

Industrial & MPT Tyres

TECHNICAL DATA BOOK 2014



The strength of the group

Marangoni is today an extremely responsive, flexible and specialisation-oriented manufacturing and trading company.

Following more than sixty years of business, our main efforts are still concentrated on the motivational approach that forms the basis of our commitment.

An approach centred around providing concrete answers to those who demand higher performance, lower costs and reduced environmental impact.

One important aspect of our development is our special bond with customers, which is strengthened by the attention paid to each individual relationship.

This allows us to quickly understand the needs of businesses, providing creative solutions and offering products that often exceed even our own most ambitious expectations.

Mindful of the future for coming generations, Marangoni is committed to defending and protecting the environment by offering long-life industrial tyres and reducing fuel consumption. An acceptance of its responsibilities that puts the Group ahead of even the strictest European standards on safety and environmental protection.



TECHNOLOGY/RAW MATERIALS/COMPOUNDS

Industrial tyres have a considerable impact on vehicle efficiency. Energy consumption, smooth running and friction coefficient are fundamental parameters for testing rolling resistance. Low resistance means high speed, less battery power consumption, lower fuel consumption and lower tyre operating temperature. In summary, constant performance and minimum wear.

Marangoni's main competitive advantage in this area is represented by the development of reinforced high performance compounds using only the best raw materials. Care to compound quality together with the use of new design technologies for the mould profiles put Marangoni industrial tyres at the highest end of the market.



MANUFACTURING SYSTEMS

Marangoni stands out as one of the main manufacturers worldwide. This is due to mastery over the entire production process that today makes the Group recognised specialists in Industrial Tyres and one of the few businesses working with compounds, process technology and machinery, implementing unrivalled research, development and technological advances.



ORIGINAL EQUIPMENT

Products are developed in collaboration with Toyota, Kion Group and Nacco, the leading manufacturers of forklift trucks and industrial vehicles, allowing us to gear our offering to the requirements of every type of application, always guaranteeing efficiency, safety and comfort.

Lower service costs, precise and easy fitting, and high product quality have led the main manufacturers of fork lift trucks and industrial vehicles to choose Marangoni as original equipment suppliers.



THE QUALITY OF THE COMPOUNDS USED IS ESSENTIAL IN THE SOLID INDUSTRIAL TYRE SECTOR.

4 COMPOUNDS:

TREAD COMPOUND

Resistant to wear and tear, guarantees excellent grip on wet or slippery surfaces (e.g. oil stains).

CUSHION COMPOUND

Central compound, lowers operating temperature and ensures low rolling resistance.

BASE 2

Extremely hard material that reduces deformation and supports the load while preserving bead stiffness and preventing the tyre from coming off the rim.

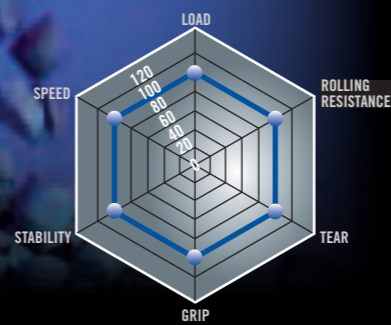
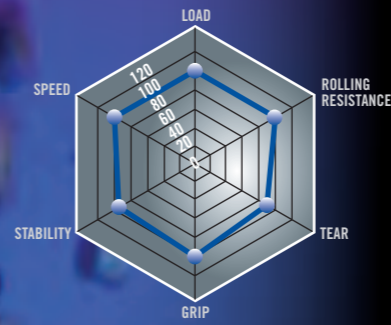
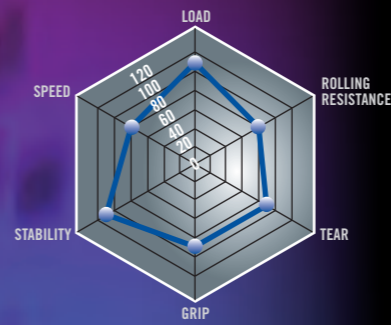
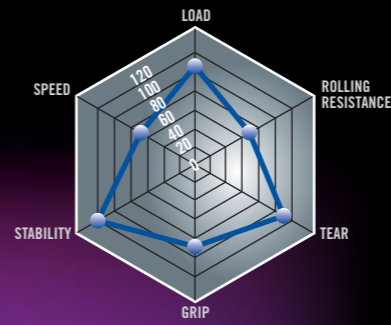
BASE 1

Ensures the tyre remains attached to the rim over time: the metal rings inside the tyre adhere perfectly to the metal. Perfect coupling to the rim: easy to fit and remove.

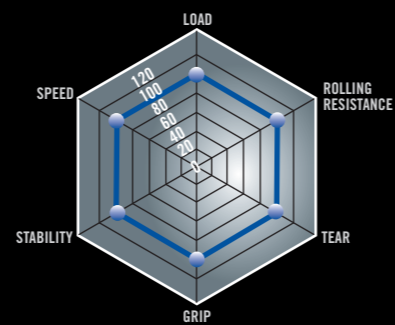
+ LIFE

+ COMFORT
+ SAVING

+ STABILITY



STANDARD VERSION

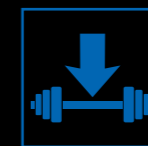


Specialist strength

SPECIFIC VERSIONS



SPECIAL-S This version was designed and developed especially for loaders and produced in the 20 and 24 inch sizes. It is constructed using compounds which are particularly resistant to tearing. The tyre stands out for its resistance to wear and tear, jolts, cuts and abrasions, as well as for its high rigidity that provides stability to the vehicle and, therefore, to the load. Used for vehicles which carry loads, usually in environments with extreme conditions, such as scrap yards and dumps.



HIGH CAPACITY-HL This is a tyre designed with a highly rigid structure in comparison to standard tyres. It is constructed with extremely hard compounds that are able to maintain all the other physical and mechanical characteristics to excellent levels. The distinguishing feature of Super-elastic and Cushion tyres is their ability to sustain high loads with minimal deformation. It is widely used in situations where it is of paramount importance to maintain the stability of the vehicle and, therefore, of the load. It is also utilised in other specific cases. Contact a Marangoni technician for advice before choosing this version.

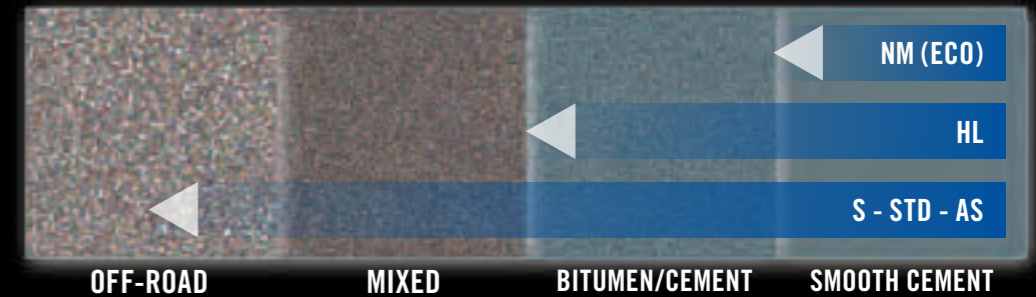


NON MARKING-NM This is a yellow coloured tyre, designed not to leave dark marks on the ground surface. It is constructed with a yellow mixture, containing no dark substances. It's use is recommended in environments where cleanliness is of great importance, for example in the pharmaceutical, food and beverage, and electronic industries, or anywhere light coloured floors must stay clean.



ANTISTATIC-AS This tyre was designed to release the static electricity accumulated by the vehicle onto the ground. It is constructed with special additives which perform this action while maintaining all the other physical and mechanical characteristics to excellent levels. It is typically used in paint and solvent factories, in gas tank deposits, in environments with easily flammable fine dust particles or in environments where the accumulation of static electricity can cause explosions. In all of these cases, the use of this tyre increases safety levels. The AS Super-elastic and Cushion tyres are in compliance with the ISO/DIS 2883 standards. A certificate of conformity shall be provided upon customers' request.

SURFACE: RECOMMENDED USE



Specialised range



SUPER ELASTIC

ELTOR® 3 ELTOR® 3 NON MARKING



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PRESS ON BAND CUSHION

CUSHION NON MARKING



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FORZA FORZA NON MARKING



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PNEUMATIC TYRES - FORKLIFT



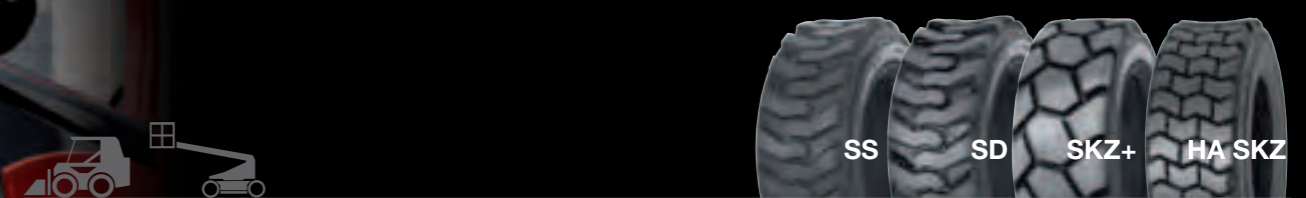
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ELTOR® 5 ELTOR® 5 NON MARKING



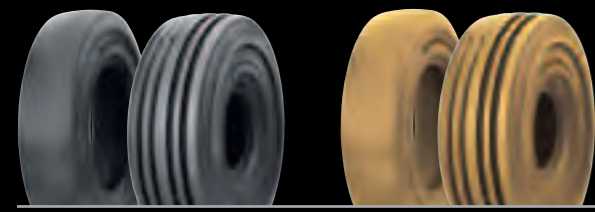
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PNEUMATIC TYRES - SKID STEER



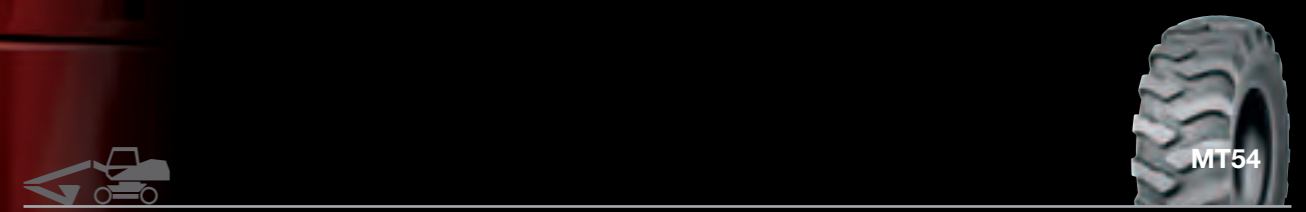
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ELTOR® EL-ER ELTOR® EL-ER NON MARKING



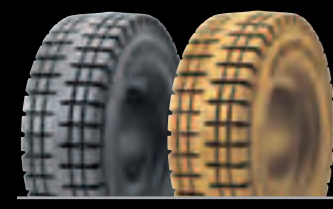
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PNEUMATIC TYRES - EXCAVATOR



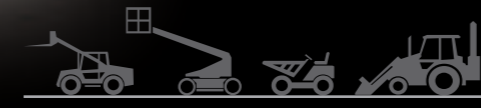
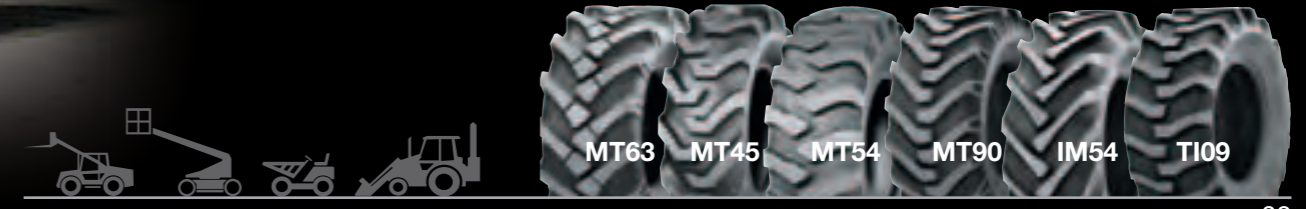
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ELTOR® ES ELTOR® ES NON MARKING



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MULTIPURPOSE TYRES

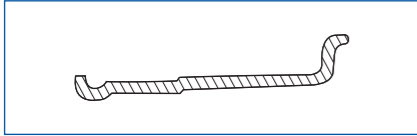


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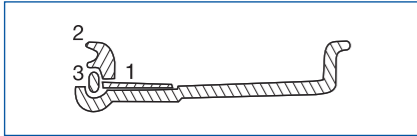
SUPER-ELASTIC ELTOR FIX®

FIX - Bead structure consist of a special border made of highly resistant rubber; guarantees a perfect fit on the rim with no need for fastening rings.

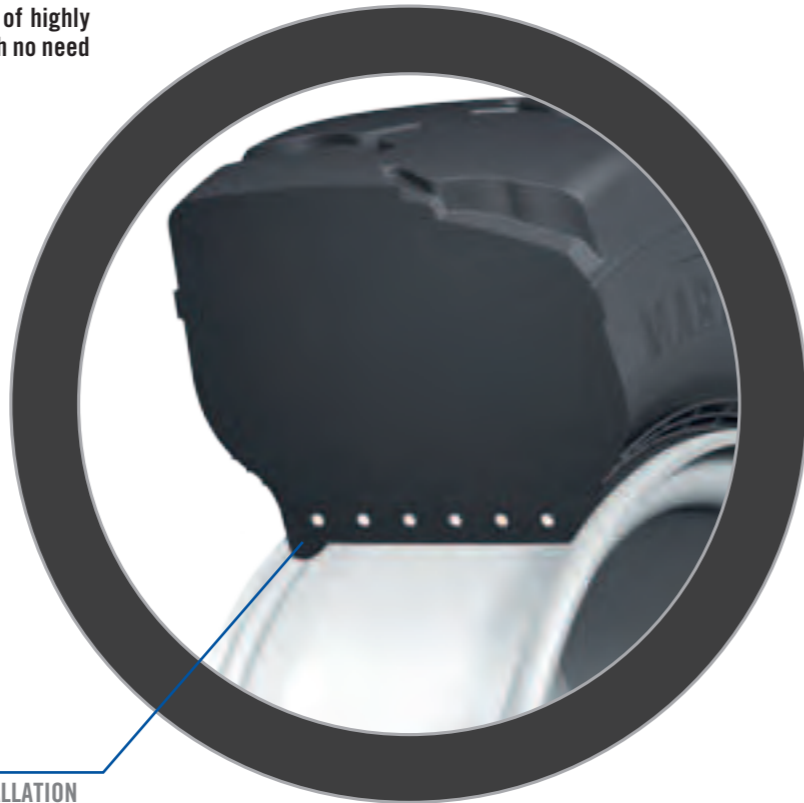
FOR BEAD FIX VERSION



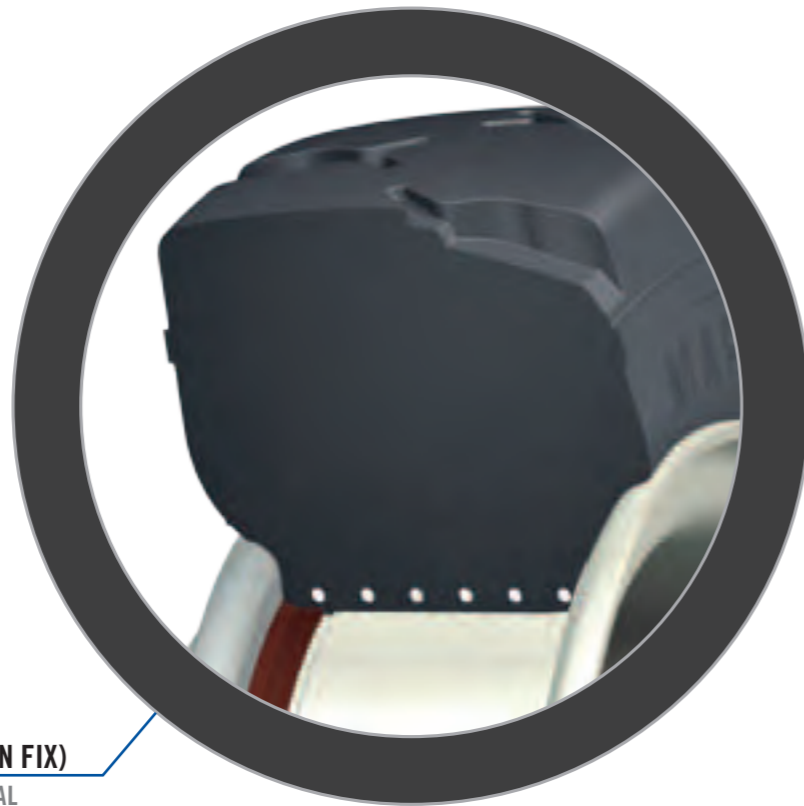
FOR BEAD NON-FIX VERSION



Movable rimparts 1, 2 and 3.



ELTOR FIX®
FOR QUICK AND EASY INSTALLATION



ELTOR® STANDARD (NON FIX)
FOR FITTING ON INDUSTRIAL
MULTIPIECE RIMS

RIMS FOR FIX SOLID TYRES

- Fit all sizes of FIX Solid Tyres from 8" to 20"
- Available for all standard application
- Adaptable to most custom application



INDUSTRIAL MULTIPIECE RIMS

- Fit all sizes of Industrial Tyres from 8" to 24"
- Available for all standard and heavy duty (20 and 24") application
- Multipiece design includes 2 or 3 piece components or base wheel for the FIX type application
- Fit tube type tyres as well as NON FIX solid tyres
- Designed for easy tyre installation and precise fitment



SPLIT RIMS (DEVIDED TYPE)

- Designed for easy tyre installation and precise fitment without press



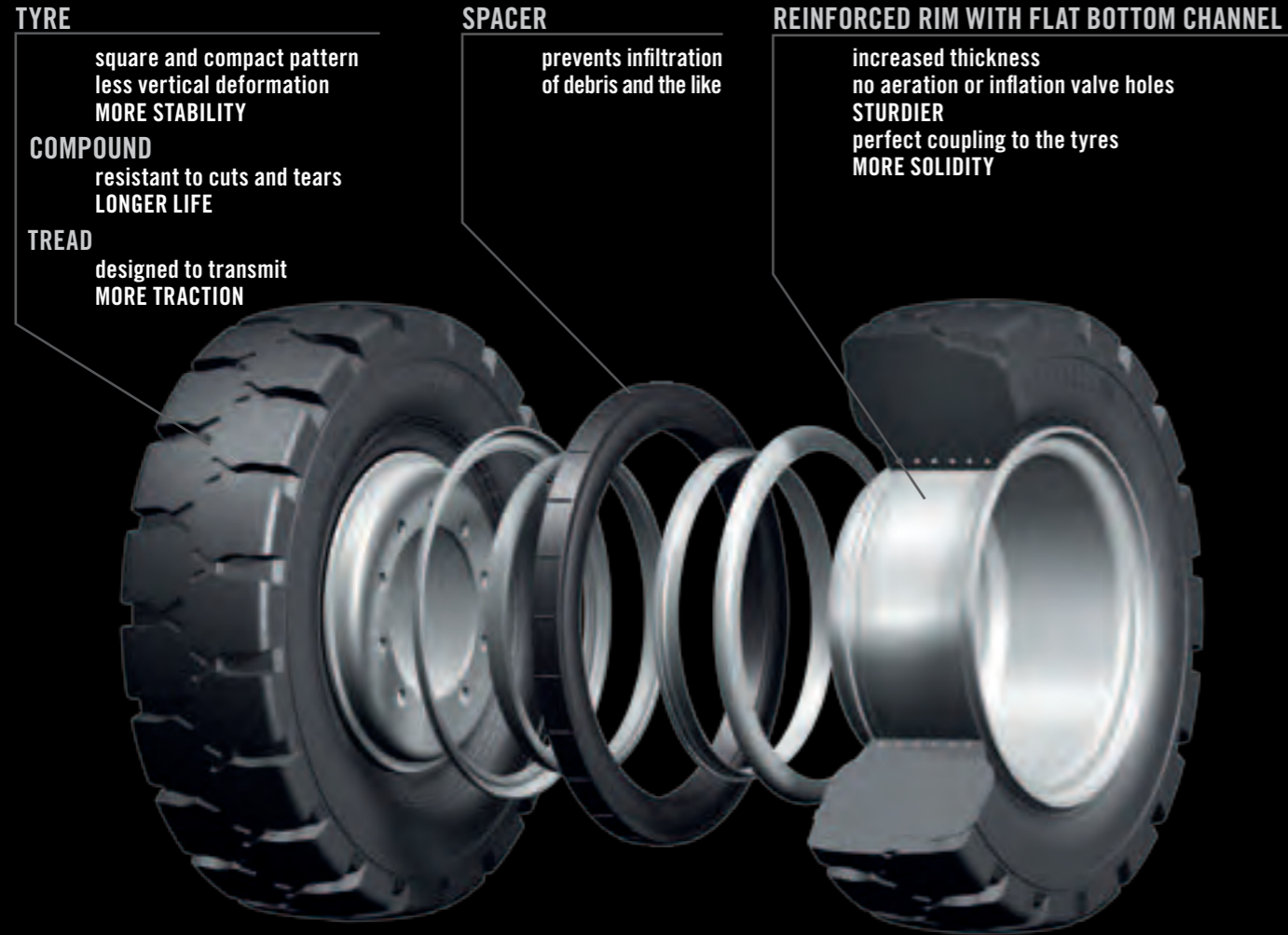
WHEELS FOR POB CUSHION TYRES

- Fit all sizes of press on band cushion from 6,5" to 22"
- Available for all standard application
- Adaptable to most custom application



ELTOR® INTEGRATED LOADER SYSTEM

The Marangoni integrated loader system is ideal for all stressful situations in which the machines have to work in a stationary position, travelling just short distances and carrying particularly heavy loads (scrap yards, landfills, timber yards, etc.).



ELTOR® TYRE
High stability tyre designed to withstand very high loads. The reinforced sidewall limits vertical deformation and protects against accidental impact.
The compounds used guarantee maximum resistance to cuts and tears and consequently longer life. The tread is designed to improve traction in all working conditions.

RING PROTECTOR
The spacer perfectly traces the profile of the Marangoni tyre sidewall, thus preventing infiltration of debris and the like.

RIM
The reinforced rim with flat bottom channel, designed especially to mount Marangoni solid tyres, solves all skidding problems. Especially robust due to increased thickness and elimination of the aeration holes and the hole for the inflation valve.

**SUPER-ELASTIC
ELTOR® PATTERN E SIZES**



TYRE SIZE (INCHES)	RIM SIZE	PATTERNS											
		E3		E5		EL		ES		ER		E1	
		STD	FIX	STD	FIX	STD	FIX	STD	FIX	STD	FIX	STD	FIX
4"	3.00-4												
	4.00-4												
6"	3.50/4.00-6												
	140/55-6												
8"	4.00-8												
	5.00-8												
	5.00-8												
	15x4½-8 (125/75-8)												
	15x4½-8 (125/75-8)												
	15x4½-8 (125/75-8)												
	16x6-8 (150/75-8)												
	18x7-8 (180/70-8)												
	18x9-8												
9"	140/55-9												
	6.00-9												
	21x8-9 (200/75-9)												
10"	6.50-10												
	6.50-10												
	7.50-10												
	200/50-10												
	23x9-10 (225/75-10)												
	180/60-10												
12"	7.00-12												
	23x10-12												
	27x10-12												
	315/45-12												
13"	23x5-13												
15"	7.00-15												
	7.00-15												
	200-15 (200/75-15)												
	250-15 (250/70-15)												
	250-15 (250/70-15)												
	7.50-15												
	7.50-15												
	7.50-15												
	28x9-15 (8.15-15)												
	28x12½-15												
	8.25-15												
	300-15 (315/70-15)												
	355/65-15 (350-15)												
	400/60-15												
20"	7.50-20												
	7.50-20												
	8.25-20												
	8.25-20												
	8.25-20												
	355/50-20												
	9.00-20												
	9.00-20												
	10.00-20												
	10.00-20												
	10.00-20												
	11.00-20												
	12.00-20												
	12.00-20												
	12.00-20												
	12.00-20												
24"	12.00-24												
	12.00-24												
	14.00-24												

SUPER-ELASTIC

ELTOR® 3

ELTOR® 3 NON MARKING



STRUCTURE

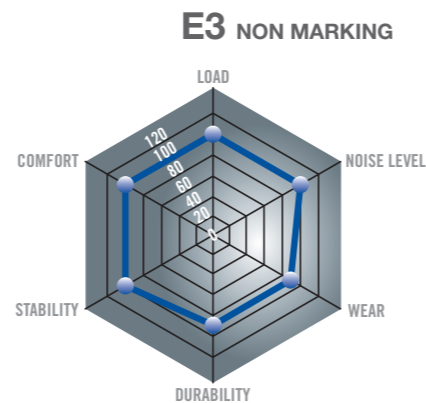
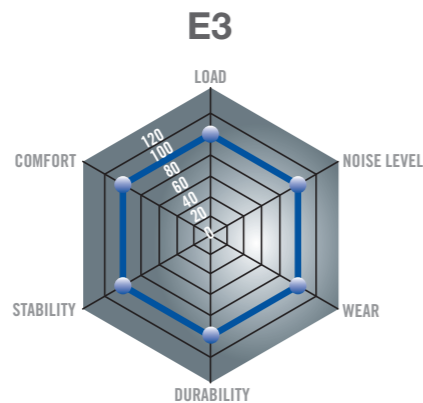
- Minimal deformation while carrying loads.
- Adequate specific surface pressure.
- Higher vehicle stability.

COMPOUND

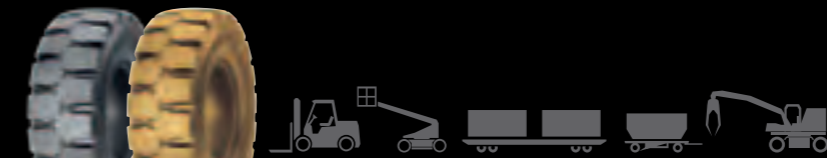
- Smooth running, low rolling resistance, low battery and fuel consumption.
- Excellent grip in any circumstance, and improved resistance to wear.

DESIGN

- Correct tread/space ratio.
- Vibrations reduced to a minimum.



SUPER-ELASTIC **ELTOR® 3**



Ø	TYRE SIZE (INCHES)	PROFILE	RIM SIZE	TYRE DIMENSIONS (1)		WEIGHT (kg) ± 2%	LOAD CAPACITY (KG) AT MAX SPEED (KM/H) (2)				
				W (mm) ± 2%	D (mm) ± 2%		CARRYING WHEEL 25 km/h	STEERING WHEEL 25 km/h	TRAILERS (3)		
							25 km/h	25 km/h	25 km/h	10 km/h	6 km/h
4"	3.00-4	E1	2.10-4	76	250	3,5	260	195	195	235	260
	4.00-4	E3	2.50C-4	101	303	6,6	535	412	412	485	535
6"	3.50/4.00-6	E3	3.75-6	112	311	7	410	315	315	370	410
	140/55-6	E3	4.50-6	131	311	8,3	1.070	825	825	970	1.070
8"	4.00-8	E3	3.00D-8	100	403	10,3	950	730	730	860	950
	4.00-8	E3 FIX	3.00D-8	100	403	10,6	950	730	730	860	950
	5.00-8	E3	3.00D-8	123	455	16,6	1.415	1.090	1.090	1.285	1.415
	5.00-8	E3 FIX	3.00D-8	123	455	16,9	1.415	1.090	1.090	1.285	1.415
	5.00-8	E3	3.25D-8	123	455	16,3	1.415	1.090	1.090	1.285	1.415
	15x4½-8 (125/75-8)	E3	3.00D-8	109	375	9,3	1.040	800	800	940	1.040
	15x4½-8 (125/75-8)	E3 FIX	3.00D-8	109	375	9,5	1.040	800	800	940	1.040
	15x4½-8 (125/75-8)	E3	3.25D-8	107	377	9,2	1.040	800	800	940	1.040
	16x6-8 (150/75-8)	E3	4.33R-8	150	418	16,5	1.495	1.150	1.150	1.360	1.495
	16x6-8 (150/75-8)	E3 FIX	4.33R-8	150	418	16,8	1.495	1.150	1.150	1.360	1.495
	18x7-8 (180/70-8)	E3	4.33R-8	148	448	19,8	2.145	1.650	1.650	1.945	2.145
	18x7-8 (180/70-8)	E3 FIX	4.33R-8	148	448	20	2.145	1.650	1.650	1.945	2.145
	18x9-8	E3	7.00E-8	214	454	29,5	2.300	1.900	1.900	2.090	2.300
9"	140/55-9	E3	4.00E-9	130	380	10	1.170	900	900	1.060	1.170
	140/55-9	E3 FIX	4.00E-9	130	380	10,3	1.170	900	900	1.060	1.170
	6.00-9	E3	4.00E-9	139	522	25,3	1.885	1.450	1.450	1.710	1.885
	6.00-9	E3 FIX	4.00E-9	139	522	25,6	1.885	1.450	1.450	1.710	1.885
	21x8-9 (200/75-9)	E3	6.00E-9	182	520	33,2	2.755	2.120	2.120	2.505	2.755
	21x8-9 (200/75-9)	E3 FIX	6.00E-9	182	520	33,6	2.755	2.120	2.120	2.505	2.755
10"	6.50-10	E3	5.00F-10	163	570	35,5	2.340	1.800	1.800	2.125	2.340
	6.50-10	E3 FIX	5.00F-10	163	570	35,7	2.340	1.800	1.800	2.125	2.340
	6.50-10	E3	5.50F-10	163	570	35	2.570	1.975	1.975	2.335	2.570
	7.50-10	E3	5.50F-10	176	636	49,8	3.070	2.360	2.360	2.785	3.070
	200/50-10	E3	6.50F-10	193	457	24	2.470	1.900	1.900	2.240	2.470
	200/50-10	E3 FIX	6.50F-10	193	457	24,8	2.470	1.900	1.900	2.240	2.470
	23x9-10 (225/75-10)	E3	6.50F-10	194	578	44,1	3.445	2.650	2.650	3.125	3.445
	23x9-10 (225/75-10)	E3 FIX	6.50F-10	194	578	44,5	3.445	2.650	2.650	3.125	3.445
12"	7.00-12	E3	5.00S-12	168	649	45,9	2.920	2.240	2.240	2.645	2.920
	7.00-12	E3 FIX	5.00S-12	168	649	46,6	2.920	2.240	2.240	2.645	2.920
	23x10-12	E3	8.00G-12	227	580	47,4	3.770	2.900	2.900	3.420	3.770
	23x10-12	E3 FIX	8.00G-12	227	580	47,8	3.770	2.900	2.900	3.420	3.770
	27x10-12	E3	8.00G-12	237	669	69,6	3.900	3.000	3.000	3.450	3.900
	27x10-12	E3 FIX	8.00G-12	237	669	70,4	3.900	3.000	3.000	3.450	3.900
	315/45-12	E3	10.00G-12	285	574	55,9	4.485	3.450	3.450	4.070	4.485
	315/45-12	E3 FIX	10.00G-12	285	574	56,7	4.485	3.450	3.450	4.070	4.485
13"	23x5-13	E3	3.75P-13	138	612	32	1.470	1.135	1.135	1.340	1.470
	23x5-13	E3 FIX	3.75P-13	138	612	32,8	1.470	1.135	1.135	1.340	1.470
15"	7.00-15	E3	5.5-15	178	723	55,7	3.545	2.725	2.725	3.215	3.545
	7.00-15	E3 FIX	5.5-15	178	723	56,2	3.545	2.725	2.725	3.215	3.545
	7.00-15	E3	6.0-15	178	723	57	3.545	2.725	2.725	3.215	3.545
	200-15	E3	6.5-15	204	710	60	3.160	2.430	2.430	2.865	3.160
	200-15	E3 FIX	6.5-15	204	710	60,5	3.160	2.430	2.430	2.865	3.160
	250-15 (250/70-15)	E3	7.0-15	217	715	66,5	4.750	3.650	3.650	4.300	4.750
	250-15 (250/70-15)	E3 FIX	7.0-15	217	715	67,3	4.750	3.650	3.650	4.300	4.750
	250-15 (250/70-15)	E3	7.5-15	217	715	66,6	4.750	3.650	3.650	4.300	4.750
	250-15 (250/70-15)	E3 FIX	7.5-15	217	715	67,8	4.750	3.650	3.650	4.300	4.750
	7.50-15	E3	5.50-15	205	750	67,4	3.880	2.980	2.980	3.510	3.880
	7.50-15	E3 FIX	5.50-15	205	750	68,5	3.880	2.980	2.980	3.510	3.880
	7.50-15	E3	6.0-15	205	750	69,6	3.900	3.000	3.000	3.540	3.900
	7.50-15	E3 FIX	6.0-15	205	750	70	3.900	3.000	3.000	3.540	3.900
	7.50-15	E3	6.5-15	205	750	70,2	3.900	3.000	3.000	3.540	3.900
	7.50-15	E3 FIX	6.5-15	205	750	71,7	3.900	3.000	3.000	3.540	3.900

(1) Sizes are intended for tyres not fitted on rims;
 (2) Capacity values indicated are in reference to ELTOR tyres mounted on vehicles whose speed with no cargo is less than 25 km/h (according to E.T.R.T.O. standards);
 (3) Only for interior courses inferior to 2.000 metres; if otherwise, contact dealer (according to E.T.R.T.O. standards).

SUPER-ELASTIC ELTOR® 3

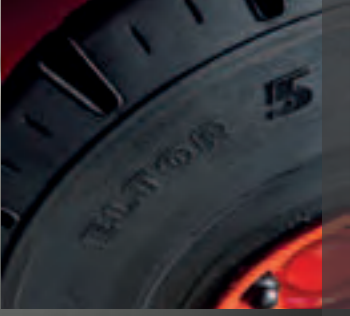
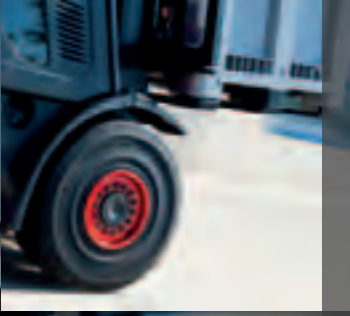


Ø	TYRE SIZE (INCHES)	PROFILE	RIM SIZE	TYRE DIMENSIONS (1)		WEIGHT (kg) ± 2%	LOAD CAPACITY (KG) AT MAX SPEED (KM/H) (2)				
				W (mm) ± 2%	D (mm) ± 2%		CARRYING WHEEL 25 km/h	STEERING WHEEL 25 km/h	TRAILERS (3)		
							25 km/h	25 km/h	25 km/h	10 km/h	6 km/h
15"	28x9-15 (8.15-15)	E3	7.0-15	217	693	59,6	3.445	2.650	2.650	3.125	3.445
	28x9-15 (8.15-15)	E3 FIX	7.0-15	217	693	60,7	3.445	2.650	2.650	3.125	3.445
	28x12½-15	E3	9.75-15	285	711	88,5	5.525	4.250	4.250	5.015	5.525
	28x12½-15	E3 FIX	9.75-15	285	711	89,6	5.525	4.250	4.250	5.015	5.525
	8.25-15	E3	6.5-15	209	812	87,2	4.750	3.650	3.650	4.300	4.750
	8.25-15	E3 FIX	6.5-15	209	812	88,3	4.750	3.650	3.650	4.300	4.750
	300-15 (315/70-15)	E3	8.0-15	258	816	109,2	5.850	4.500	4.500	5.310	5.850
	300-15 (315/70-15)	E3 FIX	8.0-15	258	816	110	5.850	4.500	4.500	5.310	5.850
	355/65-15 (350-15)	E3	9.75-15	300	816	130,3	7.800	6.000	6.000	7.085	7.800
	355/65-15 (350-15)	E3 FIX	9.75-15	300	816	131,7	7.800	6.000	6.000	7.085	7.800
	400/60-15	E3	11.0-15	332	817	145,6	8.970	6.900	6.900	8.140	8.970
	400/60-15	E3 FIX	11.0-15	332	817	147	8.970	6.900	6.900	8.140	8.970
20"	7.50-20	E3	6.00T-20	211	880	88,4	3.840	3.200	3.200	3.520	3.840
	7.50-20	E3	7.0-20	211	880	90	4.020	3.350	3.350	3.670	4.020
	8.25-20	E3	6.00T-20	206	941	107,8	4.400	3.675	3.675	4.335	4.400
	8.25-20	E3	6.50-20	206	941	109	4.400	3.675	3.675	4.335	4.400
	8.25-20	E3	7.0-20	206	941	110	4.400	3.675	3.675	4.335	4.400
	9.00-20	E3	6.5-20	241	989	143,6	5.340	4.450	4.450	4.885	5.340
	9.00-20	E3	7.0-20	241	989	149,2	5.340	4.450	4.450	4.885	5.340
	10.00-20	E3	7.0-20	258	1.011	163,5	6.000	5.000	5.000	5.455	6.000
	10.00-20	E3	7.5-20	258	1.011	165,6	6.000	5.000	5.000	5.455	6.000
	10.00-20	E3	8.0-20	258	1.011	166,7	6.000	5.000	5.000	5.455	6.000
	11.00-20	E3	8.0-20	261	1.086	200,5	6.510	5.245	5.245	5.910	6.510
	12.00-20	E3	8.0-20	267	1.099	211	7.500	6.250	6.250	6.810	7.500
	12.00-20	E3	8.5-20	267	1.099	218	7.500	6.250	6.250	6.810	7.500
	12.00-20	E3	10.0-20	303	1.099	255	7.765	6.470	6.470	7.050	7.765
	24"	12.00-24	E3	8.5-24	281	1.183	239	7.980	6.650	6.650	7.250
14.00-24		E3	10.0-24	353	1.300	387	11.000	9.175	9.175	9.990	11.000

(1) Sizes are intended for tyres not fitted on rims;

(2) Capacity values indicated are in reference to ELTOR tyres mounted on vehicles whose speed with no cargo is less than 25 km/h (according to E.T.R.T.O. standards);

(3) Only for interior courses inferior to 2.000 metres; if otherwise, contact dealer (according to E.T.R.T.O. standards).



SUPER-ELASTIC

FORZA

FORZA NON MARKING



SUPER-ELASTIC **FORZA**



STRUCTURE

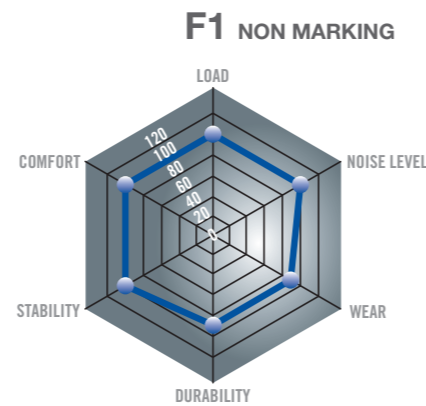
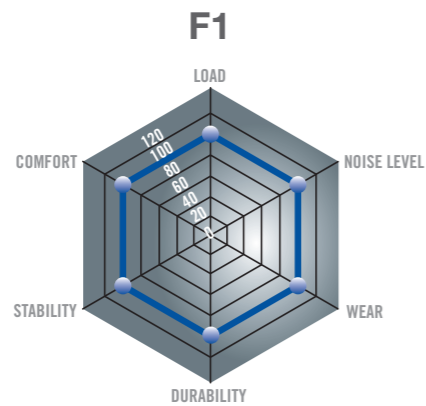
- Excellent load capacity.
- Good stability and maximum safety.
- Good rolling resistance.

COMPOUND

- Tread built with abrasion-resistant compound.
- Guaranteed grip and excellent traction drive.

DESIGN

- High performance groove base for long lasting SE.
- Modern and highly functional tread.
- Low noise level and good driving comfort.



Ø	TYRE SIZE (INCHES)	PROFILE	RIM SIZE	TYRE DIMENSIONS (1)		WEIGHT (kg) ± 2%	LOAD CAPACITY (KG) AT MAX SPEED (KM/H) (2)					
				W (mm) ± 2%	D (mm) ± 2%		CARRYING WHEEL 25 km/h	STEERING WHEEL 25 km/h	TRAILERS (3)			
							25 km/h	25 km/h	25 km/h	10 km/h	6 km/h	
8"	5.00-8	F1	3.00D-8	119	451,4	15,4	1.415	1.090	1.090	1.285	1.415	
	5.00-8	FIX F1	3.00D-8	119	451,4	15,8	1.415	1.090	1.090	1.285	1.415	
	15x4½-8 (125/75-8)	F1	3.00D8	108	372,5	9	1.040	800	800	940	1.040	
	15x4½-8 (125/75-8)	FIX F1	3.00D8	108	372,5	9,2	1.040	800	800	940	1.040	
	16x6-8 (150/75-8)	F1	4.33R-8	145	412,5	15,3	1.495	1.150	1.150	1.360	1.495	
	16x6-8 (150/75-8)	FIX F1	4.33R-8	145	412,5	15,5	1.495	1.150	1.150	1.360	1.495	
	18x7-8 (180/70-8)	F1	4.33R-8	149	450,2	18,9	2.145	1.650	1.650	1.945	2.145	
	18x7-8 (180/70-8)	FIX F1	4.33R-8	149	450,2	19,1	2.145	1.650	1.650	1.945	2.145	
9"	140/55-9	F1	4.00E-9	130	380	9,7	1170	900	900	1060	1.170	
	140/55-9	FIX F1	4.00E-9	130	380	10	1170	900	900	1060	1.170	
	6.00-9	F1	4.00E-9	135	527	24,2	1.885	1.450	1.450	1.710	1.885	
	6.00-9	FIX F1	4.00E-9	135	527	24,4	1.885	1.450	1.450	1.710	1.885	
	21x8-9 (200/75-9)	F1	6.00E-9	175	521	31,9	2.755	2.120	2.120	2.505	2.755	
	21x8-9 (200/75-9)	FIX F1	6.00E-9	175	521	32,4	2.755	2.120	2.120	2.505	2.755	
10"	6.50-10	F1	5.00F-10	160	572	33,5	2.340	1.800	1.800	2.125	2.340	
	6.50-10	FIX F1	5.00F-10	160	572	33,8	2.340	1.800	1.800	2.125	2.340	
	200/50-10	F1	6.50F-10	185	455	23,5	2.470	1.900	1.900	2.240	2.470	
	200/50-10	FIX F1	6.50F-10	185	455	23,4	2.470	1.900	1.900	2.240	2.470	
	23x9-10 (225/75-10)	F1	6.50F-10	192	579	43,3	3.445	2.650	2.650	3.125	3.445	
	23x9-10 (225/75-10)	FIX F1	6.50F-10	192	579	43,5	3.445	2.650	2.650	3.125	3.445	
12"	7.00-12	F1	5.00S-12	168	653	45,3	2.920	2.240	2.240	2.645	2.920	
	7.00-12	FIX F1	5.00S-12	168	653	45,8	2.920	2.240	2.240	2.645	2.920	
	23x10-12	F1	8.00G-12	227	579	46,3	3.770	2.900	2.900	3.420	3.770	
	23x10-12	FIX F1	8.00G-12	227	579	46,8	3.770	2.900	2.900	3.420	3.770	
	27x10-12	F1	8.00G-12	227	672	68,2	3.900	3.000	3.000	3.450	3.900	
	27x10-12	FIX F1	8.00G-12	227	672	68,9	3.900	3.000	3.000	3.450	3.900	
	15"	250-15 (250/70-15)	F1	7.0-15	207	715	62,9	4.750	3.650	3.650	4.300	4.750
		250-15 (250/70-15)	FIX F1	7.0-15	207	715	63,5	4.750	3.650	3.650	4.300	4.750
28x9-15 (8.15-15)		F1	7.0-15	207	689	55,9	3.445	2.650	2.650	3.125	3.445	
28x9-15 (8.15-15)		FIX F1	7.0-15	207	689	57	3.445	2.650	2.650	3.125	3.445	
28x12,5-15		F1	9.75-15	275	706	84	5.525	4.250	4.250	5.015	5.525	
28x12,5-15		FIX F1	9.75-15	275	706	85	5.525	4.250	4.250	5.015	5.525	
8.25-15		F1	6.5-15	205	814	84,6	4.750	3.650	3.650	4.300	4.750	
8.25-15		FIX F1	6.5-15	205	814	85,5	4.750	3.650	3.650	4.300	4.750	
300-15 (315/70-15)		F1	8.0-15	251	816	104,2	5.850	4.500	4.500	5.310	5.850	
300-15 (315/70-15)		FIX F1	8.0-15	251	816	105,1	5.850	4.500	4.500	5.310	5.850	
20"	355/65-15	F1	9.75-15	297	816	124,9	7.800	6.000	6.000	7.085	7.800	
	355/65-15	FIX F1	9.75-15	297	816	125,8	7.800	6.000	6.000	7.085	7.800	
	10.00-20	F1	7.0-20	230	1018	151,7	6.000	5.000	5.000	5.455	6.000	
	10.00-20	F1	7.5-20	230	1018	155	6.000	5.000	5.000	5.455	6.000	
10.00-20	F1	8.0-20	230	1018	158,5	6.000	5.000	5.000	5.455	6.000		
12.00-20	F1	8.0-20	230	1110	193	7.500	6.250	6.250	6.810	7.500		
12.00-20	F1	8.5-20	230	1110	199	7.500	6.250	6.250	6.810	7.500		

(1) Sizes are intended for tyres not fitted on rims;

(2) Capacity values indicated are in reference to FORZA tyres mounted on vehicles whose speed with no cargo is less than 25 km/h (according to E.T.R.T.O. standards);

(3) Only for interior courses inferior to 2.000 metres; if otherwise, contact dealer (according to E.T.R.T.O. standards).



NM
NON MARKING

SUPER-ELASTIC

ELTOR® 5

ELTOR® 5 NON MARKING



STRUCTURE

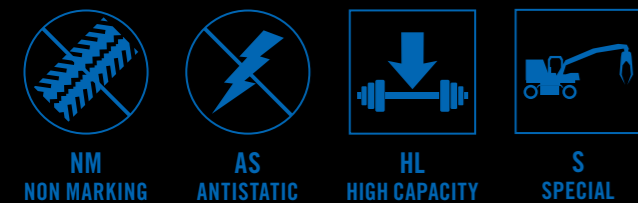
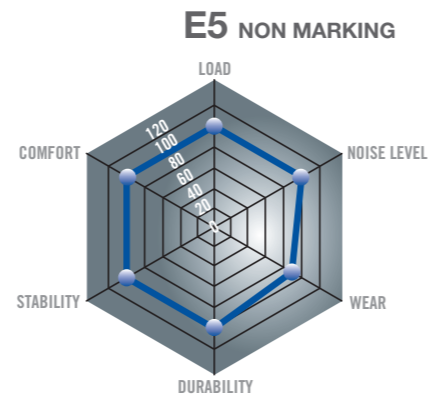
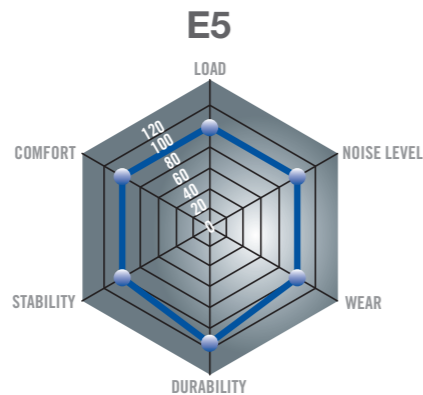
- Compact construction for forklift truck higher stability.

COMPOUND

- Maximum grip.
- High quality compound to guarantee high resistance to wear.

DESIGN

- Higher tread depth for max. tyre life.
- Additional bars to stabilize the tread blocks and ensure regular running and uniform wear.
- Profile XL.



SUPER-ELASTIC **ELTOR® 5**

Ø	TYRE SIZE (INCHES)	PROFILE	RIM SIZE	TYRE DIMENSIONS (1)		WEIGHT (kg) ± 2%	LOAD CAPACITY (KG) AT MAX SPEED (KM/H) (2)				
				W (mm) ± 2%	D (mm) ± 2%		CARRYING WHEEL 25 km/h	STEERING WHEEL 25 km/h	TRAILERS (3)		
							25 km/h	25 km/h	25 km/h	10 km/h	6 km/h
8"	5.00-8	E5	3.00D-8	120	458	17,1	1.415	1.090	1.090	1.285	1.415
	5.00-8	E5 FIX	3.00D-8	120	458	17,2	1.415	1.090	1.090	1.285	1.415
	15x4½-8 (125/75-8)	E5	3.00D-8	109	377	9,4	1.040	800	800	940	1.040
	15x4½-8 (125/75-8)	E5 FIX	3.00D-8	109	377	9,7	1.040	800	800	940	1.040
	16x6-8 (150/75-8)	E5	4.33R-8	151	421	17,1	1.495	1.150	1.150	1.360	1.495
	16x6-8 (150/75-8)	E5 FIX	4.33R-8	151	421	17,4	1.495	1.150	1.150	1.360	1.495
	18x7-8 (180/70-8)	E5	4.33R-8	152	453	20,2	2.145	1.650	1.650	1.945	2.145
	18x7-8 (180/70-8)	E5 FIX	4.33R-8	152	453	20,5	2.145	1.650	1.650	1.945	2.145
9"	140/55-9	E5 FIX	4.00E-9	130	380	11,8	1.170	900	900	1.060	1.170
	6.00-9	E5	4.00E-9	139	525	26,1	1.885	1.450	1.450	1.710	1.885
	6.00-9	E5 FIX	4.00E-9	139	525	26,4	1.885	1.450	1.450	1.710	1.885
	21x8-9 (200/75-9)	E5	6.00E-9	183	522	34,2	2.755	2.120	2.120	2.505	2.755
	21x8-9 (200/75-9)	E5 FIX	6.00E-9	183	522	34,6	2.755	2.120	2.120	2.505	2.755
10"	180/60-10	E5	5.00F-10	152	454	18,5	2.410	1.850	1.850	2.180	2.410
	180/60-10	E5 FIX	5.00F-10	152	454	19	2.410	1.850	1.850	2.180	2.410
	6.50-10	E5	5.00F-10	160	575	36,6	2.340	1.800	1.800	2.125	2.340
	6.50-10	E5 FIX	5.00F-10	160	575	36,8	2.340	1.800	1.800	2.125	2.340
	7.50-10	E5	5.50F-10	176	636	52,3	3.070	2.360	2.360	2.785	3.070
	7.50-10	E5 FIX	5.50F-10	176	636	52,3	3.070	2.360	2.360	2.785	3.070
	200/50-10	E5	6.50F-10	189	464	25,6	2.470	1.900	1.900	2.240	2.470
	200/50-10	E5 FIX	6.50F-10	189	464	26,1	2.470	1.900	1.900	2.240	2.470
	23x9-10 (225/75-10)	E5	6.50F-10	195	581	46	3.445	2.650	2.650	3.125	3.445
	23x9-10 (225/75-10)	E5 FIX	6.50F-10	195	581	46,3	3.445	2.650	2.650	3.125	3.445
12"	7.00-12	E5	5.00S-12	169	658	47,6	2.920	2.240	2.240	2.645	2.920
	7.00-12	E5 FIX	5.00S-12	169	658	48,3	2.920	2.240	2.240	2.645	2.920
	23x10-12	E5	8.00G-12	227	586	49,9	3.770	2.900	2.900	3.420	3.770
	23x10-12	E5 FIX	8.00G-12	227	586	50,6	3.770	2.900	2.900	3.420	3.770
	27x10-12	E5	8.00G-12	235	672	73,5	3.900	3.000	3.000	3.450	3.900
	27x10-12	E5 FIX	8.00G-12	235	672	74,3	3.900	3.000	3.000	3.450	3.900
	315/45-12	E5	10.00G-12	275	588	61	4.485	3.450	3.450	4.070	4.485
	315/45-12	E5 FIX	10.00G-12	285	574	61,35	4.485	3.450	3.450	4.070	4.485
15"	250-15 (250/70-15)	E5	7.0-15	214	721	66,5	4.750	3.650	3.650	4.300	4.750
	250-15 (250/70-15)	E5 FIX	7.0-15	214	721	67	4.750	3.650	3.650	4.300	4.750
	250-15 (250/70-15)	E5	7.5-15	214	721	67,5	4.750	3.650	3.650	4.300	4.750
	250-15 (250/70-15)	E5 FIX	7.5-15	214	721	68,5	4.750	3.650	3.650	4.300	4.750
	7.00-15	E5	5.5-15	180	728	59	3.545	2.725	2.725	3.215	3.545
	7.00-15	E5 FIX	5.5-15	180	728	59,5	3.545	2.725	2.725	3.215	3.545
	7.50-15	E5	5.50-15	205	758	72,2	3.880	2.980	2.980	3.510	3.880
	7.50-15	E5 FIX	5.50-15	205	758	72,7	3.880	2.980	2.980	3.510	3.880
	7.50-15	E5	6.5-15	205	758	72,9	3.900	3.000	3.000	3.540	3.900
	7.50-15	E5 FIX	6.5-15	205	758	74,2	3.900	3.000	3.000	3.540	3.900
	28x9-15 (8.15-15)	E5	7.0-15	214	699	61,8	3.445	2.650	2.650	3.125	3.445
	28x9-15 (8.15-15)	E5 FIX	7.0-15	214	699	62,2	3.445	2.650	2.650	3.125	3.445
	28x12½-15	E5	9.75-15	285	716	91	5.525	4.250	4.250	5.015	5.525
	28x12½-15	E5 FIX	9.75-15	285	716	92	5.525	4.250	4.250	5.015	5.525
	8.25-15	E5	6.5-15	203	822	90,9	4.750	3.650	3.650	4.300	4.750
8.25-15	E5 FIX	6.5-15	203	822	92,4	4.750	3.650	3.650	4.300	4.750	
300-15 (315/70-15)	E5	8.0-15	256	821	114	5.850	4.500	4.500	5.310	5.850	
300-15 (315/70-15)	E5 FIX	8.0-15	256	821	114,9	5.850	4.500	4.500	5.310	5.850	
355/65-15 (350-15)	E5	9.75-15	300	821	135,2	7.800	6.000	6.000	7.085	7.800	
355/65-15 (350-15)	E5 FIX	9.75-15	300	821	136,1	7.800	6.000	6.000	7.085	7.800	

(1) Sizes are intended for tyres not fitted on rims;
 (2) Capacity values indicated are in reference to ERTOR tyres mounted on vehicles whose speed with no cargo is less than 25 km/h (according to E.T.R.T.O. standards);
 (3) Only for interior courses inferior to 2.000 metres; if otherwise, contact dealer (according to E.T.R.T.O. standards).

SUPER-ELASTIC

ELTOR® EL ELTOR® EL NON MARKING



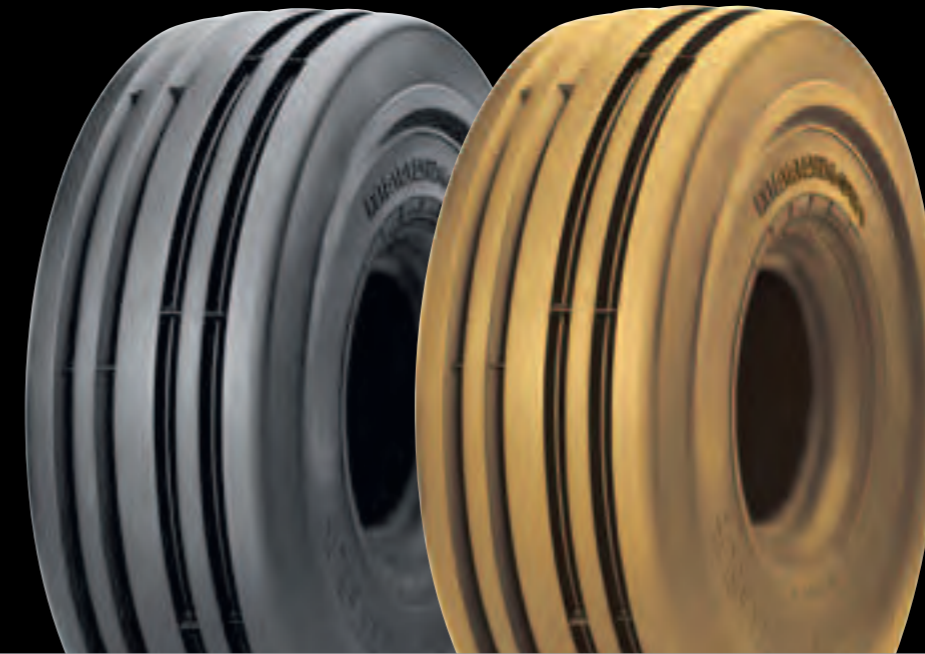
- Smooth tread designed for rollers which sustain drums or cylinders of any kind.
- Intended for all applications in which vibrations must be avoided.
- For non motorised vehicles that do not require grip.
- Smooth treads, as opposed to tread bars, are inherently more resistant to tears.



Ø	TYRE SIZE (inches)	PROFILE	RIM SIZE	TYRE DIMENSIONS (1)		WEIGHT (kg) ± 2%	LOAD CAPACITY (KG) AT MAX SPEED (KM/H) (2)				
				W (mm) ± 2%	D (mm) ± 2%		CARRYING WHEEL 25 km/h	STEERING WHEEL 25 km/h	TRAILERS (3)		
									25 km/h	10 km/h	6 km/h
8"	5.00-8	EL	3.00D-8	124	454	15,7	1.415	1.090	1.090	1.285	1.415
	18x7-8 (180/70-8)	EL	4.33R-8	147	448	21	2.145	1.650	1.650	1.945	2.145
9"	6.00-9	EL	4.00E-9	144	523	26,4	1.855	1.450	1.450	1.710	1.855
	6.00-9	EL FIX	4.00E-9	144	523	30	1.855	1.450	1.450	1.710	1.855
10"	6.50-10	EL	5.00F-10	163	570	36,5	2.340	1.800	1.800	2.125	2.340
12"	7.00-12	EL	5.00S-12	168	649	47,3	2.920	2.240	2.240	2.645	2.920
	7.00-12	EL FIX	5.00S-12	168	649	48,1	2.920	2.240	2.240	2.645	2.920
15"	7.00-15	EL	5.5-15	178	723	57,4	3.545	2.725	2.725	3.215	3.545
	7.00-15	EL FIX	5.5-15	178	723	57,9	3.545	2.725	2.725	3.215	3.545
	8.25-15	EL	6.5-15	208	813	88,5	4.750	3.650	3.650	4.300	4.750
20"	355/50-20	EL	10.0-20	320	845	122	8.970	6.900	6.900	8.140	8.970
	355/50-20	EL FIX	10.0-20	320	845	124,5	8.970	6.900	6.900	8.140	8.970
	12.00-20	EL	8.0-20	263	1.102	215,2	7.500	6.250	6.250	6.810	7.500
	12.00-20	EL	8.5-20	267	1.102	220	7.500	6.250	6.250	6.810	7.500
24"	12.00-20	EL	10.0-20	312	1.102	262	7.765	6.470	6.470	7.050	7.765
	12.00-24	EL	8.5-24	292	1.180	256	7.980	6.650	6.650	7.250	7.980
	12.00-24	EL	10.0-24	292	1.180	260,5	7.980	6.650	6.650	7.250	7.980

SUPER-ELASTIC

ELTOR® ER ELTOR® ER NON MARKING



- Circumferential rib tread pattern.
- To be used for small vehicles, motorised and non motorised.
- Successful in situations in which vibrations must be avoided and friction must be reduced to a minimum.



Ø	TYRE SIZE (inches)	PROFILE	RIM SIZE	TYRE DIMENSIONS (1)		WEIGHT (kg) ± 2%	LOAD CAPACITY (KG) AT MAX SPEED (KM/H) (2)				
				W (mm) ± 2%	D (mm) ± 2%		CARRYING WHEEL 25 km/h	STEERING WHEEL 25 km/h	TRAILERS (3)		
									25 km/h	10 km/h	6 km/h
4"	3.00-4	ER	2.10-4	86	253	3,8	260	195	195	235	260
	4.00-4	ER	2.50C-4	102	303	6,8	535	412	412	485	535
8"	15x4½-8 (125/75-8)	ER	2.50D-8	103	375	8,8	1040	800	800	940	1040
	15x4½-8 (125/75-8)	ER	3.00D-8	103	375	9	1.040	800	800	940	1.040
	15x4½-8 (125/75-8)	ER FIX	3.00D-8	103	375	9,3	1.040	800	800	940	1.040
9"	140/55-9*	ER	4.00E-9	130	380	10	1.170	900	900	1.060	1.170
	140/55-9*	ER FIX	4.00E-9	130	380	10,3	1.170	900	900	1.060	1.170

* In preparation

(1) Sizes are intended for tyres not fitted on rims;

(2) Capacity values indicated are in reference to ELTOR tyres mounted on vehicles whose speed with no cargo is less than 25 km/h (according to E.T.R.T.O. standards);

(3) Only for interior courses inferior to 2.000 metres; if otherwise, contact dealer (according to E.T.R.T.O. standards).



NM
NON MARKING



AS
ANTISTATIC

SUPER-ELASTIC

ELTOR® ES

ELTOR® ES NON MARKING



- Sculpted tread pattern.
- Created solely for size 3.00-4.
- Especially efficient on wet pavements thanks to the tread which provides an excellent grip and directional hold, even on slippery surfaces such as ceramic tiles covered with liquid detergent.



Ø	TYRE SIZE (inches)	PROFILE	RIM SIZE	TYRE DIMENSIONS (1)		WEIGHT (kg) ± 2%	LOAD CAPACITY (KG) AT MAX SPEED (KM/H) (2)				
				W (mm) ± 2%	D (mm) ± 2%		CARRYING WHEEL 25 km/h	STEERING WHEEL 25 km/h	TRAILERS (3)		
4"	3.00-4	ES	2.10-4	85	248	3,6	260	195	195	235	260

(1) Sizes are intended for tyres not fitted on rims;

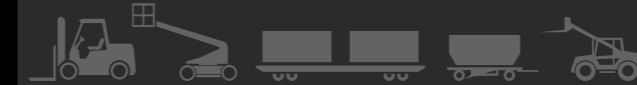
(2) Capacity values indicated are in reference to ELTOR tyres mounted on vehicles whose speed with no cargo is less than 25 km/h (according to E.T.R.T.O. standards);

(3) Only for interior courses inferior to 2.000 metres; if otherwise, contact dealer (according to E.T.R.T.O. standards).

PRESS ON BAND CUSHION



PNEUMATIC TYRES - FORKLIFT



PNEUMATIC TYRES - SKID STEER



PNEUMATIC TYRES - EXCAVATOR



MULTIPURPOSE TYRES



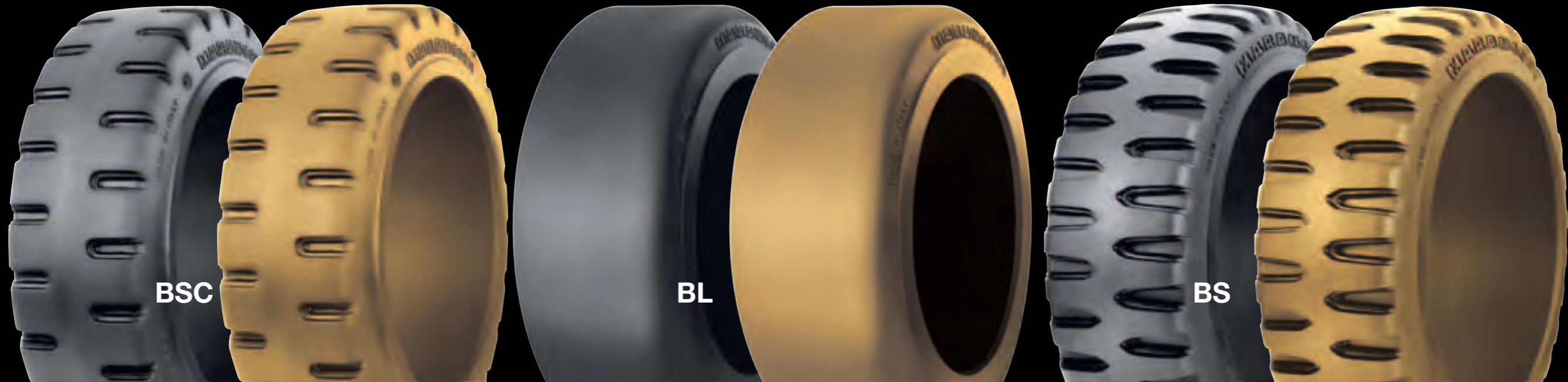
NM
NON MARKING



AS
ANTISTATIC

PRESS ON BAND CUSHION

BSC BL BS



STRUCTURE

- Built with 2 compounds to improve driving comfort and cut down rolling resistance.

COMPOUND

- Smooth sliding, low rolling resistance, reduced battery or fuel consumption.

BSC - BSC NON MARKING

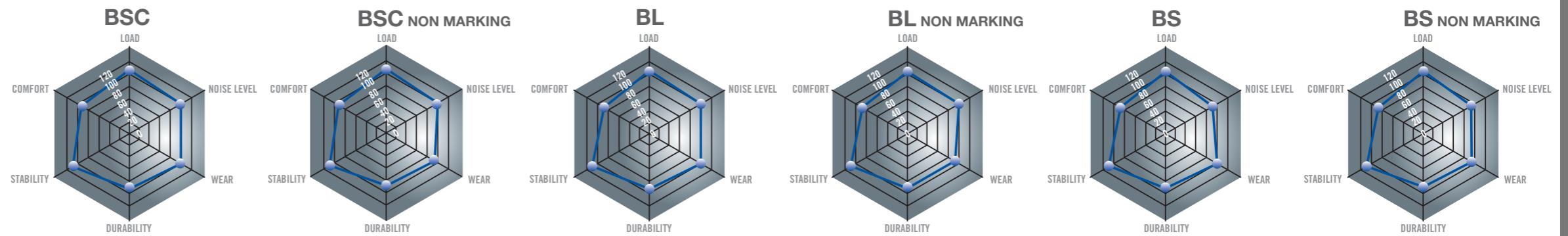
- Greater stability thanks to the square section.
- No vibration.
- Minimum distortion during the transport of loads.

BL - BL NON MARKING

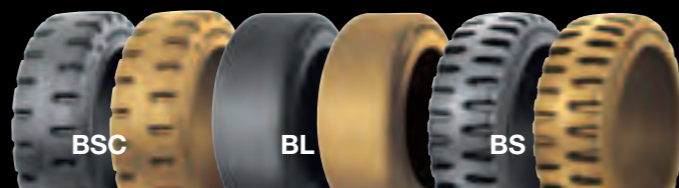
- Maximum stability.
- Minimum distortion during the transport of loads.

BS - BS NON MARKING

- Section fitted to ensure an excellent compromise between stability and traction.
- Maximum smoothness.
- Minimum distortion during the transport of loads.



PRESS ON BAND CUSHION

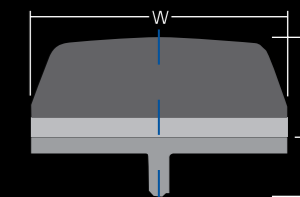


	TYRE SIZE D W do (inches)	PROFILE	TYRE SIZE D W do (mm)	WEIGHT (kg)	LOAD CAPACITY (KG) FOR VEHICLES AT THE MAX SPEEDS OF						LOAD CAPACITY FOR VEHICLES		2 COMPOUND
					10 km/h		16 km/h		25 km/h		MANUAL TRACTION	MAX SPEED (16 km/h)	
1	-	BL	200x90x120	5	-	-	-	-	-	-	725	435	
2	-	BL	250x130x140	8	1.065	875	955	800	775	635	-	765	
3	-	BL	250x90x150	5	-	-	-	-	-	-	870	525	
4	10x5x6 1/2	BL	254x127x165,1	11	1.015	835	905	765	735	605	-	725	
5	10 1/2x3 3/2x6 1/2	BL	267x89x165,1	9	-	-	-	-	-	-	900	540	
6	10 1/2x5x6 1/2	BS	267x127x165,1	11	1.080	885	965	810	785	645	-	770	
7	-	BS	300x100x203,2	7	870	715	775	655	635	520	-	625	
8	12x3 1/2x8	BL	305x89x203,2	7	-	-	-	-	-	-	995	595	
9	12x4 1/2x8	BL	305x114x203,2	9	1.045	855	935	785	760	625	-	745	•
10	13x4 1/2x8	BS	330x114x203,2	9	1.120	920	1.000	840	815	665	-	800	•
11	13x5x8	BS	330x127x203,2	10	1.290	1.060	1.155	970	935	770	-	925	•
12	13x6x8	BS	330x152x203,2	13	1.620	1.330	1.445	1.215	1.175	965	-	1.155	•
13	14x4 1/2x8	BS	356x114x203,2	11	1.165	960	1.045	875	845	695	-	835	•
14	15 1/2x5x10	BSC	394x127x254	16	1.475	1.210	1.315	1.105	1.070	880	-	1.055	•
15	15 1/2x6x10	BSC	394x152x254	18	1.865	1.535	1.665	1.400	1.355	1.110	-	1.335	•
16	16x5x10 1/2	BS	406x127x266,7	15	1.510	1.240	1.345	1.130	1.095	900	-	1.080	•
17	16x6x10 1/2	BS	406x152x266,7	18	1.905	1.565	1.705	1.430	1.385	1.135	-	1.365	•
18	15x5x11 1/4	BL	381x127x285,8	15	1.395	1.145	1.245	1.045	1.015	830	-	995	•
19	15x5x11 1/4	BS	381x127x285,8	14	1.395	1.145	1.245	1.045	1.015	830	-	995	•
20	15x6x11 1/4	BL	381x152x285,8	14	1.720	1.415	1.535	1.290	1.250	1.025	-	1.230	•
21	16 1/4x5x11 1/4	BS	413x127x285,8	16	1.525	1.255	1.365	1.145	1.110	910	-	1.090	•
22	16 1/4x6x11 1/4	BS	413x152x285,8	19	1.915	1.575	1.710	1.435	1.395	1.140	-	1.370	•
23	16 1/4x6x11 1/4	BSC	413x152x285,8	19	1.915	1.575	1.710	1.435	1.395	1.140	-	1.370	•
24	16 1/4x7x11 1/4	BS	413x178x285,8	22	2.320	1.905	2.075	1.740	1.685	1.385	-	1.660	•
25	16x4x12 1/8	BL	406x102x308	11	1.120	920	1.000	840	815	670	-	800	•
26	17x4 1/2x12 1/8	BS	432x114x308	13	1.370	1.125	1.225	1.025	995	815	-	980	•
27	17x5x12 1/8	BS	432x127x308	15	1.575	1.295	1.410	1.185	1.145	940	-	1.125	•
28	17x6x12 1/8	BS	432x152x308	18	1.975	1.625	1.765	1.485	1.435	1.175	-	1.415	•
29	18x5x12 1/8	BL	457x127x308	19	1.645	1.350	1.470	1.235	1.195	980	-	1.175	•
30	18x6x12 1/8	BSC	457x152x308	21	2.090	1.715	1.865	1.570	1.520	1.245	-	1.495	•
31	18x7x12 1/8	BSC	457x178x308	24	2.555	2.100	2.280	1.915	1.855	1.520	-	1.825	•
32	18x8x12 1/8	BS	457x203x308	28	3.005	2.465	2.680	2.255	2.180	1.785	-	2.145	•
33	18x9x12 1/8	BS	457x229x308	32	3.465	2.850	3.095	2.600	2.520	2.065	-	2.475	•
34	19x8 1/2x13 1/8	BS	483x216x333,7	35	3.375	2.770	3.010	2.530	2.450	2.010	-	2.410	•
35	18x5 1/8x14	BL	455x130x356	21	1.645	1.355	1.470	1.235	1.195	980	-	1.175	•
36	21x6x15	BSC	533x152x381	28	2.345	1.930	2.095	1.760	1.705	1.400	-	1.675	•
37	21x7x15	BS	533x178x381	30	2.875	2.360	2.565	2.155	2.085	1.710	-	2.055	•
38	21x8x15	BS	533x203x381	38	3.380	2.775	3.015	2.535	2.455	2.010	-	2.415	•
39	21x9x15	BS	533x229x381	40	3.905	3.205	3.485	2.930	2.835	2.325	-	2.790	•
40	22x6x16	BL	559x152x406,4	31	2.435	2.000	2.175	1.825	1.765	1.450	-	1.740	•
41	22x7x16	BS	559x178x406,4	36	2.980	2.445	2.660	2.235	2.165	1.775	-	2.130	•
42	22x8x16	BS	559x203x406,4	37	3.505	2.875	3.125	2.625	2.545	2.085	-	2.505	•
43	22x8x16	BL	559x203x406,4	39	3.505	2.875	3.125	2.625	2.545	2.085	-	2.505	•
44	22x9x16	BS	559x229x406,4	44	4.050	3.325	3.615	3.035	2.940	2.410	-	2.895	•
45	22x9x16	BL	559x229x406,4	47	4.050	3.325	3.615	3.035	2.940	2.410	-	2.895	•
46	22x10x16	BS	559x254x406,4	49	4.575	3.755	4.085	3.430	3.320	2.725	-	3.265	•
47	22x10x16	BL	559x254x406,4	52	4.575	3.755	4.085	3.430	3.320	2.725	-	3.265	•
48	22x12x16	BS	559x305x406,4	58	5.645	4.635	5.035	4.235	4.095	3.360	-	4.030	•
49	22x12x16	BL	559x305x406,4	64	5.645	4.635	5.035	4.235	4.095	3.360	-	4.030	•
50	-	BL	550x100x455	18	1.370	1.125	1.225	1.025	995	815	-	980	•
51	-	BL	710x180x485	56	3.595	2.950	3.210	2.695	2.610	2.140	-	2.565	•



	TYRE SIZE D W do (inches)	PROFILE	TYRE SIZE D W do (mm)	WEIGHT (kg)	LOAD CAPACITY (KG) FOR VEHICLES AT THE MAX SPEEDS OF						LOAD CAPACITY FOR VEHICLES		2 COMPOUND
					10 km/h		16 km/h		25 km/h		MANUAL TRACTION	MAX SPEED (16 km/h)	
52	28x8x19	BL	710x200x485	63	4.180	3.435	3.735	3.135	3.035	2.490	-	2.985	•
53	26x10x20	BS	660x254x508	60	5.175	4.250	4.620	3.880	3.760	3.080	-	3.695	
54	28x10x22	BL	711x254x559	72	5.490	4.510	4.905	4.120	3.985	3.270	-	3.925	
55	28x10x22	BS	711x254x559	68	5.490	4.510	4.905	4.120	3.985	3.270	-	3.925	
56	28x12x22	BL	711x305x559	90	6.750	5.545	6.030	5.065	4.905	4.020	-	4.825	
57	28x12x22	BS	711x305x559	93	6.750	5.545	6.030	5.065	4.905	4.020	-	4.825	
58	-	BL	711x360x559	100	8.160	6.705	7.285	6.120	5.925	4.860	-	5.830	
59	28x16x22	BL	711x406x559	120	9.320	7.655	8.320	6.990	6.770	5.550	-	6.655	

D = External diameter W = Width do = Internal diameter



TREAD

+ LIFE
tread compound: resistant to wear and tearing

CORE

+ COMFORT
+ SAVING
cushion compound: reduces rolling resistance and improves driving comfort



PNEUMATIC TYRES - FORKLIFT

SW LT



STRUCTURE

- Sidewall protection.
- Greater Ply Rating.

COMPOUND

- Excellent grip.
- Good resistance to wear.

DESIGN

- Deep grooves.
- Maximum stability.
- Excellent comfort.
- Smooth running.



PNEUMATIC TYRES - FORKLIFT

	TYRE SIZE	PROFILE	PR	TYPE	RIM WIDTH	INFLATION PRESSURE ETRTO (bar)	OVERALL DIAMETER (mm)	OVERALL SECTION WIDTH (mm)	REFERENCE LOAD (kg) 25 km/h	STATIC LOAD CAPACITY ETRTO (kg)	SET WEIGHT (kg)
1	4.00-8**	YA	6	TT	3.00D-8	4,25	420	110	600	905	3,90
2	5.00-8	LT	10	TT	3.50D-8	10,00	488	144	1.090	1.645	7,65
3	5.00-8	SW	8	TT	3.00D; 3.75L-8	8,25	485	152	950	1.435	8,10
4	15x4.5-8**	LT	12	TT	3.25L-8	9,00	385	122	800	1.210	4,25
5	16x6-8	SW	10	TT	4.33R-8	10,50	422	155	975	1.470	9,00
6	18x7-8	SW	16	TT	4.33R-8	10,00	465	180	1.650	2.490	12,30
7	6.00-9	LT	10	TT	4.00E-9	8,60	540	166	1.320	1.990	11,60
8	6.00-9	SW	14	TT	4.00E-9	10,50	540	170	1.495	2.260	13,05
9	21x8-9	SW	16	TT	6.00E-9	10,00	535	220	2.120	3.200	21,25
10	6.50-10	LT	10	TT	5.00F-10	7,90	590	186	1.500	2.265	13,90
11	6.50-10	SW	14	TT	5.00; 5.50F-10	10,00	588	190	1.800	2.720	16,10
12	23x9-10	SW	20	TT	7.00F-10	9,00	575	240	2.650	4.000	23,35
13	7.00-12	LT	14	TT	5.00S-12	10,00	676	197	2.120	3.200	20,45
14	7.00-12	SW	16	TT	5.00S-12	10,00	675	205	2.240	3.380	22,35
15	23x10,1-12	SW	22	TT	8.00G-12	10,50	600	260	2.850	4.300	30,35
16	27x10-12	LT	14	TT	8.00G-12	8,30	690	255	2.725	4.115	25,40
17	27x10-12	SW	20	TT	8.00G-12	10,00	690	270	3.550	5.360	33,65
18	7.00-15	LT	14	TT	5.50F-15	10,00	762	203	2.585	3.900	24,90
19	7.00-15	SW	16	TT	5.00; 5.50-15	10,00	750	200	2.725	4.115	24,55
20	7.50-15	LT	14	TT	6.00G-15	9,25	802	215	2.800	4.230	28,30
21	7.50-15	SW	14	TT	5.00; 6.00; 6.50-15	9,25	785	215	2.800	4.230	27,75
22	28x9-15	LT	14	TT	7.00-15	9,70	706	231	3.000	4.530	27,40
23	28x9-15	SW	12	TT	7.0-15	8,25	730	220	2.650	4.000	27,10
24	32x12.1-15	SW	24	TT	9.75-15	10,50	820	320	5.250	7.930	64,70
25	8.25-15	LT	14	TT	6.50-15	8,30	830	250	3.250	4.910	37,75
26	8.25-15	SW	16	TT	6.0; 6.5; 7.0-15	9,25	840	255	3.550	5.360	43,20
27	250-15	LT	16	TT	7.50-15	10,30	735	250	3.650	5.510	32,65
28	250-15	SW	16	TT	7.0; 7.5-15	8,25	735	250	3.350	5.060	36,45
29	300-15	SW	20	TT	8.0-15	9,00	820	286	5.000	7.550	56,55
30	9.00-20	LT	14	TT	7.00-20	7,60	1.034	259	4.500	6.795	48,50
31	10.00-20	LT	18	TT	7.50-20	9,00	1.070	278	5.545	8.370	58,00
32	10.00-20	SW	16	TT	7.0; 7.50; 8.0-20	9,00	1.075	300	5.000	7.550	103,50
33	12.00-20	LT	24	TT	8.50-20	11,50	1.145	315	7.595	11.470	88,00
34	12.00-20	SW	20	TT	8.00; 8.50; 9.00-20	10,00	1.145	335	6.900	10.420	103,50

** Only tyre and tube without flap.

Reinforced Sizes for Industrial Application on Hard Improved Surface
Coefficient to be used for tyres in next table

MAXIMUM SPEED (km/h) (1)	VARIATION IN LOAD CAPACITY (%)	
	Steer positions Counter Balanced Lift Truck and Other Vehicles (2)	Drive positions Counter Balanced Lift Truck (2)
Static	+44	+80
1	+28	+60
10	+16	+45
15	+8	+35
20	+2	+27
25	0	+25
30	-3	+22

This table applies up to rim code up to 35 including wide base tyres. For larger sizes consult tyre manufactures.

(1) For speeds <5 &>1km/h(creep) interpolations are permitted.

(2) These coefficients do not apply to all tread patterns, consult the tyre Manufactures.

PNEUMATIC TYRES - SKID STEER

SS SD SKZ+ HA-SKZ



PNEUMATIC TYRES - EXCAVATOR

MT54



STRUCTURE

- Resistant to lateral skidding thanks to the diagonal design.

COMPOUND

- Max traction in any condition.

DESIGN

- Deep tread with a 3-notched wedge.
- Maximum stability.
- Longer life.
- Excellent comfort.



	TYRE SIZE	PROFILE	PR	TYPE	RIM WIDTH	INFLATION PRESSURE ETRTO (bar)	OVERALL DIAMETER (mm)	OVERALL SECTION WIDTH (mm)	LOAD CAPACITY (kg) 25 km/h	WEIGHT (kg)
1	23x8.50-12	SS	6	TL	7.0	3,40	575	207	920	12,70
2	27x8.50-15	SS	8	TL	7.0	4,80	685	220	1.400	15,25
3	10x16.5	SD	10	TL	8.25	5,20	773	264	2.135	20,20
4	10x16.5	SS	10	TL	8.25	5,20	773	280	2.140	22,70
5	10x16.5	SKZ+	10	TL	8.25	5,20	800	279	2.140	20,20
6	10x16.5	HA SKZ	10	TL	8.25	5,20	773	264	2.135	31,80
7	12x16.5	SD	12	TL	9.75	5,50	831	307	2.865	24,30
8	12x16.5	SS	12	TL	9.75	4,80	831	325	2.950	36,60
9	12x16.5	SKZ+	12	TL	9.75	5,50	838	325	2.865	40,25
10	12x16.5	HA SKZ	12	TL	9.75	5,50	840	310	2.865	39,35

STRUCTURE

- Sidewall protection.
- Resistance to lateral skidding.

COMPOUND

- Long-lasting thanks to the considerably deep grooves as well as the excellent abrasion resistance.

DESIGN

- The tread design was created to keep the tyre free of debris.
- Maximum traction under any conditions.



	TYRE SIZE	PROFILE	PR	TYPE	RIM WIDTH	INFLATION PRESSURE ETRTO (bar)	OVERALL DIAMETER (mm)	OVERALL SECTION WIDTH (mm)	LOAD CAPACITY (kg) 25 km/h	WEIGHT (kg)
1	8.25-20	MT54	14	TT	6.5-20	6,90	970	232	2.180	35,00
2	9.00-20	MT54	14	TT	7.0-20	7,20	1.012	256	2.650	43,00
3	10.00-20	MT54	16	TT	7.5-20	7,60	1.050	282	3.190	50,00

PNEUMATIC TYRES - MULTIPURPOSE

MT63 MT45 MT54 MT90 IM54 TI09



STRUCTURE

- Sidewall protection.

DESIGN

- Tyres for 4 wheel drive equipment.
- Excellent traction in all conditions.



COMPOUND

- Resistant to tears and chunking.
- Excellent traction in all conditions.



	TYRE SIZE	PROFILE	PR	TYPE	RIM WIDTH	INFLATION PRESSURE ETRTO (bar)	OVERALL DIAMETER (mm)	OVERALL SECTION WIDTH (mm)	LOAD CAPACITY (kg) 40 km/h	WEIGHT (kg)
1	10.5/80-18	MT45	10	TL	9.00	5,00	912	280	1.950	31,90
2	12.0/75-18	MT63	12	TL	9.00	5,40	945	299	2.430	31,80
3	18-19.5	MT63	18	TL	14.00	6,75	1.080	455	4.550	75,00
4	405/70-20	MT54	14	TL	13.00	3,50	1.085	396	3.340	60,50
5	405/70-24	MT54	14	TL	13.00	3,50	1.180	400	3.650	76,00

	TYRE SIZE	PROFILE	PR	TYPE	RIM WIDTH	INFLATION PRESSURE ETRTO (bar)	OVERALL DIAMETER (mm)	OVERALL SECTION WIDTH (mm)	LOAD CAPACITY (kg) 40 km/h	WEIGHT (kg)
1	18-22.5	MT90	18	TL	14.00	8,00	1.185	477	5.800	95,00
2	15.5/80-24	IM54	16	TL	W12	4,00	1.260	420	5.440	70,50
3	18.4-26	TI09	12	TL	16.00	2,30	1.420	480	2.700	93,50
4	16.9-28	TI09	14	TL	15.00	2,40	1.425	460	2.600	83,50

SERVICE, ACCESSORIES - SOLID TYRES FITTING PRESS 250 TON



FITTING AND REMOVAL PRESS FOR SUPER-ELASTIC AND CUSHION TYRES

This press is able to perform fitting and removal operations of all sizes of super-elastic tyres (with the exception of 14.00-24). The machine's fundamental characteristics are: reliability, speed, power and precision.

The press is composed of a metal structure, an adjustable lower work platform with area of 200 mm and an upper moveable platform with 600 mm of usable stroke. Manually controlled hydraulic movements. The press does not require a foundation.

The press comes complete with CE certification, an Instruction Booklet for fitting and removal operations, as well as Use and Maintenance Booklet.

The equipment necessary for fitting and removal of the super-elastic and cushion tyres is sold separately upon request.

SUPER-ELASTIC TYRES INSTALLATION EQUIPMENT

- The installation equipment is available for wheel size from 8" to 20".
- Each size is painted in a different colour.



1 - Thrusting ring



2 - Bevelled ring



3 - Press ring



4 - FIX de-mounting ring (up to 15")



5 - Seating rim

WARRANTY ACTIVATION REGULATIONS

INDUSTRIAL TYRES WARRANTY ACTIVATION REGULATIONS

A) GENERAL REGULATIONS

To make use of the manufacturer's Warranty, the customer must have the claimed pneumatic/resilient industrial tyre or press on band inspected by specialist engineers at the MARANGONI SPA analysis laboratory, in order to verify whether the conditions are such as to be covered by the warranty, as specified in these regulations.

Under no circumstances may further warranty claims be made in connection with pneumatic/resilient industrial tyre or press on band that has already been the subject of a previous warranty claim by a user under these regulations.

MARANGONI SPA, once having accepted the warranty claim, shall refund the value of the tyre to the customer in proportion to tread wear use.

B) MANUFACTURER'S WARRANTY CONDITIONS

The Warranty only applies to damage or defects involving the pneumatic/resilient industrial tyre or press on band due to:

- 1) manufacturing and/or materials defects;
- 2) improper fitting (if performed by MARANGONI SPA).

No other cases will be considered.

C) WARRANTY EXCLUSIONS

The Warranty does not cover damage or defects involving the pneumatic/resilient industrial tyre or press on band in the following cases:

- a) more than **five years** since the tyre production date;
- b) abnormal and/or premature wear caused by vehicle mechanical faults, the use of faulty and/or unsuitable rims, product subjected to loads exceeding the limits specified by the manufacturer of the vehicle or by ETRTO*;
- c) incorrect or improper use of the tyre with regard to the product technical specifications, especially in the event of damage and abnormal and/or premature wear caused by use on surfaces that are not suitable for the tyre;
- d) damage caused when fitting or removing a wheel and/or fitting/removing the tyre;
- e) damage due to accidental impacts;
- f) damage caused by exposure to fire or sources of heat or other accidents;
- g) deterioration due to prolonged contact with mineral oils, hydrocarbons, solvents or acids;
- h) tyre sizes different from those specified by the manufacturer of the vehicle or by ETRTO*.

* ETRTO (The European Tyre and Rim Technical Organisation)

REFERENCE NORMS

SUPER-ELASTIC AND CUSHION TYRES

- Standards of quality are certified by ISO 9001:2008.
- In conformance with E.T.R.T.O and DIN 7852 regarding load, size and speed capacities. In conformity with ISO/DIS 2883, if anti-static.
- Correctly installed on standard rims and hubs whose ideal sizes are prescribed by E.T.R.T.O.
- In conformance with UNI ISO 1074 in terms of vehicle stability equipped with Super-elastic tyres.

USER AND MAINTENANCE

SOLID TYRES - USER INSTRUCTIONS, MAINTENANCE, REPLACEMENT AND CALCULATION OF WEAR LIMITS

1) INTRODUCTION

Tyres are the only contact between the vehicle and the ground. It is therefore of paramount importance that they are maintained in good condition at all times, and that when the time comes to change them, correct replacements are done.

The tyres fitted to your vehicle as Original Equipment were selected by the vehicle and tyre manufacturers concerned taking into account the intended operations of the vehicle.

Changes in tyre type, size and load capacity should not be made without first checking with the tyre and/or vehicle manufacturer regarding possible effects on vehicle behaviour and safety.

2) FITTING AND REMOVAL OF TYRES

It is recommended that these operations be entrusted only to specialists who have the necessary equipment and expertise. Inexpert fitment may lead to personal injury and concealed damage to tyres and wheels.

No special equipment is necessary for fitting solid tyres on centrally divided conical rims, but appropriate presses and accessories are required for fitment on off-set divided conical rims, cylindrical rims and pneumatic tyre rims. The published instructions of the tyre manufacturer must be strictly followed. Only approved proprietary tyre lubricants should be used.

To avoid damage to the base of the tyre, it must be placed on the rim concentrically and parallel to the axis. Only rims recommended by the tyre manufacturer must be used.

3) TYRE LOAD AND SPEED

Tyre load capacities are specified per tyre. Published Standards or manufacturers' Manuals should be consulted to obtain the actual values applicable to a particular application at the speed specified, up to a maximum of 25 km/h.

Load interpolation within the specified speed steps is not permitted and the speed rating of the tyre must be at least equal to the maximum speed capability of the unladen vehicle.

Continuous running should be avoided in order, to prevent excessive heat build-up which may lead to tyre break-up.

4) TYRE MAINTENANCE

Although solid tyres require relatively little maintenance, they should be inspected from time to time in order to check their suitability for further use.

5) TYRE REPLACEMENT

Worn or damaged tyres must be replaced in accordance with the tyre manufacturer's recommendations.

Also, national legal requirements should be checked as they vary from Country to country.

When replacing a tyre, special attention should be paid to the condition and suitability of the rim, as rim damage and incorrect fitment can result in tyre break-up.

6) TYRE AGEING

Tyres age even if they have not been used or have only been used occasionally. Rubber cracking may be evidence of ageing. Exposure to sunlight, heat and ozone will accelerate this process. Aged tyres should be examined by a tyre specialist to check their suitability for further use.

7) TYRE MIXING

Tyres mounted on the same axle must be of the same type and size and must have approximately the same external diameter.

8) TREAD WEAR

8.1 INTRODUCTION

The limit for the tread wear of industrial vehicles is not defined by national or international standards. Several manufacturers provide instructions solely for their products. Recommendations by tyre manufacturers should always be followed. However, in case no recommendations are provided by manufacturers, please abide by the contents published in this standard.

8.2 PURPOSE

This standard suggests tread wear limits for solid tyres used on industrial vehicles that operate under conditions that are not regulated by the Highway Code and are to be used in case no instructions are provided by the manufacturer of the vehicle or tyres. NOTE: Industrial vehicles that operate on public roads must be in order and comply with traffic circulation standards.

8.3 HAZARDS DUE TO EXCESSIVE TYRE TREAD WEAR

The hazards due to excessive tyre wear are the following:

- Loss of load capacity that promotes the accelerated wear of the tread and leads to overheating of the tyre.
- Loss of adhesion while accelerating or braking on unstable road conditions.
- Hazards are heightened if the tyres mounted on the same axle are worn differently.
- Reduction in the vehicle's stability.
- Loss of the vehicle's directional control.
- Uneven load on twinned tyres.

8.4 REDUCING HAZARDS

The hazards mentioned in the foregoing section can be reduced if: The tyres mounted on the same axle are built by the same manufacturer, have the same size and are worn equally (this applies to any type of tyre).

8.5 TYRE TREAD WEAR LIMITS

1) Pneumatic tyre rim sizes

Wear indicators or Kerbing Rib are recommended. Solid Rubber tyres for Pneumatic Rims may be used until the tread is worn to the wear indicator, if the tyre has such a marking, or to the top of the kerbing rib, see page IS.3 of EDI. Where there is no indicator, use the tyre until 3/4 of the original total thickness of the tyre remains. To calculate the minimum diameter corresponding to this wear limit, measure the outside diameter of the worn tyre, the outside diameter of an unworn tyre of the same type, make and size, and the diameter of the wheel rim. The minimum permitted diameter of the worn tyre is given by the formula:

$$D_{\text{worn}} = 3/4 (D_{\text{new}} - d_{\text{rim}}) + d_{\text{rim}}$$

where D_{worn} = the outside diameter of the worn tyre
 D_{new} = the outside diameter of an unworn
 d_{rim} = the diameter of the wheel rim

2) Press-on-band, cured-on-band and conical base tyres (rubber and non-rubber)

Press-on-band, cured-on and conical base tyres may be used until 2/3 of the original total radial thickness of the tyre remains, as given by the formula:

Cured-on tyres:

$$D_{\text{worn}} = 2/3 (D_{\text{new}} - d_{\text{rim}}) + d_{\text{rim}}$$

Press-on-band and conical base tyres:

$$D_{\text{worn}} = 2/3 (D_{\text{new}} - d_{\text{rim}} - 20) + (d_{\text{rim}} + 20)$$

Notes:

- All dimensions are measured in millimetres.
- The outside diameter of the tyre D_{worn} and D_{new} may be calculated by measuring the circumference of the tyre with a flexible tape, and calculating the diameter from the formula:

$$\text{Diameter} = \frac{\text{Circumference}}{\pi}$$

TREAD WEAR INDICATOR (TWI)

Marangoni recommends for tyres not to be worn beyond the TWI (Tread Wear Indicator) positioned on the tread of the tyre.

The height of the TWI was defined according to a study based on safety and cost savings for the user. However, in case there is no TWI, Marangoni recommends to replace the tyres for safety reasons when 10% of the original tread is worn.



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