

DATA BOOK

2022

OFF-THE-ROAD TIRES



BRIDGESTONE | **MASTERCORE**

VREV



VJT



**Subterranean LHD
VSMS2**



VCHP



GENERAL INFORMATION

RADIAL TIRE

BIAS TIRE

REMARKS & SPECIAL OPERATIONS

O-RING, FLAP, RIM, VALVE, CONVERSION TABLES

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Due to the constant advance of tire technology, the contents of this data book are subject to change without notice.

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INTRODUCTION

1. Industry Standard

Bridgestone Corporation has developed a wide range of tire patterns and specifications, so that the proper Off-the-Road tire can be matched to any vehicle, service, or operating conditions.

Bridgestone’s Off-the-Road tires are designed and produced to meet the commonly accepted international standards, those set by the TRA (Tire and Rim Association) in the U.S.A., by the ETRTO (European Tire and Rim Technical Organization) in Europe and/or by the JATMA (Japan Automobile Tire Manufacturers’ Association) in Japan*.

Load capacities, inflation pressures, dimensions such as overall tire diameter and width, as well as the relative rims and tube valves follow these standards.

If a tire is to be used for a purpose other than that for which it is originally intended, please consult Bridgestone Corporation for advice.

*Where differences exist between the TRA, ETRTO and JATMA standards, Bridgestone selects the most applicable.

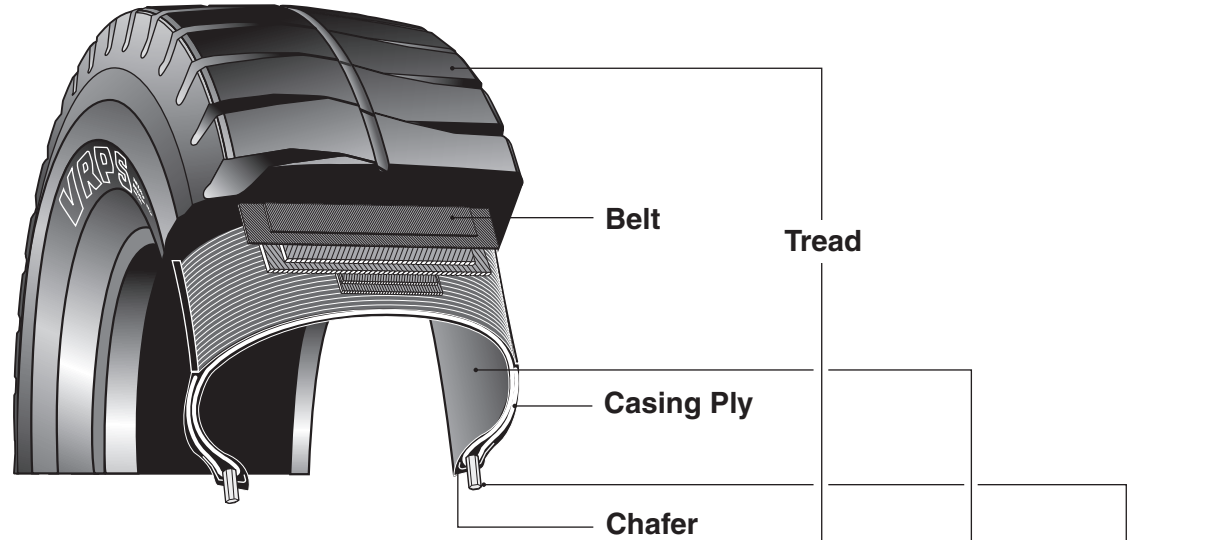
2. Application Vehicle Matching Chart

APPLICATION	VEHICLE
Earthmover Service	Dump Trucks, Motor Scrapers, Articulated Dump Trucks, Coal Haulers, Logging Trucks, Other Mining Trucks, etc.
Grader Service	Motor Graders
Loader & Dozer Service	Front-End Loaders, Back-hoe Loaders, Skid Steer Loaders, Dozers, Underground Trucks, Load-Haul-Dumps, etc.
Mobile Crane Service (High-Speed)	All-Terrain Cranes, High-Speed Vehicles, etc.
Industrial Service	Straddle Carriers, Aircraft Towing Tractors, Container Stackers, Counter-balanced Lift Trucks, Mobile Crushers, Log Stackers, etc.
Logging Service	Log-Skidders
Compactor Service	Compactor, Road Rollers
Sand Service	Sand Service Trucks
Underground Service	Underground Trucks, Load Haul Dumps, Drilling Jumbo

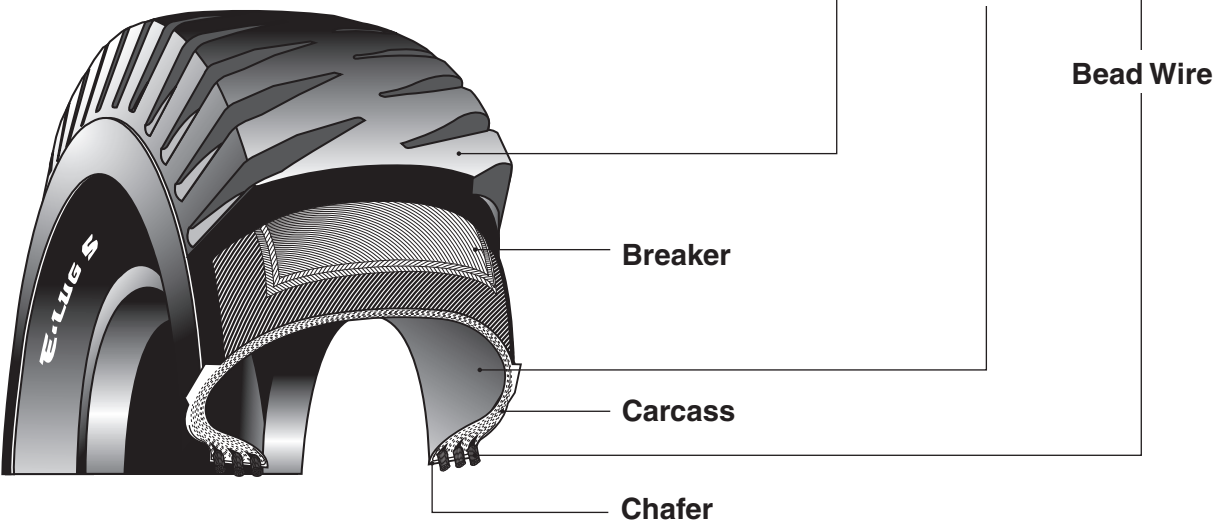
GENERAL INFORMATION

1. Structural Diagram

Off-The-Road Radial Tire (ORR)



Off-The-Road Bias Tire (ORS)



2. Definitions

2.1 Tire Size

The size of each tire is indicated by nominal width and rim diameter in inches and mm. Radial structure is indicated by the letter "R". For some tire the aspect ratio is indicated by percentage.

Example
 Radial Tire ; 40.00R57, 33.25R35, 445/95R25
 Bias Tire ; 21.00-35, 45/65-45

2.2 Star Rating, Ply Rating and Load Index

The load capacity of a tire is indicated by the star rating (in case of radial tire) and the ply rating (in case of bias tire). The load index is applied in countries where the ETRTO standards are used.

2.3 Overall Diameter (OD)

"Overall Diameter" is twice the section height of a new tire, plus the nominal rim diameter, including 24-hour inflation growth.

2.4 Overall Width (OW)

"Overall Width" is the width of a new tire, including 24-hour inflation growth, and including protective side ribs, bars or decorations.

2.5 Section Width (SW)

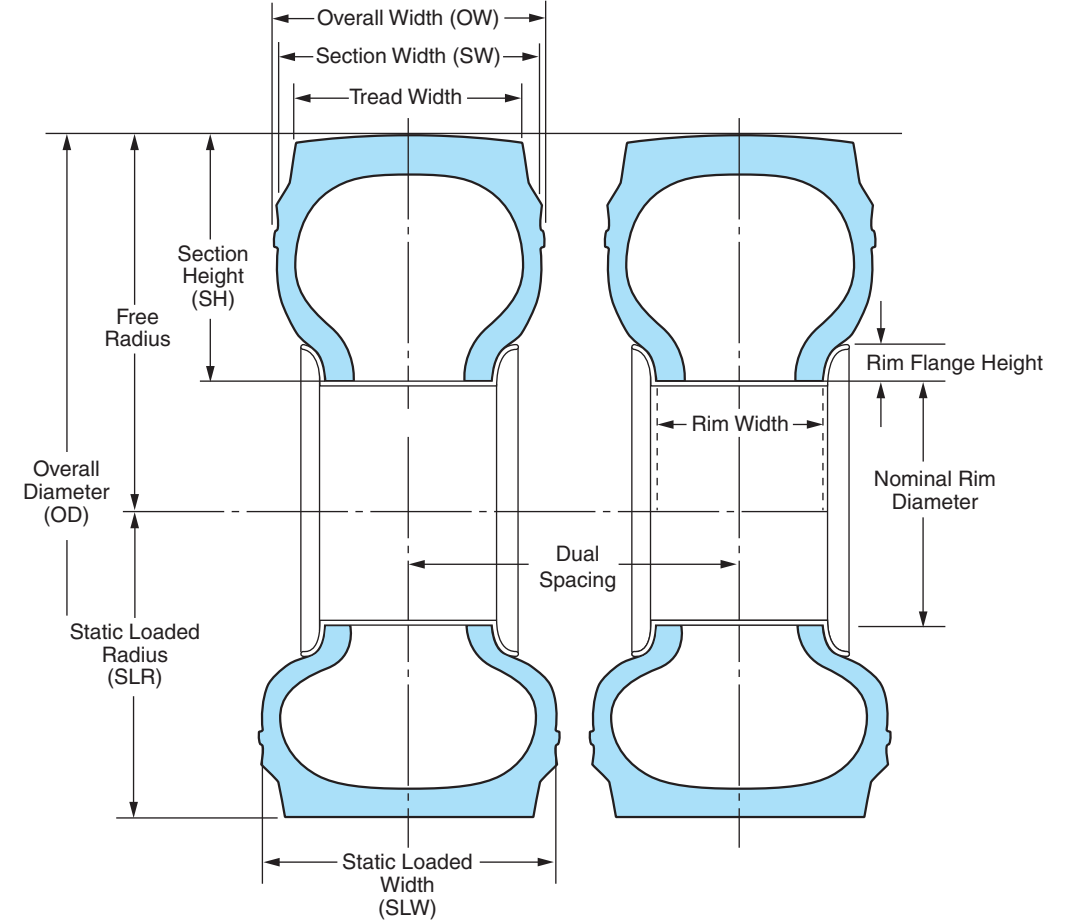
"Section Width" is the width of a new tire, including 24-hour inflation growth and including normal sidewalls, but not including protective side ribs, bars, or decorations.

2.6 Static Loaded Radius and Width (SLR, SLW)

"Static Loaded Radius" is the shortest distance from the axle center to the contact surface of a tire and "Static Loaded Width" is the overall width of a tire, mounted on the approved rim at the specified inflation pressure and placed still and vertically on a flat board, and loaded with the specified load.

2.7 Original Tread Depth (OTD)















"Original Tread Depth" is the tread depth of a new tire measured at the point of tread-indicator where available or one-fourth the width of the tire crown section from the crown center, including 24-hour inflation growth.



3. Classification

3.1 Uses and Characteristics of Off-The-Road Tires

The characteristics that Off-The-Road tires must possess differ according to their function and the type of vehicles they are mounted on.

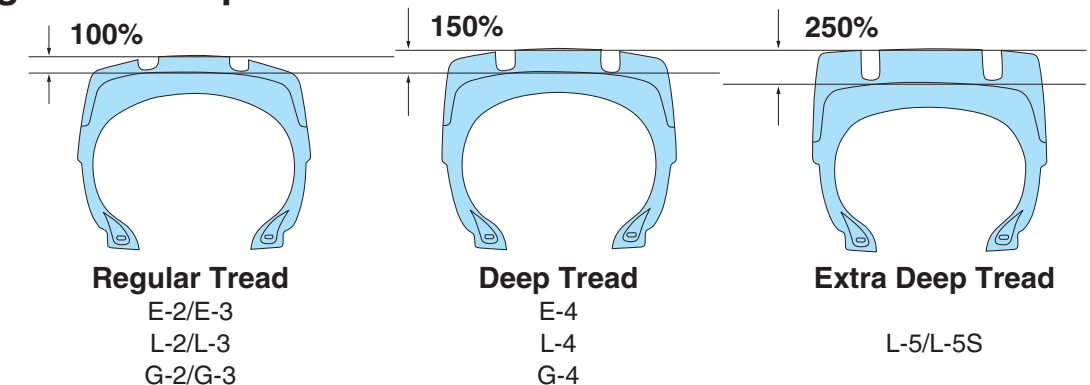
Type/Service	Function	Vehicles	Main tire characteristics required
Earthmover	Transporting	 Rigid dump trucks  Articulated dump trucks  Coal haulers  Scrapers  Off road trucks	Heat-resistance, Cut-resistance, Wear-resistance Shock burst-resistance
Grader	Grading, Leveling	 Graders	Traction, Maneuverability, (directional stability)
Loader and dozer	Loading and dozing	 Loaders, Bulldozers	Cut-resistance, Wear-resistance Stability
Compactor	Compacting	 Tire-rollers	Oil-resistance, Cut-resistance, Wear-resistance
Logging	Log-skidding	 Log-skidders	Traction, Flotation, Cut-resistance
Mobile crane (High-speed)	High-speed Travelling	 All-Terrain Cranes	Heat-resistance, Wear-resistance, Traction
Industrial	Handling & Towing	 Handling & Towing Equipments	Uneven wear, Wear-resistance, Stability
Underground	Underground	 LHDs  Drilling Jumbo  Underground Trucks	Cut-resistance, Wear-resistance

3.2 TRA Classification and Corresponding Bridgestone Off-The-Road Tires

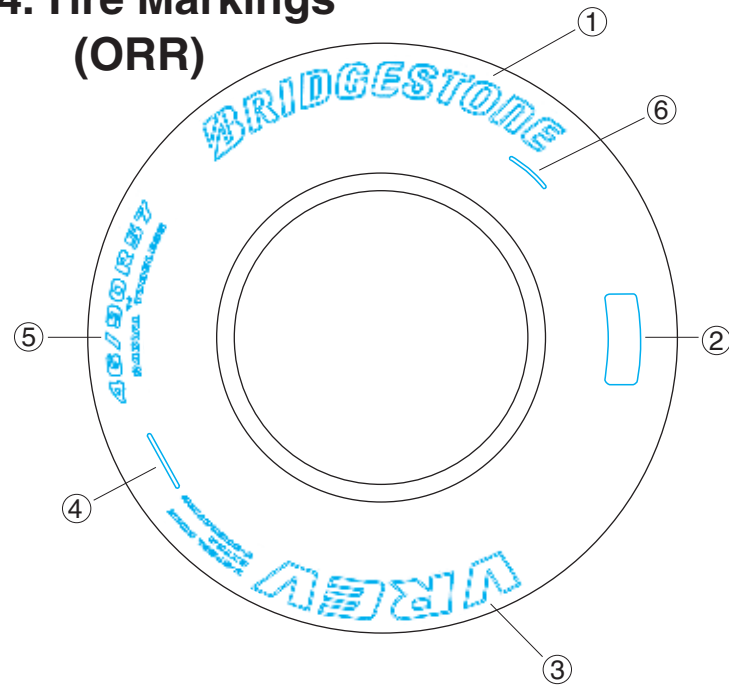
Off-The-Road tires are classified by the TRA as follows, and the names of the tread patterns of the corresponding Bridgestone Off-The-Road tires are described below.

TRA Classification	Tread Type	Bridgestone Tread Pattern	
		Radial	Bias
E= Earthmover (Haulage Service)			
E-2	Traction	VUT VKT VSB VFT VHS VSW	WL RL VL2
E-3	Rock	VLV VMT VTS VRL VRF	
E-4	Rock Deep	L317 VLTS VSNT VMTS VMTP VZTS VZTP VZTB VELS VRLS VREP VRDP VRPS VREV VRWP VRQP VSJ	
E-7	Flotation		
G=Grader			
G-1	Rib		RG
G-2	Traction	VUT VSW	GL FG
G-3	Rock	VJT	RL
G-4	Rock Deep	VMTS	
L=Loader & Dozer (Slow Speed Service)			
L-2	Traction Regular	VUT VSW	GL FG
L-3	Rock Regular	VLV VJT VTS	RL VL2
L-4	Rock Deep	VLTS VSNT VSNL	RLS
L-5	Rock Extra-Deep	VSDT VSDL VSDR	DL
L-5S	Smooth Extra-Deep	VSMS VSMS2	STMS
C=Compactor Service			
C-1	Smooth		RR
C-2	Grooved		AL2
LS=Logging Service			
LS-2	Intermediate	VSB	
Mobile Crane Service (High-Speed)			
Mobile Crane Service		VGT VHB VHS VHS2 VSW	
Industrial Service			
Industrial Service		VHB VCH VCHD VCHR VCHP VCHS VELS VRLS VSDL VSMS	RL RLS ELS2 STMS YS2
Underground Service			
Underground Service		VSNL VSNT VSDR VSDL VMDL VSDT VSMS VSMS2	STMS DL

Design Tread-Depth



4. Tire Markings (ORR)



- ① Brand Name
- ② Bridgestone's Specifications Code
- ③ Pattern Name
- ④ Serial Number
- ⑤ Tire Size, Star Rating, Tubeless or Tube Type
- ⑥ DOT Code
DOT code is necessary for USA public road.

4.1 Type of Tire Size Designation

Regular 27.00 R 49 ☆ ☆

- ☆ ☆ Star Rating
- Rim Diameter (inches)
- Radial Structure
- Section Width (inches)

Wide Base 33.25 R 35 ☆ ☆

- ☆ ☆ Star Rating
- Rim Diameter (inches)
- Radial Structure
- Section Width (inches)

Super Wide Base 40 / 65 - 39 30PR

- Ply Rating
- Rim Diameter (inches)
- Aspect Ratio 65 Series
- Section Width (inches)

170 E 385 / 95 R 24

- Rim Diameter (inches)
- Radial Structure
- Aspect Ratio 95 Series
- Section Width (mm)
- Speed Symbol
- Load Index

***Tire Aspect Ratio**

$\frac{SH}{SW} = 0.95^*$

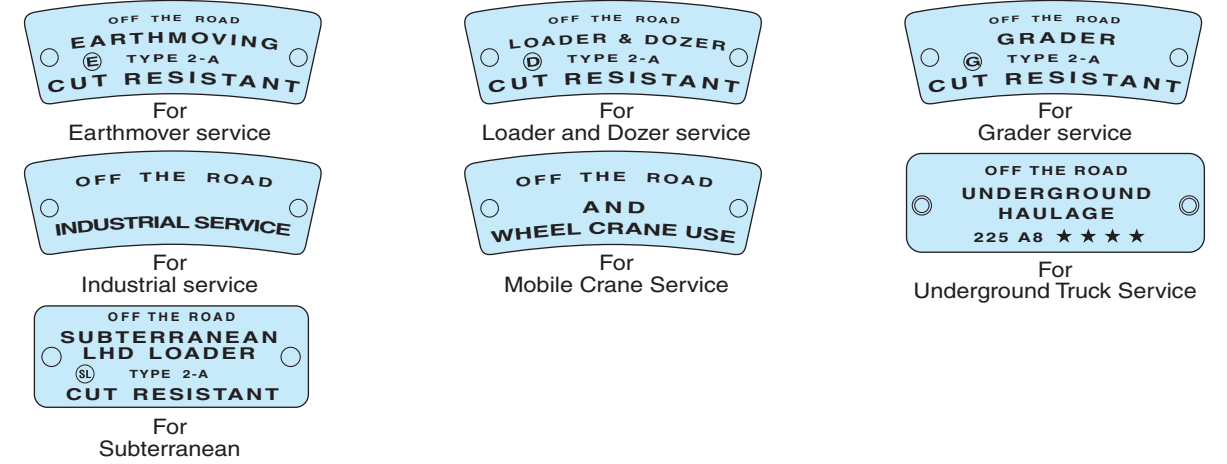
$\frac{SH}{SW} = 0.80^*$

$\frac{SH}{SW} = 0.65^*$

SH, SW : See Page 3

4.2 Type of Tire Structures Classified by Service and Designated by Bridgestone

Each Bridgestone tire has a Bridgestone code number on the tire sidewall according to its specifications.



Tire Structures Classified by Type of Service and Bridgestone's Designations

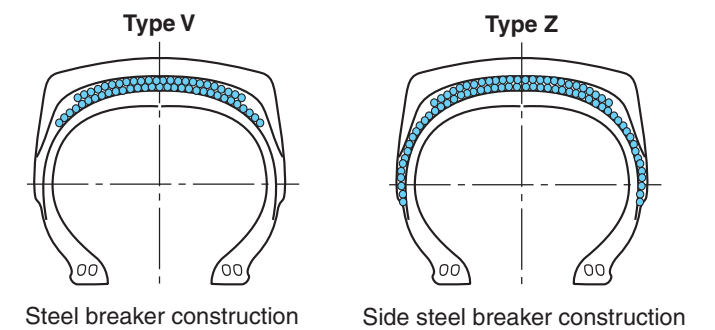
Service	BS Code No.	Structure
Earthmover Service (E)	1A	Standard
	2A	Cut-resistant
	3A	Heat-resistant
Grader Service (G)	1A	Standard
	2A	Cut-resistant
Loader & Dozer Service (D)	2A	Cut-resistant
	2V*	Special cut-resistant (Type "V")
	2Z*	Special cut-resistant (Type "Z")
Logging Service (S)	2V	**Standard
Subterranean (L)	2A	Cut-resistant

NOTES: *Bias Tire Only
**2V tires are standard for log skidder service since the possibility of the cutting is high in log skidder operations.

D 2 A

- Structure:
 - A: Standard
 - V: Cut-resistant type "V" (Steel Breaker)
 - Z: Cut-resistant type "Z" (Side Steel Breaker)
- Characteristics:
 - 1: Standard
 - 2: Cut-resistant
 - 3: Heat-resistant
- Type of Service:
 - E: Earthmover
 - G: Grader
 - D: Loader & Dozer
 - S: Logging
 - L: Subterranean

Steel Breaker Tire



Steel Breaker Bias Tire

Steel Breaker Off-the-Road tires feature breaker material which is changed from nylon to steel in order to resist cutting and cut bursting. Bridgestone Steel Breaker Off-the-Road tires are widely used on loaders at mining and quarry sites, loaders and underground trucks in underground mines, and also on log loaders.

Side Steel Breaker Bias Tire

In this tire the steel breaker extends to the sidewall of the tire to protect it against damage. The construction is similar to that described above.

4.3 Load Index

The LOAD INDEX is an international numerical code for the maximum load a tire can carry at the speed indicated by its speed symbol under service conditions specified by Bridgestone.

LI	kg	LI	kg	LI	kg	LI	kg	LI	kg	LI	kg
0	45	50	190	100	800	150	3 350	200	14 000	250	60 000
1	46.2	51	195	101	825	151	3 450	201	14 500	251	61 500
2	47.5	52	200	102	850	152	3 550	202	15 000	252	63 000
3	48.7	53	206	103	875	153	3 650	203	15 500	253	65 000
4	50	54	212	104	900	154	3 750	204	16 000	254	67 000
5	51.5	55	218	105	925	155	3 875	205	16 500	255	69 000
6	53	56	224	106	950	156	4 000	206	17 000	256	71 000
7	54.5	57	230	107	975	157	4 125	207	17 500	257	73 000
8	56	58	236	108	1 000	158	4 250	208	18 000	258	75 000
9	58	59	243	109	1 030	159	4 375	209	18 500	259	77 500
10	60	60	250	110	1 060	160	4 500	210	19 000	260	80 000
11	61.5	61	257	111	1 090	161	4 625	211	19 500	261	82 500
12	63	62	265	112	1 120	162	4 750	212	20 000	262	85 000
13	65	63	272	113	1 150	163	4 875	213	20 600	263	87 500
14	67	64	280	114	1 180	164	5 000	214	21 200	264	90 000
15	69	65	290	115	1 215	165	5 150	215	21 800	265	92 500
16	71	66	300	116	1 250	166	5 300	216	22 400	266	95 000
17	73	67	307	117	1 285	167	5 450	217	23 000	267	97 500
18	75	68	315	118	1 320	168	5 600	218	23 600	268	100 000
19	77.5	69	325	119	1 360	169	5 800	219	24 300	269	103 000
20	80	70	335	120	1 400	170	6 000	220	25 000	270	106 000
21	82.5	71	345	121	1 450	171	6 150	221	25 750	271	109 000
22	85	72	355	122	1 500	172	6 300	222	26 500	272	112 000
23	87.5	73	365	123	1 550	173	6 500	223	27 250	273	115 000
24	90	74	375	124	1 600	174	6 700	224	28 000	274	118 000
25	92.5	75	387	125	1 650	175	6 900	225	29 000	275	121 000
26	95	76	400	126	1 700	176	7 100	226	30 000	276	125 000
27	97	77	412	127	1 750	177	7 300	227	30 750	277	128 000
28	100	78	425	128	1 800	178	7 500	228	31 500	278	132 500
29	103	79	437	129	1 850	179	7 750	229	32 500	279	136 000
30	106	80	450	130	1 900	180	8 000	230	33 500		
31	109	81	462	131	1 950	181	8 250	231	34 500		
32	112	82	475	132	2 000	182	8 500	232	35 500		
33	115	83	487	133	2 060	183	8 750	233	36 500		
34	118	84	500	134	2 120	184	9 000	234	37 500		
35	121	85	515	135	2 180	185	9 250	235	38 750		
36	125	86	530	136	2 240	186	9 500	236	40 000		
37	128	87	545	137	2 300	187	9 750	237	41 250		
38	132	88	560	138	2 360	188	10 000	238	42 500		
39	136	89	580	139	2 430	189	10 300	239	43 750		
40	140	90	600	140	2 500	190	10 600	240	45 000		
41	145	91	615	141	2 575	191	10 900	241	46 250		
42	150	92	630	142	2 650	192	11 200	242	47 500		
43	155	93	650	143	2 725	193	11 500	243	48 750		
44	160	94	670	144	2 800	194	11 800	244	50 000		
45	165	95	690	145	2 900	195	12 150	245	51 500		
46	170	96	710	146	3 000	196	12 500	246	53 000		
47	175	97	730	147	3 075	197	12 850	247	54 500		
48	180	98	750	148	3 150	198	13 200	248	56 000		
49	185	99	775	149	3 250	199	13 600	249	58 000		

4.4 Speed Symbol

The SPEED SYMBOL indicates the speed at which the tire can carry a load corresponding to its load index under service conditions specified by Bridgestone.

Speed Symbol	Speed (km/h)
A1	5
A2	10
A3	15
A4	20
A5	25
A6	30
A7	35
A8	40

Speed Symbol	Speed (km/h)
B	50
C	60
D	65
E	70
F	80
G	90

4.5 Conversion Table: Star Rating to Ply Rating

Service	Tire Size	Star Rating	Corresponding Ply Rating
Earthmover	12.00R24	★3	up to 24
	14.00R24	★3	up to 32
	14.00R25	★3	up to 32
	16.00R25	★2	up to 36
	18.00R25	★1	up to 24
		★2	up to 36
	18.00R33	★2	up to 40
	21.00R35	★2	up to 44
	40.00R57	★2	up to 74
	17.5R25	★1	up to 16
	20.5R25	★1	up to 24
		★2	up to 28
	23.5R25	★1	up to 24
		★2	up to 32
	26.5R25	★2	up to 32
	29.5R25	★2	up to 34
	29.5R29	★2	up to 40
	33.25R29	★2	up to 44
	33.25R35	★2	up to 44
	37.25R35	★2	up to 48
37.5R39	★2	up to 52	
40.5/75R39	★2	up to 54	

Service	Tire Size	Star Rating	Corresponding Ply Rating
Grader	14.00R24	★1	up to 16
	16.00R24	★1	up to 16
	17.5R25	★1	up to 16
Loader	15.5R25	★1	up to 16
	17.5R25	★1	up to 16
	20.5R25	★1	up to 24
		★2	up to 28
	23.5R25	★1	up to 24
		★2	up to 32
	26.5R25	★1	up to 24
		★2	up to 36
	29.5R25	★1	up to 28
		★2	up to 34
	29.5R29	★1	up to 34
35/65R33	★1	up to 36	
45/65R45	★1	up to 50	
50/65R51	★2	up to 54	

Note: Due to the practice of altering inflation pressure to improve flotation on sand, Bridgestone does not apply a star rating to tire size 21.00R25 VSJ.

4.6 Size Conversion Table

Metric	Inch
385/95R24, 25	14.00R24, 25
445/95R24, 25	16.00R24, 25
445/80R25	17.5R25
505/95R25	18.00R25
525/80R25	20.5R25
750/65R25	30/65R25

4.7 Dual Specification Codes

Some Bridgestone Off-The-Road Tires have dual specification codes which can be used for both services.

Combination	Construction	Size Designation
Loader & Dozer Service + Earthmover Service	Radial	26.5R25 MS* VLT T DE2 ★1 D2A ★2 E2A
	Bias	26.5 - 25 20 VL2 T DE2 D2A E2A
Loader & Dozer Service + Grader Service	Radial/Bias	17.5 - 25 12 FG T DG2 D2A G2A
Earthmover Service + Grader Service	Radial	17.5R25 ★1 VKT T EG2 E2A G2A
Underground Trucks + Loader & Dozer Service	Radial	35/65R33 MT* VSNT T DUH Underground Truck D2A

* Multiple Star Rating

Bridgestone Radial Tires marked with "LOADER & DOZER ★(one star)" and "EARTHMOVER ★★(two star)" have specified load capacity on each servicing condition.

Strength of tire casing is designed to constrain inflation pressure used.
<26.5R25 as an example>

	Type of Service	Star Rating	Inflation Pressure	Load (Load Index)	Speed (Speed Symbol)
MS	Loader	★(one star)	500kPa	15,000 kg (202)	10 km/h (A2)
	Earthmover	★★(two stars)	525kPa	11,500 kg (193)	50 km/h (B)

<35/65R33 as an example>

	Type of Service	Star Rating	Inflation Pressure	Load (Load Index)	Speed (Speed Symbol)
MT	Underground Trucks	★★★★(four stars)	800kPa	29,000 kg (225)	40 km/h (A8)
	Loader	★★(two stars)	650kPa	28,000 kg (224)	10 km/h (A2)



5. Ton-Kilometer-Per-Hour (TKPH)

5.1 Operating TKPH

Earth-moving, mining and logging tires have become increasingly important with the development of large construction vehicles. The primary task of these heavy-duty tires is to haul heavy loads faster, over longer distances. This heavy hauling inevitably causes heat built-up in the tires. As tires have limited resistance to heat, deterioration of the tire may occur at an early stage of operation if used beyond the rated TKPH.

Accordingly, it is necessary when selecting tires, to determine the amount of work which will keep the tire within a safe range to avoid over-heating when the vehicle is operated under given conditions. The amount of work done under the given conditions and within a safe range is shown as "Operating Ton-Kilometer-Per-Hour (Operating TKPH)" which can be determined by the following formula:

Formula for Calculation of Operating TKPH

$$\text{Operating TKPH} = \left(\frac{\text{Mean Tire-Load (MTL)}}{2} \right) \times \left(\text{Average Work Shift Speed (AWSS)} \right)$$

$$\text{MTL [metric tons]} = \frac{\text{Tire Load (Empty)} + \text{Tire Load (Loaded)}}{2}$$

$$\text{AWSS [km/hour]} = \frac{\text{Round Trip Distance [km]} \times \text{Number of Cycles per Shift}}{\text{Total Hours of Operation per Shift}}$$

*Calculation formula of "Operating TKPH" may be different between tire manufacturers.

5.2 Tire TKPH

Tire TKPH varies depending on the tire's design (size, tread pattern and the type of compound). A High TKPH tire generates less heat than that of lower TKPH tire. However, the lower TKPH tire will have greater cut and wear resistance than the higher TKPH one.

The TKPH method is applicable in the following situations.

- One way distance: within 16 km (10 miles)
 - When haul length exceeds 16 km one way, consult a Bridgestone Representative.
 - If the round-trip distance is less than 5km (3miles), Tire TKPH figures can be increased by 12%.
- Ambient temperature: 38°C (100°F)

For ambient temperatures other than 38°C (100°F), the Tire TKPH rating should be revised based on the following formula.

a. Radial Tire

$$\text{Revised TKPH rating} = [1 + \alpha \times (38^\circ\text{C} - \text{Max. Ambient Temperature } ^\circ\text{C})] \times \text{Tire TKPH}$$

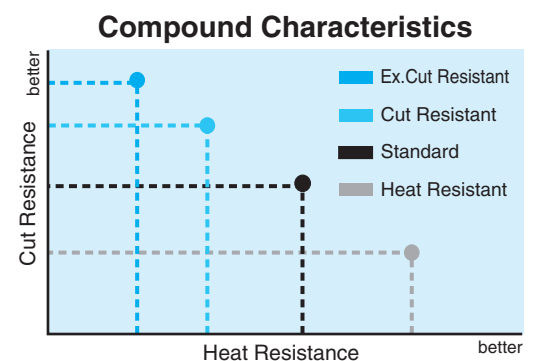
Below 27.00 (33.5) inches in Section Width: $\alpha = 0.010$
Above 30.00 (37.25) inches in Section Width: $\alpha = 0.009$

b. Bias Tire

$$\text{Revised TKPH rating} = [1 + \alpha \times (38^\circ\text{C} - \text{Max. Ambient Temperature } ^\circ\text{C})] \times \text{Tire TKPH}$$

Below 27.00 (33.5) inches in Section Width: $\alpha = 0.006$
Above 30.00 (37.25) inches in Section Width: $\alpha = 0.005$

*Revising coefficient: The value is shown in the following table.



Revising Coefficient

Ambient Temperature		Bias Tire Tire Section		Radial Tire Tire Section	
°C	°F	27.00 and below	30.00 and over	27.00 and below	30.00 and over
14	57	1.144	1.120	1.240	1.216
15	59	1.138	1.115	1.230	1.207
16	61	1.132	1.110	1.220	1.198
18	64	1.120	1.100	1.200	1.180
20	68	1.108	1.090	1.180	1.162
22	72	1.096	1.080	1.160	1.144
24	75	1.084	1.070	1.140	1.126
26	79	1.072	1.060	1.120	1.108
28	82	1.060	1.050	1.100	1.090
30	86	1.048	1.040	1.080	1.072
32	90	1.036	1.030	1.060	1.054
34	93	1.024	1.020	1.040	1.036
36	97	1.012	1.010	1.020	1.018
38	100	1.000	1.000	1.000	1.000
40	104	0.988	0.990	0.980	0.982
42	108	0.976	0.980	0.960	0.964
44	111	0.964	0.970	0.940	0.946
46	115	0.952	0.960	0.920	0.928
48	118	0.940	0.950	0.900	0.910
50	122	0.928	0.940	0.880	0.892

For all ambient temperatures below 14°C (57°F), the same TKPH value as calculated at 14°C (57°F) should be used.

(3) Maximum speed

a. Radial Tire

For 65km/h(40mph) maximum speed, the loads must be reduces 12% with no change in inflation pressure.

b. Bias Tire

When the maximum speed exceeds 50 km/h (30 mph) under loaded conditions, the following formula is used:

$$\text{Revised TKPH Rating} = \frac{50 \text{ km/h}}{\text{Max. speed}} \times \text{Tire TKPH}$$

Example:

The TKPH Rating for 21.00-35, 36PR RLS E1A is 226; if the tire is to run at 60 km/h when loaded.

$$\frac{50}{60} \times 226 = 188$$

(4) To obtain the TKPH(TMPH) for type 2A-LS, multiply type 2A rating by 0.8.

(5) The respective types of vehicles are subject to the following speed limitations.

Maximum Speed

Type of Vehicle	Maximum Speed
Dump & Scraper	50 km/h (30 mph)
Grader	40 km/h (25 mph)
Loader & Dozer	10 km/h (5 mph)

5.3 Proper TKPH

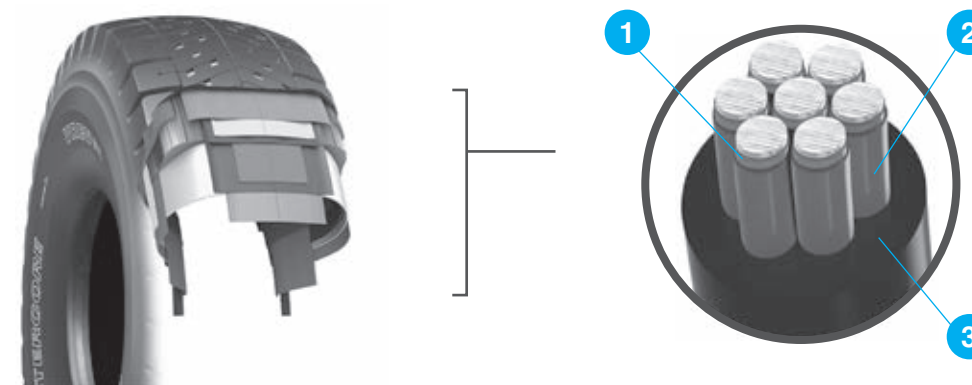
The average operating TKPH, calculated after several samples, should not exceed the tire TKPH rating. Exceeding the tire TKPH may result in serious tire damage or failure.

6. BRIDGESTONE **MASTERCORE**

6.1 Bridgestone MASTERCORE

MASTERCORE tires are engineered for ultra-high durability with performance that can be customized to various mine sites and operations. These tires can be customized to meet the needs of any site so you can run your mines more efficiently, with greater productivity.

With currently available MASTERCORE tires, users can customize the usage: Up to 5% more durability, 10% faster speeds, or 15% greater payloads.*1 MASTERCORE tire's flexibility is made possible by new compounds and a revolutionary steel cord with new anti-rust and adhesion coatings.



1. Optimized Bonding Agent

Proprietary process applies bonding agent to the steel cord for improved rubber coverage & adhesion.

2. Anti-rust Steel Cord

Improved resistance to rust and damaged belts from cuts and moisture exposure versus conventional tires.

3. New Rubber Compound

Significant improvement in crack propagation resulting in improved belt & casing life.

6.2 Available Sizes and Patterns

59/80R63

- MASTERCORE VRF
- MASTERCORE VRPS
- MASTERCORE VREV

53/80R63

- MASTERCORE VREV

50/80R57

- MASTERCORE VREV

46/90R57

- MASTERCORE VRWP
- MASTERCORE VZTB

6.3 Conventional vs MASTERCORE Load Capacity (based on cold inflation)

Size	Recommended Rim / Flange	Tire	80 psi	83 psi	87 psi	91 psi	94 psi	98 psi	102 psi
59/80R63	44.00/5.0	Conventional	85,000	87,500	90,000	92,500	95,000	97,500	100,000
		MasterCore	97,500	100,000	103,000	106,000	109,000	112,000	115,000
59/80R63	41.00/5.0	Conventional	82,000	84,000	86,000	89,000	91,000	94,000	96,000
		MasterCore	94,000	96,000	99,000	102,000	105,000	108,000	110,000
53/80R63	36.00/5.0	Conventional	69,000	71,000	75,000	77,500	80,000	80,000	82,500
		MasterCore	80,000	82,500	85,000	87,500	90,000	92,500	95,000
50/80R57	32.00/6.0 (34.00/5.0) (34.00/6.0)	Conventional	61,500	63,000	65,000	67,000	69,000	71,000	73,000
		MasterCore	71,000	73,000	75,000	77,500	80,000	82,500	85,000
50/80R57	29.00/6.0	Conventional	54,500	56,000	58,000	60,000	61,500	63,000	65,000
		MasterCore	63,000	65,000	67,000	69,000	71,000	73,000	75,000
46/90R57	29.00/6.0 (32.00/6.0)	Conventional	53,000	54,500	56,000	58,000	60,000	61,500	63,000
		MasterCore	60,000	63,000	65,000	67,000	69,000	71,000	73,000

Please make sure you are running the appropriate Tire Load Limit, as these vary based on your operation. Contact your Bridgestone representative for additional support.

*1 Comparison based on conventional Bridgestone VRPS vs Bridgestone MASTERCORE VRPS and conventional Bridgestone VRF vs Bridgestone MASTERCORE VRF when same size apply from field data and internal testing. Tire wear may increase when maximum speed or payload capacity is increased. Results may vary.

7. Subterranean Products for Underground Mines

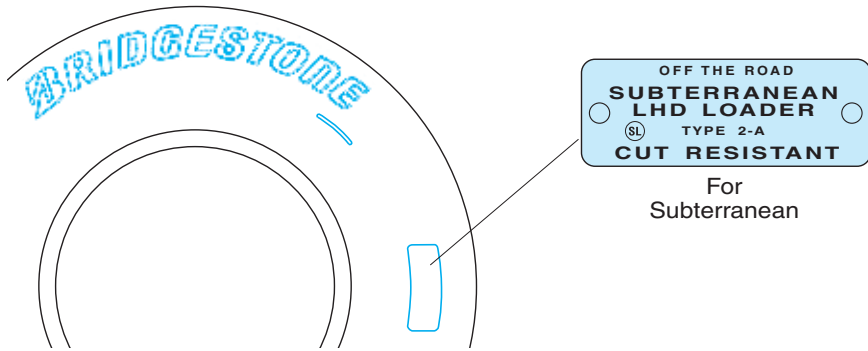


7.1 Subterranean LHD Standard

Registered to JATMA and TRA-EDI, the Subterranean LHD Standard standardizes higher load capacity while maintaining lower air pressure.

The standard table of Tire load limits at various cold inflation pressures is shown under 7.4.

Tire Markings (ORR)

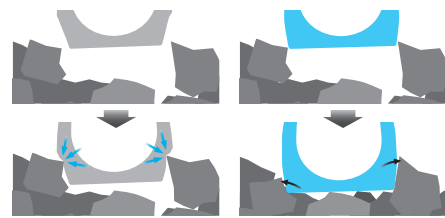


7.2 Subterranean LHD (L2A) products

Subterranean LHD (L2A) products have +15% load capacity compared to D2A products at the same inflation pressure (94psi/650kPa). This performance is made possible by bead construction enhancement and belt construction optimization. In addition, VSMS2 has an upgraded sidewall structure which ensures maximum sidewall cut resistance.

- **Enhanced case durability**
Enhanced bead construction
Optimized belt construction

- **Enhanced Sidewall cut resistance**
(VSMS2 only)



7.3 Available Sizes and Patterns

- | | | |
|---------------------|---------------------|-----------------------|
| 26.5R25 | 29.5R29 | <Further Development> |
| • VMDL (LHD5) L2A | • VSMS2 (LHD5S) L2A | • 17.5R25 |
| • VSMS2 (LHD5S) L2A | | • 18.00R25 |
| | | • 29.5R25 |
| | | • 35/65R33 |

7.4 Conventional(D2A) vs Subterranean LHD(L2A) Load Capacity (based on cold inflation)

Tire Size	Pattern	TRA Code or Application	Spec	Star rating	Inflation Pressure							
					★1	★2	★1	★2	★1	★2	★1	★2
					73 psi	76 psi	80 psi	83 psi	87 psi	91 psi	94 psi	
					500 kPa	525 kPa	550 kPa	575 kPa	600 kPa	625 kPa	650 kPa	
26.5R25	VSDL	L5	D2A	Conventional	15,000kg	15,500kg	16,000kg	16,500kg	17,000kg	18,000kg	18,500kg	
	VSMS2	L5S		Subterranean LHD	17,500kg	18,500kg	19,000kg	19,500kg	20,000kg	20,600kg	21,200kg	
	VMDL	LHD5	L2A	Subterranean LHD	17,500kg	18,500kg	19,000kg	19,500kg	20,000kg	20,600kg	21,200kg	
	VSMS2	LHD5S		Subterranean LHD	22,400kg	23,600kg	24,300kg	25,000kg	25,750kg	26,500kg	27,250kg	
29.5R29	VSMS2	L5S	D2A	Conventional	19,500kg	20,000kg	20,600kg	21,200kg	22,400kg	23,000kg	23,600kg	
	VSMS2	LHD5S	L2A	Subterranean LHD	22,400kg	23,600kg	24,300kg	25,000kg	25,750kg	26,500kg	27,250kg	

RADIAL TIRE

1. Tread Designs

Earthmover Service



VUT
V-STEEL ULTRA TRACTION
E-2



Non-directional pattern VUT features superior traction and excellent self-cleaning. Lighter weight provides superior maneuverability and fuel consumption.



VKT
V-STEEL K-TRACTION
E-2



Ideal for soft or muddy surfaces, offering good traction and flotation.



VSB
V-STEEL S-BLOCK
E-2



VSB exhibits excellent traction and maneuverability. Suitable for both gravel and hard packed surfaces like paved roads. Designed for heavy-duty trucks and trailers.



VFT
V-STEEL F-TRACTION
E-2



Provides good traction, generates low heat and assures long tread life on soft, muddy or packed surfaces.



VHS
V-STEEL H-SERVICE
E-2



Minimum heat build-up enables high-speed operation for coal and bauxite hauling. Reducing irregular wear means a longer tread life. Suitable for rigid or bottom-type coal haulers in high TKPH operations.



VSW
V-STEEL SNOW WEDGE
E-2



VSW is the first of its kind in snow radials, especially developed for machines used in snow removal work. This tire has excellent traction from a standing start and during acceleration as well as superior cornering and braking performance, especially on icy, packed or soft snow surfaces. VSW provides all-season service, requiring no replacement during summer and offers exceptional ability to be retreaded.

Earthmover Service



VLT
V-STEEL L-TRACTION
E-3



For ADT For Scraper

Wide and self-cleaning tread pattern offers excellent maneuverability, traction and floatation on soft or muddy surfaces.



VMT
V-STEEL M-TRACTION
E-3



Wide Base Regular

Normal-depth tread with a non-directional traction pattern, featuring strong resistance to heat build-up. Most suitable for hauling equipment used in coal mines, and equally applicable to operations on soft or muddy surfaces.



VTS
V-STEEL TRACTION-STABILITY
E-3



VTS tire offers exceptional stability, superior riding comfort, optimum traction and reduced cost per performance than the 80 series of the same tread class.

Earthmover Service



VLTS
V-STEEL L-TRACTION S
E-4



Offers outstanding cut resistance and long tread life on rocky or gravel surfaces in mining, quarry and construction, with superior traction.



VSNT
V-STEEL N-TRACTION
E-4



Unique non-directional traction pattern VSNT provides optimum traction without compromising tread life. The wide tread is our concept to minimize side-wall cuts. Applicable for underground trucks in underground mines.



VMTS
V-STEEL M-TRACTION S
E-4



Non-directional deep tread pattern for strong traction, especially resistant to side-slipping. High wear resistance ensures long tread life. Applicable for muddy or soft surfaces.



VRL
V-STEEL R-LUG
E-3



Wide Base Regular

Tough lug-pattern VRL features excellent traction as well as good resistance to cutting and casing fatigue. Suitable for scrapers on rocky surfaces.



VRF
V-STEEL ROCK FAST
E-3



VRF has great wear and cut resistance and has a long tread life as an E-3 premium pattern. **MASTERCORE** VRF can be customized to meet the needs of any site so you can run your mines more efficiently, with greater productivity.



L317
E-4



This tire's features are extra-long life, superior cut resistance and excellent traction. The casing is reinforced by **★3** for heavy-duty mining trucks in cyclical operation.



VMTP
V-STEEL M-TRACTION PREMIUM
E-4



Non-directional extra-deep tread corresponding to E4.5 ensures long tread life and offers superior traction, especially on muddy surfaces.



VZTS
V-STEEL Z-TRACTION S
E-4



Deep tread pattern with sidewall protectors. Specifically designed for giant dump trucks. Non-directional deep tread pattern ensures excellent traction and strong resistance to side-slipping as well as long life and cut resistance on rocky surfaces.



VZTP
V-STEEL Z-TRACTION PREMIUM
E-4



Extra-deep tread pattern with sidewall protectors. VZTP focuses especially on traction, extra-long tread life and superior cut resistance. Narrow center tread grooves, which reduce tread block movement and help with heat dissipation, along with wider side lugs, achieves the perfect balance of opposing performance targets: traction, tread life, and heat resistance. VZTP can be the best solution for large, rigid dump trucks working on muddy surfaces.

Earthmover Service



VELS

V-STEEL E-LUG S
E-4



18.00R25~ 40.00R57
21.00R35

Deep tread pattern with sidewall protectors. Suited for abrasive roads, such as rocky, gravel or packed surfaces. High resistance to cutting, chipping and shock damage.



VRLS

V-STEEL R-LUG S
E-4



14.00R24~ 21.00R33~
16.00R25 37.00R57

Rock-deep tread with tough lug and sidewall protectors. High resistance to cutting and chipping for long tread life. Specially designed for dump trucks engaged in earthmoving.



VREP

V-STEEL ROCK E-PREMIUM
E-4



Without sacrificing wear resistance compared to the current standard pattern, VREP minimizes heat generation and achieves the highest TKPH among current E-4 rock patterns. This makes it suitable for giant rigid dump trucks running at high speeds which can cause extreme heat buildup inside the tire.

Earthmover Service



BRIDGESTONE MASTERCORE

VREV

V-STEEL ROCK EXTRA V-OPERATION
E-4



59/80R63 53/80R63 50/80R57

The VREV pattern achieves minimized heat generation that allows maximum workload. MASTERCORE VREV can be customized to meet the needs of any site so you can run your mines more efficiently, with greater productivity in addition to extra protection against wear, cuts and penetration.



BRIDGESTONE MASTERCORE

VRWP

V-STEEL ROCK WEAR PREMIUM
E-4



New tread pattern designed specifically to provide higher wear resistance. Grooves reduce pattern strain and provide additional heat reduction. MASTERCORE VRWP can be customized to meet the needs of any site so you can run your mines more efficiently, with greater productivity in addition to extra protection against wear, cuts and penetration.



BRIDGESTONE MASTERCORE

VZTB

V-STEEL Z-TRACTION BEYOND
E-4



New tread pattern designed specifically to provide maximum traction and increased airflow which reduces temperature and extends tire life. Full width grooves aid traction and increase material ejection for superior grip. MASTERCORE VZTB can be customized to meet the needs of any site so you can run your mines more efficiently, with greater productivity in addition to high traction/grip performance.



VRDP

V-STEEL ROCK DEEP PREMIUM
E-4



Extra-Deep rock tread with sidewall protectors is the main feature of VRDP, enabling extended tread life and super cut resistance without compromising resistance to heat build-up. VRDP is suitable for giant rigid dump trucks. Can be used on abrasive or rocky road surfaces and can reduce cost per performance of standard E-4 rock patterns.



VRPS

V-STEEL ROCK PREMIUM SERVICE
E-4



46/90R57 53/80R63
50/90R57

With a special tread pattern and optimal tire rigidity, VRPS tires boost longer tread life and great resistance to wear and tear, so they are recommended especially for the mine require extra protection against wear, cuts and penetration.



BRIDGESTONE MASTERCORE

VRPS

V-STEEL ROCK PREMIUM SERVICE
E-4



59/80R63

MASTERCORE VRPS can be customized to meet the needs of any site so you can run your mines more efficiently, with greater productivity in addition to longer tread life and great resistance to wear and tear.



VRQP

V-STEEL ROCK QUARRY PREMIUM
E-4



Extra-thick tread pattern VRQP assures longer tread life and superior cut resistance. Greatly reduces total tire costs for replacement. Specially developed for mid-size rigid dump trucks working in quarries and other tough operations.

Sand Service

VSJ

V-STEEL JAMAL
E-7



The unique tread design ensures maximum flotation and traction. VSJ is designed with a steel radial construction for operating on desert or soft ground, as well as paved roads.

Grader Service



VUT

V-STEEL ULTRA TRACTION
G-2



Non-directional pattern VUT features superior traction and excellent self-cleaning. Lighter weight provides superior maneuverability and fuel consumption.



VSW

V-STEEL SNOW WEDGE
G-2



VSW is the first of its kind in snow radials, especially developed for machines used in snow removal work. This tire has excellent traction from a standing start and during acceleration as well as superior cornering and braking performance, especially on icy, packed or soft snow surfaces. VSW provides all-season service, requiring no replacement during summer and offers exceptional ability to be retreaded.



VJT

V-STEEL J-TRACTION
G-3



Next-generation pattern reduces vibrations, and achieves higher riding comfort plus VMT's long-standing grip and long tread life. VJT is suitable for construction and general duties.

Grader Service



VMTS

V-STEEL M-TRACTION S
G-4



Non-directional deep tread pattern offers superior traction and extra-long tread life. Designed especially for graders in underground mines or quarries.



VLT

V-STEEL L-TRACTION
L-3



Suitable for wet, soft or muddy surfaces with excellent maneuverability, traction and flotation.



VUT

V-STEEL ULTRA TRACTION
L-2



For Compact Loader 335/80R20-405/70R20 **For Loader 15.5R25-23.5R25**
Non-directional pattern VUT features superior traction and excellent self-cleaning. Lighter weight provides superior maneuverability and fuel consumption.

Loader & Dozer Service



VSW

V-STEEL SNOW WEDGE
L-2



VSW is the first of its kind in snow radials, especially developed for machines used in snow removal work. This tire has excellent traction from a standing start and during acceleration as well as superior cornering and braking performance, especially on icy, packed or soft snow surfaces. VSW provides all-season service, requiring no replacement during summer and offers exceptional ability to be retreaded.



VJT

V-STEEL J-TRACTION
L-3



Next-generation pattern reduces vibrations, and achieves higher riding comfort plus VMT's long-standing grip and long tread life. VJT is suitable for construction and general duties.



VTS

V-STEEL TRACTION-STABILITY
L-3



VTS tire offers exceptional stability, superior riding comfort, optimum traction and reduced cost per performance than the 80 series of the same tread class. Designed primarily for wheeled loaders as the preferred line.



VLTS

V-STEEL L-TRACTION S
L-4



Offers best cut resistance and long tread life with superior traction on rocky or gravel surfaces in mines, quarries and construction sites.



VSNT

V-STEEL N-TRACTION
L-4



Unique non-directional traction pattern VSNT can provide optimum traction without compromising tread life. The wide tread is our concept to minimize sidewall cuts. Applicable for wheeled loaders operating in quarries or mining for load and carry operations with sure longitudinal traction.



VSNL

V-STEEL N-LUG
L-4



14.00R20 35/65R33 45/65R45
Rock pattern design offers outstanding traction, stability and comfort. Sidewall protection reduces cuts and other damage. Primarily designed for underground mining, they are also suitable for load and carry operations in open pits and quarries.

Loader & Dozer Service



VSDT

V-STEEL SUPER DEEP TRACTION
L-5



Extra-deep tread for excellent traction, comfortable ride, superior cut resistance and long tread life. The wide tread is our concept to minimize sidewall cuts. For use in underground mines, open pits and quarries.



VSDR

V-STEEL SUPER DEEP ROCK
L-5



Extra super deep tread designed for severe or rocky surfaces, offering excellent traction, stability and a comfortable ride. Specially designed sidewall provides extended protection from cutting. For use in underground mines, open pits and quarries.



VSDL

V-STEEL D-LUG
L-5



8.25R15~12.00R20 15.5R25~60/80R57

Extra-deep tread designed for severe or rocky surfaces, offering excellent traction, stability and a comfortable ride. Specially designed sidewall provides extended protection from cutting. For use in underground mines, open pits and quarries.

Mobile Crane Service (High-Speed)



VHS

V-STEEL HIGHWAY SERVICE



Newly developed technology assures excellent performance, especially for mobile crane service (on-road conditions). New tread rubber achieves extra-long life and ideal tread pattern (closed shoulder, variable pitches) reduces noise level. Suitable for all-terrain cranes.

❖ DOT approved



VSW

V-STEEL SNOW WEDGE



VSW is the first of its kind in snow radials, especially developed for machines used in snow removal work. This tire has excellent traction from a standing start and during acceleration as well as superior cornering and braking performance, especially on icy, packed or soft snow surfaces. VSW provides all-season service, requiring no replacement during summer and offers exceptional ability to be retreaded.

❖ DOT approved



VHB

V-STEEL H-BLOCK



Designed for all-terrain cranes. Featuring long tread life thanks to a wear-resistant tread rubber compound. Great flotation and traction due to the unique tread pattern. And reliable durability and high resistance to cutting and heat build-up.

❖ DOT approved



VMDL

V-STEEL MINING D-LUG
LHD-5



VMDL is applied Subterranean LHD Standard for use in underground mines. Extra-deep tread designed for severe or rocky surfaces, offering excellent traction, stability and a comfortable ride. Specially designed sidewall provides extended protection from cutting.



VSMS

V-STEEL SMOOTH TREAD-MS
L-5S



Specially compounded, smooth, extra-deep tread rubber ensures maximum resistance to cutting and wearing. Designed for operating over severe rocky surfaces, in underground mines, open pits and quarries.



VSMS2

V-STEEL SMOOTH TREAD-MS 2
L-5S / LHD-5S



Optimized sidewall shape ensures maximum sidewall cut resistance. VSMS2 boost longer tire life compare to VSMS. Designed for operating over severe rocky surfaces, in underground mines, open pits and quarries.



VHS2

V-STEEL HIGHWAY SERVICE2



Bridgestone's newest addition to their range of premium Off-the-road crane tyres is built to deliver longest lasting heavy-duty performance. Combining outstanding durability and long wear life with excellent on-road performance, this advanced all-terrain crane tyre has all the ingredients to lift both your payload and your business to new heights.

❖ DOT approved



VGTT

V-STEEL G-TRACTION



Block pattern with normal-depth tread suitable for higher speeds and longer transport operations on paved or packed roads with strong resistance to heat build-up and irregular wear. On rough terrain, this tire offers strong traction and flotation. Especially applicable to fire engines at airports or all-terrain cranes.

❖ DOT approved



VRLS

V-STEEL R-LUG S



Designed for container handling equipment, such as straddle carriers. Features great resistance to heat build-up for high speed operations.



VCH

V-STEEL CONTAINER HANDLER



Features extra-long life, thanks to newly developed tread compound and smooth wear due to optimized contact pressure. Specially designed for container handling equipment, such as straddle carriers, container stackers, etc.



VCCHS

V-STEEL CONTAINER HANDLER SS



Newly developed all-steel radial casings improve operational stability and safety. The unique pattern is designed for longer tread life by preventing irregular wearing. Specially designed for container handling equipment, such as container stackers.



VELS

V-STEEL E-LUG S



Designed for container handling equipment. Features great resistance to heat build-up for high speed operations.



VHB

V-STEEL H-BLOCK



Features exceptional casing durability. Specially designed for mobile harbor cranes and towing tractors.



VSMS

V-STEEL SMOOTH TREAD-MS



Smooth extra-deep tread with a reinforced all-steel radial casing. For container handling equipment especially on abrasive concrete surfaces.



VCHP

V-STEEL CONTAINER HANDLER PREMIUM



The VCHP has an exceptionally longer tread life with superior driving comfort and enhanced overall driving efficiency. Specially optimized for Straddle Carrier operation.



VCHR

V-STEEL CONTAINER HANDLER RIB



The VCHR has an exceptionally longer tread life with superior driving comfort and enhanced overall driving efficiency. Specially developed for Straddle Carrier operation.



VCHD

V-STEEL CONTAINER HANDLER DEEP



Features extra-long life, thanks to newly developed tread compound and smooth wear due to optimized contact pressure. Specially designed for container handling equipment, such as straddle carriers, container stackers, etc.



VSDL

V-STEEL D-LUG

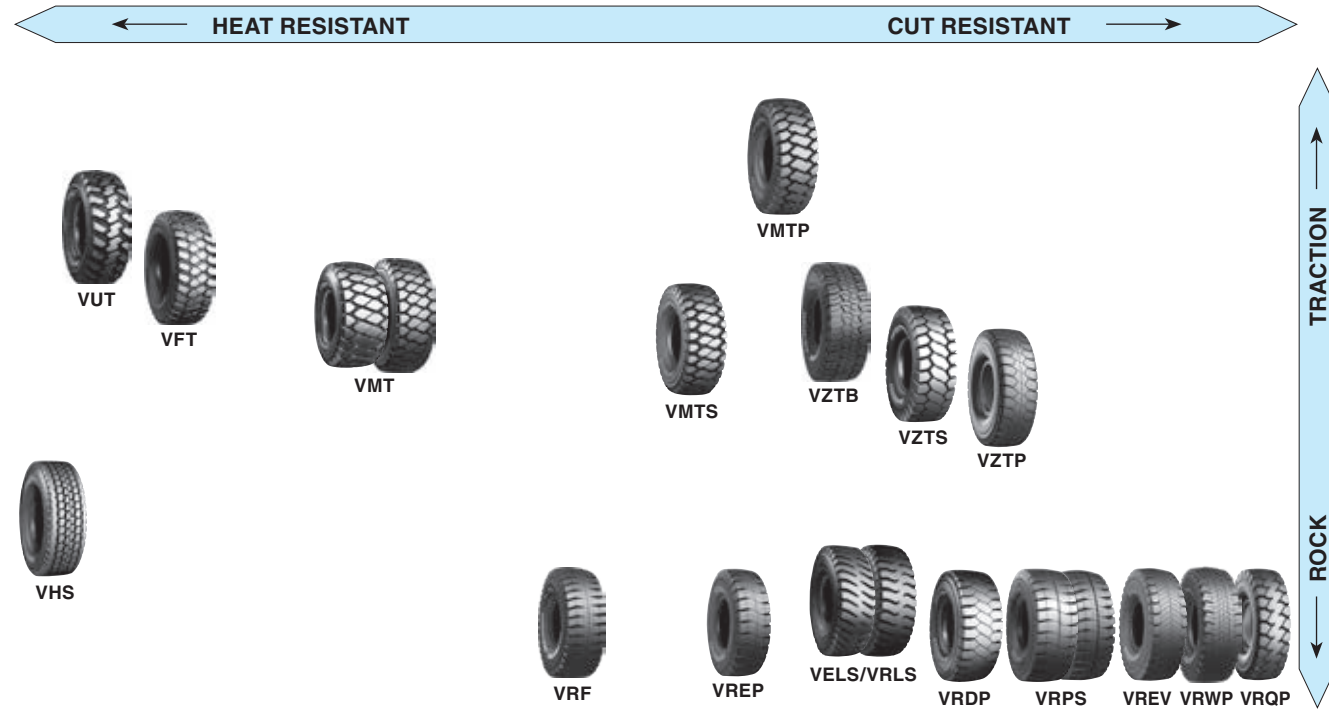


Extra-deep tread with a reinforced all-steel radial casing for heavy reach stackers.

2. Application

Earthmover Service

Rigid dump trucks / Bottom dump trucks



Size	Type	Star Rating
------	------	-------------

VUT(E2)

335/80 R 20	T/L	
365/80 R 20	T/L	
405/70 R 20	T/L	

VKT(E2)

29.5 R 29	T/L	★2
37.5 R 39	T/L	★2

VSU(E2)

14.00 R 25	T/L	★3
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VFT(E2)

27.00 R 49	T/L	★2
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VHS(E2)

36.00 R 51	T/L	★2
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*VSW(E2)

20.5 R 25	T/L	MS
23.5 R 25	T/L	MS

T/T: Tube Type T/L: Tubeless Type
MS: Multiple Star Rating (★1/★2)
MT: Multiple Star Rating (★2/★4)
(Please see P.10 for more details.)

*VSW is especially designed for snow surface operations.

Size	Type	Star Rating
------	------	-------------

VLTS(E3)

20.5 R 25	T/L	MS
23.5 R 25	T/L	MS ★2
750/65(30/65) R 25	T/L	MS
26.5 R 25	T/L	MS
29.5 R 25	T/L	MS ★2
33.25 R 29	T/L	★2
37.25 R 35	T/L	★2
40.5/75 R 39	T/L	★2

VTS(E3)

875/65 R 29	T/L	MS
-------------	-----	----

VMT(E3)

30.00 R 51	T/L	★2
33.00 R 51	T/L	★2
40.00 R 57	T/L	★2

VRL(E3)

29.5 R 35	T/L	★2
33.25 R 35	T/L	★2

VRF(E3)

BRIDGESTONE MASTERCORE 59/80 R 63	T/L	★2
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Size	Type	Star Rating
------	------	-------------

L317(E4)

11.00 R 20	T/T	★3
12.00 R 20	T/T	★3
11 R 22.5	T/L	14
12 R 22.5	T/L	★3
12.00 R 24	T/T	★3

VLTS(E4)

20.5 R 25	T/L	MS
23.5 R 25	T/L	MS
750/65(30/65) R 25	T/L	★2
26.5 R 25	T/L	★2
29.5 R 25	T/L	★2
875/65 R 29	T/L	MS
33.25 R 29	T/L	★2

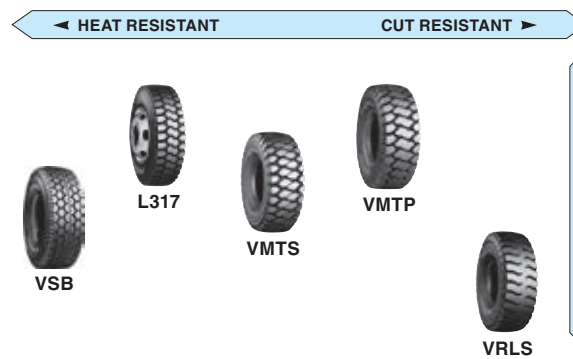
VMTS(E4)

14.00 R 25	T/L	★3
16.00 R 25	T/L	★2
18.00 R 25	T/L	★2
27.00 R 49	T/L	★2

Articulated dump trucks



Off road trucks



Size	Type	Star Rating
------	------	-------------

VMTS(E4)

12.00 R 24	T/T	★3
18.00 R 33	T/L	★2
21.00 R 33	T/L	★2
21.00 R 35	T/L	★2
24.00 R 35	T/L	★2
27.00 R 49	T/L	★2
33.00 R 51	T/L	★2

VZTS(E4)

37.00 R 57	T/L	★2
40.00 R 57	T/L	★2

VZTP(E4)

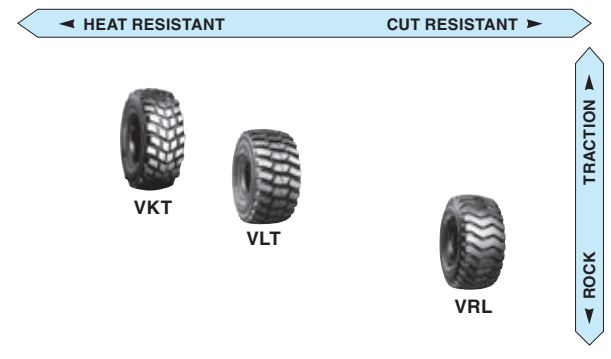
46/90 R 57	T/L	★2
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VELS(E4)

18.00 R 25	T/L	★2
18.00 R 33	T/L	★2
21.00 R 35	T/L	★2
40.00 R 57	T/L	★2

T/T: Tube Type
T/L: Tubeless Type

Scrapers



Size	Type	Star Rating
------	------	-------------

VRLS(E4)

14.00 R 24	T/T	★3
14.00 R 25	T/L	★3
16.00 R 25	T/L	★2
21.00 R 33	T/L	★2
	T/T	★2
24.00 R 35	T/L	★2
27.00 R 49	T/L	★2
30.00 R 51	T/L	★2
33.00 R 51	T/L	★2
36.00 R 51	T/L	★2
37.00 R 57	T/L	★2

VREP(E4)

27.00 R 49	T/L	★2
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VRDP(E4)

27.00 R 49	T/L	★2
33.00 R 51	T/L	★2
42/90 R 57	T/L	★2
40.00 R 57	T/L	★2
46/90 R 57	T/L	★2

VRPS(E4)

33.00 R 51	T/L	★2
42/90 R 57	T/L	★2

Size	Type	Star Rating
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VRPS(E4) (continued)

40.00 R 57	T/L	★2
46/90 R 57	T/L	★2
50/90 R 57	T/L	★2
53/80 R 63	T/L	★2
BRIDGESTONE MASTERCORE		
59/80 R 63	T/L	★2

VREV(E4)

27.00 R 49	T/L	★2
46/90 R 57	T/L	★2
BRIDGESTONE MASTERCORE		
50/80 R 57	T/L	★2
53/80 R 63	T/L	★2
59/80 R 63	T/L	★2

VRQP(E4)

18.00 R 33	T/L	★2
24.00 R 35	T/L	★2

VRWP(E4)

BRIDGESTONE MASTERCORE		
46/90 R 57	T/L	★2

VZTB(E4)

BRIDGESTONE MASTERCORE		
46/90 R 57	T/L	★2

Grader Service



Size	Type	Star Rating
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VUT(G2)

13.00 R 24 TG	T/L	★1
14.00 R 24 TG	T/L	★1
15.5 R 25	T/L	★1
17.5 R 25	T/L	★1
20.5 R 25	T/L	★1
23.5 R 25	T/L	★1

*VSW(G2)

14.00 R 24 TG	T/L	★1
16.00 R 24 TG	T/L	★1
17.5 R 25	T/L	★1

VJT(G3)

20.5 R 25	T/L	★1
23.5 R 25	T/L	★1

VMTS(G4)

14.00 R 24 TG	T/L	★1
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*VSW is especially designed for snow surface operations.

T/L: Tubeless Type

TG: For Semi-Drop Center Rim

Loader & Dozer Service



Size	Type	Star Rating
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VUT(L2)

335/80 R 20	T/L	
365/80 R 20	T/L	
405/70 R 20	T/L	
15.5 R 25	T/L	★1
17.5 R 25	T/L	★1
20.5 R 25	T/L	★1
23.5 R 25	T/L	★1

*VSW(L2)

14.00 R 24 TG	T/L	★1
17.5 R 25	T/L	★1
20.5 R 25	T/L	MS
23.5 R 25	T/L	MS
600/65 R 25	T/L	★1

VLT(L3)

20.5 R 25	T/L	MS
23.5 R 25	T/L	MS
750/65(30/65) R 25	T/L	MS
26.5 R 25	T/L	MS
29.5 R 25	T/L	MS

VJT(L3)

17.5 R 25	T/L	★1★2
20.5 R 25	T/L	★1
23.5 R 25	T/L	★1★2
26.5 R 25	T/L	★1★2
29.5 R 25	T/L	★1★2

T/T: Tube Type

T/L: Tubeless Type

MS: Multiple Star Rating (★1/★2)

MT: Multiple Star Rating (★2/★4)

TG: For Semi-Drop Center Rim

(Please see P.10 for more details.)

*VSW is especially designed for snow surface operations.

Size	Type	Star Rating
------	------	-------------

VTS(L3)

550/65 R 25	T/L	★1
650/65 R 25	T/L	★1
775/65 R 29	T/L	★1
875/65 R 29	T/L	MS

VLTS(L4)

20.5 R 25	T/L	MS
23.5 R 25	T/L	MS
875/65 R 29	T/L	MS

VSNT(L4)

26.5 R 25	T/L	MS ★2
29.5 R 25	T/L	MS ★2
29.5 R 29	T/L	MS ★2
35/65 R 33	T/L	MT MS ★2

VSNL(L4)

14.00 R 20	T/T	★2
35/65 R 33	T/L	★2
45/65 R 45	T/L	★2

VSDT(L5)

23.5 R 25	T/L	★1★2
26.5 R 25	T/L	★1★2
29.5 R 25	T/L	★1★2
29.5 R 29	T/L	★1★2
35/65 R 33	T/L	★1★2

VSDL(L5)

8.25 R 15	T/T	★2
10.00 R 15	T/T	★2
14.5 R 15	T/L	★2
12.00 R 20	T/T	★2

Size	Type	Star Rating
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VSDL(L5) (continued)

15.5 R 25	T/L	★1
17.5 R 25	T/L	★1★2
20.5 R 25	T/L	★1★2
23.5 R 25	T/L	★1★2
26.5 R 25	T/L	★1★2
29.5 R 25	T/L	★1★2
29.5 R 29	T/L	★1★2
33/65 R 29	T/L	★2
35/65 R 33	T/L	★1★2
45/65 R 39	T/L	★1
45/65 R 45	T/L	★1★2★3
50/65 R 51	T/L	★2
55.5/80 R 57	T/L	
60/80 R 57	T/L	

VSDR(L5)

20.5 R 25	T/L	★1★2
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VSMS(L5S)

9.00 R 20	T/T	★2
12.00 R 20	T/T	★2
12.00 R 24	T/T	★2
14.00 R 24	T/T	★2
17.5 R 25	T/L	★1★2
18.00 R 25	T/L	★1★2
26.5 R 25	T/L	★1★2
29.5 R 29	T/L	★2

VSMS2(L5S)

17.5 R 25	T/L	★2
26.5 R 25	T/L	★2
29.5 R 25	T/L	★2
29.5 R 29	T/L	★2

Underground Service



Size	Type
------	------

VSNT(E4/L4)

26.5 R 25	T/L MS ★2
29.5 R 25	T/L MS ★2
29.5 R 29	T/L MS ★2
35/65 R 33	T/L MT MS ★2

VSNL(L4)

14.00 R 20	T/T ★2
35/65 R 33	T/L ★2
45/65 R 45	T/L ★2

VSDT(L5)

23.5 R 25	T/L ★1★2
26.5 R 25	T/L ★1★2
29.5 R 25	T/L ★1★2
29.5 R 29	T/L ★1★2
35/65 R 33	T/L ★1★2

VSDR(L5)

20.5 R 25	T/L ★1★2
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Size	Type
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VSDL(L5)

8.25 R 15	T/T ★2
10.00 R 15	T/T ★2
14.5 R 15	T/L ★2
12.00 R 20	T/T ★2
15.5 R 25	T/L ★1
17.5 R 25	T/L ★1★2
20.5 R 25	T/L ★1★2
23.5 R 25	T/L ★1★2
26.5 R 25	T/L ★1★2
29.5 R 25	T/L ★1★2
29.5 R 29	T/L ★1★2
33/65 R 29	T/L ★2
35/65 R 33	T/L ★1★2

VMDL(LHD5) Subterranean LHD(L2A)

26.5 R 25	T/L ★2
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Size	Type
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VSMS(L5S)

9.00 R 20	T/T ★2
12.00 R 20	T/T ★2
12.00 R 24	T/T ★2
14.00 R 24	T/T ★2
17.5 R 25	T/L ★1★2
18.00 R 25	T/L ★1★2
26.5 R 25	T/L ★1★2
29.5 R 29	T/L ★2

VSMS2(L5S)

17.5 R 25	T/L ★2
26.5 R 25	T/L ★2
29.5 R 25	T/L ★2
29.5 R 29	T/L ★2

VSMS2(LHD5S) Subterranean LHD(L2A)

26.5 R 25	T/L ★2
29.5 R 29	T/L ★2

T/T: Tube Type
 T/L: Tubeless Type
 MS: Multiple Star Rating (★1/★2)
 MT: Multiple Star Rating (★2/★4)

Mobile Crane Service (High-Speed)



Size	Type
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VGT

170E 445/80 R 25	T/L
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VHB

170E 385/95 R 24	T/T
177E 445/95 R 25	T/L
186E 505/95 R 25	T/L

Size	Type
------	------

VHS

170E 385/95 R 24	T/T
170E 385/95 R 25	T/L
170F 385/95 R 25	T/L
177E 445/95 R 25	T/L
174F 445/95 R 25	T/L
186E 505/95 R 25	T/L
179E 525/80 R 25	T/L
176F 525/80 R 25	T/L

VHS2

174F 445/95 R 25	T/L
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Size	Type
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*VSW

170E 385/95 R 25	T/L
177E 445/95 R 25	T/L

*VSW is especially designed for snow surface operations.

T/T: Tube Type
 T/L: Tubeless Type

Industrial Service

Lift trucks, Empty container handlers	Loaded container handlers	Straddle carriers	Harbor cranes	Automated guided vehicles
 VCH	 VCHS	 VCHS	 VELS	 VSDL
 VSMS	 VRLS	 VCH	 VCHR	 VCHD
 VCHP	 VHB	 VHB	 VCHS	 VCHS

Size	Type	
VHB		
14.00 R 24	T/T	★3
16.00 R 25	T/L	★2
18.00 R 25	T/L	★3
VCH		
12.00 R 20	T/T	★3
12.00 R 24	T/T	★2
14.00 R 24	T/T	★3
VCHD		
16.00 R 25	T/L	
VCHS		
<small>New</small> 10.00 R 20	T/T	
12.00 R 20	T/T	
12.00 R 24	T/T	
14.00 R 24	T/T	★3
14.00 R 24 TG	T/L	★3
18.00 R 25	T/L	★3
18.00 R 33	T/L	★3

Size	Type	
VELS		
18.00 R 33	T/L	★3
VRLS		
16.00 R 25	T/L	★2
VSDL		
23.5 R 25	T/L	★2
35/65 R 33	T/L	★2
VSMS		
18.00 R 25	T/L	★2
VCHR		
16.00 R 25	T/L	
VCHP		
450/95 R 25	T/L	

Sand Service



VSJ(E7)

16.00 R 20	T/L	28
	T/T	28
21.00 R 25	T/L	

T/T: Tube Type
T/L: Tubeless Type

T/T: Tube Type
T/L: Tubeless Type
TG: For Semi-Drop Center Rim

3. Technical Data

3.1 Earthmover, Grader, Loader & Dozer Service

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD mm inch	OW mm inch	SLR mm inch	SLW mm inch			
15"														
8.25R15	VSDL		★2	L5	D2A	-	-	880 34.6	248 9.8	405 15.9	285 11.2	48.0	-	6.50T
10.00R15	VSDL		★2	L5	D2A	-	-	905 35.6	287 11.3	416 16.4	330 13.0	48.0	-	7.50V
14.5R15 Tubeless	VSDL		★2	L5	D2A	-	-	899 35.4	359 14.1	413 16.3	412 16.2	48.0	-	11.00/1.5
20"														
9.00R20	VSMS		★2	L5S	D2A	-	-	1054 41.5	260 10.2	474 18.7	303 11.9	51.0	-	7.00T
11.00R20	L317		★3	E4	-	188	129	1107 43.6	290 11.4	512 20.2	325 12.8	25.0	335 13.2	8.00V
12.00R20	L317		★3	E4	-	208	142	1146 45.1	308 12.1	523 20.6	346 13.6	25.0	384 15.1	8.50V
	VSDL		★2	L5	D2A	-	-	1168 46.0	320 12.6	538 21.2	359 14.1	57.0	-	
	VSMS		★2	L5S	D2A	-	-	1173 46.2	312 12.3	540 21.3	351 13.8	57.0	-	
14.00R20	VSNL		★2	L4	D2A	-	-	1196 47.1	360 14.2	550 21.7	414 16.3	34.0	-	10.00WI
335/80R20 Tubeless	VUT	136B		E2	DE2	-	-	1036 40.8	319 12.6	463 18.2	357 14.1	19.0	-	11x20
		147A2		L2										
365/80R20 Tubeless	VUT	141B		E2	DE2	-	-	1087 42.8	347 13.7	483 19.0	389 15.3	21.0	-	11x20
		153A2		L2										
405/70R20 Tubeless	VUT	143B		E2	DE2	-	-	1092 43.0	398 15.7	485 19.1	446 17.6	20.0	-	13x20
		155A2		L2										

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																				Size
		kPa psi	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 115	825 120		
15"																						
VSDL	Loader 10 5	★																			★2	8.25R15
		kg lbs	2200 2275 2350 2425 2500 2575 2650 2725 2800 2875 2950 3025 3100 4860 5020 5200 5360 5540 5700 5860 6000 6200 6350 6500 6650 6800																			
VSDL		★																			★2	10.00R15
		kg lbs	2875 2975 3075 3175 3275 3375 3475 3575 3650 3750 3850 3950 4025 6350 6550 6800 7000 7200 7450 7650 7850 8050 8250 8500 8700 8900																			
VSDL		★																			★2	14.5R15
		kg lbs	2425 2550 2650 2775 2875 2975 3100 3200 3300 3400 3500 5360 5620 5860 6100 6350 6600 6800 7050 7250 7500 7700																			
20"																						
VSMS	Loader 10 5	★																			★2	9.00R20
		kg lbs	3075 3250 3350 3450 3550 3650 3750 3875 4000 4000 4125 4250 4375 6800 7150 7400 7600 7850 8050 8250 8550 8800 8800 9100 9350 9650																			
L317	E/M 50 30	★																			★3	11.00R20
		kg lbs	2500 2600 2710 2810 2910 3010 3100 3200 3300 3390 3480 3570 3670 3760 5510 5730 5970 6200 6420 6640 6830 7050 7280 7470 7670 7880 8080 8290																			
L317		★																			★3	12.00R20
		kg lbs	2770 2880 2990 3110 3220 3330 3430 3540 3650 3750 3850 3950 4060 4160 6110 6350 6590 6860 7100 7340 7560 7800 8050 8270 8490 8720 8940 9170																			
VSDL	Loader VSMS 10 5	★																			★2	12.00R20
		kg lbs	4375 4500 4625 4875 5000 5150 5300 5450 5600 5800 5800 6000 6150 9650 9900 10200 10700 11000 11400 11700 12000 12300 12800 12800 13200 13600																			
VSNL		★																			★2	14.00R20
		kg lbs	5200 5400 5550 5750 5900 6100 6250 6450 6600 6800 6950 7100 7300 11400 11900 12300 12600 13000 13400 13800 14200 14600 15000 15300 15700 16100																			
335/80R20																						
VUT	E/M 50 30	★	275 300 325 350 375 40 44 47 51 54																			335/80R20
		kg lbs	1800 1900 2000 2120 2240 4000 4200 4400 4700 5000																			
VUT	Loader 10 5	★	2430 2575 2725 2900 3075 5350 5700 6000 6400 6800																			335/80R20
		kg lbs																				
VUT	E/M 50 30	★	2060 2180 2300 2430 2575 4500 4800 5100 5400 5700																			365/80R20
		kg lbs																				
VUT	Loader 10 5	★	2900 3075 3250 3450 3650 6400 6800 7150 7600 8000																			365/80R20
		kg lbs																				
VUT	E/M 50 30	★	2180 2300 2430 2575 2725 4800 5100 5400 5700 6000																			405/70R20
		kg lbs																				
VUT	Loader 10 5	★	3075 3250 3450 3650 3875 6800 7250 7600 8100 8550																			405/70R20
		kg lbs																				

1) Figures under the star rating denote the maximum load and inflation pressures.
2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD	OW	SLR	SLW			
								mm inch	mm inch	mm inch	mm inch			
22.5"														
11R22.5 Tubeless	L317		14	E4	-	150	103	1078 42.4	270 10.6	502 19.8	300 11.8	25.0	318 12.5	8.25
12R22.5 Tubeless	L317		★3	E4	-	188	129	1109 43.7	292 11.5	517 20.4	327 12.9	25.0	343 13.5	9.00
24"														
12.00R24	L317		★3	E4	-	177	121	1254 49.4	319 12.6	577 22.7	355 14.0	31.5	391 15.4	8.50V
	VMTP		★3	E4	E2A	136	93	1254 49.4	319 12.6	577 22.7	355 14.0	31.5	391 15.4	
	VSMS		★2	L5S	D2A	-	-	1275 50.2	312 12.3	573 22.6	364 14.3	57.0	-	
13.00R24 TG Tubeless	VUT		★1	G2	G2A	-	-	1290 50.8	357 14.1	585 23.0	380 15.0	25.0	-	8.00TG
14.00R24	VSB		★3	E2	E2A	179	123	1365 53.7	390 15.4	628 24.7	433 17.0	21.0	450 17.7	10.00W
	VRLS		★3	E4	E2A-LS	85	58	1403 55.2	390 15.4	644 25.4	432 17.0	39.0	450 17.7	
	VSMS		★2	L5S	D2A	-	-	1394 54.8	390 15.4	634 25.0	437 17.2	72.0	-	
14.00R24 TG Tubeless	VUT		★1	G2	G2A	-	-	1350 53.1	373 14.7	608 23.9	420 16.5	25.5	-	8.00TG
	VSW	153A8 175A2	★1	G2	DG2	-	-	1351 53.2	370 14.6	594 23.4	426 16.8	23.5	-	
	VMTS		★1	G4	G2A			1400 55.1	373 14.7	645 25.4	415 16.3	38.0	-	
16.00R24 TG Tubeless	VSW		★1	G2	-	-	-	1485 58.5	417 16.4	680 26.8	467 18.4	22.5	-	10.00VA
25"														
14.00R25 Tubeless	VSB		★3	E2	E2A-LS	179	123	1365 53.7	390 15.4	628 24.7	433 17.0	21.0	450 17.7	10.00/1.5
	VMTS		★3	E4	E2A-LS - E3A	91 - 136	62 - 93	1406 55.4	391 15.4	650 25.6	435 17.1	38.0	450 17.7	
	VRLS		★3	E4	E2A	85	58	1403 55.2	391 15.4	650 25.6	435 17.1	39.0	450 17.7	

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																		Size	
		kPa psi	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 115	815 118			
22.5"																				11R22.5	
L317	E/M 50 30	★	14PR																		
		kg lbs	2150 4740	2240 4940	2330 5140	2420 5340	2500 5510	2590 5710	2670 5890	2760 6080	2840 6260	2920 6440	3000 6610								
L317		★																★3			
		kg lbs	2410 5310	2510 5530	2610 5750	2700 5950	2800 6170	2890 6370	2990 6590	3080 6790	3170 6990	3260 7190	3350 7390	3440 7580	3530 7780	3620 7980	3710 8180	3760 8290			
24"																				12.00R24	
L317	E/M 50 30	★	★3																		
		kg lbs	3050 6720	3180 7010	3300 7280	3430 7560	3550 7830	3670 8090	3790 8360	3900 8600	4020 8860	4140 9130	4250 9370								
VSMS	Loader 10 5	★																★2			
		kg lbs							4875 11000	5150 11400	5300 11700	5450 12000	5600 12300	5800 12800	6000 13200	6150 13600	6300 13900	6500 14300	6500 14300	6700 14700	6900 15200
13.00R24 TG																				13.00R24 TG	
VUT	Grader 40 25	★	★1																		
		kg lbs	1850 4080	2000 4400	2180 4800	2360 5200	2500 5520	2650 5840	2800 6150	3000 6600											
14.00R24																				14.00R24	
VSB	E/M 50 30	★	★3																		
		kg lbs	4000 8800	4125 9100	4375 9650	4500 9900	4625 10200	4750 10500	5000 11000	5150 11400	5300 11700	5450 12000	5600 12300	5710 12500	5830 12800	5940 13100	6050 13400				
VSMS	Loader 10 5	★																★2			
		kg lbs	5950 13120	6200 13700	6450 14220	6700 14800	6950 15300	7200 15900	7450 16400	7700 16980	7950 17500	8200 18080	8450 18630	8700 19180	8950 19690	9200 20680	9500 20900				
14.00R24 TG																				14.00R24 TG	
VUT	Grader 40 25	★	★1																		
VSW	VMTS	kg lbs	2240 4940	2430 5360	2650 5840	2800 6150	3000 6600	3250 7150	3350 7400	3650 8050											
VSW	Loader 10 5	★																★1			
		kg lbs													6700 14800	6900 15200					
VSW	Grader 40 25	★	★1																		
		kg lbs	2900 6400	3150 6950	3350 7400	3650 8050	3875 8550	4125 9100	4375 9650	4625 10200											
25"																				14.00R25	
VSB	E/M 50 30	★	★3																		
VMTS	VRLS	kg lbs	4000 8800	4125 9100	4375 9650	4500 9900	4625 10200	4750 10500	5000 11000	5150 11400	5300 11700	5450 12000	5600 12300	5710 12500	5830 12800	5940 13100	6050 13400				

1) Figures under the star rating denote the maximum load and inflation pressures.

2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height	
								OD	OW	SLR	SLW				
								mm inch	mm inch	mm inch	mm inch				
15.5R25 Tubeless	VUT		★1	G2, L2	DG2	-	-	1269 50.0	383 15.1	559 22.0	436 17.2	27.0	-	12.00/1.3	
	VSDL		★1	L5	D2A	-	-	1329 52.3	393 15.5	606 23.9	443 17.4	64.0	-		
16.00R25 Tubeless	VMTS		★2	E4	E2A-LS	123	84	1535 60.4	450 17.7	711 28.0	500 19.7	45.0	513 20.2	11.25/2.0	
	VRLS		★2	E4	E2A E1A	112 146	77 100	1531 60.3	448 17.6	697 27.4	510 20.1	45.0	513 20.2		
17.5R25 Tubeless	VUT		★1	G2, L2	DG2	-	-	1340 52.8	444 17.5	586 23.1	500 19.7	28.0	-	14.00/1.5	
	VSW	153A8	★1	G2	DG2	-	-	1340 52.8	440 17.3	597 23.5	480 18.9	27.0	-		
		176A2	★1	L2											
	VJT	176A2	★1	L3	D2A	-	-	1352 53.2	443 17.4	604 23.8	510 20.1	30.0	-		
		182A2	★2												
	VSDL			★2	L5	D2A	-	-	1400 55.1	440 17.3	639 25.2	495 19.5	68.0	-	
				★1											
VSMS			★2	L5S	D2A	-	-	1371 54.0	440 17.3	631 24.8	487 19.2	68.5	-		
			★1												
VSMS2			★2	L5S	D2A	-	-	1371 54.0	453 17.8	631 24.8	487 19.2	68.5	-		
18.00R25 Tubeless	VMTS		★2	E4	E2A	169	116	1654 65.1	505 19.9	754 29.7	571 22.5	51.0	587 23.1	13.00/2.5	
	VELS		★2	E4	E2A E1A	144 179	99 123	1642 64.6	515 20.3	744 29.3	580 22.8	50.0	587 23.1		
															VSMS
			★1												

For the TKPH(TMPH) Ratings, please refer to page 11.
 Will be discontinued.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																Size							
		kPa psi	400 58	425 62	450 65	475 69	500 73																		
VUT VSDL	Loader 10 5	★	★1																15.5R25						
		kg lbs	5000 11000	5150 11400	5450 12000	5600 12300	5800 12800																		
		kPa psi	125 18	150 22	175 25	200 29	225 33	250 36	275 40	300 44															
VUT VSW	Grader 40 25	★	★1																15.5R25						
		kg lbs	1550 3420	1750 3860	2000 4400	2180 4800	2360 5200	2575 5680	2800 6150	3000 6600															
		kPa psi	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102												
VMTS VRLS	E/M 50 30	★	★2																16.00R25						
		kg lbs	5150 11400	5450 12000	5600 12300	5800 12800	6000 13200	6300 13900	6500 14300	6700 14800	6900 15200	7100 15700	7300 16100												
		kPa psi	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94												
VUT VSW	Loader 10 5	★	★1																17.5R25						
		kg lbs	6000 13200	6150 13600	6500 14300	6700 14800	7100 15700	7300 16100	7500 16500	7750 17100	8000 17600	8250 18200	8500 18700												
		kPa psi	125 18	150 22	175 25	200 29	225 33	250 36	275 40	300 44															
VUT VSW	Grader 40 25	★	★1																17.5R25						
		kg lbs	1850 4080	2120 4680	2360 5200	2650 5840	2900 6400	3075 6800	3350 7400	3650 8050															
		kPa psi	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 115	825 120							
VMTS VELS	E/M 50 30	★	★2																18.00R25						
		kg lbs	6700 14800	7100 15700	7300 16100	7500 16500	7750 17100	8000 17600	8250 18200	8500 18700	8750 19300	9000 19800	9250 20400												
		kPa psi	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 115	825 120							
VSMS	Loader 10 5	★	★1																18.00R25						
		kg lbs											11200 24700	11800 26000	12150 26800	12500 27600	12850 28300	13200 29100		13600 30000	14000 30900	14500 32000	15000 33100	15000 33100	15500 34200
		kPa psi											11200 24700	11800 26000	12150 26800	12500 27600	12850 28300	13200 29100	13600 30000	14000 30900	14500 32000	15000 33100	15000 33100	15500 34200	16000 35300

1) Figures under the star rating denote the maximum load and inflation pressures.
2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD	OW	SLR	SLW			
								mm inch	mm inch	mm inch	mm inch			
20.5R25 Tubeless	VSW		MS	E2, L2	DE2	-	-	1470 57.9	530 20.9	640 25.2	603 23.7	29.0	-	17.00AL/1.7(★1only) 17.00/2.0
	VUT		★1	G2, L2	DG2	-	-	1473 58.0	533 21.0	643 25.3	608 23.9	30.5	-	
	VLT	177B	MS	E3	DE2	149	102	1498 59.0	530 20.9	676 26.6	586 23.1	40.0	-	
		186A2		L3		-	-							
	VJT	186A2	★1	G3, L3	DG2	-	-	1480 58.3	530 20.9	652 25.7	609 24.0	33.0	-	
	VLTS	177B	MS	E4	DE2	126	86	1478 58.2	530 20.9	667 26.3	581 22.9	49.0	-	-
		186A2		L4										
	VSDL		★2	L5	D2A	-	-	1552 61.1	531 20.9	702 27.6	600 23.6	78.0	-	-
★1														
VSDR		★2 ★1	L5	D2A	-	-	1552 61.1	531 20.9	702 27.6	600 23.6	78.0	-		
23.5R25 Tubeless	VSW		MS	E2, L2	DE2	-	-	1596 62.8	620 24.4	692 27.2	689 27.1	31.5	-	19.50/2.5
	VUT		★1	G2, L2	DG2	-	-	1599 63.0	620 24.4	702 27.6	688 27.1	33.5	-	
	VLT	185B	★2	E3	E2A	190	130	1629 64.1	610 24.0	734 28.9	670 26.4	42.5	-	
		195A2	MS			DE2	153	105	1623 63.9	616 24.3	734 28.9	680 26.8	42.5	-
	VJT	195A2	★1	L3	D2A	-	-	1600 63.0	617 24.3	696 27.4	695 27.4	35.0	-	-
		201A2	★2											
	VLTS	185B	MS	E4	DE2	161	110	1616 63.6	612 24.1	729 28.7	675 26.6	54.0	-	-
		195A2		L4										
	VSDT	201A2	★2	L5	D2A	-	-	1660 65.4	621 24.4	745 29.3	680 26.8	79.0	-	-
		195A2	★1											
VSDL		★2	L5	D2A	-	-	1672 65.8	613 24.1	755 29.7	677 26.7	87.0	-	-	
		★1												
550/65R25 Tubeless	VTS		★1	L3	D2A	-	-	1350 53.1	547 21.5	594 23.4	605 23.8	32.5	-	(14.00/1.5) 17.00/2.0
600/65R25 Tubeless	VSW	187A2	★1	L2	D2A	-	-	1424 56.0	600 23.6	627 24.7	668 26.3	31.5	-	(17.00/1.7, 17.00/2.0) 19.50/2.5
650/65R25 Tubeless	VTS		★1	L3	D2A	-	-	1502 59.1	642 25.3	660 26.0	710 28.0	37.0	-	19.50/2.5

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures													Size					
		kPa psi	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76							
VSW VLT VLTS	E/M 50 30	★ kg lbs	4375 9650	4750 10500	5000 11000	5300 11700	5600 12300	5800 12800	6150 13600	6500 14300	6700 14800	6900 15200	7300 16100	★2	20.5R25					
VUT VJT	Grader 40 25	★ kg lbs	125 18	150 22	175 25	200 29	225 33	250 36	275 40	300 44	★1									
VUT(★1) VSW(★1) VLT(★1) VJT(★1) VLTS(★1) VSDL VSDR	Loader 10 5	★ kg lbs	8000 17600	8250 18200	8750 19300	9000 19800	9500 20900	9750 21500	10000 22000	10300 22700	10900 24000	11200 24700	11500 25400	★1 ★2	20.5R25					
VSW VLT VLTS	E/M 50 30	★ kg lbs	5600 12300	6000 13200	6500 14300	6700 14800	7100 15700	7500 16500	7750 17100	8250 18200	8500 18700	9000 19800	9250 20400	★2	23.5R25					
VUT VJT	Grader 40 25	★ kg lbs	125 18	150 22	175 25	200 29	225 33	250 36	275 40	300 44	★1									
VLT(★1) VJT VLTS(★1) VSDT VSDL VUT(★1) VSW(★1)	Loader 10 5	★ kg lbs	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	★1 ★2	23.5R25
VTS	Loader 10 5	★ kg lbs					7500 16500	7750 17100	8250 18200	8500 18700	★1			550/65R25						
VSW		★ kg lbs					8750 19300	9000 19800	9500 20900	9750 21500	★1			600/65R25						
VTS		★ kg lbs					10000 22000	10600 23400	10900 24000	11500 25400	★1			650/65R25						

1) Figures under the star rating denote the maximum load and inflation pressures.
2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height	
								OD	OW	SLR	SLW				
								mm inch	mm inch	mm inch	mm inch				
750/65R25 (30/65R25) Tubeless	VLT	190B	MS	E3	DE2	225	154	1625	765	718	831	43.0	-	(22.00/3.0)	
		202A2		L3				64.0	30.1	28.3	32.7		-		24.00/3.0
	VLTS	190B	★2	E4	E2A-LS	195	134	1623	765	713	832	55.0	-		
								63.9	30.1	28.1	32.8		-		
26.5R25 Tubeless	VLT	193B	MS	E3	DE2	190	130	1747	684	787	736	45.0	-	22.00/3.0	
		202A2		L3				68.8	26.9	31.0	29.0		-		
		VJT	202A2	★1	L3	D2A	-	-	1737	682	754	795	38.0	-	
			209A2	★2					68.4	26.9	29.7	31.3		-	
		VLTS	193B	★2	E4	E2A-LS	186	127	1736	678	784	743	59.0	-	
									68.3	26.7	30.9	29.3		-	
		VSNT		MS	E4	DE2	165	113	1779	685	780	774	57.5	-	
				L4	70.0				27.0	30.7	30.5	-			
				★2		D2A								-	
		VSDT	209A2	★2	L5	D2A	-	-	1775	697	790	778	88.0	-	
			202A2	★1					69.9	27.4	31.1	30.6		-	
		VSDL		★2	L5	D2A	-	-	1790	684	797	761	95.5	-	
	★1				70.5				26.9	31.4	30.0	-			
	VMDL		★2	LHD5	L2A	-	-	1785	685	780	778	95.5	-		
								70.3	27.0	30.7	30.6		-		
	VSMS		★2	L5S	D2A	-	-	1775	684	800	760	95.0	-		
			★1					69.9	26.9	31.5	29.9		-		
	VSMS2		★2	L5S	D2A	-	-	1775	704	800	760	95.0	-		
								69.9	27.7	31.5	29.9		-		
	VSMS2		★2	LHD5S	L2A	-	-	1775	704	786	789	95.0	-		
								69.9	27.7	30.9	31.1		-		
29.5R25 Tubeless	VLT	200B	★2	E3	E3A	292	200	1877	762	840	843	48.0	-	25.00/3.5	
								73.9	30.0	33.1	33.2		-		
		208A2	MS	L3	DE2	200	137	1877	762	840	830	48.0	-		
											73.9		30.0	33.1	32.7
		VJT	216A2	★2	L3	D2A	-	-	1865	762	810	878	42.0	-	
			208A2	★1					73.4	30.0	31.9	34.6		-	
		VLTS	200B	★2	E4	E2A-LS	225	154	1865	762	835	844	65.0	-	
									73.4	30.0	32.9	33.2		-	
		VSNT		MS	E4	DE2	220	151	1905	773	849	835	60.0	-	
				L4	75.0				30.4	33.4	32.9	-			
			★2		D2A								-		
	VSDT	216A2	★2	L5	D2A	-	-	1905	779	845	869	96.0	-		
		208A2	★1					75.0	30.7	33.3	34.2		-		
	VSDL		★2	L5	D2A	-	-	1925	766	855	846	104.0	-		
			★1					75.8	30.2	33.7	33.3		-		
	VSMS2		★2	L5S	D2A	-	-	1908	790	857	879	104.0	-		
								75.1	31.1	33.7	34.6		-		

For the TKPH(TMPH) Ratings, please refer to page 11.
■ Will be discontinued.

Pattern	Application Max. Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																			Size		
		kPa psi	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94					
750/65R25 (30/65R25)	VLT	E/M	★	★2																			750/65R25 (30/65R25)
	VLTS	50 30	kg lbs	6900 15200	7300 16100	7750 17100	8250 18200	8750 19300	9250 20400	9750 21500	10300 22700	10600 23400											
	VLT	Loader	★	★1																			
		10 5	kg lbs								13200 29100	13600 30000	14500 32000	15000 33100									
26.5R25	VLTS	E/M	★	★2																			26.5R25
	VSNT	50	kg	7100	7500	8000	8500	9000	9500	9750	10300	10600	11200	11500									
	VLT	30	lbs	15700	16500	17600	18700	19800	20900	21500	22700	23400	24700	25400									
29.5R25	VLT(★1)	Loader	★	★1																			29.5R25
	VJT	10	kg								12850	13200	14000	14500	15000	15500	16000	16500	17000	18000	18500		
	VSNT	5	lbs								28300	29100	30900	32000	33100	34200	35300	36400	37500	39700	40800		
26.5R25	VMDL	LHD	★	★1																			26.5R25
	VSMS2 (L2A)	10 5	kg lbs								16500 36400	17000 37500	17500 38600	18500 40800	19000 41900	19500 43000	20000 44100	20600 45400	21200 46700				
				★2																			
29.5R25	VLT	E/M	★	★2																			29.5R25
	VLTS	50	kg	8500	9250	9750	10300	10900	11500	11800	12500	12850	13600	14000									
	VSNT	30	lbs	18700	20400	21500	22700	24000	25400	26000	27600	28300	30000	30900									
29.5R25	VLT	Loader	★	★1																			29.5R25
	VJT	10	kg								15500	16000	17000	17500	18000	19000	19500	20000	20600	21200	22400		
	VSNT	5	lbs								34200	35300	37500	38600	39700	41900	43000	44100	45400	46700	49400		

1) Figures under the star rating denote the maximum load and inflation pressures.
2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD	OW	SLR	SLW			
								mm inch	mm inch	mm inch	mm inch			
29"														
775/65R29 Tubeless	VTS		★1	L3	D2A	-	-	1740	775	762	843	43.0	-	(24.00/3.5) 25.00/3.5
								68.5	30.5	30.0	33.2			
875/65R29 Tubeless	VTS	203B	MS	E3	DE2	237	162	1865	850	792	963	47.5	-	27.00/3.5 (28.00/3.5)
		214A2		L3				73.4	33.5	31.2	37.9			
	VLTS	203B	MS	E4	DE2	225	154	1868	858	827	938	60.0	-	
		214A2		L4				74.0	33.8	32.6	36.9			
29.5R29 Tubeless	VKT		★2	E2	E2A-LS	330	226	1958	765	870	841	44.0	-	25.00/3.5
					E1A			401	275	77.1	30.1			
	VSNT		MS	L4	DE2	232	159	2000	774	905	849	60.0	-	
								D2A	-	-	78.7			
	VSDT	218A2	★2	L5	D2A	-	-	1989	779	883	872	96.0	-	
		211A2						★1	78.3	30.7	34.8			
	VSDL		★2	L5	D2A	-	-	2008	776	900	856	104.5	-	
								★1	79.1	30.6	35.4			
	VSMS		★2	L5S	D2A	-	-	2008	773	912	829	104.5	-	-
VSMS2		★2	L5S	D2A	-	-	2008	792	912	874	104.5	-	-	
VSMS2		★2	LHD5S	L2A	-	-	2006	793	892	870	104.5	-	-	
33.25R29 Tubeless	VLT		★2	E3	E2A	349	239	2081	853	925	950	54.0	-	27.00/3.5
	VLTS		★2	E4	E2A	254	174	2093	853	930	948	69.0	-	
33/65R29 Tubeless	VSDL		★2	L5	D2A	-	-	1927	843	853	930	90.3	-	27.00/3.5
33"														
18.00R33 Tubeless	VMTP		★2	E4	E2A	185	127	1870	515	846	575	55.0	587	13.00/2.5
	E1A	229	157	73.6	20.3	33.3	22.6				23.1			
	VELS		★2	E4	E2A	170	116	1856	512	856	575	49.0	587	
VRQP		★2	E4	E2ALS	122	84	1890	515	876	575	64.5	587		
				E2A			152	104	74.4	20.3	34.5	22.6	23.1	
21.00R33 Tubeless	VMTP		★2	E4	E2A	237	162	1998	578	909	650	61.0	701	15.00/3.0
	E1A	293	201	78.7	22.8	35.8	25.6			27.6				
VRLS		★2	E4	E2A	227	155	1978	578	899	650	54.0	701		
21.00R33														

For the TKPH(TMPH) Ratings, please refer to page 11.
 Will be discontinued.

Pattern	Application Max.Speed	Tire Load Limits at Various Cold Inflation Pressures																		Size					
		kPa psi	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94							
29"																									
VTS	Loader 10 5	★	★1																		775/65R29				
		kg	15000 15500 16500 17000																						
VTS	E/M 50 30	★	★2																		875/65R29				
		kg	10000	10900	11500	12150	12850	13600	14000	14500	15500	22000	24000	25400	26800	28300	30000	30900	32000	34200					
VTS	Loader 10 5	★	★1																		29.5R29				
		kg	18500 19500 20600 21200																						
VKT	E/M 50 30	★	★2																		33.25R29				
		kg	9250	9750	10300	10900	11500	12150	12500	13200	13600	14500	15000	20400	21500	22700	24000	25400	26800	27600		29100	30000	33100	
VSNT	Loader 10 5	★	★1																		33/65R29				
		kg	16500 17000 18000 18500 19500 20000 20600 21200 22400 23000 23600																						
VSDT	VSDL	5																			33.25R29				
			kg	36400 37500 39700 40800 43000 44100 45400 46700 49400 50700 52000																					
VSMS	VSMS2 (D2A)																			33/65R29					
		kg																							
VSMS2 (L2A)	LHD 10 5	★	★1																		33/65R29				
		kg	21200 21800 22400 23600 24300 25000 25750 26500 27250																						
VLT	E/M 50 30	★	★2																		33.25R29				
		kg	11200	12150	12850	13600	14000	15000	15500	16500	17000	17500	18500	24700	26800	28300	30000	30900	33100	34200		36400	37500	38600	40800
VSDL	Loader 10 5	★	★1																		33/65R29				
		kg	18000 19000 19500 20600 21200 21800 22400 23000 23600																						
33"																									
VMTP	E/M 50 30	★	★2																		18.00R33				
		kg	7750	8000	8500	8750	9000	9250	9750	10000	10300	10600	10900	17100	17600	18700	19300	19800	20400	21500		22000	22700	23400	24000
		lbs																							
VMTP	VRLS	★	★2																		21.00R33				
		kg	10000	10300	10900	11200	11500	11800	12500	12850	13200	13600	14000	22000	22700	24000	24700	25400	26000	27600		28300	29100	30000	30900
VRLS		★	★2																		21.00R33				
		kg	22000 22700 24000 24700 25400 26000 27600 28300 29100 30000 30900																						

1) Figures under the star rating denote the maximum load and inflation pressures.
2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD	OW	SLR	SLW			
								mm inch	mm inch	mm inch	mm inch			
35/65R33 Tubeless	VSNT	225A8	MT	E4	DUH	250	171	2075	904	936	976	62.5	-	28.00/3.5
				L4		-	-	81.7	35.6	36.9	38.4	-		
				MS		DE2	250	171	-	-	-	-	-	
	L4	D2A	-	-	-		-	-	-					
	VSNT	224A2 217A2	★2	L5	D2A	-	-	2075	890	914	990	96.0	-	-
	★1			-		-	81.7	35.0	36.0	39.0	-	-		
VSDL	★2 ★1	L5	D2A	-	-	2075	880	917	951	95.0	-	-	-	
★1		-		-	81.7	34.6	36.1	37.4	-	-				
35"														
21.00R35 Tubeless	VMTP	★2	E4	E2A	237	162	2048	577	922	655	61.0	701	15.00/3.0	
	VELS		E4	E2A	227	155	2044	577	935	650	59.0	701		
24.00R35 Tubeless	VMTP	★2	E4	E2A	314	215	2184	660	975	734	68.0	795	17.00/3.5	
			E1A	293	201	80.6	22.7	36.3	25.8	27.6				
	VRQLS	★2	E4	E2A	227	155	2044	577	935	650	59.0	701		
29.5R35 Tubeless	VRL	★2	E3	-	-	-	2120	768	932	844	39.5	-	25.00/3.5	
			E1A	380	260	83.5	30.2	36.7	33.2	-				
	VRL	★2	E3	-	-	-	2228	846	990	970	49.0	-	27.00/3.5	
33.25R35 Tubeless	VRL	★2	E3	-	-	-	2228	846	990	970	49.0	-	27.00/3.5	
			E1A	472	323	87.7	33.3	39.0	38.2	-				
37.25R35 Tubeless	VLT	★2	E3	E2A	417	286	2388	954	1054	1063	59.5	-	31.00/4.0	
			E1A	569	390	94.0	37.6	41.5	41.9	-				
39"														
37.5R39 Tubeless	VKT	★2	E2	-	-	-	2524	982	1120	1080	51.0	-	32.00/4.5	
			E1A	696	477	99.4	38.7	44.1	42.5	-				
40.5/75R39 Tubeless	VLT	★2	E3	E2A	500	342	2609	1002	1157	1127	58.5	-	32.00/4.5	
			E1A	682	467	102.6	39.4	45.6	44.4	-				
45/65R39 Tubeless	VSDL	★1	L5	D2A	-	-	2580	1074	1116	1205	116.0	-	32.00/4.5 (36.00/4.5)	

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																Size									
		kPa psi	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 113	800 116												
VSNT (MT)	Underground Trucks 40 25	★	★4																35/65R33								
	kg	20000	20600	21800	22400	23000	23600	24300	25000	25750	26500	27250	28000	29000	kg	44100	45400	48100		49400	50700	52000	53600	55100	56800	58400	60000
VSNT (MT)	Underground Trucks 25 15	★	★4																35/65R33								
kg	23000	24000	25000	25750	26500	27250	28000	29000	30000	kg	50700	52900	55100	56750	58400	59950	61500	63750		66000							
VSNT (MS)	E/M 50 30	★	★2																35/65R33								
	kg	10600	11500	12150	12850	13600	14000	15000	15500	16000	17000	17500	kg	23400	25400	26800	28300	30000		30900	33100	34200	35300	37500	38600		
VSNT VSNL VSDT VSDL	Loader 10 5	★	★1																35/65R33								
kg	19500	20600	21200	22400	23000	23600	25000	25750	26500	27250	28000	kg	43000	45400	46700	49400	50700	52000		55100	56800	58400	60000	61500			
35"																											
VMTP VELS	E/M 50 30	★	★2																21.00R35								
	kg	10300	10600	11200	11500	11800	12150	12850	13200	13600	14000	14500	kg	22700	23400	24700	25400	26000		26800	28300	29100	30000	30900	32000		
VMTP VRQLS VRQP	★	★2																24.00R35									
		kg	13200	13600	14000	14500	15500	16000	16500	17000	17500	18000	18500	kg	29100	30000	30900		32000	34200	35300	36400	37500	38600	39700	40800	
VRL	E/M 50 30	★	★2																29.5R35								
	kg	10000	10600	11200	11800	12500	13200	13600	14500	15000	15500	16000	kg	22000	23400	24700	26000	27600		29100	30000	32000	33100	34200	35300		
VRL	★	★2																33.25R35									
		kg	12150	12850	14000	14500	15500	16000	17000	17500	18500	19000	20000	kg	26800	28300	30900		32000	34200	35300	37500	38600	40800	41900	44100	
VLT	★	★2																37.25R35									
		kg	14500	15500	16500	17500	18500	19500	20600	21200	22400	23000	23600	kg	32000	34200	36400		38600	40800	43000	45400	46700	49400	50700	52000	
39"																											
VKT	E/M 50 30	★	★2																37.5R39								
	kg	16000	17000	18000	19000	20000	21200	21800	23000	23600	25000	25750	kg	35300	37500	39700	41900	44100		46700	48100	50700	52000	55100	56800		
VLT	★	★2																40.5/75R39									
		kg	18000	19000	20600	21800	22400	23600	25000	25750	27250	28000	29000	kg	39700	41900	45400		48100	49400	52000	55100	56800	60000	61500	64000	
VSDL	Loader 10 5	★	★1																45/65R39								
	kg	33500	34500	36500	37500	40000	kg	74000	76000	80500	82500	88000															

1) Figures under the star rating denote the maximum load and inflation pressures.
2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD	OW	SLR	SLW			
								mm inch	mm inch	mm inch	mm inch			
45"														
45/65R45 Tubeless	VSNL		★2	L4	D2A	-	-	2730 107.5	1123 44.2	1190 46.8	1275 50.2	75.0	-	36.00/4.5
	VSDL		★3	L5	D2A	-	-	2734 107.6	1124 44.3	1200 47.2	1241 48.9	111.5	-	
			★2					2730 107.5	1123 44.2	1188 46.8	1274 50.2	111.5	-	
			★1											
49"														
27.00R49 Tubeless	VFT		★2	E2	E2A -	557 -	382 -	2646 104.2	750 29.5	1207 47.5	860 33.9	44.0	892 35.1	19.50/4.0
					E3A	804	551							
	VMTS		★2	E4	E2A E1A E3A	486 600 702	333 411 481	2690 105.9	750 29.5	1230 48.4	860 33.9	64.0	892 35.1	
					E2A E1A E3A	440 544 636	301 373 436	2700 106.3	750 29.5	1239 48.8	860 33.9	73.0	892 35.1	
	VRLS		★2	E4	E2A E1A E3A	415 513 600	284 351 411	2687 105.8	750 29.5	1228 48.3	860 33.9	66.5	892 35.1	
					E2A E1A E3A	457 564 660	313 386 452	2690 105.9	750 29.5	1231 48.4	860 33.9	66.5	892 35.1	
	VREP		★2	E4	E2A E1A E3A	415 513 600	284 351 411	2711 106.7	750 29.5	1240 48.8	860 33.9	76.0	892 35.1	
					E2A E1A E3A	415 513 600	284 351 411	2720 107.1	750 29.5	1246 49.1	860 33.9	83.0	892 35.1	
VREV		★2	E4	E2A E1A E3A	415 513 600	284 351 411		750 29.5	1246 49.1	860 33.9	83.0	892 35.1		
				E2A E1A E3A	415 513 600	284 351 411		750 29.5	1246 49.1	860 33.9	83.0	892 35.1		
51"														
30.00R51 Tubeless	VMT		★2	E3	- -	- -	- -	2850 112.2	854 33.6	1294 50.9	950 37.4	45.0	993 39.1	22.00/4.5
				E3A	1065	729								
VRLS		★2	E4	E2A E1A E3A	496 603 717	340 413 491	2904 114.3	854 33.6	1311 51.6	963 37.9	74.5	993 39.1		
				E2A E1A E3A	496 603 717	340 413 491								
				E2A E1A E3A	496 603 717	340 413 491								
33.00R51 Tubeless	VMT		★2	E3	- E1A E3A	- 1018 1209	- 697 828	2988 117.6	932 36.7	1338 52.7	1052 41.4	48.0	1074 42.3	24.00/5.0
	VMTP		★2	E4	E2A E1A E3A	591 700 832	405 479 570	3063 120.6	932 36.7	1376 54.2	1052 41.4	89.5	1074 42.3	
					E2A E1A E3A	558 679 807	382 465 553	3035 119.5	932 36.7	1371 54.0	1051 41.4	78.5	1074 42.3	
	VRDP		★2	E4	E2A E1A E3A	558 679 807	382 465 553	3061 120.5	932 36.7	1376 54.2	1051 41.4	87.0	1074 42.3	
					E2A E1A E3A	558 679 807	382 465 553	3061 120.5	932 36.7	1376 54.2	1051 41.4	87.0	1074 42.3	
	VRPS		★2	E4	E2A E1A E3A	558 679 807	382 465 553	3061 120.5	932 36.7	1376 54.2	1051 41.4	87.0	1074 42.3	
36.00R51 Tubeless	VHS		★2	E2	- -	- -	- -	3108 122.4	1015 40.0	1390 54.7	1163 45.4	44.0	1184 46.6	26.00/5.0
				E3A	1485	1017								
VRLS		★2	E4	E2A E1A E3A	642 781 927	440 535 635	3204 126.1	1015 40.0	1431 56.3	1153 45.4	86.5	1184 46.6		
				E2A E1A E3A	642 781 927	440 535 635								
				E2A E1A E3A	642 781 927	440 535 635								
50/65R51 Tubeless	VSDL		★2	L5	D2A	-	-	3070 120.9	1278 50.3	1347 53.0	1361 53.6	128.0	-	40.00/4.5

For the TKPH(TMPH) Ratings, please refer to page 11.
 Will be discontinued.

Pattern	Application Max.Speed	km/h mph	Tire Load Limits at Various Cold Inflation Pressures																		Size	
			kPa psi	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 116		
45"																						
VSNL VSDL	Loader	★	★1						★2						★3						45/65R45	
		10 kg	35500	37500	38750	40000	42500	43750	45000	46250	47500	50000	51500	53000	54500	56000	56000	58000	60000			
		5 lbs	78500	82500	85500	88000	93500	96500	99000	102000	104500	110000	113500	117000	120000	123500	123500	128000	132500			
49"																						
VFT VMTS VMTP VRLS VREP VRDP VREV	E/M	★	★2																		27.00R49	
		50 kg		19500	20000	20600	21800	22400	23000	23600	25000	25750	26500	27250								
		30 lbs		43000	44100	45400	48100	49400	50700	52000	55100	56800	58400	60000								
51"																						
VMT VRLS	E/M	★	★2																		30.00R51	
		50 kg lbs		23600	25000	25750	26500	28000	29000	30000	30750	31500	32500	33500								
VMT VMTP VRLS VRDP VRPS	E/M	★	★2																		33.00R51	
		kg		27250	29000	30000	30750	32500	33500	34500	35500	36500	37500	38750								
		lbs		60000	64000	66000	68000	71500	74000	76000	78500	80500	82500	85500								
VHS VRLS	E/M	★	★2																		36.00R51	
		kg lbs		33500	35500	36500	37500	38750	40000	41250	42500	43750	45000	46250								
VSDL	Loader	★	★2																		50/65R51	
		10 kg lbs	45000	47500	50000	51500	54500	56000	58000	60000	61500	63000	65000									

1) Figures under the star rating denote the maximum load and inflation pressures.
2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD	OW	SLR	SLW			
								mm inch	mm inch	mm inch	mm inch			
57"														
37.00R57 Tubeless	VZTS		★2	E4	E2A E1A E3A	694 845 1003	475 579 687	3422 134.7	1044 41.1	1541 60.7	1190 46.9	87.5	1217 47.9	27.00/6.0
	VRLS		★2	E4	E2A E1A E3A	694 845 1003	475 579 687	3410 134.3	1044 41.1	1535 60.4	1190 46.9	87.5	1217 47.9	
	VRDP		★2	E4	E2A E1A E3A	715 870 1033	490 596 708	3456 136.1	1060 41.7	1539 60.6	1210 47.7	97.0	1323 52.1	27.00/6.0 (29.00/6.0)
42/90R57 Tubeless	VRPS		★2	E4	E2A E1A E3A	715 870 1033	490 596 708	3456 136.1	1060 41.7	1539 60.6	1210 47.7	97.0	1323 52.1	
	VRDP		★2	E4	E2A E1A E3A	715 870 1033	490 596 708	3456 136.1	1060 41.7	1539 60.6	1210 47.7	97.0	1323 52.1	
40.00R57 Tubeless	VMT		★2	E3	E2A E1A E3A	1204 1463 1739	825 1002 1191	3512 138.3	1108 43.6	1560 61.4	1264 49.8	64.0	1311 51.6	29.00/6.0
	VZTS		★2	E4	E2A E1A E3A	773 940 1117	529 644 765	3585 141.1	1140 44.9	1606 63.2	1289 50.7	91.5	1311 51.6	
	VELS		★2	E4	E2A E1A E3A	773 940 1117	529 644 765	3562 140.2	1127 44.4	1582 62.3	1291 50.8	91.5	1311 51.6	
	VRDP		★2	E4	E2A E1A E3A	773 940 1117	529 644 765	3572 140.6	1114 43.9	1591 62.6	1264 49.8	97.0	1311 51.6	
	VRPS		★2	E4	E2A E1A E3A	773 940 1117	529 644 765	3572 140.6	1114 43.9	1591 62.6	1264 49.8	97.0	1311 51.6	
46/90R57 Tubeless	VZTP		★2	E4	E2A E1A E3A	766 927 1103	525 635 755	3585 141.1	1145 45.1	1591 62.6	1299 51.1	97.0	1412 55.6	29.00/6.0 (32.00/6.0)
	VZTB	BRIDGESTONE MASTERCORE	★2	E4	E2A	796 (837)*	545 (573)*	3580 140.9	1145 45.1	1567 61.7	1316 51.8	91.5	1432 56.4	
					E1A	968 (1017)*	663 (697)*							
					E3A	1150 (1209)*	788 (828)*							
	VRDP		★2	E4	E2A E1A E3A	796 968 1150	545 663 788	3572 140.6	1145 45.1	1586 62.4	1299 51.1	97.0	1412 55.6	
	VRPS		★2	E4	E2A E1A E3A	796 968 1150	545 663 788	3572 140.6	1145 45.1	1586 62.4	1299 51.1	97.0	1412 55.6	
	VREV		★2	E4	E2A E1A E3A	876 968 1150 (1065)* (1265)*	600 663 788 (729)* (866)*	3572 140.6	1145 45.1	1586 62.4	1299 51.1	97.0	1412 55.6	
VRWP		★2	E4	E2A E1A E3A	876 968 1150 (1065)* (1265)*	600 663 788 (729)* (866)*	3595 141.5	1145 45.1	1571 61.9	1319 51.9	97.0	1432 56.4		
55.5/80R57 Tubeless	VSDL			L5	D2A	-	-	3740 147.2	1395 54.9	1634 64.3	1616 63.6	125.5	-	44.00/6.0

For the TKPH(TMPH) Ratings, please refer to page 11.
 *If you operate with this TKPH(TMPH), consult your Bridgestone Representative.
 Will be discontinued.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures												Size	
		kPa psi	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102		
57"															
VZTS	E/M	★	★2												37.00R57
VRLS	50	kg	37500	38750	40000	41250	43750	45000	46250	47500	48750	50000	51500		
	30	lbs	82500	85500	88000	91000	96500	99000	102000	104500	107500	110000	113500		
VRDP		★	★2												42/90R57
VRPS		kg	38750	40000	41250	42500	45000	46250	47500	48750	50000	51500	53000		
		lbs	85500	88000	91000	96500	99000	102000	104500	107500	110000	113500	117000		
VMT		★	★2												40.00R57
VZTS		kg	42500	45000	46250	48750	50000	51500	53000	54500	56000	58000	60000		
VELS		lbs	93500	99000	102000	107500	110000	113500	117000	120000	123500	128000	132500		
VRDP															
VRPS															
VZTP		★	★2												46/90R57
VRDP		kg	45000	47500	48750	51500	53000	54500	56000	58000	60000	61500	63000		
VRPS		lbs	99000	104500	107500	113500	117000	120000	123500	128000	132500	135500	139000		
VREV															
VZTB		★	★2												46/90R57
VRWP		kg	51500	54500	56000	58000	60000	63000	65000	67000	69000	71000	73000		
		lbs	113500	120000	123500	128000	132500	139000	143500	147500	152000	156500	161000		
VSDL	Loader	★	★2												55.5/80R57
	10	kg		82500	85000	90000	92500	95000	97500	100000	103000	106000			
	5	lbs		182000	187500	198000	203500	209000	214500	220500	227000	233500			

1) Figures under the star rating denote the maximum load and inflation pressures.
 2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.
 3) For 55.5/80R57 VSDL, recommendation may vary depending on the vehicle. Please consult a Bridgestone Representative for details.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
								OD	OW	SLR	SLW			
								mm inch	mm inch	mm inch	mm inch			
50/80R57 Tubeless	VREV		★2	E4	E2A	992	679	3595	1218	1582	1385	95.0	1430	32.00/6.0
					E1A	1122	769	141.5	48.0	62.3	54.5		56.3	29.00/6.0
					E3A	1333	913						1450	34.00/5.0 34.00/6.0
50/90R57 Tubeless	VRPS		★2	E4	E2A	884	605	3840	1283	1702	1471	107.0	1562	32.00/6.0
					E1A	1092	748	151.2	50.5	67.0	57.9		61.5	34.00/6.0
					E3A	1278	875						61.5	32.00/6.5 34.00/6.5
60/80R57 Tubeless	VSDL			L5	D2A	-	-	3952	1491	1738	1755	118.0	-	47.00/6.0
								155.6	58.7	68.4	69.1		-	
63"														
53/80R63 Tubeless	VRPS		★2	E4	E2A	974	667	3828	1304	1657	1511	110.0	1626	36.00/5.0
					E1A	1150	788	150.7	51.3	65.2	59.5		64.0	(38.00/5.0)
					E3A	1408	964							
59/80R63 Tubeless	VREV	MASTERCORE	★2	E4	E2A	1080	740	3814	1311	1616	1557	110.0	1659	
					E1A	1276	874	150.2	51.6	63.6	61.3		65.3	
					E3A	1562	1070							
59/80R63 Tubeless	VRF	MASTERCORE	★2	E3	E1A	1784	1222	4022	1467	1737	1714	71.0	1762	44.00/5.0
					E3A	2050	1404	158.3	57.8	68.4	67.5		69.4	
59/80R63 Tubeless	VRPS		★2	E4	E2A	1228	841	4017	1467	1710	1712	116.0	1780	44.00/5.0
					E1A	1515	1038	158.1	57.8	67.3	67.4		70.0	
					E3A	1773	1214							41.00/5.0
59/80R63 Tubeless	VREV	MASTERCORE	★2	E4	E2A	1160	795					116.0	1747	44.00/5.0
					E1A	1431	980						68.8	
					E3A	1675	1147							41.00/5.0
59/80R63 Tubeless	VREV	MASTERCORE	★2	E4	E2A	1228	841	4017	1467	1725	1701	116.0	1747	44.00/5.0
					E1A	1515	1038	158.1	57.8	67.9	67.0		68.8	
					E3A	1773	1214							41.00/5.0
59/80R63 Tubeless	VREV	MASTERCORE	★2	E4	E2A	1410	966	4021	1467	1727	1701	118.0	1747	44.00/5.0
					E1A	1740	1192	158.3	57.8	68.0	67.0		68.8	
					E3A	2036	1395							

For the TKPH(TMPH) Ratings, please refer to page 11.

Will be discontinued.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																			Size		
		kPa psi	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 116				
VREV	E/M 50 30	★	★2																			50/80R57	
		kg lbs		53000 117000	54500 120000	58000 128000	60000 132500	61500 135500	63000 139000	65000 143500	67000 147500	69000 152000	71000 156500	73000 161000	* 34.00/5.0 Rim 32.00/6.0 Rim 34.00/6.0 Rim								
VREV	MASTERCORE	★	★2																			50/80R57	
		kg lbs	* 29.00/6.0 Rim	47500 104500	48750 107500	51500 113500	53000 117000	54500 120000	56000 123500	58000 128000	60000 132500	61500 135500	63000 139000	65000 143500	67000 147500	69000 152000	71000 156500	73000 161000	* 29.00/6.0 Rim				
VREV	MASTERCORE	★	★2																			50/80R57	
		kg lbs		61500 135500	63000 139000	65000 143500	69000 152000	71000 156500	73000 161000	75000 165500	77500 171000	80000 176500	82500 182000	85000 187500	* 32.00/6.0 Rim (34.00/5.0 Rim) (34.00/6.0 Rim)								
VRPS		★	★2																			50/80R57	
		kg lbs		54500 120000	56000 123500	58000 128000	60000 132500	63000 139000	65000 143500	67000 147500	69000 152000	71000 156500	73000 161000	75000 165500	* 29.00/6.0 Rim								
VRPS		★	★2																			50/80R57	
		kg lbs		56000 123500	58000 128000	60000 132500	63000 139000	65000 143500	67000 147500	69000 152000	71000 156500	73000 161000	75000 165500	77500 171000									
VSDL	Loader 10 5	★																				60/80R57	
		kg lbs	82000 180500	85750 189250	89500 197500	93250 205500	97000 213500	100500 221500	104000 229500	107750 237250	111000 245000	114750 252500	118000 260000										
63"																							
VRPS	E/M 50 30	★	★2																			53/80R63	
		kg lbs		60000 132500	63000 139000	65000 143500	67000 147500	69000 152000	71000 156500	75000 165500	77500 171000	80000 176500	80000 176500	82500 182000									
VREV	MASTERCORE	★	★2																			53/80R63	
		kg lbs		69000 152000	71000 156500	75000 165500	77500 171000	80000 176500	82500 182000	85000 187500	87500 193000	90000 198500	92500 204000	95000 209500									
VRPS		★	★2																			59/80R63	
		kg lbs		73000 161000	75000 165500	77500 171000	82500 182000	85000 187500	87500 193000	90000 198500	92500 204000	95000 209500	97500 215000	100000 220500	* 44.00/5.0 Rim								
VRPS		★	★2																			59/80R63	
		kg lbs		70000 154500	72000 158750	74000 164000	79000 174600	82000 179900	84000 185200	86000 190500	89000 195750	91000 201050	94000 206350	96000 211650	* 41.00/5.0 Rim								
VRF	MASTERCORE	★	★2																			59/80R63	
		kg lbs		82500 182000	87500 193000	90000 198500	92500 204000	97500 215000	100000 220500	103000 227000	106000 233500	109000 240500	112000 247000	115000 253500	* 44.00/5.0 Rim								
VREV		★	★2																			59/80R63	
		kg lbs		79000 174600	84000 185200	86000 190500	89000 195750	94000 206350	96000 211650	99000 218500	102000 225000	105000 231500	108000 238000	110000 242500	* 41.00/5.0 Rim								

1) Figures under the star rating denote the maximum load and inflation pressures.

2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

3) For 60/80R57 VSDL, recommendation may vary depending on the vehicle. Please consult a Bridgestone Representative for details.

3.2 Industrial Service

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height			
						OD	OW	SLR	SLW						
						mm inch	mm inch	mm inch	mm inch						
Industrial Service															
20"															
10.00R20	VCHS	166A5		Industrial Service	-	1065	262	493	295	37.0	337	7.50V			
						41.9	10.3	19.4	11.6						
12.00R20	VCH		★3	Industrial Service	IDU	1140	315	512	360	29.5	380	8.50V			
	VCHS	176A5		Industrial Service	-	1139	297	507	355				41.5	375	14.8
24"															
12.00R24	VCH		★2	Industrial Service	IDU	1254	323	558	376	29.5	391	8.50V			
	VCHS	178A5		Industrial Service	-	1263	310	580	351				42.0	391	15.4
14.00R24	VHB		★3	Industrial Service	IDU	1357	383	630	410	23.5	450	10.00W			
	VCH		★3	Industrial Service	IDU	1393	390	610	460				32.0	480	18.9
	VCHS		★3	Industrial Service	IDU	1412	383	626	445				63.0	480	18.9
14.00R24 TG Tubeless	VCHS		★3	Industrial Service	IDU	1412	383	626	445	63.0	480	10.00VA			
25"															
16.00R25 Tubeless	VHB		★2	Industrial Service	IDU	1484	440	690	475	22.5	513	11.25/2.0			
	VCHD	200A5		Industrial Service	-	1500	435	655	503				54.0	513	20.2
	VCHR	200A5		Industrial Service	-	1504	435	674	500				50.0	513	20.2
	VRLS		★2	Industrial Service	IDU	1531	448	713	488				45.0	540	21.3
450/95R25 Tubeless	VCHP	204A5		Industrial Service	-	1504	435	674	500	50.0	513	11.25/2.0			
18.00R25 Tubeless	VHB		★3	Industrial Service	IDU	1610	515	733	565	26.0	587	13.00/2.5			
	VCHS		★3	Industrial Service	IDU	1650	504	707	596				64.0	600	23.6
	VSMS		★2	Industrial Service	IDU	1681	512	730	592				84.5	612	24.1
23.5R25 Tubeless	VSDL		★2	Industrial Service	IDU	1672	613	755	687	87.0	722	19.50/2.5			
33"															
18.00R33 Tubeless	VCHS		★3	Industrial Service	IDU	1856	494	803	585	70.0	600	13.00/2.5			
	VELS		★3	Industrial Service	IDU	1860	512	800	604				49.0	634	25.0

Off-the-Road Tires Used for Industrial Vehicle Applications (IDU Spec)

- 1) Industrial Vehicles comprise vehicles such as counter-balanced lift trucks, container handlers, straddle carriers, aircraft tow tractors, mobile crushers, log stackers etc., used on hard improved surfaces, smooth floors and runways.
- 2) Use Specifications of **Industrial Service only**.

Will be discontinued.

Pattern	Star Rating	Inflation Pressure	Tire Load Limits at Various Speeds												Size
			kPa psi	km/h mph	0 Static	Creep Creep	5 3	10 5	15 9	20 12	25 15	30 19	35 22		
Industrial Service															
20"															
VCHS		Load Wheel	1000	kg	6890	6890	6890	6890	6890	6890	6890	6890	6625	6625	10.00R20
			145	lbs	15200	15200	15200	15200	15200	15200	15200	15200	15200	14600	
VCHS	★3	Load Wheel	1000	kg	5300	5300	5300	5300	5300	5300	5300	5300	4905	4905	12.00R20
			145	lbs	11700	11700	11700	11700	11700	11700	11700	11700	11700	10800	
VCHS	★3	Load Wheel	1000	kg	9230	9230	9230	9230	9230	9230	9230	9230	8875	8875	12.00R20
			145	lbs	20350	20350	20350	20350	20350	20350	20350	20350	20350	19570	
VCHS	★3	Steering Wheel	1000	kg	7100	7100	7100	7100	7100	7100	7100	7100	6570	6570	12.00R20
			145	lbs	15620	15620	15620	15620	15620	15620	15620	15620	15620	14480	
24"															
VCH	★2	Load Wheel	960	kg	12420	11040	10005	9315	8970	8765	8625				12.00R24
			139	lbs	27385	24345	22060	20540	19780	19320	19020				
VCHS		Steering Wheel	960	kg	9935	8830	8005	7450	7175	7010	6900				12.00R24
			139	lbs	21910	19475	17650	16430	15825	15455	15215				
VCHS		Load Wheel	1000	kg	9750	9750	9750	9750	9750	9750	9750	9375	9375	12.00R24	
			145	lbs	21500	21500	21500	21500	21500	21500	21500	21500	20670		20670
VCHS		Steering Wheel	1000	kg	7500	7500	7500	7500	7500	7500	7500	6935	6935	12.00R24	
			145	lbs	16500	16500	16500	16500	16500	16500	16500	16500	15200		15200
VHB	★3	Load Wheel	1000	kg	18000	16000	14500	13500	13000	12700	12500	12400			14.00R24
			145	lbs	39690	35280	31970	29765	28665	28005	27560	27340			
VCHS	★3	Steering Wheel	1000	kg	14400	12800	11600	10800	10400	10160	10000	9920			14.00R24
			145	lbs	31750	28225	25580	23815	22930	22400	22050	21875			
VCHS	★3	Load Wheel	1000	kg	18000	16000	14500	13500	13000	12700	12500	12400			14.00R24 TG
			145	lbs	39690	35280	31970	29765	28665	28005	27560	27340			
VCHS	★3	Steering Wheel	1000	kg	14400	12800	11600	10800	10400	10160	10000	9920			14.00R24 TG
			145	lbs	31750	28225	25580	23815	22930	22400	22050	21875			
25"															
VHB	★2	Load Wheel	960	kg	21870	19440	17615	16400	15795	15430	15185	15065			16.00R25
			139	lbs	48225	42865	38845	36165	34825	34025	33490	33220			
VRLS	★2	Steering Wheel	960	kg	17495	15550	14095	13120	12635	12345	12150	12050			16.00R25
			139	lbs	38580	34290	31075	28935	27860	27220	26790	26575			
VCHD		Load Wheel	1000	kg	18200	18200	18200	18200	14000	14000	14000			16.00R25	
			145	lbs	40140	40140	40140	40140	30900	30900	30900				
VCHR		Steering Wheel	1000	kg	18200	18200	18200	18200	14000	14000	14000			16.00R25	
			145	lbs	40140	40140	40140	40140	30900	30900	30900				
450/95R25															
VCHP			1000	kg	17600	17600	17600	17600	17600	17600	16000	15400	14800	450/95R25	
VHB	★3	Load Wheel	1000	kg	30600	27200	24650	22950	22100	21590	21250	21080			18.00R25
			145	lbs	67475	59975	54355	50605	48730	47605	46855	46480			
VCHS	★3	Steering Wheel	1000	kg	24480	21760	19720	18360	17680	17270	17000	16865			18.00R25
			145	lbs	53980	47980	43480	40485	38985	38085	37485	37185			
VSMS	★2	Load Wheel	960	kg	28800	25600	23200	21600	20800	20320	20000	19840			18.00R25
			139	lbs	63505	56450	51155	47630	45865	44805	44100	43745			
VCHS	★2	Steering Wheel	960	kg	23040	20480	18560	17280	16640	16255	16000	15870			18.00R25
			139	lbs	50805	45160	40925	38100	36690	35845	35280	34995			
VSDL	★2	Load Wheel	690	kg	26100	23200	21025	19575	18850	18415	18125	17980			23.5R25
			100	lbs	57550	51155	46360	43160	41565	40605	39965	39645			
VCHS	★3	Steering Wheel	690	kg	20880	18560	16820	15660	15080	14730	14500	14385			23.5R25
			100	lbs	46040	40925	37090	34530	33250	32485	31970	31715			
33"															
VCHS	★3	Load Wheel	1000	kg	35100	31200	28275	26325	25350	24765	24375	24180			18.00R33
			145	lbs	77395	68795	62345	58045	55895	54605	53745	53315			
VELS	★3	Steering Wheel	1000	kg	28080	24960	22620	21060	20280	19810	19500	19345			18.00R33
			145	lbs	61915	55035	49875	46435	44715	43685	42995	42655			

- 3) For Speeds exceeding 30km/h (18mph), consult a Bridgestone Representative.
- 4) For tire sizes and star ratings other than listed above, consult a Bridgestone Representative.
- 5) For Minimum Dual Spacing information, please consult a Bridgestone Representative.

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Spec	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
						OD	OW	SLR	SLW			
						mm inch	mm inch	mm inch	mm inch			
33"												
35/65R33 Tubeless	VSDL		★2	Industrial Service	IDU	2075 81.7	880 34.6	900 35.4	986 38.8	95.0	- -	28.00/3.5

Off-the-Road Tires Used for Industrial Vehicle Applications (IDU Spec)

- 1) Industrial Vehicles comprise vehicles such as counter-balanced lift trucks, container handlers, straddle carriers, aircraft tow tractors, mobile crushers, log stackers etc., used on hard improved surfaces, smooth floors and runways.
- 2) Use Specifications of **Industrial Service only**.

Pattern	Star Rating	Inflation Pressure	Tire Load Limits at Various Speeds										Size
			kPa psi	km/h mph	0 Static	Creep Creep	5 3	10 5	15 9	20 12	25 15		
33"													35/65R33
VSDL	★2	Load Wheel	780	kg	50400	44800	40600	37800	36400	35560	35000		
			113	lbs	111130	98785	89525	83350	80260	78410	77175		
			Steering Wheel	780	kg	40320	35840	32480	30240	29120	28450	28000	
			113	lbs	88905	79025	71620	66680	64210	62725	61740		

- 3) For Speeds exceeding 30km/h (18mph), consult a Bridgestone Representative.
- 4) For tire sizes and star ratings other than listed above, consult a Bridgestone Representative.
- 5) For Minimum Dual Spacing information, please consult a Bridgestone Representative.

3.3 Mobile Crane Service (High-Speed)

Tire Size	Pattern	LI/SS	TRA Code or Application	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
				OD	OW	SLR	SLW			
				mm inch	mm inch	mm inch	mm inch			
Mobile Crane Service (High-Speed)										
24"										
385/95R24	VHS	170E	Mobile Crane Service	1356 53.4	384 15.1	626 24.6	422 16.6	23.0	450 17.7	10.00W
	VHB	170E	Mobile Crane Service	1357 53.4	383 15.1	630 24.8	410 16.1	23.5	450 17.7	
25"										
385/95R25 Tubeless	VHS	170E	Mobile Crane Service	1356 53.4	384 15.1	626 24.6	422 16.6	23.0	450 17.7	10.00/1.5
		170F								
	VSW	170E	Mobile Crane Service	1355 53.3	394 15.5	631 24.8	427 16.8	23.5	450 17.7	
445/95R25 Tubeless	VHB	177E	Mobile Crane Service	1484 58.4	440 17.3	690 27.2	475 18.7	22.5	513 20.2	11.25/2.0
	VHS	177E	Mobile Crane Service	1484 58.4	435 17.1	684 26.9	480 18.9	25.5	513 20.2	
		174F								
	VHS2	174F	Mobile Crane Service	1484 58.4	435 17.3	684 26.9	480 18.9	25.5	513 20.2	
	VSW	177E	Mobile Crane Service	1484 58.4	435 17.1	695 27.4	476 18.7	23.0	513 20.2	
445/80R25 Tubeless	VGT	170E	Mobile Crane Service	1339 52.7	440 17.3	610 24.0	485 19.1	24.0	- -	14.00/1.5
505/95R25 Tubeless	VHB	186E	Mobile Crane Service	1610 63.4	515 20.3	778 30.6	565 22.2	26.0	587 23.1	13.00/2.5
	VHS	186E	Mobile Crane Service	1590 62.6	510 20.1	727 28.6	565 22.2	25.5	587 23.1	
525/80R25 Tubeless	VHS	179E	Mobile Crane Service	1480 58.3	537 21.1	677 26.7	578 22.8	31.0	- -	17.00/2.0
		176F								

Will be discontinued.

Pattern	Application	Inflation Pressure	Tire Load Limits at Various Speeds																Size
			kPa psi	km/h mph	0 Static	Creep Creep	5 3	10 5	15 9	20 12	30 19	40 25	50 31	60 37	70 43	80 50	90 56	100 62	
Mobile Crane Service (High-Speed)																		385/95R24	
*Consult a Rim Manufacturer when inflation pressure exceeds 800kPa (116psi).																			
VHS	High-Speed	900	kg	17700	14400	12700	11000	9850	8900	7800	7450	7100	6700	6000	4925	4200	3600		
		131	lbs	39000	31700	28100	24300	21700	19600	17200	16400	15600	14800	13200	10800	9250	7950		
25"																		385/95R25	
VHS	High-Speed	900	kg	17700	14400	12700	11000	9850	8900	7800	7450	7100	6700	6000	4925	4200	3600		
		131	lbs	39000	31700	28100	24300	21700	19600	17200	16400	15600	14800	13200	10800	9250	7950		
VHS	High-Speed	900	kg	17700	14400	12700	11000	9900	9000	7500	6900	6700	6600	6300	6000	5640	5100		
		131	lbs	39000	31700	28000	24200	21800	19800	16500	15200	14800	14500	13900	13200	12400	11200		
VHB	High-Speed	900	kg	21500	17500	15500	13400	12000	10800	9500	9050	8600	8100	7300	6000	5100	4375		
		131	lbs	47500	38500	34200	29600	26400	23800	20900	20000	19000	18000	16100	13200	11300	9650		
VHS	High-Speed	900	kg	21500	17600	15500	13500	11100	10000	8400	7700	7500	7400	7050	6700	6300	5700		
		131	lbs	47400	38800	34100	29700	24400	22200	18500	17000	16500	16200	15500	14800	13900	12600		
445/95R25																		445/80R25	
VGT	High-Speed	700	kg	17700	14400	12700	11000	9850	8900	7800	7450	7100	6700	6000	4925	4200	3600		
		102	lbs	39000	31700	28100	24300	21700	19600	17200	16400	15600	14800	13200	10800	9250	7950		
VHB	High-Speed	900	kg	28000	22700	20200	17500	15600	14100	12300	11800	11200	10600	9500	7800	6650	5700		
		131	lbs	61800	50200	44500	38500	34300	31000	27200	26000	24700	23400	20900	17200	14700	12600		
505/95R25																		505/80R25	
VHS	High-Speed	700	kg	22900	18600	16500	14300	12700	11500	10100	9600	9150	8700	7750	6350	5400	4650		
		102	lbs	50400	40900	36300	31400	28000	25300	22200	21200	20200	19100	17100	14000	12000	10200		
VHS	High-Speed	700	kg	21500	17600	15500	13500	11700	10600	8900	8200	7950	7800	7450	7100	6700	6050		
		102	lbs	47200	38700	34100	29600	25800	23500	19600	18000	17500	17200	16400	15600	14700	13300		

Maximum load at mentioned speed symbol.

3.4 Logging Service

Tire Size	Pattern	LI/SS	TRA Code or Application	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
				OD mm inch	OW mm inch	SLR mm inch	SLW mm inch			
Logging Service 25"										
14.00R25* Tubeless	VSB		Truck, Trailers	1365 53.7	387 15.2	628 24.7	433 17.0	21.0	450 17.7	10.00

Pattern	Application	Max. Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures													Size	
			kPa psi	450 65	480 70	520 75	550 80	590 85	620 90	660 95	690 100	720 105	760 110	790 115			
Logging Service 25"																	
VSB*	Truck, Trailers	90 55	Load Range	J L													14.00R25
				Dual	3610 7960	3780 8340	3950 8710	4110 9070	4270 9410	4420 9750	4580 10090	4750 10500	4880 10800	5010 11100	5150 11400		
				Single	3700 8150	3910 8620	4110 9070	4310 9500	4500 9930	4690 10340	4870 10730	5150 11400	5300 11700	5450 12000	5600 12300		

3.5 Sand Service

Tire Size	Pattern	LI/SS	Star Rating	TRA Code or Application	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
					OD mm inch	OW mm inch	SLR mm inch	SLW mm inch			
Sand Service 20"											
16.00R20 Tubeless *1	VSJ		28	E7	1315 51.8	414 16.3	590 23.2	475 18.7	18.5	520 20.5	10.00V
16.00R20											10.00W
25"											
21.00R25 Tubeless	VSJ			E7	1728 68.0	589 23.2	784 30.9	649 25.6	22.5	685 27.0	15.00/3.0

Pattern	Application	Ply Rating	Max. Speed	Tire Cold Inflation Pressures at Various Load Limits													Size
				kg lbs	4250 9370	4500 9920	4750 10470	5000 11020	5250 11570	5500 12130	6000 13230	7000 15430	8000 17640	8500 18740	9000 19840	9500 20940	
Sand Service 20"																	
*It is Recommended that 90% of the below indicated loads per tire is to be applied when used on a dual axle.																	
VSJ	Sand	28PR	65km/h 40mph	kPa	490	540	580	630	680	720						16.00R20	
				psi	71	78	84	91	98	105							
				50km/h 30mph	kPa	390	420	450	490								
				psi	57	61	65	71									
VSJ	Sand	-	16km/h 10mph	kPa	280	300	320	350							21.00R25		
				psi	41	44	47	51									
				65km/h 40mph	kPa					330	410	490	540	590		630	
				psi					48	60	71	78	85	92			
VSJ	Sand	-	50km/h 30mph	kPa							260	320	390	420	21.00R25		
				psi								38	47	57		61	
				16km/h 10mph	kPa							200	230	280		300	
				psi								28	34	41		44	

*1 When you mount 16.00R20 VSJ tubeless tire on flat base rim (10.00V), installation of "sealing ring" is recommended. For further information, please consult a Bridgestone representative.

BIAS TIRE

1. Tread Designs

Earthmover Service



RL

R-LUG
E-3



RL's regular tread is designed with a specially compounded rubber to resist cutting and wearing, as well as overheating. Designed for operating on rock, coal and earth surfaces.



VL2

V-LUG2
E-3



VL2 has incorporated all the benefits of RL, while increasing durability and lowering vibrations.



WL

W-LUG
E-3



WL's regular tread with wide lugs has been designed for operations on rock, coal and earth, and it resists cutting and irregular wearing on paved roads.

Grader Service



RL

R-LUG
G-3



RL's regular tread is designed with a specially compounded rubber to resist cutting and wearing, as well as overheating. Designed for operating on rock, coal and earth surfaces.

Loader & Dozer Service



GL

G-LUG
L-2



The GL features excellent traction and self-cleaning for easy operation in heavy dirt and mud.



FG

FAST GRIP
L-2



FG's separate lugs are tapered for greater traction and self-cleaning, resulting in better driving on heavy dirt and in mud.

Grader Service



RG

RIB GRADER
G-1



The RG, ideal for use on the steer axle of graders, features a rib-type pattern which minimizes side slipping and gives good maneuverability.



FG

FAST GRIP
G-2



FG's separate lugs are tapered for greater traction and self-cleaning, resulting in better driving on heavy dirt and in mud.



GL

G-LUG
G-2



The GL features excellent traction and self-cleaning for easy operation in heavy dirt and mud.

Loader & Dozer Service



RL

R-LUG
L-3



RL's regular tread is designed with a specially compounded rubber to resist cutting and wearing, as well as overheating. Designed for operating on rock, coal and earth surfaces.



VL2

V-LUG2
L-3



VL2 has incorporated all the benefits of RL, while increasing durability and lowering vibrations.



RLS

R-LUG S
L-4



RLS's deep specially compounded rubber resists cutting and overheating. Designed for operating on rock, coal and earth surfaces where serviceability and tread cutting are problems.

Loader & Dozer Service



DL

D-LUG
L-5



DL's extra-deep and specially compounded rubber and shoulder protecting ribs ensure maximum serviceability and resistance to cutting. Designed for severe rocky surfaces, and offers excellent traction and stability.



STMS

SMOOTH TREAD-MS
L-5S



STMS's smooth, extra-deep, and specially compounded rubber ensures maximum resistance to cutting and wearing. Designed for severe, rocky surfaces, such as those in underground mines, open pits and quarries.

Compactor Service



RR

ROAD ROLLER
C-1



RR's smooth tread is specially designed for compacting road materials.



AL2

ALLIGATOR2
C-2



AL2's unique tread pattern offers maximum flotation with minimum resistance to rolling. Ideal for use in the desert and on soft ground.

Industrial Service



RL

R-LUG



RL has a standard tread depth and is applicable to a wide range of industrial type machines, especially the slow wearing type, such as a rubber-tired gantry crane (RTG).



RLS

R-LUG S



RLS's features are long tread life, thanks to extra-deep tread. Unique rubber compound resists cutting and wearing on smooth surface. Suitable for empty container handlers.



ELS2

E-LUG S2



Extra-deep tread corresponding to E4.5 is the main features of ELS2, which ensures longer tread life. Suitable for container handling equipment such as loaded container handlers (reach stackers), notorious for being the most severe conditions for tire wear.



STMS

SMOOTH TREAD-MS



STMS's main features are extra-long tread life and best riding comfort due to extra-deep and smooth tread design. Suitable for empty and loaded container handlers, especially on abrasive concrete surfaces.



YS2

YARD SERVICE-2



YS2 delivers excellent wear resistance for long serviceability as well as good traction and braking. Wear indicators inserted around the tread's circumference allow for easy measuring of the tread depth from any position. Specially designed for straddle carriers.

2. Application

■ Earthmover Service



Size	Type	Ply Rating
------	------	------------

WL(E3)

9.00-20	T/T	14
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RL(E3)

10.00-20	T/T	14
11.00-20	T/T	14
12.00-20	T/T	18
12.00-24	T/T	20
14.00-24	T/T	24 28
16.00-25	T/L	28
18.00-25	T/L	32
37.25-35	T/L	36

VL2(E3)

20.5-25	T/L	16 20
23.5-25	T/L	16 20 24
26.5-25	T/L	20 24 26
29.5-25	T/L	22 28

T/T: Tube Type
T/L: Tubeless Type

■ Grader Service



Size	Type	Ply Rating
------	------	------------

RG(G1)

9.00-20	T/T	10
---------	-----	----

GL(G2)

9.00-20	T/T	14
---------	-----	----

FG(G2)

13.00-24 TG	T/L	12
	T/T	10
14.00-24 TG	T/L	12 14
	T/T	12 16
16.00-24 TG	T/T	16
17.5-25	T/L	12
20.5-25	T/L	12

RL(G3)

16.00-24 TG	T/T	16
-------------	-----	----

T/T: Tube Type
T/L: Tubeless Type
TG: For Semi-Drop Center Rim

Loader & Dozer Service



Size	Type	Ply Rating
GL(L2)		
9.00-20	T/T	14

Size	Type	Ply Rating
FG(L2)		
27x8.50-15	T/T	4
33x12.5-15	T/T	8
12.5/70-16	T/L	6 8
10-16.5	T/L	6 8
12-16.5	T/L	8 10
	T/T	8
15.5/60-18	T/L	8
15.5/70-18	T/L	8
10.00-20	T/T	14
11.00-20	T/T	10 16
42x17-20	T/T	10
17.5/65-20	T/L	10
13.00-24 TG	T/L	12
14.00-24 TG	T/L	12
	T/T	12
16.9-24	T/T	10
18.4-24	T/T	10
17.5-25	T/L	12
20.5-25	T/L	12

Size	Type	Ply Rating
FGF(L2)		
10.00-20	T/T	16

Size	Type	Ply Rating
RL(L3)		
12.00-24	T/T	20
14.00-24 TG	T/L	12
16.00-24 TG	T/T	16

Size	Type	Ply Rating
VL2(L3)		
15.5-25	T/L	12
17.5-25	T/L	16
	T/T	16
20.5-25	T/L	16 20
	T/T	16 20
23.5-25	T/L	16 20 24
	T/T	16 20 24
26.5-25	T/L	16 20 24 26
	T/T	24
29.5-25	T/L	22 28

Size	Type	Ply Rating
RLS(L4)		
14.00-24	T/T	20
26.5-25	T/L	26
29.5-25	T/L	28

T/T: Tube Type
 T/L: Tubeless Type
 TG: For Semi-Drop Center Rim



Size	Type	Ply Rating
DL(L5)		
17.5-25	T/L	16
20.5-25	T/L	16
23.5-25	T/L	20
26.5-25	T/L	20 26
29.5-25	T/L	28
35/65-33	T/L	42
40/65-39	T/L	56
45/65-45	T/L	58
50/65-51	T/L	62
65/65-57	T/L	62

Size	Type	Ply Rating
STMS(L5S)		
12.00-24	T/T	16 20
14.00-24	T/T	20
17.5-25	T/L	20
18.00-25	T/L	24 28 32
26.5-25	T/L	32 36
29.5-29	T/L	34

T/T: Tube Type
 T/L: Tubeless Type

■ Compactor Service



RR

Size	Type	Ply Rating
RR(C1)		
7.50-15	T/T	12
9.5/65-15	T/T	6
7.50-16	T/L	6
	T/T	6
10.5/80-16	T/L	6
9.00-20	T/T	10
14/70-20	T/T	12



AL2

Size	Type	Ply Rating
AL2(C2)		
23.1-26	T/L	8
	T/T	8

T/T: Tube Type
T/L: Tubeless Type

■ Industrial Service

Lift trucks, Empty container handlers	Loaded container handlers	Straddle carriers	Harbor cranes	Rubber tired gantry cranes
RL RLS YS2 STMS*	RL RLS ELS2* STMS*	YS2	RL	RL

*When the average operating speed exceeds 10 km/h, consult your Bridgestone representative.

Size	Type	Ply Rating
RL		
12.00-20	T/T	20
14.00-24	T/T	24 28
14.00-24 TG	T/L	24
16.00-25	T/L	28 32
18.00-25	T/L	40
21.00-25	T/L	40
21.00-35	T/L	40

Size	Type	Ply Rating
RLS		
16.00-25	T/L	28 32

Size	Type	Ply Rating
ELS2		
18.00-25	T/L	40
18.00-33	T/L	36
21.00-35	T/L	40

Size	Type	Ply Rating
STMS		
12.00-24	T/T	20
18.00-25	T/L	40

Size	Type	Ply Rating
YS2		
16.00-25	T/L	32

T/T: Tube Type
T/L: Tubeless Type
TG: For Semi-Drop Center Rim

3. Technical Data

3.1 Earthmover, Grader, Loader & Dozer, Compactor Service

Tire Size	Pattern	Ply Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD mm	Minimum Dual Spacing mm	Recommended Rim/Flange Height inch
							OD mm inch	OW mm inch	SLR mm inch	SLW mm inch			
15"													
7.50-15	RR	12	C1	-	-	-	775 30.5	209 8.2	360 14.2	225 8.9	-	250 9.8	6.00GS
27x8.50-15	FG	4	L2	-	-	-	686 27.0	208 8.2	317 12.5	218 8.6	16.5	-	7JA
9.5/65-15	RR	6	C1	-	-	-	669 26.3	238 9.4	312 12.3	242 9.5	-	-	7JA
33x12.5-15	FG	8	L2	-	-	-	851 33.5	318 12.5	TBA TBA	TBA TBA	22.5	-	10.00F
16"													
7.50-16 Tubeless	RR	6	C1	-	-	-	814 32.0	228 9.0	379 14.9	243 9.6	-	250 9.8	6.00GS 6LB
7.50-16							776 30.6	220 8.7	361 14.2	224 8.8			
10.5/80-16 Tubeless	RR	6	C1	-	-	-	804 31.7	272 10.7	375 14.8	285 11.2	-	-	8LB
12.5/70-16 Tubeless	FG	6 8	L2	-	-	-	860 33.9	319 12.6	389 15.3	336 13.2	21.0	-	10LB
16.5"													
10-16.5 Tubeless	FG	6 8	L2	-	-	-	771 30.4	268 10.6	353 13.9	278 10.9	19.5	-	8.25
12-16.5 Tubeless	FG	8 10	L2	-	-	-	831 32.7	315 12.4	376 14.8	325 12.8	20.0	-	9.75
12-16.5		8											
18"													
15.5/60-18 Tubeless	FG	8	L2	-	-	-	932 36.7	398 15.7	416 16.4	404 15.9	21.5	-	W10
15.5/70-18 Tubeless	FG	8	L2	-	-	-	1035 40.7	405 15.9	459 18.1	424 16.7	20.5	-	W13

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																		Size	
		kPa psi	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 84	600 87	625 91	650 94	675 98	700 102	725 105	750 109		
15"																					
RR	Compactor	PR	12																		7.50-15
	10	kg	1700	1750	1850	1900	1950	2060	2120	2180	2240	2300	2300	2360	2430	2500	2575	2575	2650		
	5	lbs	3740	3860	4080	4180	4300	4540	4680	4800	4940	5080	5080	5200	5360	5520	5680	5680	5840		
15"																					
FG	Loader	PR	4																		27x8.50-15
	10	kg	695	740	780	820	860														
	5	lbs	1530	1630	1720	1805	1895														
15"																					
RR	Compactor	PR	6																		9.5/65-15
	10	kg						1100	1155	1205	1255	1315									
	5	lbs						2430	2550	2560	2770	2900									
15"																					
FG	Loader	PR	8																		33x12.5-15
	10	kg	120	140	160	180	200	220	240	260	280	300	325	350	375	400	425	450			
	5	lbs	17	20	23	26	29	32	35	38	41	44	47	51	54	58	62	65			
16"																					
RR	Compactor	PR	6																		7.50-16
	10	kg							1405	1470	1535	1600	1675	1750	1820	1890					
	5	lbs							3100	3240	3380	3530	3690	3860	4010	4170					
16"																					
RR		PR	6																		10.5/80-16
		kg							1645	1725	1800	1875									
		lbs							3630	3800	3970	4130									
16"																					
FG	Loader	PR	8																		12.5/70-16
	10	kg	1050	1145	1240	1330	1410	1495	1570	1645											
	5	lbs	2315	2525	2735	2930	3110	3295	3460	3625											
16.5"																					
FG	Loader	PR	6																		10-16.5
	10	kg					1140	1215	1285	1350	1415	1475	1540	1610	1685	1750	1820				
	5	lbs					2515	2680	2830	2975	3120	3250	3395	3550	3715	3860	4010				
16.5"																					
FG		PR	8																		12-16.5
		kg							1470	1565	1655	1740	1820	1905	1980	2075	2170				
		lbs							3240	3450	3650	3835	4010	4200	4365	4575	4785				
18"																					
FG	Loader	PR	8																		15.5/60-18
	10	kg	1525	1670	1805	1935	2060	2195													
	5	lbs	3360	3680	3980	4265	4540	4840													
18"																					
FG		PR	8																		15.5/70-18
		kg	1725	1885	2040	2185	2325	2455													
		lbs	3800	4155	4495	4815	5125	5410													

1) Figures under the star rating denote the maximum load and inflation pressures.
 2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	Ply Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
							OD	OW	SLR	SLW			
							mm inch	mm inch	mm inch	mm inch			
20"													
9.00-20	RG	10	G1	-	-	-	1023 40.3	267 10.5	473 18.6	291 11.5	15.0	-	7.00T
	RR	10	C1	-	-	-	1001 39.4	268 10.6	458 18.0	291 11.5	-	310 12.2	
	GL	14	G2, L2	-	-	-	1023 40.3	255 10.0	478 18.8	276 10.9	21.0	-	
	WL	14	E3	SCR	-	-	1027 40.4	257 10.1	466 18.3	280 11.0	19.5	310 12.2	
10.00-20	FG	14	L2	-	-	-	1076 42.4	281 11.1	479 18.9	307 12.1	24.0	-	7.50V
	FGF	16	L2	-	-	-	1057 41.6	276 10.9	478 18.8	302 11.9	18.0	334 13.1	
	RL	14	E3	CRT	42	29	1067 42.0	285 11.2	489 19.3	304 12.0	22.5	-	
11.00-20	FG	10 16	L2	-	-	-	1100 43.3	299 11.8	510 20.0	323 12.7	24.5	352 13.9	8.00V
	RL	14	E3	CRT	49	34	1090 42.9	296 11.7	514 20.2	311 12.2	24.0	344 13.5	
12.00-20	RL	18	E3	SCR	52	36	1138 44.8	316 12.4	513 20.2	331 13.0	25.5	382 15.0	8.50V
14/70-20	RR	12	C1	-	-	-	972 38.3	373 14.7	448 17.6	382 15.0	-	-	11.00TG
42x17-20	FG	10	L2	-	-	-	1085 42.7	435 17.1	480 18.9	452 17.8	25.5	-	14.00TG
17.5/65-20 Tubeless	FG	10	L2	-	-	-	1107 43.6	450 17.7	494 19.4	477 18.8	25.0	-	W14L

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																			Size
		kPa psi	140 20	160 23	180 26	200 29	220 32	240 35	260 38	280 41	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73		
20"																					9.00-20
RG GL	Grader 40 25	PR	10														14				
		kg	955	1035	1110	1180	1245	1310	1375	1435	1495	1565	1635	1705	1780	1850	1910	1965	2025		
		lbs	2110	2280	2450	2600	2740	2890	3040	3160	3300	3460	3600	3760	3920	4060	4210	4340	4480		
		kPa psi	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102				
RR	Compactor 10 5	PR	10																		
		kg	2900	3000	3150	3250	3350	3450	3550	3650											
		lbs	6400	6600	6950	7150	7400	7600	7850	8050											
GL	Loader 10 5	PR															14				
		kg							3150	3250	3350	3450	3450	3550	3630	3710	3790	3875			
		lbs							6950	7150	7400	7600	7600	7850	8000	8190	8360	8550			
		kPa psi	200 29	220 32	240 35	260 38	280 41	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80			
WL	E/M 50 30	PR	14																		
		kg	1280	1350	1420	1490	1555	1620	1695	1770	1845	1915	1985	2055	2120	2185	2245	2310			
		lbs	2820	2980	3130	3280	3430	3570	3740	3900	4070	4220	4380	4530	4670	4820	4950	5090			
		kPa psi	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109							
FG FGF	Loader 10 5	PR	14														16				
		kg	3550	3650	3750	3875	4000	4125	4125	4250	4345	4440	4530	4620							
		lbs	7850	8050	8250	8550	8800	9100	9100	9350	9580	9790	9990	10180							
		kPa psi	200 29	220 32	240 35	260 38	280 41	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73					
RL	E/M 50 30	PR	14																		
		kg	1445	1530	1610	1685	1760	1830	1920	2005	2085	2170	2245	2320	2395	2470					
		lbs	3190	3370	3550	3710	3880	4030	4230	4420	4600	4780	4950	5110	5280	5450					
		kPa psi	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102								
FG	Loader 10 5	PR	10														16				
		kg	3750	3875	4000	4125	4250	4250	4375	4500	4675	4780	4880								
		lbs	8300	8550	8800	9100	9350	9350	9650	9900	10300	10540	10740								
		kPa psi	200 29	220 32	240 35	260 38	280 41	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69						
RL	E/M 50 30	PR	14																		
		kg	1570	1660	1750	1830	1910	1990	2085	2180	2270	2355	2440	2525	2605						
		lbs	3460	3660	3860	4030	4210	4390	4600	4810	5000	5190	5380	5570	5740						
		kPa psi	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73									
RL	E/M 50 30	PR	18																		
		kg	2180	2300	2430	2500	2650	2725	2800	2900	3000	3075									
		lbs	4800	5080	5360	5520	5840	6000	6150	6400	6600	6800									
		kPa psi	240 35	260 38	280 41	300 44	325 47	350 51	375 54	400 58	425 62	450 65									
RR	Compactor 10 5	PR	12																		
		kg	2775	2905	3035	3160	3310	3460	3600	3740	3875	4005									
		lbs	6100	6400	6700	6950	7300	7650	7950	8250	8550	8850									
		kPa psi	120 17	140 20	160 23	180 26	200 29	220 32	240 35	260 38	280 41	300 44									
FG	Loader 10 5	PR															10				
		kg						2740	2915	3080	3240	3395	3545	3690							
		lbs						6040	6425	6790	7140	7485	7815	8135							
FG		PR	10																		
		kg	2130	2330	2520	2700	2875	3040	3195												
		lbs	4695	5135	5555	5950	6340	6700	7045												
17.5/65-20																					17.5/65-20

1) Figures under the star rating denote the maximum load and inflation pressures.

2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	Ply Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height							
							OD	OW	SLR	SLW										
							mm inch	mm inch	mm inch	mm inch										
24"																				
12.00-24	RL	20	E3	DE2	66	45	1250	330	584	348	24.5	-	8.5							
			L3				49.2	13.0	23.0	13.7		-	8.50V							
12.00-24	STMS	16	L5S	D2A	-	-	1275	321	606	339	55.0	-	8.5							
		20					50.2	12.6	23.9	13.3		-	8.50V							
13.00-24 TG Tubeless	FG	12	G2	G2A	-	-	1286	340	588	374	28.0	-	8.00TG (10.00VA)							
			G2, L2											DG2	50.6	13.4	23.1	14.7		
13.00-24 TG		10	G2	G2A	-	-														
14.00-24	RL	24	E3	E2A	109	75	1366	387	627	400	28.0	450	10.00W							
		28					53.8	15.2	24.7	15.7		17.7								
		RLS	20	L4	D2A	-	-	1407	390	646	440	48.0	450	17.7						
	STMS	20	L5S	D2A	-	-	1373	367	646	391	78.0	-	-							
14.00-24 TG Tubeless	FG	14	G2	G2A	-	-	1336	365	597	406	31.0	-	8.00TG (10.00VA)							
			G2, L2										DG2	-	-	1336	365	610	392	8.00TG 10.00VA
		RL	12	L3	D2A	-	-	1366	387	614	410	28.0	450	10.00VA (8.00TG)						
14.00-24 TG	FG	12	G2	G2A	-	-	1336	365	610	392	31.0	-	8.00TG (10.00VA)							
																				10.00VA (8.00TG)
													16	L2	D2A			1330	390	610
16.00-24 TG	FG	16	G2	G2A	-	-	1453	438	638	500	32.5	-	10.00VA							
	RL	16	G3, L3	DG2	-	-	1478	419	671	446	33.5	513	20.2							
16.9-24	FG	10	L2	-	-	-	1320	447	591	462	30.5	-	W15L							
18.4-24	FG	10	L2	-	-	-	1385	483	612	516	32.5	-	W16L							

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																Size	
		kPa psi	475 69	500 73	525 76	550 80	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 115	825 120			
24"																			
RL	E/M 50 30	PR	20																12.00-24
			kg lbs	3350 7400	3450 7600	3550 7850	3650 8050												
			kPa psi	475 69	500 73	525 76	550 80	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 115	825 120		
RL STMS	Loader 10 5	PR	16																13.00-24 TG
			kg lbs	5000 11000	5150 11400	5300 11700	5450 12000	5600 12300	5800 12800	6000 13200	6150 13600	6270 13790	6410 14100	6540 14390	6660 14700	6780 14900	6900 15200		
			kPa psi	475 69	500 73	525 76	550 80	600 87	625 91	650 94	675 98	700 102	725 105	750 109	775 112	800 115	825 120		
FG	Grader 40 25	PR	10																14.00-24
			kg lbs	1700 3740	1900 4180	2060 4540	2240 4940	2360 5200	2500 5520	2650 5840	2725 6000								
FG	Loader 10 5	PR	12																14.00-24 TG
			kg lbs													4500 9900	4750 10500	5000 11000	
			kPa psi	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94
RL	E/M 50 30	PR	24																14.00-24
			kg lbs	3350 7400	3550 7850	3750 8250	3875 8550	4000 8800	4250 9350	4375 9650	4500 9900	4625 10200	4750 10500	4875 10700	5000 11000	5150 11400	5300 11700	5450 12000	
			kPa psi	575 83	600 87	625 91	650 94	675 98	700 102										
RLS STMS	Loader 10 5	PR	20																14.00-24 TG
			kg lbs	7500 16500	7750 17100	8000 17600	8250 18200	8250 18200	8500 18700										
			kPa psi	125 18	150 22	175 25	200 29	225 33	250 36	275 40	300 44	325 47	350 51	375 54	400 58	425 62			
FG	Grader 40 25	PR	12																14.00-24 TG
			kg lbs	2060 4540	2300 5080	2500 5520	2650 5840	2800 6150	3075 6800	3250 7150	3450 7600	3550 7850	3650 8050						
FG RL	Loader 10 5	PR	14																14.00-24 TG
			kg lbs																
			kPa psi	120 17	140 20	160 23	180 26	200 29	220 32	240 35									
FG	Grader 40 25	PR	16																16.00-24 TG
			kg lbs	2650 5840	3000 6600	3250 7150	3450 7600	3650 8050	4000 8800	4250 9350	4500 9900								
FG	Loader 10 5	PR	16																16.00-24 TG
			kg lbs														7100 15700	7300 16100	
			kPa psi	120 17	140 20	160 23	180 26	200 29	220 32	240 35									
FG	Loader 10 5	PR	10																16.9-24
			kg lbs	2300 5070	2520 5555	2725 6005	2920 6435	3105 6845	3280 7230	3455 7615									
FG	Loader 10 5	PR	10																18.4-24
			kg lbs	2765 6095	3025 6670	3270 7210	3505 7725	3725 8210	3940 8685										

1) Figures under the star rating denote the maximum load and inflation pressures.

2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	Ply Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
							OD mm inch	OW mm inch	SLR mm inch	SLW mm inch			
25"													
15.5-25 Tubeless	VL2	12	L3	D2A	-	-	1284	410	568	448	27.0	-	12.00/1.3
							50.6	15.6	22.4	17.6			
16.00-25 Tubeless	RL	28	E3	E2A	139	95	1478	432	671	459	33.5	513	11.25/2.0
17.5-25 Tubeless	FG	12	G2, L2	DG2	-	-	1345	450	588	480	27.5	-	14.00/1.5
	VL2	16	L3	D2A	-	-	1348	444	597	470	30.5	-	
	DL	16	L5	D2A	-	-	1410	445	656	470	69.5	-	
	STMS	20	L5S	D2A D2Z	-	-	1385 54.5	450 17.7	645 25.4	462 18.2	69.0	-	
17.5-25	VL2	16	L3	D2A	-	-	1348	444	597	470	30.5	-	-
18.00-25 Tubeless	RL	32	E3	E2A	173	118	1607	508	727	572	37.5	587	13.00/2.5
							63.3	20.0	28.6	22.5			
	STMS	24 28 32	L5S	D2A	-	-	1675	520	762	550	84.0	-	-
20.5-25 Tubeless	FG	12	G2, L2	DG2	-	-	1493	534	652	551	29.5	-	17.00/1.7 (12,16PR) 17.00/2.0
	VL2	16 20	E3 L3	DE2	80	55	1494	542	641	587	33.0	-	
	DL	16	L5	D2A	-	-	1558	548	714	570	79.5	-	
20.5-25	VL2	16 20	L3	D2A	-	-	1494	542	641	587	33.0	-	-

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																Size	
		kPa psi	225 33	250 36	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83		
25"																			
VL2	Loader	PR	12																15.5-25
			kg lbs	4000 8800	4250 9350	4500 9900	4750 10500	4875 10700	5150 11400	5300 11700	5600 12300								
RL	E/M	PR	28																16.00-25
			kg lbs				4375 9650	4625 10200	4875 10700	5000 11000	5300 11700	5450 12000	5600 12300	5800 12800	6000 13200	6300 13900	6500 14300	6500 14300	
		kPa psi	125 18	150 22	175 25	200 29												17.5-25	
FG	Grader	PR	12																
	40 25	kg lbs	2120 4680	2360 5200	2575 5680	2900 6400													
<p>For slope and ditching service, inflation pressures should be increased by 100kPa (15psi) with no increase in load rating. For extreme conditions, consult a Bridgestone Representative for additional recommended operating requirements.</p>																			
		kPa psi	225 33	250 36	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83		
FG VL2 DL STMS	Loader	PR	12																18.00-25
			kg lbs	4750 10500	5000 11000	5300 11700	5600 12300	5800 12800	6150 13600	6300 13900	6700 14800	6900 15200	7100 15700	7300 16100	7500 16500	7750 17100	8000 17600	8250 18200	
RL	E/M	PR	32																
			kg lbs				5600 12300	6000 13200	6300 13900	6500 14300	6900 15200	7100 15700	7300 16100	7500 16500	7750 17100	8000 17600	8250 18200	8500 18700	8750 19300
		kPa psi	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87	625 91	650 94	675 98	700 102	725 105	750 109	
STMS	Loader	PR	24																20.5-25
			kg lbs	10000 22000	10450 23000	10900 24000	11500 25400	11500 25400	11800 26000	12150 26800	12500 27600	12850 28300	13200 29100	13600 30000	13600 30000	14000 30900	14500 32000	14500 32000	
		kPa psi	125 18	150 22	175 25	200 29	225 33	250 36	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65			
VL2	E/M	PR	16																
			kg lbs				4125 9100	4500 9900	4875 10700	5150 11400	5450 12000	5800 12800	6000 13200						
FG	Grader	PR	12																
			kg lbs	2800 6150	3150 6950	3550 7850													
<p>For slope and ditching service, inflation pressures should be increased by 100kPa (15psi) with no increase in load rating. For extreme conditions, consult a Bridgestone Representative for additional recommended operating requirements.</p>																			
FG VL2 DL	Loader	PR	12																
			kg lbs				6300 13900	6700 14800	7100 15700	7500 16500	7750 17100	8250 18200	8500 18700	8750 19300	9250 20400	9500 20900			

1) Figures under the star rating denote the maximum load and inflation pressures.

2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	Ply Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height	
							OD	OW	SLR	SLW				
							mm inch	mm inch	mm inch	mm inch				
23.5-25 Tubeless	VL2	16	E3 L3	DE2	107	73	1607	618	682	688	43.0	-	19.50/2.5	
		20					63.3	24.3	26.9	27.1		-		
		24												
	DL	20	L5	D2A	-	-	1680	616	770	652	88.0	-		
23.5-25	VL2	16	L3	D2A	-	-	1607	618	682	688	43.0	-		
		20					63.3	24.3	26.9	27.1		-		
		24												
26.5-25 Tubeless	VL2	20	E3 L3	DE2	132	90	1738	683	745	734	44.0	-	22.00/3.0	
		24					68.4	26.9	29.3	28.9		-		
		26												
		DL	24	L4	D2A	-	-	1785	707	792	736	67.0	-	
		DL	20	L5	D2A	-	-	1798	694	809	735	97.0	-	
		DL	26	L5	D2A	-	-	1798	680	827	719	95.0	-	
26.5-25	VL2	24	L3	D2A	-	-	1738	683	745	734	44.0	-		
							68.4	26.9	29.3	28.9		-		
29.5-25 Tubeless	VL2	22	E3 L3	DE2	150	103	1850	770	792	833	49.0	-	25.00/3.5	
		28					72.8	30.3	31.2	32.8		-		
		28												
	RLS	28	L4	D2A	-	-	1912	784	813	805	74.0	-		
	DL	28	L5	D2A	-	-	1900	768	873	805	105.5	-		
26"														
23.1-26 Tubeless	AL2	8	C2	-	-	-	1490	595	654	618	19.0	-	DW20A DW20B	
								58.7	23.4	25.7		24.3		-
23.1-26	AL2	8	C2	-	-	-	1490	595	654	618	19.0	-		
29"														
29.5-29 Tubeless	STMS	34	L5S	D2A	-	-	2009	777	931	792	103.0	-	25.00/3.5	
				D2Z			79.1	30.6	36.7	31.2		-		
33"														
35/65-33 Tubeless	DL	42	L5	D2V	-	-	2075	896	979	945	97.0	-	28.00/3.5	

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																			Size	
		kPa psi	175 25	200 29	225 33	250 36	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	630 92			
VL2 DL	Loader 10 5	PR	16			20			24													23.5-25
		kg lbs	8000 17600	8500 18700	9000 19800	9500 20900	10000 22000	10600 23400	10900 24000	11200 24700	11800 26000	12150 26800	12500 26700									
VL2	E/M 50 30	PR	16			20			24													23.5-25
		kg lbs	5300 11700	5800 12800	6150 13600	6500 14300	6900 15200	7300 16100	7750 17100	8000 17600												
VL2		PR	20			24			26													26.5-25
		kg lbs	6700 14800	7300 16100	7750 17100	8250 18200	8750 19300	9250 20400	9500 20900													
VL2 RLS DL STMS	Loader 10 5	PR	16			20			24			26			32			36			26.5-25	
		kg lbs				11500 25400	12150 26800	12500 27600	13200 29100	13600 30000	14000 30900	14500 32000	15000 33100	15500 34200	16000 35300	16500 36480	17000 37500	18600 41000				
VL2	E/M 50 30	PR	22			28													29.5-25			
		kg lbs	8000 17600	8750 19300	9250 20400	10000 22000	10600 23400	10900 24000	11500 25400													
VL2 RLS DL	Loader 10 5	PR	22			28													29.5-25			
		kg lbs				12150 26800	12850 28300	13600 30000	14500 32000	15000 33100	16000 35300	16500 36480	17000 37500	17500 38600								
26"													23.1-26									
		kPa psi	110 16																			
AL2	Compactor 40 25	PR											23.1-26									
		kg lbs	2850 6285																			
29"													29.5-29									
		kPa psi	225 33	250 36	275 40	300 44	325 47	350 51	375 54	400 58	425 62	450 65		475 69	500 73	525 76						
STMS	Loader 10 5	PR											29.5-29									
		kg lbs	12850 28300	14000 30900	14500 32000	15500 34200	16000 35300	17000 37500	17500 38600	18000 39700	19000 41900	19500 43000		20000 44100	20600 45400	21200 46700						
33"													35/65-33									
		kPa psi	375 54	400 58	425 62	450 65	475 69	500 73	525 76	550 80	575 83	600 87		625 91								
DL	Loader 10 5	PR											35/65-33									
		kg lbs	19500 43000	20000 44100	21200 46700	21800 48100	22400 49400	23000 50700	23600 52000	24300 53600	25000 55100	25750 56800		26500 58400								

1) Figures under the star rating denote the maximum load and inflation pressures.

2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

Tire Size	Pattern	Ply Rating	TRA Code or Application	Spec	TKPH	TMPH	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
							OD mm inch	OW mm inch	SLR mm inch	SLW mm inch			
35"													
37.25-35 Tubeless	RL	36	E3	E1A	358	245	2403 94.6	947 37.3	1051 41.4	979 38.5	51.5	- -	31.00/4.0
39"													
40/65-39 Tubeless	DL	56	L5	D2V	-	-	2420 95.3	1020 40.2	1112 43.8	1070 42.1	106.5	- -	32.00/4.0
45"													
45/65-45 Tubeless	DL	58	L5	D2V	-	-	2730 107.5	1146 45.1	1261 49.6	1185 46.6	116.0	- -	36.00/4.5
51"													
50/65-51 Tubeless	DL	62	L5	D2A D2V	-	-	3070 120.9	1260 49.6	1412 55.6	1300 51.2	127.5	- -	40.00/4.5
57"													
65/65-57 Tubeless	DL	62	L5	D2V	-	-	3735 147.0	1640 64.6	1672 65.8	1706 67.2	142.5	- -	52.00/6.0

For the TKPH(TMPH) Ratings, please refer to page 11.

Pattern	Application Max.Speed km/h mph	Tire Load Limits at Various Cold Inflation Pressures																			Size		
		kPa psi	175 25	200 29	225 33	250 36	275 40	300 44	325 47														
35"																					37.25-35		
RL	E/M 50 30	PR	36																				
			13600 30000	14500 32000	15500 34200	16500 36400	17500 38600	18500 40800	19500 43000														
39"																					40/65-39		
DL	Loader 10 5	PR	56																				
			22400 49400	23600 52000	25000 55100	25750 56800	27250 60000	28000 61500	29000 64000	30000 66000	30750 68000	31500 69500	32500 71500	34500 76100	34500 76000	36500 80500	37500 82700	38750 85400	40000 88200	41250 90900			
45"																					45/65-45		
DL	Loader 10 5	PR	58																				
			30000 66000	31500 69500	32500 71500	34500 76000	35500 78500	37500 82500	38750 85500	40000 88000	41250 91000	42500 93500	43750 96500	45000 99000	46250 102000	47250 104200	48250 106400	49250 108600	50000 110000				
51"																					50/65-51		
DL	Loader 10 5	PR	62																				
			37500 82500	40000 88000	42500 93500	43750 96500	46250 102000	47500 104500	48750 107500	51500 113500	53000 117000	54500 120000	56000 123500	58000 128000	58000 128000	60000 132500	61500 135500	63000 139000					
57"																					65/65-57		
DL	Loader 10 5	PR	62																				
			67000 147500	71000 156500	73000 161000	77500 171000	80000 176500	82500 182000	87500 193000	90000 198500	92500 204000	95000 209500											

- 1) Figures under the star rating denote the maximum load and inflation pressures.
- 2) For Loader & Dozer Service, Tire Load Limits will depend on a type of the operation. Please refer to page 88.

3.2 Industrial Service

Tire Size	Pattern	Ply Rating	TRA Code or Application	Spec	Approximate Inflated Dimensions				OTD	Minimum Dual Spacing	Recommended Rim/Flange Height
					OD mm inch	OW mm inch	SLR mm inch	SLW mm inch			
Industrial Service											
20"											
12.00-20	RL	20	Industrial Service	IDU	1138 44.8	316 12.4	507 20.0	348 13.7	24.0	378 14.9	8.50V
24"											
12.00-24	STMS	20	Industrial Service	IDU	1275 50.2	321 12.6	606 23.9	339 13.3	55.0	391 15.4	8.50V
14.00-24	RL	24 28	Industrial Service	IDU	1366 53.8	387 15.2	627 24.7	400 15.7	28.0	450 17.7	10.00W
14.00-24 TG Tubeless	RL	24	Industrial Service	IDU	1360 53.5	395 15.6	614 24.2	410 16.1	28.0	450 17.7	10.00VA
25"											
16.00-25 Tubeless	RL	28 32	Industrial Service	IDU	1495 58.9	445 17.5	671 26.4	459 18.1	33.5	513 20.2	11.25/2.0
	RLS	28 32	Industrial Service	IDU	1548 60.9	438 17.2	722 28.4	460 18.1	57.0	513 20.2	
	YS2	32	Industrial Service	IDU	1465 57.7	430 16.9	658 25.9	472 18.6	49.2	513 20.2	
18.00-25 Tubeless	RL	40	Industrial Service	IDU	1608 63.3	508 20.0	727 28.6	572 22.5	36.0	587 23.1	13.00/2.5
	ELS2	40	Industrial Service	IDU	1685 66.3	515 20.3	796 31.3	530 20.9	66.5	587 23.1	
	STMS	40	Industrial Service	IDU	1675 65.9	520 20.5	762 30.0	550 21.7	84.0	587 23.1	
21.00-25 Tubeless	RL	40	Industrial Service	IDU	1750 68.9	570 22.4	775 30.5	620 24.4	41.0	668 26.3	15.00/3.0
33"											
18.00-33 Tubeless	ELS2	36	Industrial Service	IDU	1878 73.9	515 20.3	887 34.9	533 21.0	66.5	587 23.1	13.00/2.5
35"											
21.00-35 Tubeless	RL	40	Industrial Service	IDU	2008 79.1	570 22.4	937 36.9	648 25.5	41.0	701 27.6	15.00/3.0
	ELS2	40	Industrial Service	IDU	2040 80.3	592 23.3	955 37.6	617 24.3	67.0	701 27.6	

Off-the-Road Tires Used for Industrial Vehicle Applications (IDU Spec)

- 1) Industrial Vehicles comprise vehicles such as counter-balanced lift trucks, container handlers, straddle carriers, aircraft tow tractors, mobile crushers, log stackers etc., used on hard improved surfaces, smooth floors and runways.
- 2) Use Specifications of **Industrial Service only**.

Pattern	Ply Rating	Inflation Pressure	Tire Load Limits at Various Speeds										Size
			kPa psi	km/h mph	0 Static	Creep Creep	5 3	10 5	15 9	20 12	25 15	30 19	
Industrial Service													
20"													
RL	20	Load	1000	kg	11880	10560	9570	8910	8580	8380	8250	8185	12.00-20
		Wheel	145	lbs	26200	23290	21100	19650	18920	18480	18190	18050	
		Steering	1000	kg	9505	8450	7655	7130	6865	6705	6600	6550	
Wheel	145	lbs	20960	18630	16880	15720	15135	14785	14550	14440			
24"													
STMS	20	Load	1000	kg	12420	11040	10005	9315	8970	8765	8625	8555	12.00-24
		Wheel	145	lbs	27385	24345	22060	20540	19780	19320	19020	18865	
		Steering	1000	kg	9935	8830	8005	7450	7175	7010	6900	6845	
Wheel	145	lbs	21910	19475	17650	16430	15825	15455	15215	15090			
RL	24	Load	1000	kg	17100	15200	13775	12825	12350	12065	11875	11780	14.00-24
		Wheel	145	lbs	37705	33515	30375	28280	27230	26605	26185	25975	
		Steering	1000	kg	13680	12160	11020	10260	9880	9650	9500	9425	
	Wheel	145	lbs	30165	26810	24300	22625	21785	21280	20945	20780		
	28	Load	1000	kg	18000	16000	14500	13500	13000	12700	12500	12400	
		Wheel	145	lbs	39690	35280	31970	29765	28665	28005	27560	27340	
Steering		1000	kg	14400	12800	11600	10800	10400	10160	10000	9920		
Wheel	145	lbs	31750	28225	25580	23815	22930	22400	22050	21875			
25"													
RL RLS YS2	28	Load	900	kg	20700	18400	16675	15525	14950	14605	14375	14260	16.00-25
		Wheel	131	lbs	45645	40570	36770	34230	32965	32205	31695	31445	
		Steering	900	kg	16560	14720	13340	12420	11960	11685	11500	11410	
	Wheel	131	lbs	36515	32455	29415	27385	26370	25765	25355	25155		
	32	Load	1000	kg	22500	20000	18125	16875	16250	15875	15625	15500	
		Wheel	145	lbs	49610	44100	39965	37210	35830	35005	34455	34175	
Steering		1000	kg	18000	16000	14500	13500	13000	12700	12500	12400		
Wheel	145	lbs	39690	35280	31970	29765	28665	28005	27560	27340			
RL ELS2 STMS	40	Load	1000	kg	30600	27200	24650	22950	22100	21590	21250	21080	18.00-25
		Wheel	145	lbs	67475	59975	54355	50605	48730	47605	46855	46480	
		Steering	1000	kg	24480	21760	19720	18360	17680	17270	17000	16865	
Wheel	145	lbs	53980	47980	43480	40485	38985	38085	37485	37185			
RL	40	Load	1000	kg	36385	32345	29310	27290	26280	25670	25270	25065	21.00-25
		Wheel	145	lbs	80230	71320	64630	60170	57950	56610	55720	55270	
		Steering	1000	kg	29110	25875	23450	21830	21025	20535	20215	20050	
Wheel	145	lbs	64185	57055	51705	48135	46360	45290	44575	44215			
33"													
ELS2	36	Load	1000	kg	33300	29600	26825	24975	24050	23495	23125	22940	18.00-33
		Wheel	145	lbs	73425	65270	59150	55070	53030	51805	50990	50580	
		Steering	1000	kg	26640	23680	21460	19980	19240	18795	18500	18350	
Wheel	145	lbs	58740	52215	47320	44055	42425	41445	40790	40465			
35"													
RL ELS2	40	Load	1000	kg	43740	38880	35235	32805	31590	30860	30375	30130	21.00-35
		Wheel	145	lbs	96445	85730	77695	72335	69655	68050	66975	66440	
		Steering	1000	kg	34990	31105	28190	26245	25270	24690	24300	24105	
Wheel	145	lbs	77155	68585	62155	57870	55725	54440	53580	53150			

- 3) For Speeds exceeding 30km/h (18mph), consult a Bridgestone Representative.
- 4) For tire sizes and star ratings other than listed above, consult a Bridgestone Representative.
- 5) For RTG (Rubber Tired Gantry Crane) operation, consult a Bridgestone Representative.

REMARKS & SPECIAL OPERATIONS

1. Remarks

Both rules of 1.1 and 1.2 can't be applied at the same time.

1.1 Excess Load

Due to the specialized nature of Off-The-Road vehicle usage, loads in excess of those in the appropriate above-listed load tables are often encountered.

These excess loads result from items such as actual vehicle weight exceeding the design weight, varying density of materials, field modifications to the equipment, load transfer, etc.

Only under these conditions, the actual tire load in service may exceed the above load ratings for the tire(*) by an amount not greater than shown in the following table:

For Radial Tires

	E2, E3, E4*	L**
Maximum Excess Load	7%	7%
Maximum Excess Pressure	14%	14%
Maximum Pressure	800kPa	825kPa
	116psi	120psi

(except for underground vehicles) Please see P.89, 90

When excess loads are encountered, cold inflation pressures must be increased to compensate for higher loads. For each 1% increase in load, the inflation pressure must be increased by 2%.

*except following sizes on the list

11.00R20	335/80R20	405/70R20	12.00R24
12.00R20	365/80R20	12R22.5	

About 63" tires, consult a Bridgestone representative.

**except 55.5/80R57 and 60/80R57

The maximum excess loads will result in reduced tire performance.

For Bias Tires

	E2, E3, E4*	L**	
			L5/L5S***
Maximum Excess Load	15%	15%	0%
Maximum Excess Pressure	30%	30%	+100kPa
Maximum Pressure	825kPa	825kPa	
	120psi	120psi	

(except for underground vehicles) Please see P.89, 90

When excess loads are encountered, cold inflation pressures must be increased to compensate for higher loads. For each 1% increase in load, the inflation pressure must be increased by 2%.

*except following sizes on the list

9.00-20	10.00-20	11.00-20
---------	----------	----------

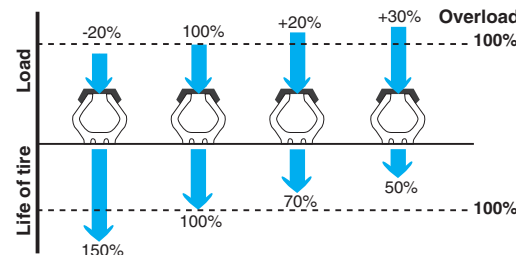
**except following sizes on the list

27x8.50-15	10-16.5	15.5/70-18	16.9-24
33x12.5-15	12-16.5	42x17-20	18.4-24
12.5/70-16	15.5/60-18	17.5/65-20	

***For L5/L5S tires following sizes on the list, on front tires for front end loaders, it is permissible to increase inflation pressure up to 100kPa (15psi) above, with no increase in load. (Maximum inflation pressure should not exceed 825 kPa (120psi).)

17.5-25	26.5-25	35/65-33	50/65-51
20.5-25	29.5-25	40/65-39	65/65-57
23.5-25	29.5-29	45/65-45	

The maximum excess loads will result in reduced tire performance.



1.2 The Variation in Load Carrying Capacity with Operating Speed

For Radial Tires

Maximum Speed (km/h)	G	L*
Static		+60%
Creep		+30%
5		+15%
10		0
15	-	-13%
20		-
25		-20%
30		
35		
40	0	
45	-	
50	-9%	
55	-	
60	-18%	
65	-27%	

(except for underground vehicles) Please see P.89, 90

Reference speed for calculating load variance

* About the size of 55.5/80R57 and 60/80R57, consult a Bridgestone representative.

•Earthmover Size

For 65km/h(40mph) speed, tire load must be reduced 12% with no change in inflation pressure.

For Bias Tires

Maximum Speed (km/h)	G	L*
Static		+60%
Creep		+30%
5		+15%
10		0
15	-	-13%
20		-
25		-20%
30		
35		
40	0	
45	-	
50	-9%	
55	-	
60	-18%	
65	-27%	

(except for underground vehicles) Please see P.89, 90

Reference speed for calculating load variance

•Earthmover Size

For 65km/h(40mph) speed, tire load must be reduced 15%(Narrow), 17%(widebase) with no change in inflation pressure.

*except following sizes on the list

27x8.50-15	10-16.5	15.5/70-18	16.9-24
33x12.5-15	12-16.5	42x17-20	18.4-24
12.5/70-16	15.5/60-18	17.5/65-20	

- These tables don't secure to prevent the risk derived from heat buildup.
- Consult Bridgestone Representative for another speed set for Earthmover Size.

1.3 The Variation in Load Carrying Capacity with Operating Speed for Mobile Crane

Speed	Maximum Load	
	Speed Symbol: E	Speed Symbol: F
30 km/h (20 mph)	+30%	+25%
40 km/h (25 mph)	+24%	+15%
50 km/h (30 mph)	+18%	+12%
60 km/h (35 mph)	+12%	+10%
70 km/h (43 mph)	0%	+5%
80 km/h (50 mph)	-18%	0%
90 km/h (55 mph)	-30%	-6%
100 km/h (62 mph)	-40%	-15%

Reference speed for calculating load variance

This table doesn't secure to prevent the risk derived from heat buildup.

1.4 Recommended Inflation Pressure Calculation

Below is the inflation pressure calculation formula for various tire load (for your reference).

$$\text{Radial Tire: } \frac{W_2}{W_1} = \frac{P_2^{0.75}}{P_1^{0.75}} \quad P_2 = \left\{ P_1^{0.75} \frac{W_2}{W_1} \right\}^{(1/0.75)}$$

$$\text{Bias Tire: } \frac{W_2}{W_1} = \frac{P_2^{0.585}}{P_1^{0.585}} \quad P_2 = \left\{ P_1^{0.585} \frac{W_2}{W_1} \right\}^{(1/0.585)}$$

Tire Load: W1, W2

Inflation Pressure: P1, P2

*Tire Load and Inflation Pressure should not exceed maximum load and pressure of tires.

1.5 Allowance in Outer Diameters for Dual Mounting

The following table lists the allowance in outer diameters for dual mounting. Exceeding the figures listed (Table 1) may result in rapid tread wear and possible damage to the tire.

For the dual mounted tires shown in Fig. 1, if the outer diameter of tire No.1 is larger than that of No.2, the No.1 tire with a larger diameter will eventually be damaged, wear rapidly and unevenly from overloading, while the No.2 tire with a smaller diameter will rapidly wear out in the center.

Tires already mounted on vehicles can be checked by the following methods. Be sure that the tires to be checked are all inflated to their standard recommended inflation pressures.

Fig. 1 Dual Mounting

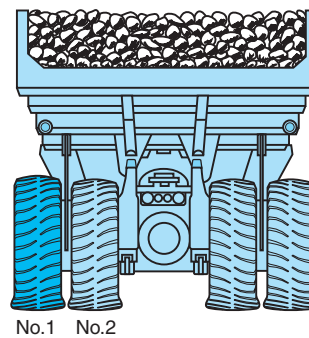


Table 1 Permissible Difference in Outer Diameters for the Dual Mounted Tires

Tire Section	Radial		Bias	
	Difference in Outer Diameters	Circumferential Difference	Difference in Outer Diameters	Circumferential Difference
less than 8.25	less than 6mm	less than 19mm	less than 8mm	less than 9mm
9.00-14.00	less than 8mm	less than 25mm	less than 13mm	less than 41mm
16.00-18.00	less than 15mm	less than 47mm	less than 20mm	less than 69mm
more than 21.00	less than 19mm	less than 60mm	less than 24mm	less than 75mm

(1) By placing a right angled square across duals, the difference in outer diameter can be obtained. (Fig. 2-1) Or measure circumference.

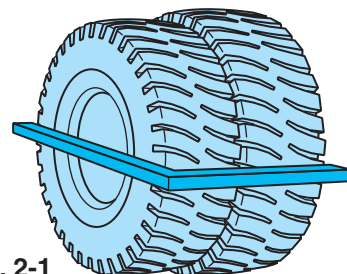


Fig. 2-1

(2) By using a cord across both the right and left duals, the difference can be obtained. (Fig. 2-2)

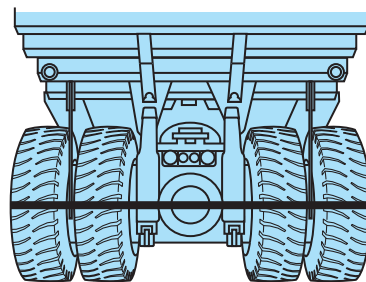


Fig. 2-2

(3) Do not use regular tread (E3) and deep tread (E4) tires together for dual mounting.

(4) Any object trapped between dual mounted tires represents a risk. Use of rock ejectors between dual mounted tires is recommended. To remove an object trapped between dual mounted tires, it is essential to deflate both tires prior to removing the wheels.

1.6 Tire Volume for Filling Nitrogen Gas

Tire Size	Tire Volume			
	Liter		U.S. Gal	
		For L5		For L5
14.5 R15	-	89	-	24
12.00 R20	137	123	36	32
16.00 R20	300	-	79	-
335/80 R20	130	-	34	-
405/70 R20	197	-	52	-
365/80 R20	159	-	42	-
12.00 R24	162	145	43	38
13.00 R24	201	-	53	-
14.00 R24	264	213	70	56
16.00 R24	359	-	95	-
14.00 R25	259	-	68	-
15.5 R25	225	213	59	56
16.00 R25	353	-	93	-
17.5 R25	295	261	78	69
18.00 R25	507	457	134	121
20.5 R25	448	398	118	105
21.00 R25	751	-	198	-
23.5 R25	631	560	167	148
25/65 R25	569	-	150	-
550/65 R25	360	-	95	-
650/65 R25	541	-	143	-
750/65 R25	750	-	198	-
26.5 R25	833	739	220	195
29.5 R25	1171	1039	309	274
775/65 R29	900	-	238	-
875/65 R29	1138	-	301	-
29.5 R29	1260	1118	333	295
33.25 R29	1586	-	419	-

Tire Size	Tire Volume			
	Liter		U.S. Gal	
		For L5		For L5
18.00 R33	582	-	154	-
21.00 R33	810	-	214	-
35/65 R33	1463	1298	387	343
37.5 R33	2444	-	646	-
21.00 R35	841	-	222	-
24.00 R35	1098	-	290	-
29.5 R35	1434	-	379	-
33.25 R35	1780	-	470	-
37.25 R35	2323	-	614	-
37.5 R39	2627	-	694	-
40.5/70 R39	2885	-	762	-
45/65 R39	-	2613	-	690
45/65 R45	-	3005	-	794
24.00 R49	1375	-	363	-
27.00 R49	1869	-	494	-
31/90 R49	1960	-	518	-
30.00 R51	2514	-	664	-
33.00 R51	3079	-	813	-
36.00 R51	3855	-	1018	-
50/65 R51	-	4027	-	1064
37.00 R57	4481	-	1184	-
42/90 R57	4799	-	1268	-
40.00 R57	5477	-	1447	-
46/90 R57	5487	-	1450	-
50/80 R57	5955	-	1573	-
50/90 R57	7800	-	2061	-
55.5/80 R57	-	7216	-	1906
53/80 R63	7305	-	1930	-
55/80 R63	8568	-	2264	-
59/80 R63	9793	-	2587	-

L5 tire has smaller tire volume than the others and the value listed specifically.

2. Special Operations

Please check your operation to make sure of the Tire Load Limit.

Type/Service	Type of Operations	Reference No.
Earthmover	Standard	-
	Underground Truck Service	2.1.3
	When the vehicle is driven over the highway for delivery, or moved by an operator to a new job site - Drive-Away	2.2.1
Loader & Dozer	Distance of picking up and relocating material Less than 76m (one way) - Standard	-
	Distance of picking up and relocating material More than 76m (one way) - Load-and-Carry Operations	2.1.1
	Underground Load Haul Dump Service	2.1.2
	Underground Truck Service	2.1.3
	When the vehicle is driven over the highway for delivery, or moved by an operator to a new job site - Drive-Away	2.2.2

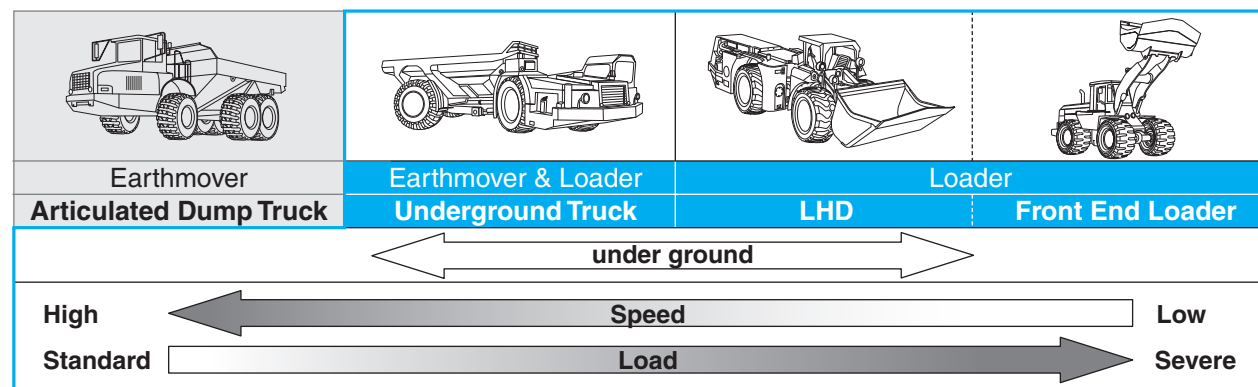
2.1 For Load-and-Carry Operations

Service conditions of a loader is defined as "picking up material and relocating a short distance away, a maximum of 76m (250 feet), one way, with a maximum speed of 10km/h (5 mph)". However, a loader can pick up a load and transport such load to another location and return unloaded for a longer distance. This type of service is called as **Load-and-Carry** operations. Transportation usually occurs at low speeds, up to 25km/h (15 mph), and distances are limited.

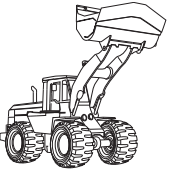
The tires when used in Load-and-Carry operations may encounter heat problems especially on the front axle tires. To avoid such problems, Bridgestone recommends the following operating conditions.

For tires over 33" inch rim diameter tires, careful study is required to maximize tire life while considering Ton-Kilometer-Per-Hour limits. Please consult a Bridgestone representative for more information.

If you need to use the tire beyond this recommendation, please consult a Bridgestone representative.



2.1.1 For Front End Loader Service



For Radial Tires

Tread Class	Inflation Pressure				Load Capacity* 10km/h (5mph)	Maximum Cycle Distance (m)	Allowable Average Work-shift Speed (km/h)
	Conventional size (95 series)		Wide base size (80, 65 series)				
	★1	★2	★1	★2			
L2, L3	Standard Inflation Pressure		Standard Inflation Pressure**		100% of STD. load	1800	16
L4						1500 (VSDT)	14
L5						1200 (VSDL, VSDR)	10
L5S						1200	6
						5	

* STD.load: Maximum permissible load at standard inflation pressure for respective tire size and star rating.

Please refer to the load - inflation pressure table for loader and dozer service "10km/h (5mph) service".

** On front tires for front end loaders, it is permissible to increase inflation pressure up to 100kPa (15psi) above that shown in the load - inflation pressure table for loader and dozer service "10km/h (5mph) service" with no increase in load.

For Bias Tires

Tread Class	Inflation Pressure for Front Tires	Load Capacity* 10km/h (5mph)		Maximum Cycle Distance (m)	Allowable Average Work-shift Speed (km/h)
		Rim Diameter			
		29" and below	33" and above		
L2, L3	Standard inflation pressure + 100kpa (15psi)	90% of STD. load	**	1200	10
L4				500	3
L5				300	
L5S					

* STD.load: Maximum permissible load at standard inflation pressure for respective tire size and star rating.

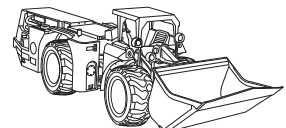
Please refer to the load - inflation pressure table for loader and dozer service "10km/h (5mph) service".

** Not permissible

The inflation pressure should not exceed 825kPa (120psi).

2.1.2 For Load Haul Dump Service

Since a load haul dump (LHD) unit has a similar structure and operational characteristics as load and carry service on a front end loader, the following operating parameters are recommended.



For Radial Tires

Tread Class	Inflation Pressure		Load Capacity* 10km/h (5mph)	Maximum Cycle Distance (m)	Allowable Average Work-shift Speed (km/h)
	Conventional size (95 series)	Wide base size (80, 65 series)			
L2, L3	★2 D2A / ★2 L2A				
L4	Standard Inflation Pressure		100% of STD. load	1800	14
L5 / LHD5				1500 (VSDT)	10
				1200 (VSDR, VSDL, VMDL)	6
L5S / LHD5S				1200	5

*See note in Table 2.1.1. **Not permissible

For Bias Tires

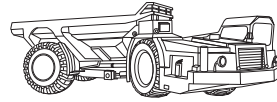
Tread Class	Inflation Pressure for Front Tires	Load Capacity* 10km/h (5mph)		Maximum Cycle Distance (m)	Allowable Average Work-shift Speed (km/h)
		Rim Diameter			
		29" and below	33" and above		
L2, L3	Standard inflation pressure + 100kpa (15psi)	90% of STD. load	**	500	3
L4				300	
L5					
L5S					

*See note in Table 2.1.1. **Not permissible

The inflation pressure must meet 1.1 for maximum excess load.

2.1.3 For Underground Truck Service

Underground truck service is defined as small and low vehicle height dump truck used in underground mines. However, the application is considered to be similar to load and carry operation which has relatively slower speed and shorter distance with more load than normal dump truck use. Consequently, the severity to the tire is estimated using the load and carry concept. Bridgestone defines the recommendation in this section.



For Radial Tires

Tread Class & Pattern	Spec	Inflation Pressure	Load Capacity*	Speed		
				Maximum Speed (km/h)	Allowable Average Work-shift Speed (km/h)	
L4/E4	VSNT	MT DUH	See note in P.47	700 kpa	25	10
				800 kpa	40	10
L4	VSNT	★2 D2A	100% of STD. load	Standard Inflation Pressure	25	14
L5	VSNT					10
	VSDL					6
L5S	VSMS					5
E4	VMTP	★2 E2A	115% of STD. load	Standard Inflation Pressure	30	14
	VRLS					

*See note in 2.1.1.
For over Maximum Speed, consult a Bridgestone Representative.

For Bias Tires

Not recommendable.

2.2 Drive-Away Tires on Vehicles

2.2.1 Off-the-Road Tires for Earthmover

(1) Recommendations for Off-the-Road Tires

Because of the special extra-heavy construction of Off-the-Road tires, special precautions must be observed to protect these expensive tires when the vehicle is driven over the highway for delivery, or moved by an operator to a new job site.

If the precautions are not observed, excessive tire heat is built up and the tires most likely will fail prematurely. These precautions are as follows and apply to tires on all vehicles in transit—driven or towed. Consult a Bridgestone Representative for specific information before starting out on a drive-away trip.

(2) Load and Pressure

- Vehicles must be empty during transportation.
- Inflation pressure is to be checked before starting, each break and adjusted to the pressure recommended for over-the-highway transit by Bridgestone.
- Inflation pressures are not to be reduced by “bleeding” tires during transportation.
- Periodical inflation pressure checks during transportation (i.e. every 2 hours) is recommended. Although operational pressure build-up in tires is normal during transportation, when it increases 20% or more than the cold pressure reading, it indicates over heating, and the vehicle should be stopped and a Bridgestone Representative should be consulted.

(3) Speed

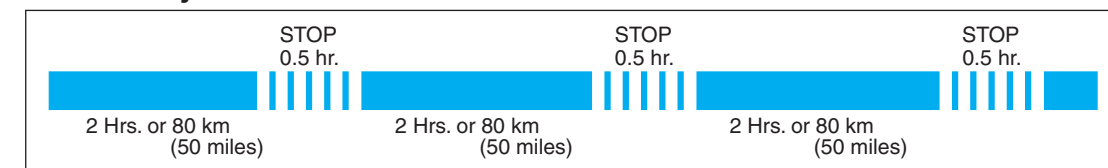
- Regular tread tires (E-3):
(Note: For deep tread tires (E-4), always consult a Bridgestone Representative.)
 - Maximum highway speed:

Maximum Speed (Drive-Away)

Radial / Bias	Maximum Speed	
	Regular	Wide Base
	50 km/h	30 mph
	32 km/h	20 mph

- Stop for a 30-minute cooling period after each 80 km (50 miles) of driving or before 2 hours of continual operation, whichever comes first. (shown in the following figure)
- One-hour minimum midday lunch stop should be observed during full day operations. (shown in the following figure)

Drive-Away



- Vehicles in transit should be accompanied by responsible personnel in a pilot car to enforce these precautions and maintain a check on equipment. This is good insurance for a valuable investment.

2.2.2 Off-the-Road Tires for Loader & Dozer

During or after the operation, please wait for the following hours prior to start Drive-Away.

Size & Pattern	Load per tire [ton]		Maximum Travel Distance (One way)				
			5 km or 3.1 Mil	10 km or 6.2 Mil	20 km or 12.4 Mil	50 km or 31 Mil	60 km or 37 Mil
35/65R33 VSDL	16.6	Rest time prior to traveling (Hour)	2	4	5	7	9
		Maximum speed on traveling	10 km/h or 6.2 MPH				
45/65R45 VSDL	30.3	Rest time prior to traveling (Hour)	2	3	5	10	11
		Maximum speed on traveling	10 km/h or 6.2 MPH				
50/65R51 VSDL	40.3	Rest time prior to traveling (Hour)	3	5	9	20	23
		Maximum speed on traveling	20 km/h or 12.4 MPH		10 km/h or 6.2 MPH		
555/80R57 VSDL	64.8	Rest time prior to traveling (Hour)	1.5	3.5	7	10	14
		Maximum speed on traveling	20 km/h or 12.4 MPH		10 km/h or 6.2 MPH		
60/80R57 VSDL	69.5	Rest time prior to traveling (Hour)	1	2	4	9	11
		Maximum speed on traveling	10 km/h or 6.2 MPH				
65/65-57 DL	64.8	Rest time prior to traveling (Hour)	3	6.5	10	*Please consult a Bridgestone representative.	
		Maximum speed on traveling	20 km/h or 12.4 MPH		10 km/h or 6.2 MPH		

- Remarks:
- Time for cooling temperature of the tire (Parked up the loader) should be applied prior to start to travel on the road.
 - Ambient temperature of 38°C or 100°F is assumed.
 - Maximum load on tire should be less than the Load per tire in the above table.
 - Air pressure for “Drive-Away” should be the same as our recommended figures, and need to confirm whether it would not be higher figures that we experienced prior to travel.
 - We recommend that it would be best way for Giant loaders to use tow hauler for long way traveling. The drive away distance should be shorter than 60km (37 miles) within 20 km/h as the maximum speed to minimize the risk of tire heat damage.
 - If you have a plan of Drive-Away, please consult a Bridgestone representative.

OTHER SPECIFICATION

1. O-Ring Specifications

Code No.	Applicable Size		Diameter		Inner Circumference	
	Radial	Bias	mm	inch	mm	inch
P-24A	13.00R24 TG 14.00R24 TG 16.00R24 TG	13.00-24 TG 14.00-24 TG -	6.6	0.26	1768	69.61
P-25AX	14.00R25* 15.5R25 17.5R25 20.5R25* 385/95R25 445/80R25 550/65R25* 600/65R25*	- 15.5-25 17.5-25 20.5-25 - - - -	6.8	0.27	1790	70.47
P-25B	14.00R25* 16.00R25 18.00R25 20.5R25* 21.00R25 23.5R25 26.5R25 29.5R25 30/65R25(750/65R25) 445/95R25 505/95R25 525/80R25 550/65R25* 600/65R25* 650/65R25 750/65R25	- 16.00-25 18.00-25 20.5-25* 21.00-25 23.5-25 26.5-25 29.5-25 - - - - - - - -	9.8	0.39	1790	70.47
P-29B	29.5R29 33.25R29 775/65R29 875/65R29	29.5-29 - - -	9.8	0.39	2127	83.74
P-33B	18.00R33 21.00R33 35/65R33	18.00-33 - 35/65-33	9.8	0.39	2382	93.78
P-35B	21.00R35 24.00R35	21.00-35 -	9.8	0.39	2557	100.67

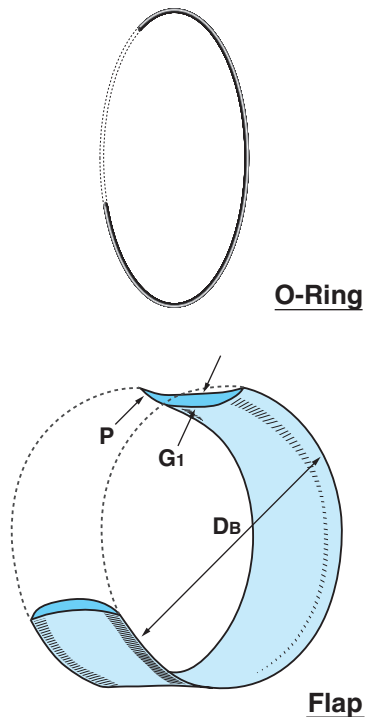
Code No.	Applicable Size		Diameter		Inner Circumference	
	Radial	Bias	mm	inch	mm	inch
P-35B	29.5R35 33.25R35 37.25R35	- - 37.25-35	9.8	0.39	2557	100.67
P-39B	37.5R39 - 40.5/75R39 45/65R39	- - 40/65-39 -	9.8	0.39	2912	114.69
P-45B	45/65R45	45/65-45	9.8	0.39	3326	130.94
P-49B	27.00R49	-	9.8	0.39	3611	142.17
P-51C	30.00R51 33.00R51 36.00R51 50/65R51	- - - 50/65-51	12.7	0.5	3694	145.43
P-57C	37.00R57 40.00R57 42/90R57 46/90R57 50/90R57 55.5/80R57 60/80R57 -	- - - - - - - 65/65-57	12.7	0.5	4129	162.56
P-63C	53/80R63 59/80R63	- -	12.7	0.5	4580	180.31

*Detail of Application

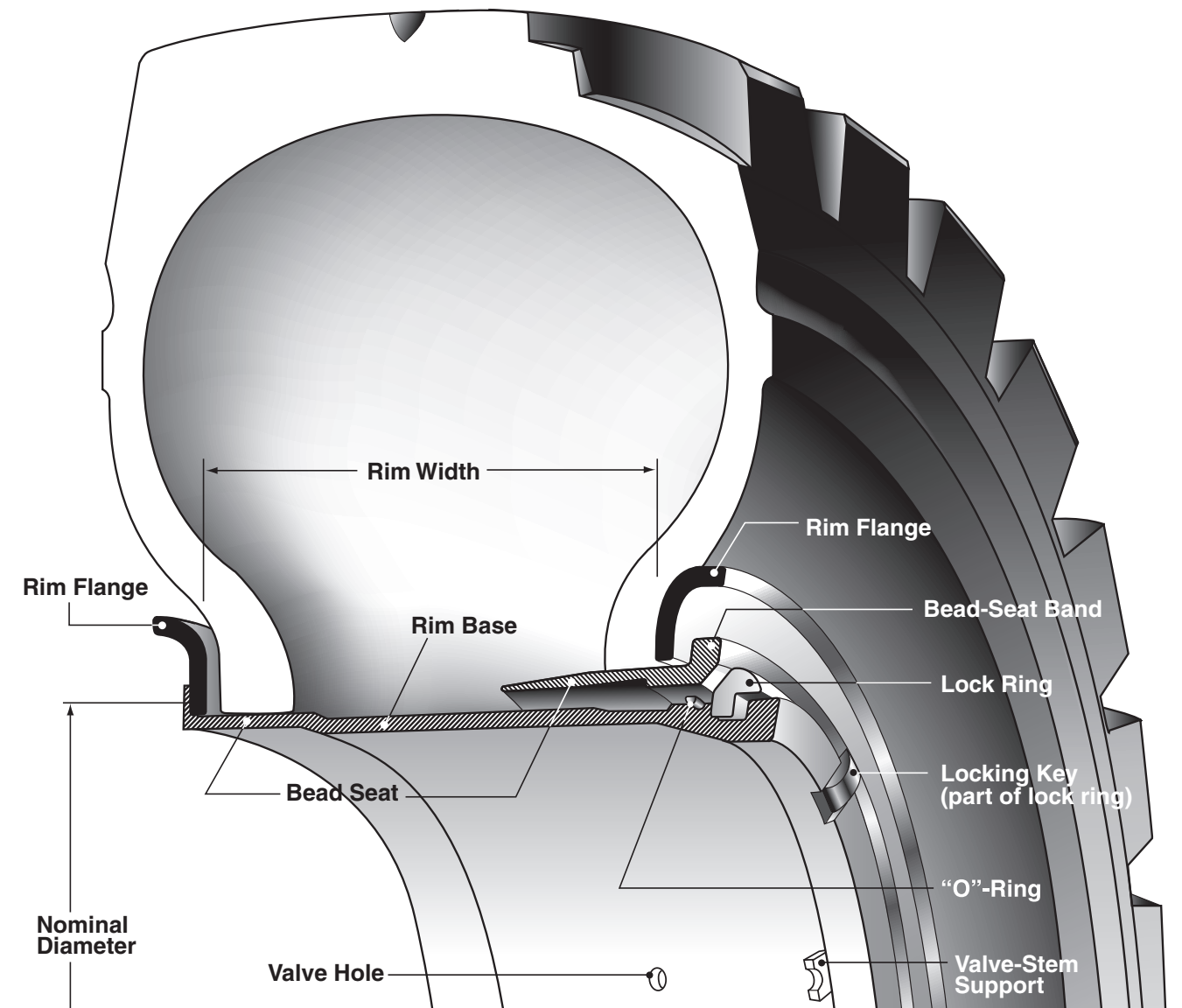
Code No.	Application Size		
	Radial	Bias	Rim
P-25AX	14.00R25 20.5R25 -	- - 20.5-25	10.00-25/1.5 17.00AL-25/1.7 17.00-25/1.7
	550/65R25 600/65R25	- -	14.00-25/1.5 17.00-25/1.7
P-25B	14.00R25 20.5R25 550/65R25 600/65R25	- 20.5-25 - -	11.25-25 17.00-25 17.00-25 17.00-25
			19.50-25

2. Flap Specifications

Flap	πD_b		G_1		P	
	mm	inch	mm	inch	mm	inch
550/600-15	1175	46.3	4.0	0.16	129	5.1
650/700/750-15	1177	46.3	4.5	0.18	169	6.7
12/65B-15	1196	47.1	7.0	0.28	270	10.6
750/825AR15	1201	47.3	6.0	0.24	184	7.2
750/825-R16	1255	49.4	5.0	0.20	174	6.9
200D1000-R15	1201	47.3	6.5	0.26	205	8.1
700A825-R20	1594	62.8	5.0	0.20	180	7.1
900A111-R20	1594	62.8	6.0	0.24	205	8.1
1100B13/80-R20	1594	62.8	6.5	0.26	218	8.6
1400/14/80R20	1594	62.8	8.5	0.33	240	9.4
1300A1600-20	1618	63.7	8.0	0.31	246	9.7
42x17-20	1566	61.7	9.0	0.35	384	15.1
14/70-20	1587	62.5	9.0	0.35	331	13.0
1300-24	1916	75.4	9.0	0.35	229	9.0
1200A1400-24,25	1925	75.8	9.0	0.35	232	9.1
1100B1300-R24	1922	75.7	7.5	0.30	220	8.7
1300/1400-24,25	1925	75.8	9.0	0.35	232	9.1
1400/1600R24,25	1925	75.8	9.0	0.35	261	10.3
1600-24,25	1894	74.6	9.0	0.35	289	11.4
155A1800-24,25	1928	75.9	6.0	0.24	339	13.3
235-25	1932	76.1	9.0	0.35	560	22.1
265-25	2009	79.1	12.0	0.47	570	22.4
2100R33	2553	100.5	9.0	0.35	413	16.3



3. Rim and Valve



Five-piece fully-tapered bead-seat rim with air-sealing "O"-ring gasket for earthmover

8.50V × 24

- Nominal Diameter of Rim (inches)
- Flange Type
- Rim Width (inches)

3.1 Rim Designation

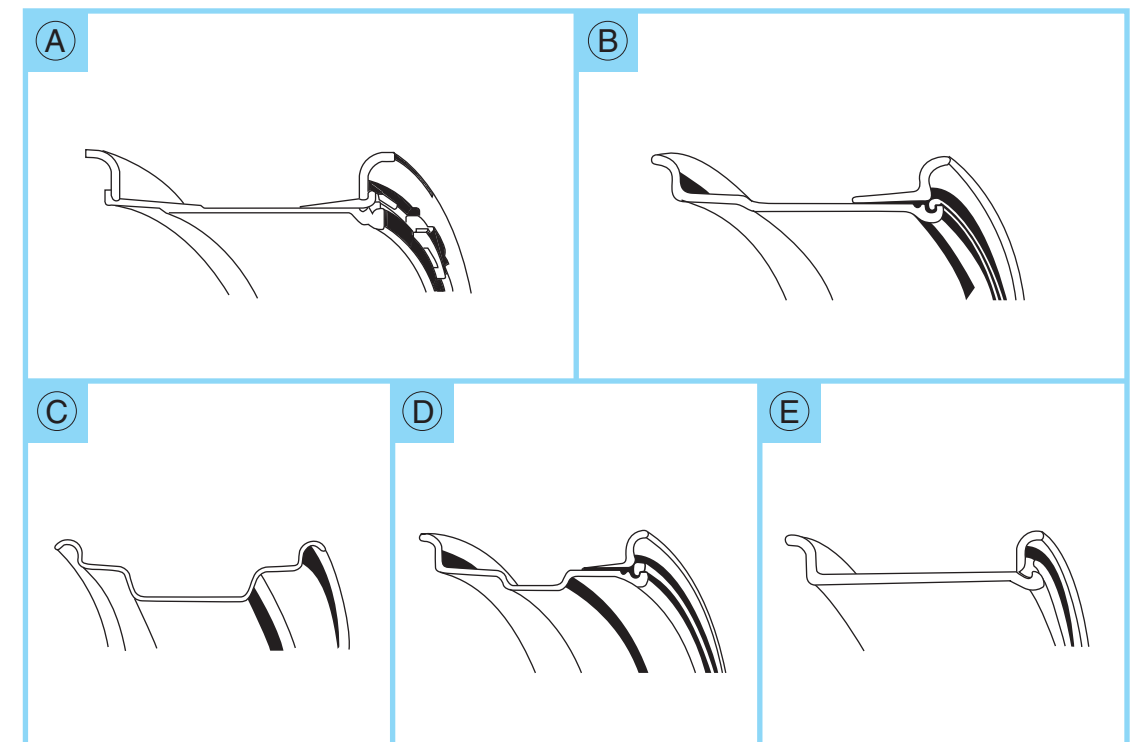
Full Tapered Bead Seat Rims (5 pieces)		
Recommended Rim/ Flange Height	Tire Size	
	Radial	Bias
11.00/1.5	14.5R15	-
11.25/2.0	16.00R25	16.00-25
	445/95R25	-
13.00/2.5	18.00R25	18.00-25
	505/95R25	-
	18.00R33	18.00-33
15.00/3.0	21.00R25	21.00-25
	21.00R33	-
	21.00R35	21.00-35
17.00/2.0	550/65R25	-
	600/65R25	-
17.00/3.5	24.00R35	24.00-35
19.50/2.5	23.5R25	23.5-25
	600/65R25	-
	650/65R25	-
19.50/4.0	27.00R49	-
22.00/3.0	750/65R25(30/65R25)	-
	26.5R25	26.5-25
22.00/4.5	30.00R51	-
24.00/3.0	750/65R25(30/65R25)	-
24.00/3.5	775/65R29	-
24.00/5.0	33.00R51	-
25.00/3.5	29.5R25	29.5-25
	775/65R29	-
	29.5R29	29.5-29
	29.5R35	-
26.00/5.0	36.00R51	-
27.00/3.5	875/65R29	-
	33.25R29	-
	33.25R35	-
27.00/6.0	37.00R57	-
	42/90R57	-
28.00/3.5	875/65R29	-
	35/65R33	35/65-33
29.00/6.0	40.00R57	-
	42/90R57	-
	46/90R57	-
	50/80R57	-
31.00/4.0	37.25R35	37.25-35
32.00/4.0	-	40/65-39
32.00/4.5	37.5R39	-
	40.5/75R39	-
	45/65R39	-
32.00/6.0	46/90R57	-
	50/80R57	-
	50/90R57	-
32.00/6.5	50/90R57	-
34.00/5.0	50/80R57	-
34.00/6.0	50/80R57	-
	50/90R57	-
34.00/6.5	50/90R57	-
36.00/4.5	45/65R39	-
	45/65R45	45/65-45
36.00/5.0	53/80R63	-
38.00/5.0	53/80R63	-
40.00/4.5	50/65R51	50/65-51
41.00/5.0	59/80R63	-
44.00/5.0	59/80R63	-
44.00/6.0	55.5/80R57	-
47.00/6.0	60/80R57	-
52.00/6.0	-	65/65-57

Full Tapered Bead Seat Rims (3 pieces)		
Recommended Rim/ Flange Height	Tire Size	
	Radial	Bias
10.00/1.5	14.00R25	14.00-25
	385/95R25	-
12.00/1.3	15.5R25	15.5-25
14.00/1.5	17.5R25	17.5-25
	445/80R25	-
	550/65R25	-
17.00AL/1.7(★1only)	20.5R25	-
17.00/1.7	-	20.5-25
	600/65R25	-
17.00/2.0	20.5R25	20.5-25
	525/80R25	-
	550/65R25	-

Drop Center Rims (DC, W, DW)		
Recommended Rim/ Flange Height	Tire Size	
	Radial	Bias
7JA	-	27x8.50-15
	-	9.5/65-15
11LB	-	14.0/65-15
6LB	-	7.50-16
8LB	-	10.5/80-16
10LB	-	12.5/70-16
8.25	-	10-16.5
	11R22.5	-
9.00	12R22.5	-
9.75	-	12-16.5
W10	-	15.5/60-18
W13	-	15.5/70-18
W14L	-	17.5/65-20
W15L	-	16.9-24
W16L	-	18.4-24
DW20A	-	23.1-26
DW20B	-	23.1-26

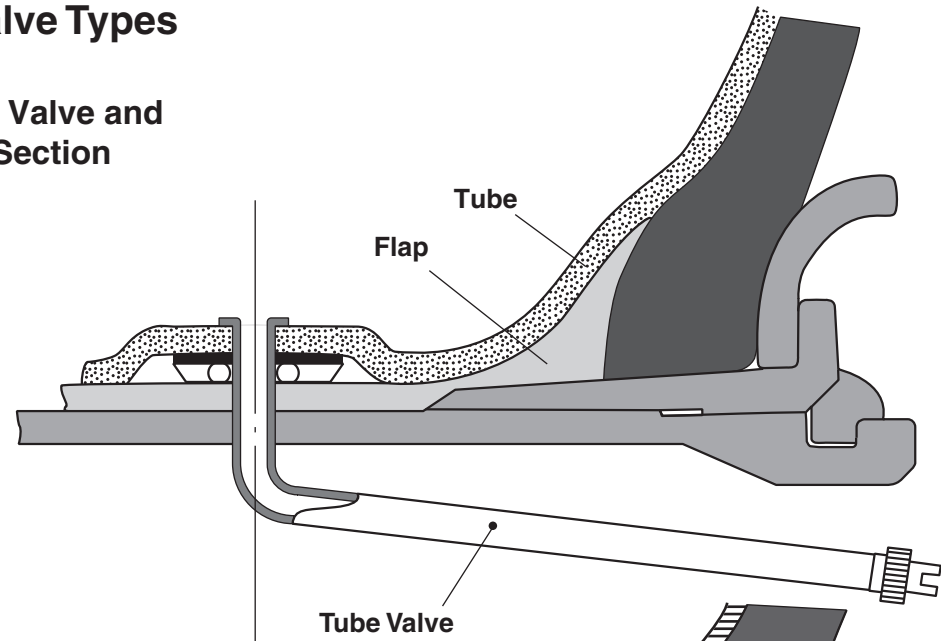
Semi Drop Center Rims (SDC)		
Recommended Rim/ Flange Height	Tire Size	
	Radial	Bias
6.00GS	-	7.50-15
	-	7.50-16
8.00TG	13.00R24 TG	13.00-24 TG
	14.00R24 TG	14.00-24 TG
10.00F	-	33x12.5-15
10.00VA	-	13.00-24 TG
	14.00R24 TG	14.00-24 TG
	16.00R24 TG	16.00-24 TG
11x20	335/80R20	-
	365/80R20	-
11.00TG	-	14/70-20
13x20	405/70R20	-
14.00TG	-	42x17-20

Flat Base Rims		
Recommended Rim/ Flange Height	Tire Size	
	Radial	Bias
6.50T	8.25R15	-
7.00T	9.00R20	9.00-20
7.50V	10.00R15	-
	10.00R20	10.00-20
8.00V	11.00R20	11.00-20
8.5	-	12.00-24
8.50V	12.00R20	12.00-20
	12.00R24	12.00-24
10.00V	16.00R20	-
10.00WI	14.00R20	-
10.00W	16.00R20	-
	14.00R24	14.00-24

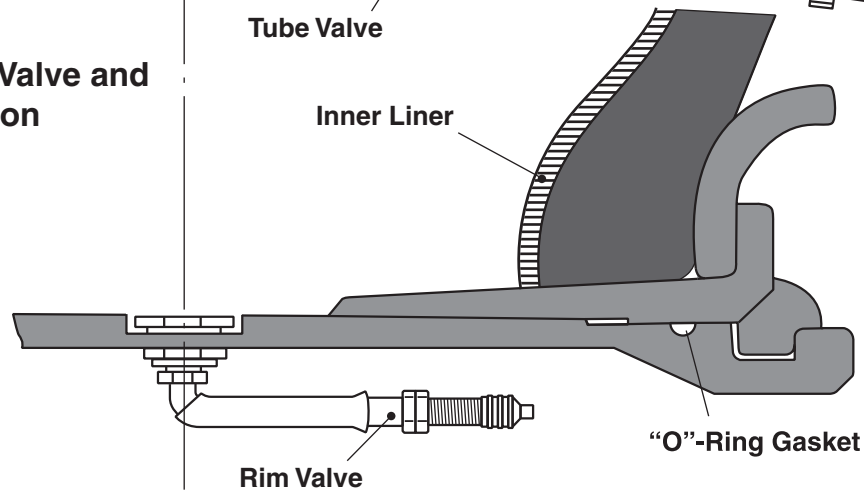


3.2 Valve Types

Tube Valve and Rim Section



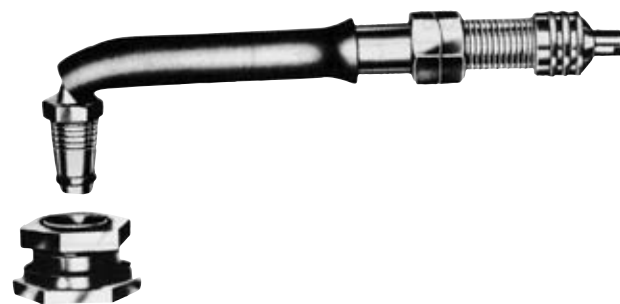
Tubeless Valve and Rim Section



Tube Valve

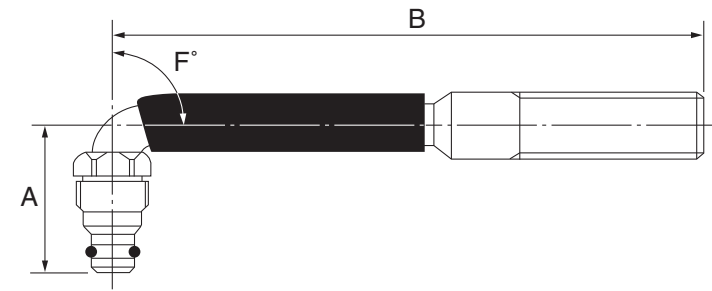


Tubeless Valve



Interchangeable Swivel Valves For Tubeless Or Tube Type Tires

TRJ4000-4 1/2



Large Bore Valves

Valve No.	Dimensions (mm)		
	A	B	F°
TRJ650	27.5	79.5	80°
TRJ4000-4 1/2	31	114.0	90°
TRJ4000-8	31	203.0	90°
TRJ4000-7 1/2	31	190.5	90°

This type of VALVE consists of a combination of the rubber base SP-4000 or SP-2.

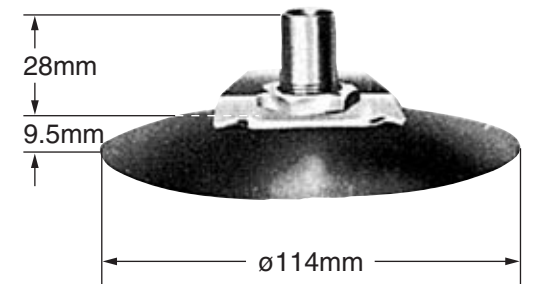
Tubeless Type Spud

SP2



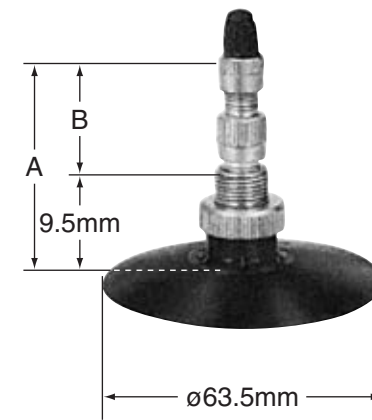
Tube Type Spud

SP4000



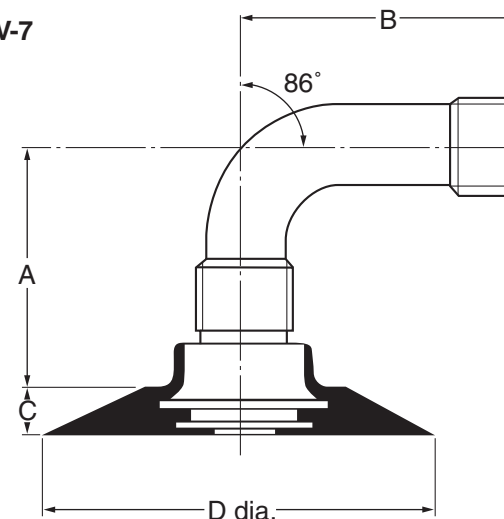
Tube Type Rubber Base Valves

TR218



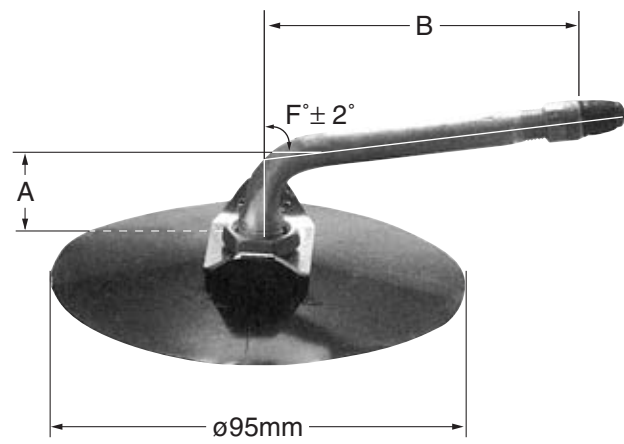
Valve No.	Dimensions (mm)	
	A	B
TR218A	20.6	11.1
TR220A	30.2	20.7

PV-7



Valve No.	Dimensions (mm)			
	A	B	C	D dia.
PV-7	73	100	7	90

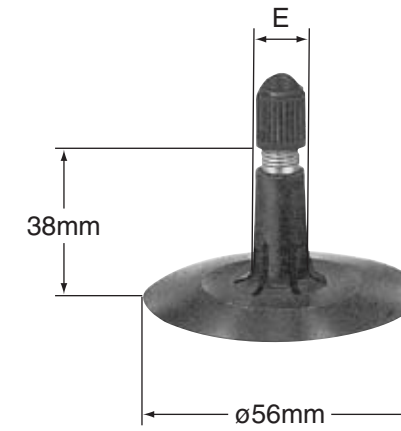
JS75



Valve No.	Dimensions (mm)		
	A	B	F°
JS75	24	70	82°
TR76A	24	86	86°
TR77A	24	105	86°
TR77E	35	94	86°
TR78A	24	127	86°
TR175A	24	115	86°
TR177A	24	95	86°
JS177B	28	91	86°
JS179	36	133	86°
JS179A	29	137	86°
TR179A	24	141	86°
PV38	24	136	80°
PV89	42.8	123	86°
V3-02-3	35.8	44.5	85°
V3-02-15	23.3	145.5	86°

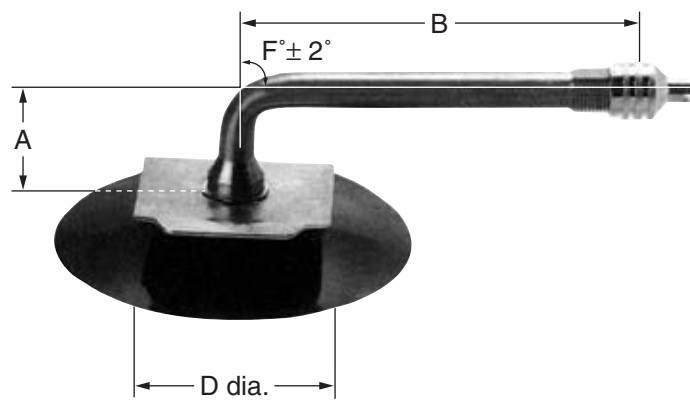
Tube Type Rubber Covered Valves

TR13



Valve No.	Dimensions (mm)
	E
TR13	11.5
TR15	16.5

JSJ1175

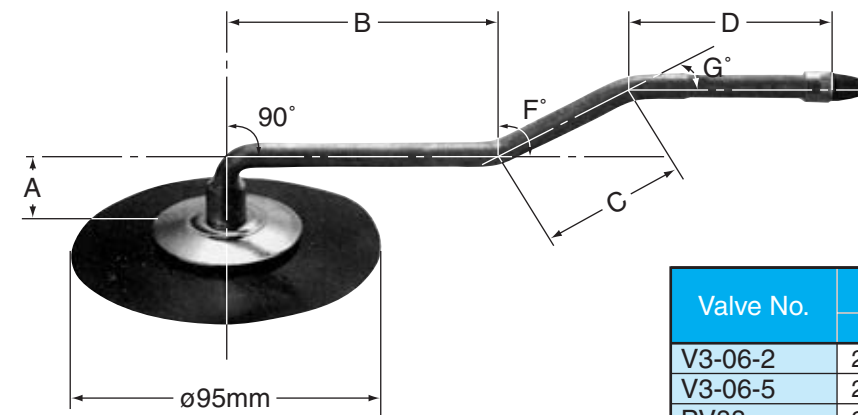


Large Bore Valves

Valve No.	Dimensions (mm)			
	A	B	D dia.	F°
JSJ1078S	30	121	32	84°
JSJ1175	35	105	32	88°
JSJ1175B	35	105	32	80°
JSJ1175C	35	102	32	60°

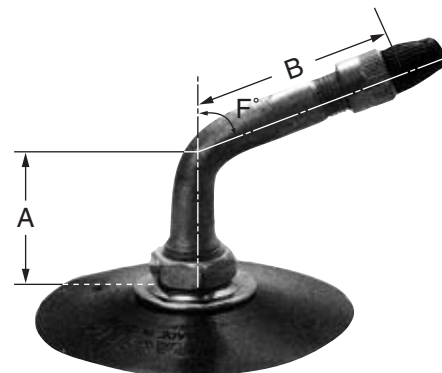
Tube Type Screw-on Valves

PV88



Valve No.	Dimensions (mm)					
	A	B	C	D	F°	G°
V3-06-2	23.3	44.5	20.8	37.5	55°	55°
V3-06-5	23.3	62.5	25.9	49.0	41°	41°
PV88	26.3	80.5	47.0	54.5	30°	30°
PV118	35.4	130.0	84.0	-	10°	-

JS2



Valve No.	Dimensions (mm)		
	A	B	F°
JS2	26	33	70°

TR150CW



Valves, TR150 and TR150CW, are also called Hand Bendable Valves, that is, their stems are made of very flexible material permitting manual bending in all directions and to any angle.

OTHER INFORMATION

1. Unit Conversion Tables

INFLATION PRESSURE

kPa	psi	Bar	kg/cm ²	kPa	psi	Bar	kg/cm ²	kPa	psi	Bar	kg/cm ²	kPa	psi	Bar	kg/cm ²
10	1	0.1	0.1	260	38	2.6	2.7	510	74	5.1	5.2	760	110	7.6	7.8
20	3	0.2	0.2	270	39	2.7	2.8	520	75	5.2	5.3	770	112	7.7	7.9
30	4	0.3	0.3	280	41	2.8	2.9	530	77	5.3	5.4	780	113	7.8	8.0
40	6	0.4	0.4	290	42	2.9	3.0	540	78	5.4	5.5	790	115	7.9	8.1
50	7	0.5	0.5	300	44	3.0	3.1	550	80	5.5	5.6	800	116	8.0	8.2
60	9	0.6	0.6	310	45	3.1	3.2	560	81	5.6	5.7	810	117	8.1	8.3
70	10	0.7	0.7	320	46	3.2	3.3	570	83	5.7	5.8	820	119	8.2	8.4
80	12	0.8	0.8	330	48	3.3	3.4	580	84	5.8	5.9	830	120	8.3	8.5
90	13	0.9	0.9	340	49	3.4	3.5	590	86	5.9	6.0	840	122	8.4	8.6
100	15	1.0	1.0	350	51	3.5	3.6	600	87	6.0	6.1	850	123	8.5	8.7
110	16	1.1	1.1	360	52	3.6	3.7	610	88	6.1	6.2	860	125	8.6	8.8
120	17	1.2	1.2	370	54	3.7	3.8	620	90	6.2	6.3	870	126	8.7	8.9
130	19	1.3	1.3	380	55	3.8	3.9	630	91	6.3	6.4	880	128	8.8	9.0
140	20	1.4	1.4	390	57	3.9	4.0	640	93	6.4	6.5	890	129	8.9	9.1
150	22	1.5	1.5	400	58	4.0	4.1	650	94	6.5	6.6	900	131	9.0	9.2
160	23	1.6	1.6	410	59	4.1	4.2	660	96	6.6	6.7	910	132	9.1	9.3
170	25	1.7	1.7	420	61	4.2	4.3	670	97	6.7	6.8	920	133	9.2	9.4
180	26	1.8	1.8	430	62	4.3	4.4	680	99	6.8	6.9	930	135	9.3	9.5
190	28	1.9	1.9	440	64	4.4	4.5	690	100	6.9	7.0	940	136	9.4	9.6
200	29	2.0	2.0	450	65	4.5	4.6	700	102	7.0	7.1	950	138	9.5	9.7
210	30	2.1	2.1	460	67	4.6	4.7	710	103	7.1	7.2	960	139	9.6	9.8
220	32	2.2	2.2	470	68	4.7	4.8	720	104	7.2	7.3	970	141	9.7	9.9
230	33	2.3	2.3	480	70	4.8	4.9	730	106	7.3	7.4	980	142	9.8	10.0
240	35	2.4	2.4	490	71	4.9	5.0	740	107	7.4	7.5	990	144	9.9	10.1
250	36	2.5	2.6	500	73	5.0	5.1	750	109	7.5	7.7	1000	145	10.0	10.2

TEMPERATURE

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
-19	-2.2	11	51.8	41	105.8	71	159.8	101	213.8	131	267.8
-18	-0.4	12	53.6	42	107.6	72	161.6	102	215.6	132	269.6
-17	1.4	13	55.4	43	109.4	73	163.4	103	217.4	133	271.4
-16	3.2	14	57.2	44	111.2	74	165.2	104	219.2	134	273.2
-15	5.0	15	59.0	45	113.0	75	167.0	105	221.0	135	275.0
-14	6.8	16	60.8	46	114.8	76	168.8	106	222.8	136	276.8
-13	8.6	17	62.6	47	116.6	77	170.6	107	224.6	137	278.6
-12	10.4	18	64.4	48	118.4	78	172.4	108	226.4	138	280.4
-11	12.2	19	66.2	49	120.2	79	174.2	109	228.2	139	282.2
-10	14.0	20	68.0	50	122.0	80	176.0	110	230.0	140	284.0
-9	15.8	21	69.8	51	123.8	81	177.8	111	231.8	141	285.8
-8	17.6	22	71.6	52	125.6	82	179.6	112	233.6	142	287.6
-7	19.4	23	73.4	53	127.4	83	181.4	113	235.4	143	289.4
-6	21.2	24	75.2	54	129.2	84	183.2	114	237.2	144	291.2
-5	23.0	25	77.0	55	131.0	85	185.0	115	239.0	145	293.0
-4	24.8	26	78.8	56	132.8	86	186.8	116	240.8	146	294.8
-3	26.6	27	80.6	57	134.6	87	188.6	117	242.6	147	296.6
-2	28.4	28	82.4	58	136.4	88	190.4	118	244.4	148	298.4
-1	30.2	29	84.2	59	138.2	89	192.2	119	246.2	149	300.2
0	32.0	30	86.0	60	140.0	90	194.0	120	248.0	150	302.0
1	33.8	31	87.8	61	141.8	91	195.8	121	249.8	160	320.0
2	35.6	32	89.6	62	143.6	92	197.6	122	251.6	170	338.0
3	37.4	33	91.4	63	145.4	93	199.4	123	253.4	180	356.0
4	39.2	34	93.2	64	147.2	94	201.2	124	255.2	190	374.0
5	41.0	35	95.0	65	149.0	95	203.0	125	257.0	200	392.0
6	42.8	36	96.8	66	150.8	96	204.8	126	258.8		
7	44.6	37	98.6	67	152.6	97	206.6	127	260.6		
8	46.4	38	100.4	68	154.4	98	208.4	128	262.4		
9	48.2	39	102.2	69	156.2	99	210.2	129	264.2		
10	50.0	40	104.0	70	158.0	100	212.0	130	266.0		

WEIGHT

FROM POUND TO KILOGRAM

lb	kg	lb	kg	lb	kg	lb	kg
1	0.5	260	117.9	1200	544.3	5000	2268.0
10	4.5	280	120.0	1300	589.7	5200	2358.7
20	9.1	300	136.1	1400	635.0	5400	2449.4
30	13.6	320	145.2	1500	680.4	5600	2540.2
40	18.1	340	154.2	1600	725.8	5800	2630.9
50	22.7	360	163.3	1700	771.1	6000	2721.6
60	27.2	380	172.4	1800	816.5	7000	3175.2
70	31.8	400	181.4	1900	861.8	8000	3628.8
80	36.3	420	190.5	2000	907.2	9000	4082.4
90	40.8	440	199.6	2200	997.9	10000	4536.0
100	45.4	460	208.7	2400	1088.6	11000	4989.6
110	49.9	480	217.7	2600	1179.4	12000	5443.2
120	54.4	500	226.8	2800	1270.1	13000	5896.8
130	59.0	520	235.9	3000	1360.8	14000	6350.4
140	63.5	540	244.9	3200	1451.5	15000	6804.0
150	68.0	560	254.0	3400	1542.2	16000	7257.6
160	72.6	580	263.1	3600	1633.0	17000	7711.2
170	77.1	600	272.2	3800	1723.7	18000	8164.8
180	81.6	700	317.5	4000	1814.4	19000	8618.4
190	86.2	800	362.9	4200	1905.1	20000	9072.0
200	90.7	900	408.2	4400	1995.8		
220	99.8	1000	453.6	4600	2086.6		
240	108.9	1100	499.0	4800	2177.3		

FROM KILOGRAM TO POUND

kg	lb	kg	lb	kg	lb	kg	lb
1	2.2	130	286.6	600	1322.8	2500	5511.5
5	11.0	140	308.6	650	1433.0	2600	5732.0
10	22.0	150	330.7	700	1543.2	2700	5952.4
15	33.1	160	352.7	750	1653.5	2800	6173.0
20	44.1	170	374.8	800	1763.7	2900	6393.3
25	55.1	180	396.8	850	1873.9	3000	6613.8
30	66.1	190	418.9	900	1984.1	3500	7716.1
35	77.2	200	440.9	950	2094.4	4000	8818.4
40	88.2	210	463.0	1000	2204.6	4500	9920.7
45	99.2	220	485.0	1100	2425.1	5000	11023.0
50	110.2	230	507.1	1200	2645.5	5500	12125.3
55	121.3	240	529.1	1300	2866.0	6000	13227.6
60	132.3	250	551.2	1400	3086.4	6500	14329.9
65	143.3	260	573.2	1500	3306.9	7000	15432.2
70	154.3	270	595.2	1600	3527.4	7500	16534.5
75	165.3	280	617.3	1700	3747.8	8000	17636.8
80	176.4	290	639.3	1800	3968.3	8500	18739.1
85	187.4	300	661.4	1900	4188.7	9000	19841.4
90	198.4	350	771.6	2000	4409.2	9500	20943.7
95	209.4	400	881.8	2100	4629.7	10000	22046.0
100	220.5	450	992.1	2200	4850.1		
110	242.5	500	1102.3	2300	5070.6		
120	264.6	550	1212.5	2400	5291.0		

TREAD DEPTH CONVERSION TABLE

FROM INCH TO MILLIMETER

inch/32	mm	inch/32	mm	inch/32	mm	inch/32	mm
1	0.8	21	16.7	41	32.5	105	83.3
2	1.6	22	17.5	42	33.3	110	87.3
3	2.4	23	18.3	43	34.1	115	91.3
4	3.2	24	19.1	44	34.9	120	95.3
5	4.0	25	19.8	45	35.7	125	99.2
6	4.8	26	20.6	46	36.5	130	103.2
7	5.6	27	21.4	47	37.3	135	107.2
8	6.4	28	22.2	48	38.1	140	111.1
9	7.1	29	23.0	49	38.9	145	115.1
10	8.0	30	23.8	50	39.7	150	119.1
11	8.7	31	24.6	55	43.7	155	123.0
12	9.5	32	25.4	60	47.6	160	127.0
13	10.3	33	26.2	65	51.6	165	131.0
14	11.1	34	27.0	70	55.6	170	134.9
15	11.9	35	27.8	75	59.5	175	138.9
16	12.7	36	28.6	80	63.5	180	142.9
17	13.5	37	29.4	85	67.5	185	146.9
18	14.3	38	30.2	90	71.4	190	150.8
19	15.1	39	31.0	95	75.4	195	154.8
20							

PRESSURE

	kg/cm ²	kPa	bar	psi
kg/cm ²	1	98.07	0.9807	14.22
kPa	0.0102	1	0.01	0.1450
bar	1.020	100	1	14.503
psi	0.0703	6.895	0.06895	1

LENGTH

	m.meter	c.meter	meter	k.meter	inch	foot	yard	mile
m.meter	1	0.10000	0.00100	-	0.03937	0.00328	0.00109	-
c.meter	10.0000	1	0.01000	0.00001	0.39371	0.03281	0.01094	-
meter	1000.00	100.00	1	0.00100	39.3707	3.28089	1.09363	0.00062
k.meter	-	100000	1000.00	1	39370.7	3280.89	1093.63	0.62138
inch	25.3995	2.53995	0.02540	0.00003	1	0.08333	0.02778	0.00002
foot	304.794	30.4794	0.30479	0.00030	12.0000	1	0.33333	0.00019
yard	914.383	91.4383	0.91438	0.00091	36.0000	3.00000	1	0.00057
mile	-	160931	1609.31	1.60931	63360.0	5280.00	1760.00	1

AREA

	meter ²	are	hectare	k.meter ²	foot ²	yard ²	acre	mile ²
meter ²	1	0.010000	0.000100	0.000001	10.7639	1.19600	0.000247	0.000000
are	100.000	1	0.010000	0.000100	1076.39	119.600	0.024710	0.000039
hectare	10000.0	100.000	1	0.010000	107639.0	11960.0	2.47105	0.003861
k.meter ²	-	10000.0	100.000	1	-	-	247.105	0.386098
foot ²	0.092903	0.000929	0.000009	0.000000	1	0.111111	0.000023	0.000000
yard ²	0.836130	0.008361	0.000084	0.000000	9.00000	1	0.000207	0.000000
acre	4046.87	40.4687	0.404687	0.004047	43560.2	4840.00	1	0.001562
mile ²	-	25900.2	259.002	2.59002	-	-	640.000	1

WEIGHT

	gram	k.gram	ton	s.ton	l.ton	ounce	pound
gram	1	0.00100	-	-	-	0.03527	0.00220
k.gram	1000.00	1	0.00100	0.00110	0.00098	35.2739	2.20462
ton	-	1000.00	1	1.10230	0.98421	35273.9	2204.62
s.ton	907185	907.185	0.90719	1	0.89286	32000.0	2000.00
l.ton	-	1016.04	1.01604	1.12000	1	35840.0	2240.00
ounce	28.3495	0.02835	0.00003	0.00003	0.00003	1	0.06250
pound	453.592	0.45359	0.00045	0.00050	0.00045	16.0000	1

CAPACITY

	cub.meter	liter	cub.inch	cub.foot	cub.yard	U.S.gallon	U.K.gallon
cub.meter	1	1000.00	61027.1	35.3147	1.30802	264.186	220.216
liter	0.00100	1	61.0271	0.03532	0.00131	0.26419	0.22022
cub.inch	0.00002	0.01639	1	0.00058	0.00002	0.00433	0.00361
cub.foot	0.02832	28.3167	1728.00	1	0.03704	7.48051	6.23549
cub.yard	0.76455	764.554	46656.0	27.0000	1	201.974	168.358
U.S.gallon	0.00379	3.78543	231.000	0.13368	0.00495	1	0.83270
U.K.gallon	0.00455	4.54596	277.413	0.16037	0.00594	1.20091	1

FORCE

1 kgf = 9.81 N

POWER (horse power)

1 hp = 550 ft • lbf/s = 745.7 W

1 PS = 75 m • kgf/s = 735.5 W

2. Specific Weight (Approximately)

Material	Pounds/cu.yd	Metric Tons/m ³	Material	Pounds/cu.yd	Metric Tons/m ³
Anthracite	2000	1.2	Iron ore: Magnetite	4700	2.8
Basalt	3400	2.0	Limestone	2500	1.5
Bauxite	2400	1.4	Pyrites	4400	2.6
Clay: dry	2500	1.5	Over-Burden		
wet	2900	1.7	75%rock-25%earth	3400	2.0
Coal	1200	0.7	50%rock-50%earth	2900	1.7
Copper ore	2700	1.6	25%rock-75%earth	2700	1.6
Crushed gypsum	2700	1.6	Sand: dry	2400	1.4
Earth: dry	2500	1.5	wet	3000	1.8
wet	2700	1.6	Sandstone	2500	1.5
Granite	2900	1.7	Snow: dry	170	0.1
Gravel: dry	2900	1.7	wet	840	0.5
wet	3400	2.0	Uranium	2700	1.6

Note: Weight of materials varies with moisture content, grain size, degree of compaction, etc. Test must be made to know exact weight.

DATA BOOK

