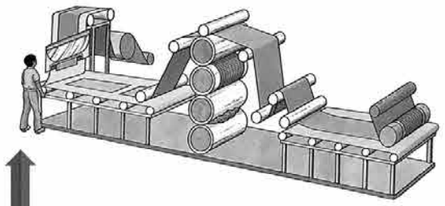
Fabric Calender
The textile fabric is coated both sides by passing it through a dual three roll calendar train.

Extruders
Treads, sidewalls and other tyre components are extruded to a specific contour and cut to length in the extruder.

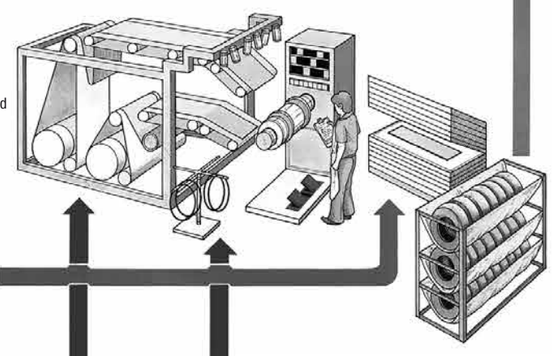


Wire Calender
Individual spools of cable wire are assembled from the creel room into a sheet which is rubber coated on both sides to produce a wire treatment.

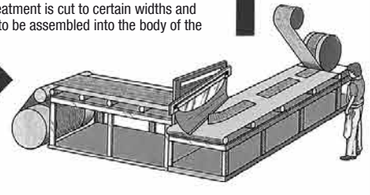


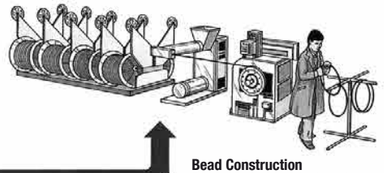


Tyre Building Machine
The tyre building machine serves to assemble all componen ts into one entity called the green or unvulcanised tyre.



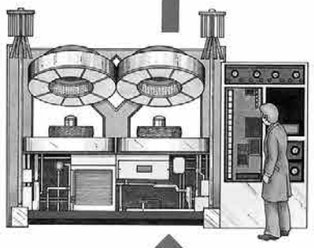
Wire Treatment Cutter
Wire treatment is cut to certain widths and angles to be assembled into the body of the tyre.





Bead Construction
Bead wire is coated with rubber and assembled into a ring shaped bead which fits the rims of the vehicle.

Curing Press
The green tyre is converted into a finished product by curing (vulcanising) it in a press under heat and pressure for a certain period of time.

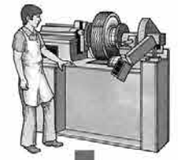


Final Inspection
After curing, each tyre is thoroughly inspected to rigid standards of quality which include uniformity checks on the force variation machines.

Visual Inspection

Balance

Force Variation



X-Ray

Notes

Notes

Notes

Notes

Goodyear Dunlop Tyres
TyreFort
88-98 Wingfoot Way
Birmingham
ENGLAND
B24 9HY

Telephone
0121 306 6000

Contact your local Goodyear dealer for tyre availability

All information in this material was valid on its date of issuance (May 2015).
For detailed and up to date information, please refer to your dealer or to **www.goodyear.co.uk/truck**

Produced by
Goodyear Dunlop Tyres UK Limited
11/15/ENG

www.goodyear.co.uk/truck