



Basic Tire Terminology - Ag



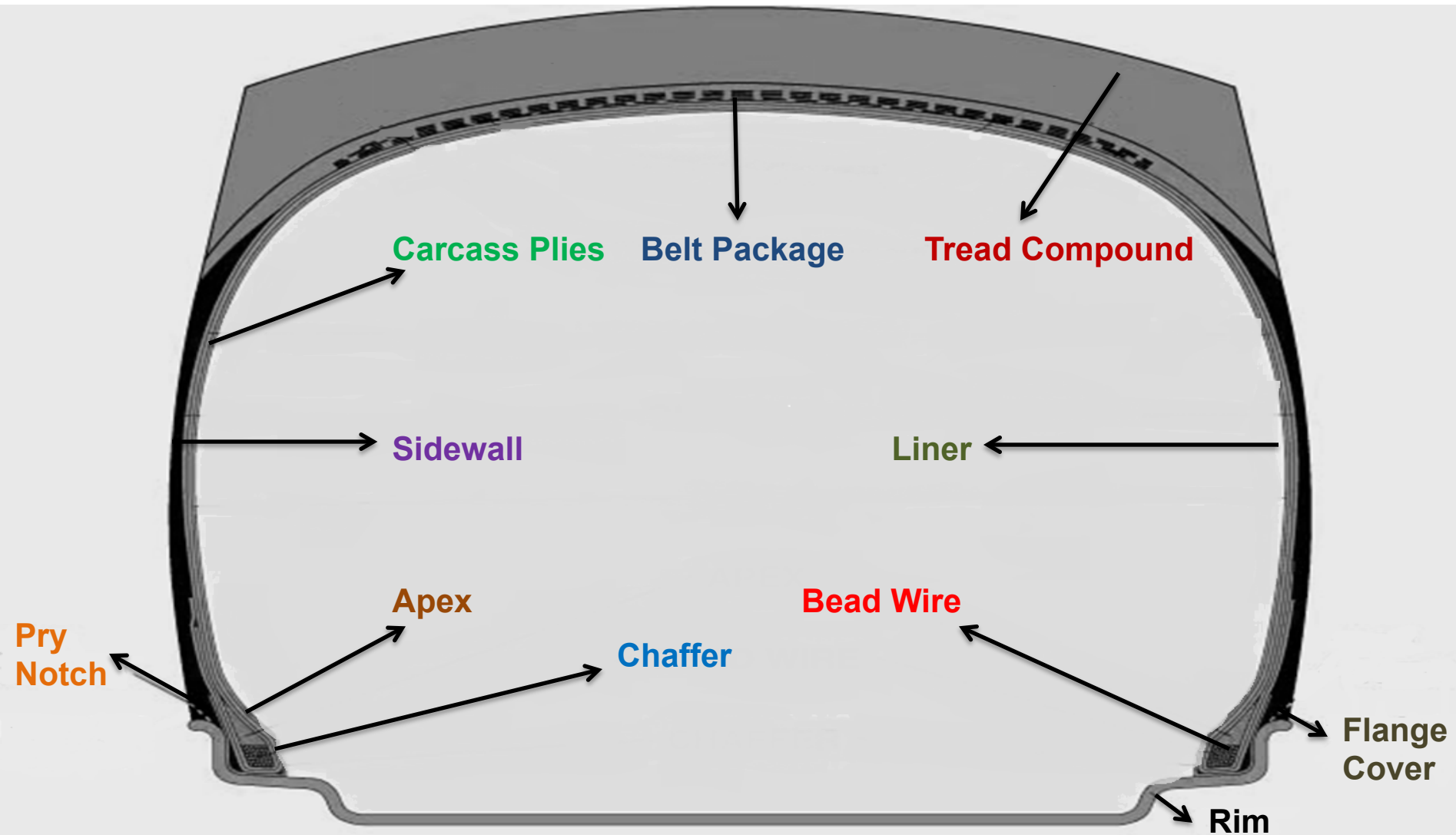
RMA / TRA

- ***RMA – Rubber Manufacturer’s of America***
- ***TRA – Tire & Rim Associates***
- ***ETRTO – European T&R Technical Organization***

Establishes standards for tires and wheels for the guidance of manufactures of such products.

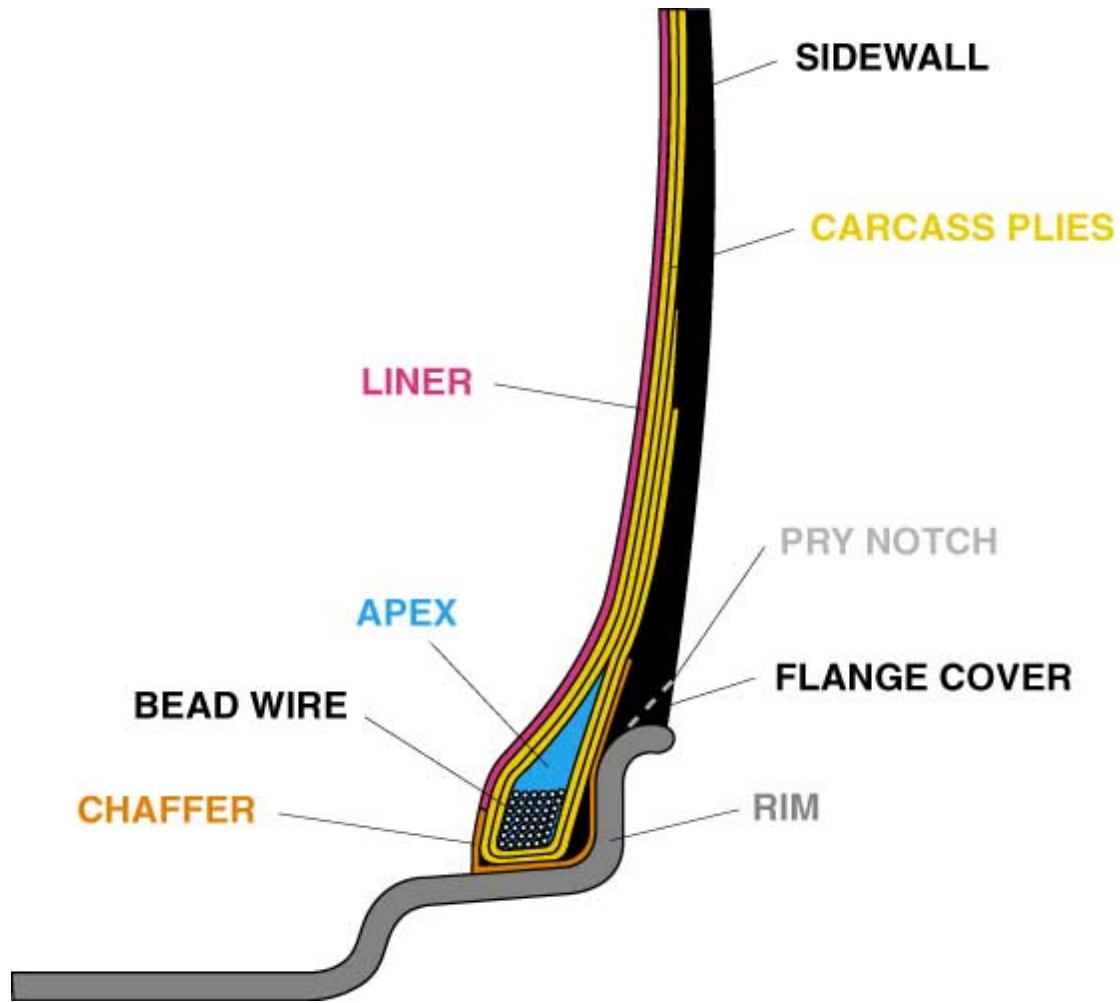


TIRE CONSTRUCTION





TIRE CONSTRUCTION





CONVENTIONAL SIZING

20.8-38

***Nominal Section Width
(inches)***

***– Bias
R Radial***

***Rim Diameter
(inches)***



RADIAL TRACTOR SIZING

520/85R38

***Nominal
Section Width
(in millimeters)
Divide by 25.4
To get inches***

***Aspect Ratio
(rubber height over rim divided by tire
width)***

***R = Radial
D = Bias***

Rim Diameter

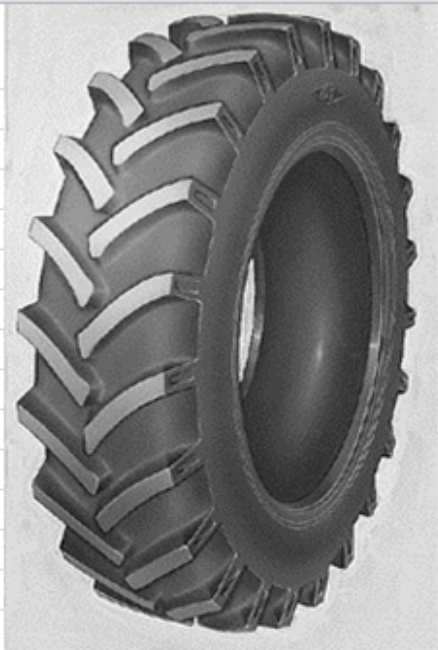


RMA INDUSTRY CODES – REAR TRACTOR

CODE	INDUSTRY TIRE TYPE	TIRE SERVICE	GTC
R-1	Drive wheel regular tread	General farming	Agri-Trac R-1+
R-1W	Drive wheel, wet traction	Wet or moist soil	Farm Radial R-1W
R-1S	Drive wheel, moderate	Sprayer use	R-1S
R-2	Drive wheel, wet traction	Wet muck Rice & Cane Farming	R-2 Deep Tread
R-3	Drive wheel, shallow tread	Golf course work Light industrial service Highway mowing	R-3 / R-3A



REAR TRACTOR TYPES & APPLICATIONS



R-1

Bias

General Farming



R-1W

Radials

20%-25% Deeper tread and larger footprint than conventional R-1 tires.



R-2

Bias

Rice and Cane applications



R-3

Minimal turf disturbance.



RMA INDUSTRY CODES – FRONT TRACTOR

CODE	INDUSTRY TIRE TYPE	TIRE SERVICE	GTC
F-1	Ag single rib	Rice Farming	N/A
F-2	Ag 3-rib tread	General Farming	Harrow Trac F-2
F-2A	Ag 4-rib tread	General Farming	F-2A Harrow Track 4-rib
F-3	Industrial multi-rib tread	Industrial	Industrial F-3 XHD



FRONT TRACTOR TYPES & APPLICATIONS



F-2
3-Rib

General Farming -
Better steering in the field



F-2A
4-Rib

General Farming
Better steering on the road



F-3
Industrial Multi-rib

Light Industrial Front



RMA INDUSTRY CODES - IMPLEMENT

CODE	INDUSTRY TIRE TYPE	TIRE SERVICE	GTC
I-1	Rib tread	Free rolling wheels	Harrow Track I-1
I-2	Moderate traction implement	Drive or free rolling wheels	N/A
I-3	Traction tread	Drive wheels	Backhoe I-3C / I-3D / I-E
F-1	Rib tread	Highway service	Farm Implement FI



IMPLEMENT TIRES & APPLICATIONS



I-1
Rib Implement

Free rolling position,
wagons and implements 30
mph max



I-3C
Power Implement

Light traction tread, drive
wheel



I-3D
Power Implement

Moderate traction tread, drive
wheel



I-3E
Power Implement

Aggressive traction tread,
drive wheel



FI
Highway Implement

Free rolling position, wagons
and implements 55 mph max



RMA INDUSTRY CODES - FLOTATION

CODE	INDUSTRY TIRE TYPE	TIRE SERVICE	GTC
HF-1	High flotation Rib tread Turf	Golf course work Hay bailing Turf work	HF-1A
HF-2	High flotation Regular lug tread	Traction application Low preasure Loaders	N/A
HF-3	High flotation Deep lug tread	Traction application Low preasure	N/A



HF-1A

High Flotation

Rib



REAR TRACTOR LOAD COMPARISON

Comparison at Max Load

<i>18.4-38</i>	<i>8 ply</i>	<i>5360# @ 20 psi</i>
<i>18.4 R 38</i>	<i>**</i>	<i>6600# @ 24 psi</i>
<i>480/80R38</i>	<i>149 A8</i>	<i>7150# @ 23 psi</i>

ISO standard worldwide is load index & speed index.



PLY RATING

- ***Does not mean number of plies in tire. Ratings vs. actual plies***
- ***Applies to bias tires***
- ***Each tire manufacturer determines number of plies so tire will perform at its maximum load and inflation.***
- ***Max load and inflation is based on tire size.***



STAR RATING

- ***Star Rating is based on inflation.***
- ***Rated inflation at rated speed:***
 - 1 star 18 psi
 - 2 star 24 psi
 - 3 star 30 psi
 - 4 star 36 psi
- ***Max load rating is based on tire size:***
 - 18.4-38 1* 18psi 5,680lbs.
 - 20.8R-38 1* 18psi 6,800lbs.
- ***Each tire manufacturer determines number of plies/belts so tire will perform at the rated conditions.***



LOAD INDEX EQUIVALENCE / SYMBOL / PLY RATING

TIRE SIZE	LOAD INDEX	STAR SYMBOL	PLY RATING
13.6R28	117	REPLACES *	OR 4PR
	123	REPLACES **	OR 6PR
	126	REPLACES ***	OR 8PR
14.9R26	121	REPLACES *	OR 6PR
	132	REPLACES ***	OR 10PR
14.9R28	122	REPLACES *	OR 6PR
	128	REPLACES **	OR 8PR
	133	REPLACES ***	OR 10PR
14.9R30	123	REPLACES *	OR 6PR
	129	REPLACES **	OR 8PR
	134	REPLACES ***	OR 10PR
16.9R24	126	REPLACES *	OR 6PR
	134	REPLACES **	OR 8PR, 10PR
16.9R26	128	REPLACES *	OR 6PR
	135	REPLACES **	OR 8PR, 10PR
16.9R28	129	REPLACES *	OR 6PR
	136	REPLACES ***	OR 8PR, 10PR



LOAD INDEX EQUIVALENCE / SYMBOL / PLY RATING

TIRE SIZE	LOAD INDEX		STAR SYMBOL		PLY RATING
16.9R30	130	REPLACES	*	OR	6PR
	137	REPLACES	**	OR	8PR, 10PR
16.9R38	134	REPLACES	*	OR	6PR
	141	REPLACES	**	OR	8PR, 10PR
18.4R26	134	REPLACES	*	OR	6PR
	140	REPLACES	**	OR	8PR, 10PR
18.4R34	139	REPLACES	*	OR	6PR, 8PR
18.4R38	141	REPLACES	*	OR	6PR, 8PR
	146	REPLACES	**	OR	10PR
	151	REPLACES	***	OR	12PR
18.4R42	143	REPLACES	*	OR	8PR
	148	REPLACES	**	OR	10PR
	153	REPLACES	***	OR	12PR
20.8R34	145	REPLACES	*	OR	8PR
20.8R38	147	REPLACES	*	OR	8PR
	153	REPLACES	**	OR	10PR
20.8R42	155	REPLACES	**	OR	10PR
23.1R34	151	REPLACES	*	OR	10PR
	157	REPLACES	**	OR	12PR
24.5R32	154	REPLACES	*	OR	10PR
	159	REPLACES	**	OR	12PR
30.5LR32	159	REPLACES	*	OR	10PR, 12PR
	166	REPLACES	**	OR	16PR



LOAD INDEX

- *Number which represents the maximum load in kilograms or pounds.*
- *Does not correspond to specific inflation.*
- *Inflation must be determined from Tire & Rim load tables.*
- *May be more than one rating per size.*
- *Choose the correct load for your application.*



LOAD INDEX TABLE

LOAD			LOAD			LOAD			LOAD		
Index	LBS	Kg	Index	LBS	Kg	Index	LBS	Kg	Index	LBS	Kg
100	1765	800	122	3310	1500	144	6150	2800	166	11700	5300
101	1820	825	123	3420	1550	145	6400	2900	167	12000	5450
102	1875	850	124	3530	1600	146	6600	3000	168	12300	5600
103	1930	875	125	3640	1650	147	6800	3075	169	12800	5800
104	1985	900	126	3750	1700	148	6950	3150	170	13200	6000
105	2040	925	127	3860	1750	149	7150	3250	171	13600	6150
106	2095	950	128	3970	1800	150	7400	3350	172	13900	6300
107	2150	975	129	4080	1850	151	7600	3450	173	14300	6500
108	2205	1000	130	4190	1900	152	7850	3550	174	14800	6700
109	2270	1030	131	4300	1950	153	8050	3650	175	15200	6900
110	2335	1060	132	4410	2000	154	8250	3750	176	15700	7100
111	2405	1090	133	4540	2060	155	8550	3875	177	16100	7300
112	2470	1120	134	4680	2120	156	8800	4000	178	16500	7500
113	2535	1150	135	4810	2180	157	9100	4125	179	17100	7750
114	2600	1180	136	4940	2240	158	9350	4250	180	17600	8000
115	2680	1215	137	5070	2300	159	9650	4375	181	18200	8250
116	2755	1250	138	5200	2360	160	9900	4500	182	18700	8500
117	2835	1285	139	5360	2430	161	10200	4625	183	19300	8750
118	2910	1320	140	5515	2500	162	10500	4750	184	19800	9000
119	3000	1360	141	5680	2575	163	10700	4875	185	20400	9250
120	3085	1400	142	5840	2650	164	11000	5000	186	20900	9500
121	3195	1450	143	6000	2725	165	11400	5150	187	21500	9750



INTERNATIONAL SPEED SYMBOLS

Speed Symbol	mph	km/h
A2	6	10
A4	12	20
A5	15	25
A6	20	30
A8	25	40
B	30	50
D	40	65
G	55	90



TREAD COMPOUNDS

■ **Agricultural**

- *Rears, Fronts, Implements*
- *Puncture resistant*
- *Roadability*

■ **Mining**

- *Chipping and chunking resistance*
- *Heat resistance*

■ **Construction**

- *Back hoes, Skid steer, ect.*
- *Chipping, chunking, tearing, puncture, compression resistance*
- *Heat resistance*

■ **Highway**

- *Low heat build up*



SIDEWALL COMPOUNDS

■ **Agricultural**

- *Radial - Flexible/Durable*
- *Bias - Less Flexibility/Durable/Same compound as tread.*
- *Implements - Less Flexibility/Durable/Same compound as tread.*

■ **Mining**

- *Chipping and chunking resistance*
- *Heat Resistance.*

■ **Construction**

- *Cut and tear resistance.*

Size equivalences										
Tires with equivalent overall diameter and rolling circumference										
Rim diameter	Size designations in Inches	85 series tires	80 series tires	75 series tires	70 series tires	65 series tires	60 series tires	50-55 series tires	Row Crop tires	
		Size designations in millimeters								Inches
16	6.50 R16				260/70 R16	280/65 R16				
	7.50 R16		250/80 R16		280/70 R16	320/65 R16				
18	7.50 R18		250/80 R18		280/70 R18	320/65 R18				
20	7.50 R20				280/70 R20	340/65 R18				
	9.5 R20		260/80 R20		300/70 R20	340/65 R20				
	11.2 R20	280/85 R20			320/70 R20					
	12.4 R20	320/85 R20 250/85 R24	340/80 R20	340/75 R20	360/70 R20 300/70 R24	420/65 R20				
24	8.3 R24	280/85 R20			320/70 R20					
	9.5 R24	320/85 R20 250/85 R24	340/80 R20	340/75 R20	360/70 R20 300/70 R24	420/65 R20				
	11.2 R24	280/85 R24			320/70 R24 380/70 R20	440/65 R20				
	12.4 R24	320/85 R24			360/70 R24	420/65 R24				
	13.6 R24	340/85 R24			380/70 R24 400/70 R24	440/65 R24			210/95 R32	8.3 R32
	14.9 R24	380/85 R24			420/70 R24 460/70 R24	480/65 R24			230/95 R32	9.5 R32
	16.9 R24	420/85 R24			480/70 R24	540/65 R24			270/95 R32	11.2 R32
26	14.9 R26				380/70 R28	540/65 R24				
	16.9 R26				480/70 R26	540/65 R26			270/95 R32 230/95 R36	11.2 R32 9.5 R36
	18.4 R26		480/80 R26		520/70 R26 480/70 R28 580/70 R26	540/65 R28	600/60 R28	750/50 R26	270/95 R36 230/95 R38	11.2 R36 9.5 R38
	23.1 R26			620/75 R26	600/70 R30 650/70 R26	600/65 R32 750/65 R26		1000/50 R25		
	28 LR26			620/75 R26	600/70 R30 650/70 R26	600/65 R32 750/65 R26		1000/50 R25		
28	9.5 R28	250/85 R28			360/70 R24	340/65 R28				
	11.2 R28	280/85 R28			320/70 R28	440/65 R24			210/95 R32	8.3 R32
	12.4 R28	320/85 R28			360/70 R28	420/65 R28				
	13.6 R28	340/85 R28			380/70 R28	440/65 R28	480/60 R28		270/95 R32	11.2 R32
	14.9 R28	380/85 R28			420/70 R28 480/70 R26	480/65 R28 540/65 R26	520/60 R28		230/95 R36	9.5 R36
	16.9 R28	420/85 R28			480/70 R28 580/70 R26	540/65 R28	600/60 R28	750/50 R26	270/95 R36	11.2 R36
30	14.9 R30	380/85 R30			480/70 R28 420/70 R30	540/65 R28			270/95 R36	11.2 R36
	16.9 R30	420/85 R30 420/90 R30	520/80 R26	480/75 R30	480/70 R30	540/65 R30 600/65 R28	600/60 R30	710/55 R30	270/95 R38 230/95 R40	11.2 R38 9.5 R40
	18.4 R30	460/85 R30 480/85 R30 320/85 R38			520/70 R30 620/70 R26 600/70 R28	600/65 R30		710/55 R30	420/90 R30 210/95 R44	8.3 R44
	23.1 R30			620/75 R30	480/70 R38 650/70 R30	540/65 R38	600/60 R38			

Size equivalences

Tires with equivalent overall diameter and rolling circumference

Rim diameter	Size designations in Inches	85 series tires	80 series tires	75 series tires	70 series tires	65 series tires	60 series tires	50-55 series tires	Row Crop tires	
		Size designations in millimeters							90-95 series	Inches
32	12.4 R32	320/85 R32							230/95 R38	9.5 R38
	24.5 R32			650/75 R32 620/75 R34	680/70 R32		800/60 R32			
	30.5 LR32			680/75 R32 650/75 R34	680/70 R34	800/65 R32 750/65 R34	710/60 R38	900/55 R32 1050/50 R32		
34	14.9 R34	380/85 R34								
	16.9 R34	420/85 R34		400/75 R38	480/70 R34	540/65 R34	600/60 R34		230/95 R44	9.5 R44
	18.4 R34	460/85 R34 480/85 R34		520/75 R34	520/70 R34 650/70 R30	600/65 R34			270/95 R44 230/95 R48 320/90 R42	11.2 R44 9.5 R48
	23.1 R34			620/75 R34 650/75 R32	520/70 R38	600/65 R38				
36	11.2 R36	320/85 R34							270/95 R36	11.2 R36
	12.4 R36	320/85 R36		480/75 R30	480/70 R30	540/65 R30	600/60 R30		270/95 R38	11.2 R38
	13.6 R36	340/85 R36 380/85 R34 460/85 R30			520/70 R30 600/70 R28 620/70 R26	600/65 R30		710/55 R30	210/95 R44	8.3 R44
38	12.4 R38	320/85 R38								
	13.6 R38	340/85 R38	380/80 R38	400/75 R38	500/70 R34	540/65 R34			230/95 R44	9.5 R44
	14.9 R38	380/85 R38 460/85 R34		520/75 R34 620/75 R26	520/70 R34	600/65 R34				
	15.5 R38	340/85 R38		400/75 R38	500/70 R34	540/65 R34			230/95 R44	9.5 R44
	16.9 R38	420/85 R38		620/75 R30	480/70 R38	540/65 R38	600/60 R38		230/95 R48	9.5 R48
	18.4 R38	460/85 R38 340/85 R46	480/80 R38	620/75 R34 650/75 R32	520/70 R38 680/70 R32	600/65 R38 650/65 R34	650/60 R38 710/60 R34		300/95 R46 270/95 R48	12.4 R46 11.2 R48
	20.8 R38	520/85 R38	480/80 R42 420/80 R46	680/75 R32	580/70 R38 620/70 R38	650/65 R38 750/65 R34 800/65 R32	710/60 R38 900/60 R32	900/55 R32 1050/50 R32	320/90 R46 320/90 R50 380/90 R46	
42	18.4 R42	460/85 R42 340/85 R48	480/80 R42	680/75 R32	580/70 R38 620/70 R38	600/65 R42 650/65 R38		900/55 R32 1050/50 R32	320/90 R50	
	20.8 R42	520/85 R42 680/85 R32	480/80 R46	650/75 R38 710/75 R34	580/70 R42 620/70 R42 710/70 R38 800/70 R32	650/65 R42	710/60 R42 900/60 R32	900/50 R42	300/95 R52 270/95 R54 320/90 R54	12.4 R52 11.2 R54
46	18.4 R46		480/80 R46	710/75 R34	580/70 R42					
	20.8 R46	520/85 R46 650/85 R38	480/80 R50		800/70 R38 710/70 R42 620/70 R46	650/65 R46	900/60 R38			



THANK YOU

GTC TRAINING

SAMSON

ADVANCE

Akureit