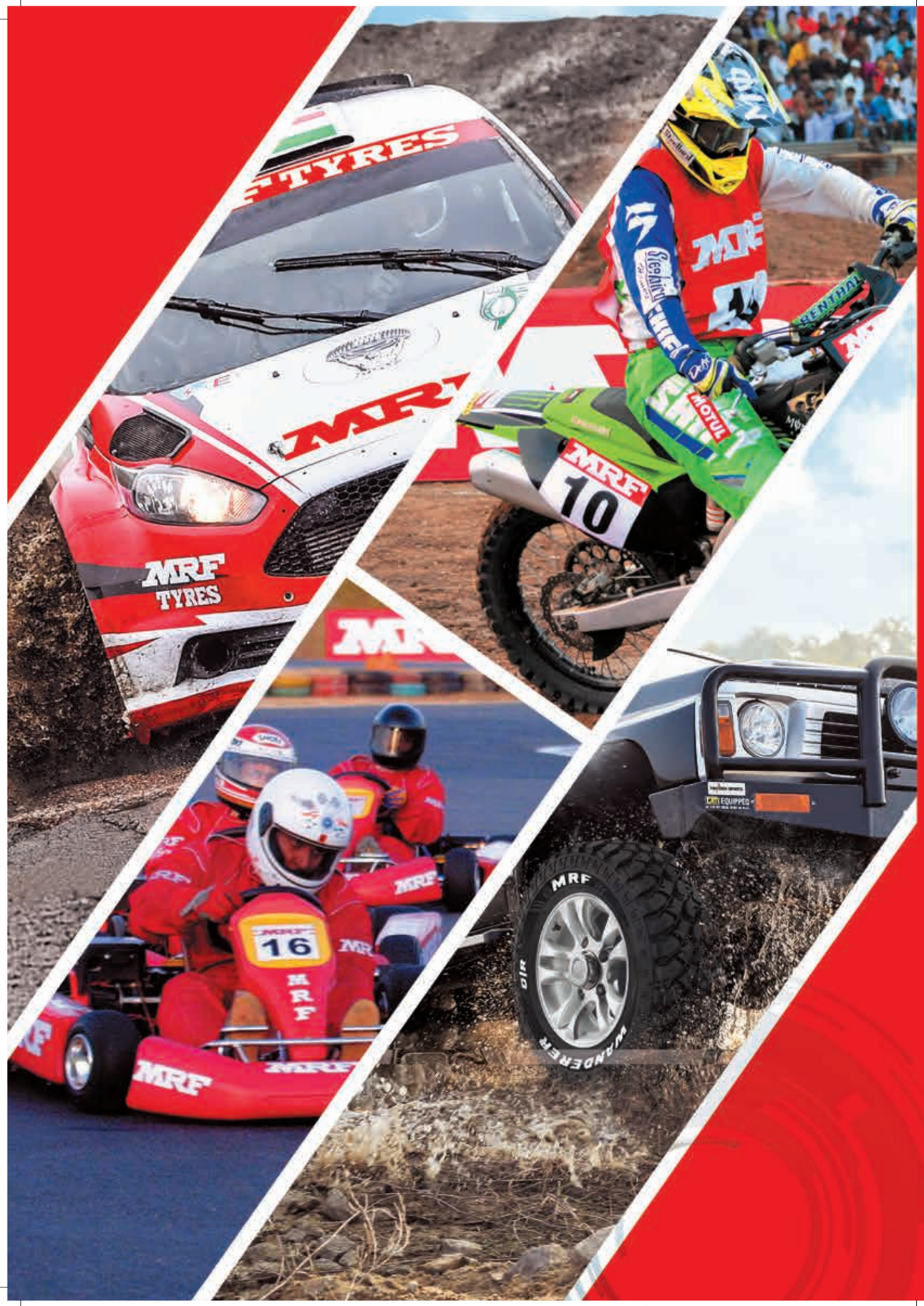
MRF Limited
114, Greams Road, Chennai - 600 006, India.
Ph: +91-44-2829 2777 | Fax: +91-44-2829 1844
Email: mrfexpo@mrfmail.com | Website: www.mrfmotorsporttyres.com
/mrfmotorsporttyres

MMXIX

MRF
MOTORSPORT TYRES

MRF
Motorsport Tyres

THE WINNING EDGE



MRF - AN INDIAN TYRE GIANT

MRF - India's largest tyre manufacturer has a rich and varied history. A company which started with the manufacture of balloons is today a USD 2.5 billion giant with products for every segment of the tyre market, from the smallest scooter tyre to tyres for giant earth movers. MRF is also the only Indian tyre company to manufacture aircraft tyres.

Cutting-edge R&D

MRF lays great emphasis on R&D and has grown to be the leader in all segments of the tyre market in India. The Corporate Technical Centre, located in Chennai, India, is responsible for materials development, process and product design and testing. The R&D centre uses the most advanced technologies for simulation, testing and design practices. It develops best-in-class tyres for Indian and International markets to exceed all aspects of customer expectation - safety, comfort and durability.

State-of-the-art manufacturing

Each of our factories is designed to rigorous standards with state-of-the-art automation and skilled technicians, to deliver tyres of the best quality every time. What started in a modest shed has grown to nine modern factories spread across India, each one geared to meet the exacting demands of our large customer base.

Global recognition

MRF has won the J.D. Power Asia Pacific Original Equipment Tyre Customer Satisfaction award a record 13 times in the last 18 years - a testament to the trust reposed in brand MRF by our customers.

A passion for motorsport

MRF is passionate about motorsports and has been associated with all forms of motorsports for over 4 decades. What started with touring car races, has led today to the power of Formula racing with India's own formula racing series - the MRF Challenge featuring the MRF Formula 2000, one of the fastest racing cars in Asia. The series has now gone international with rounds in Bahrain, Qatar, Dubai and Abu Dhabi and is now poised to make an entry into other geographies.

MRF has won 9 Asia Pacific Rally Championship (APRC) titles including the 2017 championship with the MRF-Skoda Asia Pacific Rally Championship team. In 2018, Team MRF made a limited entry into the World Rally Championship in association with the M-Sport team.

RALLY TYRES

Tyres play an extremely important role in rallying. The right type of tyre can alter the complete dynamics of the vehicle. MRF rally tyres are specially engineered for maximum performance on very high-speed rally cars. Rally tyres are designed to achieve the fastest timings as well as consistent performance throughout the rally.

The asymmetric pattern of MRF rally tyres are designed to give sufficient traction and lateral grip. These tyres have been engineered for sustained high performance. The large tread blocks enhance handling and the curvilinear pattern provides effective lateral grip during cornering.

MRF rally tyres are constructed and reinforced using premium materials on the crown and the sidewalls to withstand a high degree of impact during rallying. Rally circuits consist of different terrains and most of the sections contain loose soil, pebbles, hard pack, mud, sharp objects, rocks etc. MRF tyres are engineered to withstand these tough conditions and ensure that the driver has complete control of the car.

MRF rally compounds are specifically formulated and designed for different applications, surfaces, temperatures and weather conditions. Compound selections have to be done by the rally team based on weather conditions and track temperatures during the rally.

GRAVEL RALLY TYRE PATTERNS

ZDM2

Asymmetric and laterally oriented pattern. Aggressive pattern optimised for superior straight-line traction and cornering stability. The inside pattern gives excellent performance during acceleration and braking, while the lateral pattern gives high lateral grip during cornering.

BLOCKS & GROOVE WIDTH:

Wider groove width and more open pattern than ZDM3 and ZG2 to give the best performance on soft and very loose gravel.

ZDM3

Asymmetric and laterally oriented pattern. Optimised for superior straight-line traction and cornering stability. The inside pattern gives excellent performance during acceleration and braking, while the lateral pattern gives high lateral grip during cornering.

BLOCKS & GROOVE WIDTH:

Open pattern, good for soft and loose gravel.

ZG2

Asymmetric and curvilinear pattern. Optimised for superior straight-line traction and better cornering stability. The inside pattern gives excellent performance during acceleration and braking, while the curvilinear lateral pattern gives better lateral grip during cornering.

BLOCKS & GROOVE WIDTH:

Open pattern to give best performance on soft and loose gravel.

ZG3

Asymmetric and smooth curvilinear pattern. Optimised for improved straight line traction and gradual increase of cornering forces. The inside pattern gives excellent performance during acceleration and braking while the outer curvilinear pattern gives enhanced lateral grip during cornering. Specifically designed for puncture resistance and cut resistance.

BLOCKS & GROOVE WIDTH:

Open pattern with smooth curvilinear groove to give the best performance on soft to loose gravel.

ZGA1

Unique symmetric pattern for all-wheel fitment eliminates the need for Left and Right Hand tyres, with no compromise on performance. Wider grooves and blocks to improve the traction and stability on dirt, sand and mud, with high puncture resistance and cut resistance.

BLOCKS & GROOVE WIDTH:

Open pattern with wider block to give best performance on soft to hard pack.

ZGM

Symmetric pattern which fits on all four wheels with smaller size rims. Specially developed for front wheel drive cars. Proven pattern with button stability for straight-line traction.

ZVH1

Symmetric pattern which can fit on all four wheels. Integrated buttons and narrow-groove width pattern give the best performance on hard packs with small pebbles and rough surfaces. Lesser tread depth to give more stability on very hard packs.

ZWM2

This pattern has been specifically designed for muddy soil. Large voids help in better traction. The orientation of the tread buttons gives extra grip on slushy terrain. Narrow tread width design helps in digging into muddy soil easily to give good traction.

DRY TARMAC (ASPHALT) RALLY TYRE PATTERNS

ZTA

Designed for Asphalt / Tarmac Rally applications. Complies with latest FIA regulations. The specially designed asymmetric pattern, superior construction & compounds deliver better handling and traction in both dry and wet conditions.

ZTD2

Designed for dry tarmac (asphalt) rally/circuit racing. It's an evolution of the ZTW2 pattern with increased rigidity and durability. It can also be hand-cut and used when the tarmac is damp/wet.

WET TARMAC (ASPHALT) RALLY TYRE PATTERNS

ZWR

Specifically designed for wet tarmac conditions. Complies with FIA regulations. Optimised construction for better handling on wet tarmac. Premium tread compound and optimised pattern for water channelling, grip and handling.

ZTW1

Designed for wet/damp tarmac (asphalt) rally/circuit racing. Its 3-rib pattern with water channelling enhances the performance when the tarmac is damp.

ZTW2

Designed for wet/damp tarmac (asphalt) rally/circuit racing. Its 4-rib pattern with improved water channelling enhances the performance when the tarmac is wet.

RACING TYRES

MRF is the first Indian tyre company to design, test and market Formula 3 tyres in the Indian market after extensive testing.

MRF slick tyres are designed to meet multiple performance parameters for traction, braking, cornering and confident handling. The compound has been formulated to achieve optimum tyre temperatures quickly and give consistent performance over the whole race distance.

MRF racing tyre compounds are appreciated by many international drivers for its superior grip and outstanding performance. Compound selections are normally decided by the racing team based on the surface of the track, weather conditions, track temperatures, longevity, car weight and power of the car.

CIRCUIT RACING DRY TYRES (SLICK)

ZTD1

Stiffness of the sidewall is tuned for individual sizes according to the need of the car. A special compound is used to give optimum tyre temperature quickly and a consistent performance throughout the race.

ZTI2

Designed for dry circuit racing events and track days. This intermediate pattern can be used even when the track is a little damp. This tyre gives consistent performance with sustained grip and superior handling over multiple laps.

CIRCUIT RACING WET TYRES

ZTW4

Specifically designed for GT Car and wet/damp (asphalt) circuit racing. Compound optimised for wet grip. Good water channelling on wet tarmac.

ZTW5

Specifically designed for FORMULA-3 racing and wet/damp (asphalt) circuit racing. Compound optimised for wet grip. Good water channelling on wet tarmac.

TRACK DAY TYRES

ZTR

Uniquely designed asymmetric pattern for Track Day / Circuit Racing. E4 certified. Specialised compounds give superior handling and traction on both dry and wet surfaces. Also available for hill climbs with an optimised construction and compound.

MOTOCROSS TYRES

MRF is the pioneer of motocross tyres in India with a vast experience in conducting dirt-biking competitions all over the country. These tyres are engineered for extreme performance.

MOGRIP MOTOCROSS (MMX)

MMX

Provides a comfortable ride on the most rugged terrains. Engineered for controlled acceleration, effective braking and better cornering stability, these tyres deliver excellent traction on soft to intermediate terrains. Hump fillets connect the tread lugs and reinforce the tread blocks to give straight-line stability with the side lugs helping in cornering.

OFF-ROAD TYRES

Engineered to deliver superior off-road performance, the aggressive tread pattern of the MRF Wanderer O/R has been designed to conquer any terrain - deep dirt, mud, slush and sand.

WANDERER O/R

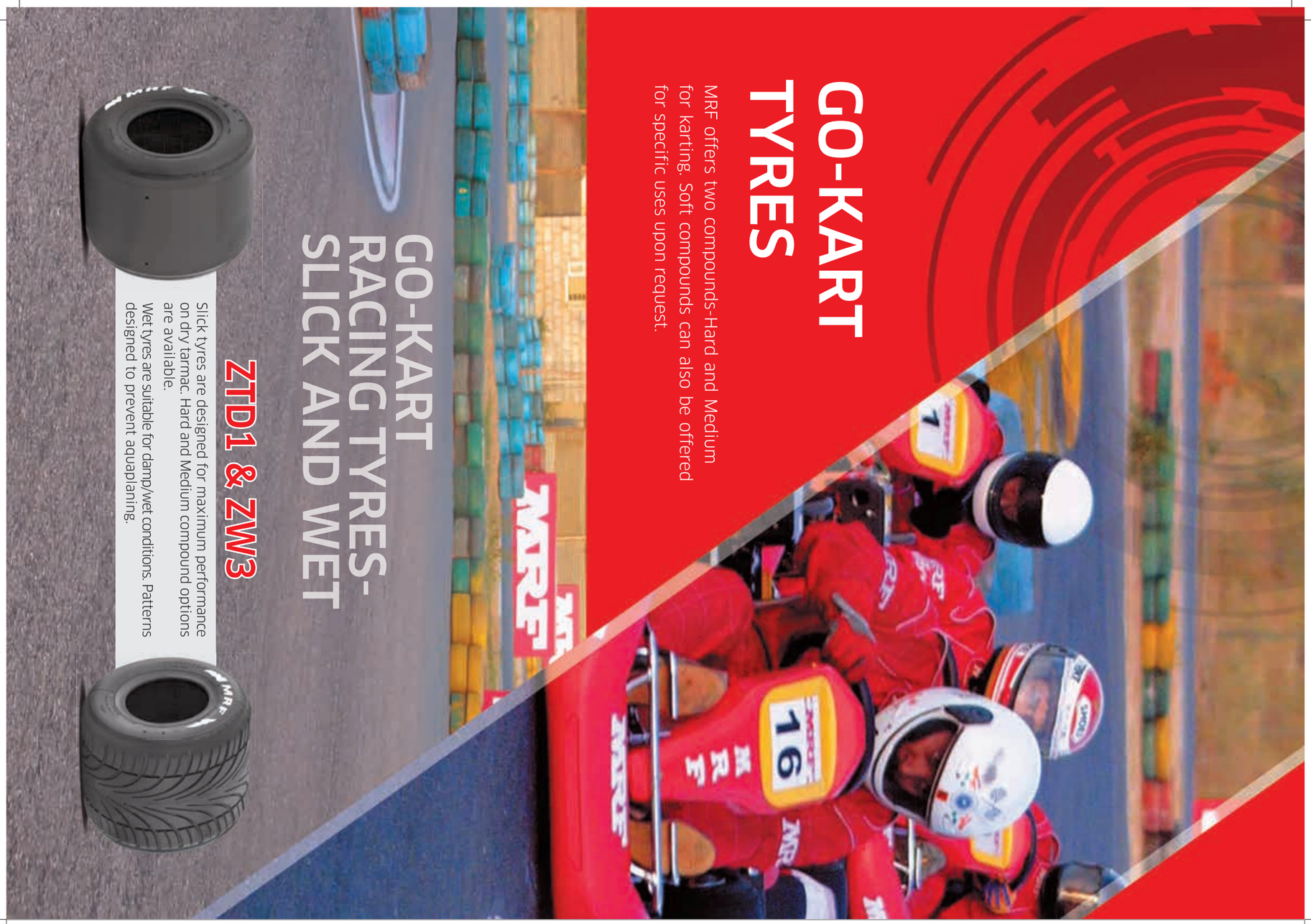
Designed with an aggressive pattern to deliver the best off-roading performance, these tyres provide excellent steering control on dirt, sand and mud, along with great rock climbing ability.

WANDERER CC

Symmetric and non-directional all-terrain pattern for all-wheel fitment. Chunky tread blocks give good traction in cross country applications. Specially reinforced sidewalls and tread for high impact / cut resistance.

BLOCKS & GROOVE WIDTH:

Wider to Narrow grooves and blocks enhance the performance on sand, mud, and loose soil.



GO-KART TYRES

MRF offers two compounds-Hard and Medium for karting. Soft compounds can also be offered for specific uses upon request.

GO-KART RACING TYRES-SLICK AND WET

ZTD1 & ZW3

Slick tyres are designed for maximum performance on dry tarmac. Hard and Medium compound options are available.

Wet tyres are suitable for damp/wet conditions. Patterns designed to prevent aquaplaning.

SI	Pattern	Tyre Size	Load index	Speed Rating	Equivalent size (For Reference)	Std Rim Width* (inch)	Section Width (mm)	Tread Width (mm)	Overall Diameter (mm)	NSD (mm)	Compound	Usage**	ECE (E4) Certified	Remarks
1	**CIRCUIT RACING - SLICK / WET / INTERMEDIATE**													
Formula 3 and Formula 4 Racing Cars: Slick and Wet														
A	ZTD1	200/540 R13	84	S	225/45 R13	8.0	225	195	540	2.8	H/M/S/SS	Dry Racing	Not Applicable	
		240/570 R13	94	S	275/45 R13	10.0	280	240	575	2.8	H/M/S/SS	Dry Racing	Not Applicable	
B	ZTW5	200/540 R13	84	S	225/45 R13	8.0	225	195	540	5.6	W	Wet Racing	Under Process	
		240/570 R13	94	S	275/45 R13	10.0	280	240	575	5.6	W	Wet Racing	Under Process	
2	**Touring Cars: Slick**													
A	ZTD1	185/60 R13	80	S	160/550 R13	5.5	185	160	550	3.4	H/M/S/SS	Dry Racing	Not Applicable	
		185/55 R14	80	S	170/565 R14	6.0	190	170	565	3.4	H/M/S/SS	Dry Racing	Not Applicable	
		180/580 R15	82	S	195/50 R15	6.0	190	175	580	3.4	H/M/S/SS	Dry Racing	Not Applicable	
		195/580 R15	86	S	205/50 R15	6.5	205	190	585	3.0	H/M/S/SS	Dry Racing	Not Applicable	
		205/55 R15	88	S	180/615 R15	6.5	215	180	615	3.4	H/M/S/SS	Dry Racing	Not Applicable	Under development
		190/625 R16	87	S	195/55 R16	6.0	195	185	630	3.4	H1/H/M	Dry Racing	Not Applicable	Under development
		190/625 R17	86	S	195/50 R17	6.0	195	185	630	3.4	H1/H/M	Dry Racing	Not Applicable	Under development
		200/605 R17	83	S	215/40 R17	7.5	210	200	605	3.4	H1/H/M	Dry Racing	Not Applicable	
		235/620 R17	89	S	255/35 R17	9.0	255	235	615	3.0	H1/H/M	Dry Racing	Not Applicable	
		240/640 R18	91	H	235/40 R18	8.5	240	230	645	3.0	H1/H/M	Dry Racing	Not Applicable	
		280/680 R18	101	Y	285/40 R18	10.0	290	275	680	3.4	H1/H/M	Dry Racing	Not Applicable	Under development
3	**Touring Cars: Wet**													
A	ZTW4	235/620 R17	89	S	255/35 R17	9.0	255	235	615	5.6	W	Wet Racing	Under Process	
B	ZTW5	185/60 R13	80	S	160/550 R13	5.5	185	160	550	5.6	W	Wet Racing	Under Process	Under development
		195/580 R15	86	S	205/50 R15	6.5	205	190	585	5.6	W	Wet Racing	Under Process	
		200/605 R17	83	S	215/40 R17	7.5	210	200	605	5.6	W	Wet Racing	Under Process	
		240/640 R18	91	H	235/40 R18	8.5	240	230	645	5.6	W	Wet Racing	Under Process	
4	**Touring Cars: Intermediate (for Dry and Wet)**													
A	ZTI2	205/60 R13	86	S	195/580 R13	6.0	210	190	575	5.6	H1/H/M/S	Dry & Wet	Under Process	
B	ZTI3	180/530-13	79	S	185/55 R13	6.0	195	175	530	5.6	H1/H/M/S	Dry & Wet	Under Process	Under development
		200/530-13	81	S	205/50 R13	6.5	215	195	530	5.6	H1/H/M/S	Dry & Wet	Under Process	Under development
		220/530-13	84	S	225/45 R13	7.5	230	215	530	5.6	H1/H/M/S	Dry & Wet	Under Process	Under development
5	**GO-KART (BIAS - TUBELESS)**													
A	ZTD1	3.6 x 10.0-5	Not Applicable		90/250-5	120	130	90	255	3.5	H	Dry	Not Applicable	Rental Karts
		7.1 x 11.0-5	Not Applicable		150/280-5	170	190	155	280	3.5	H	Dry	Not Applicable	Rental Karts
		4.5 x 10.0-5	Not Applicable		105/260-5	100	130	105	260	3.5	H/M	Dry - Racing	Not Applicable	High Speed Karts
		7.1 x 11.0-5	Not Applicable		150/270-5	178	190	155	270	3.5	H/M	Dry - Racing	Not Applicable	High Speed Karts
B	ZW3	3.6 x 10.0-5	Not Applicable		90/250-5	120	130	90	255	3.5	W	Wet	Not Applicable	Rental Karts
		7.1 x 11.0-5	Not Applicable		150/280-5	170	190	155	280	3.5	W	Wet	Not Applicable	Rental Karts

Note: *Std rim width has been specified as above. However for Optimum performance Plus 0.5'' and 1.0'' rim can be tried (Section width would increase by 5mm and 10mm respectively).

**Recommended usage given in the column. However, Customer could decide / select the right compound and right tyre based on their performance feedback.

All the above tyre dimensions are in millimeter (mm), rounded off to the nearest values unless specified in Inches. The specified dimensions are design values and are subject to change by the manufacturer at any time. Check the availability of the compound before ordering the same. Customer requirement can be met based on their choices.

1542_Racing Brochure: Close Size: w21 x h29.7 cm - Open Size: w42 x h29.7 cm

1	TRACK DAY- RACING (RADIAL - TUBELESS)													
Sl	**Pattern**	**Tyre Size**	**Load index**	**Speed Rating**	**Equivalent size (For Reference)**	**Std Rim Width* (inch)**	**Section Width (mm)**	**Tread Width (mm)**	**Overall Diameter (mm)**	**NSD (mm)**	**Compound**	**Usage****	**ECE (E4) Certified**	**Remarks**
	ZTR Series	185/60 R13	80	W	185/550 R13	5.5	190	180	550	5.8	H1/H/M	Dry & Wet	Under Process	Under development
		185/55 R14	80	V	185/560 R14	6.0	195	185	560	5.8	H1/H/M	Dry & Wet	Yes	
		195/50 R15	82	V	190/580 R15	6.0	195	185	580	5.8	H1/H/M	Dry & Wet	Yes	
		225/45 R15	87	W	215/585 R15	7.5	225	210	585	5.8	H1/H/M	Dry & Wet	Under Process	Under development
		195/50 R16	84	W	190/600 R16	6.0	195	185	600	5.8	H1/H/M	Dry & Wet	Yes	
		225/45 R16	89	W	215/610 R16	7.5	225	210	610	5.8	H1/H/M	Dry & Wet	Under Process	Under development
		215/45 R17	87	W	215/625 R17	7.0	220	210	625	5.8	H1/H/M	Dry & Wet	Yes	
		235/40 R17	90	W	230/620 R17	8.5	240	230	620	5.8	H1/H/M	Dry & Wet	Yes	
		235/45 R17	94	W	220/645 R17	8.0	240	230	645	5.8	H1/H/M	Dry & Wet	Under Process	
		235/40 R18	91	W	215/650 R18	8.0	230	210	645	5.8	H1/H/M	Dry & Wet	Yes	
		245/40 R18	93	W	230/655 R18	8.5	240	230	655	5.8	H1/H/M	Dry & Wet	Under Process	
		265/35 R18	93	W	260/640 R18	9.5	270	255	645	5.8	H1/H/M	Dry & Wet	Yes	
		295/30 R18	94	Y	280/635 R18	10.5	295	290	635	5.8	H1/H/M	Dry & Wet	Yes	
2	**HILL CLIMB- RACING (RADIAL - TUBELESS)**													
	ZTR Series	# For HILL CLIMB APPLICATION, TYRES CAN BE SUPPLIED FROM ZTR Series from the list of the above sizes in a Hill Climb Compound												
3	**TARMAC RALLY (RADIAL - TUBELESS)**													
	ZTA Series	185/60 R13	80	W	185/550 R13	5.5	190	180	550	5.8	H1/H/M	Dry & Wet	Under Process	Under development
		185/55 R14	80	V	185/560 R14	6.0	195	185	560	5.8	H1/H/M	Dry & Wet	Yes	
		225/45 R15	87	W	215/585 R15	7.5	225	210	585	5.8	H1/H/M	Dry & Wet	Under Process	Under development
		225/45 R16	89	W	215/610 R16	7.5	225	210	610	5.8	H1/H/M	Dry & Wet	Under Process	Under development
		215/45 R17	87	W	215/625 R17	7.0	220	210	625	5.8	H1/H/M	Dry & Wet	Yes	
		235/40 R17	90	W	230/620 R17	8.5	240	230	620	5.8	H1/H/M	Dry & Wet	Yes	
		235/45 R17	94	W	220/645 R17	8.0	240	230	645	5.8	H1/H/M	Dry & Wet	Under Process	
		245/40 R18	93	W	230/655 R18	8.5	240	230	655	5.8	H1/H/M	Dry & Wet	Under Process	
		265/35 R18	93	W	260/640 R18	9.5	270	255	645	5.8	H1/H/M	Dry & Wet	Yes	
		295/30 R18	94	Y	280/635 R18	10.5	295	290	635	5.8	H1/H/M	Dry & Wet	Yes	

4	TARMAC RALLY SIZES (RADIAL - TUBELESS) - FIA Compliant												
Sl	**Pattern**	**Tyre Size**	**Load index**	**Speed Rating**	**Equivalent size (For Reference)**	**Std Rim Width* (inch)**	**Class**	**Tread Width (mm)**	**Overall Diameter (mm)**	**NSD (mm)**	**Compound**	**Usage****	**ECE (E4) Certified**	**Remarks**
A	ZTA Series	195/50 R15	82	V	190/580 R15	6.5	200 (<8.0")	185	580	5.8	H1/H/M/W	Dry & Wet	Yes	
		195/50 R16	84	W	195/600 R16	6.5	200 (<8.0")	185	600	5.8	H1/H/M/W	Dry & Wet	Yes	
		205/45 R17	84	W	195/620 R17	7.0	200 (<8.0")	190	620	5.8	H1/H/M/W	Dry & Wet	Under Process	
		235/40 R18	91	W	225/650 R18	8.0	225 (<9.0")	210	645	5.8	H1/H/M/W	Dry & Wet	Yes	
B	ZWR1	235/40 R18	91	W	225/650 R18	8.0	225 (<9.0")	210	645	5.8	W	Wet	Under Process	Under development
5	**Tarmac Rally Sizes (RADIAL TUBELESS) for Other Category of Cars**													
A	ZTW1	175/60 R13	77	S	155/535 R13	5.0	170	150	535	6.0	H1/H/M/W	Dry & Wet	Under Process	
B	ZTW2	185/55 R14	80	S	170/560 R14	5.5	190	170	555	5.6	H1/H/M/W	Dry & Wet	Yes	
C	ZTD2	185/60 R15	84	S	175/600 R15	5.5	195	175	600	5.6	H1/H/M	Dry	Yes	
D	ZTI3	180/530-13	79	S	185/55 R13	6.0	195	180	530	5.6	H1/H/M/S	Dry & Wet	Under Process	Under development
		200/530-13	81	S	205/50 R13	6.5	215	200	530	5.6	H1/H/M/S	Dry & Wet	Under Process	Under development
		220/530-13	84	S	225/45 R13	7.5	235	220	530	5.6	H1/H/M/S	Dry & Wet	Under Process	Under development

Note: *Std rim width has been specified as above. However for Optimum performance Plus 0.5'' and 1.0'' rim can be tried (Section width would increase by 5mm and 10mm respectively).
**Recommended usage given in the column. However, Customer could decide / select the right compound and right tyre based on their performance feedback.
All the above tyre dimensions are in millimeter (mm), rounded off to the nearest values unless specified in Inches. The specified dimensions are design values and are subject to change by the manufacturer at any time. Check the availability of the compound before ordering the same. Customer requirement can be met based on their choices.

1	GRAVEL RALLY (RADIAL - TUBELESS)														
Sl	**Pattern**	**Tyre Size**	**Load index**	**Speed Rating**	**Left / Right**	**Std Rim Width* (inch)**	**Section Width (mm)**	**Tread Width (mm)**	**Overall Diameter (mm)**	**NSD (mm)**	**Compound**	**Usage** Gravel surface**	**Groove Width**	**ECE (E4) Certified**	**Remarks**
A	ZG2	205/65 R15	94	S	L/R	6.0	205	185	650	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
B	ZG3	205/65 R15	94	S	L/R	6.0	205	180	645	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
C	ZDM2	185/70 R13	86	S	L/R	5.5	190	165	590	11.2	H/M/S/SS	V.soft to Medium	Wider	Yes	
		195/60 R15	88	S	L/R	6.0	195	170	615	11.2	H/M/S/SS	V.soft to Medium	Wider	Yes	
		205/65 R15	94	S	L/R	6.0	205	185	645	11.2	H/M/S/SS	V.soft to Medium	Wider	Yes	
D	ZDM3	175/70 R13	82	S	L/R	5.0	175	150	575	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		195/70 R13	89	S	L/R	6.0	200	165	605	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		185/70 R13	86	S	L/R	5.5	185	155	590	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		175/65 R14	82	S	L/R	5.0	180	145	585	11.2	H/M/S/SS	Soft to Medium	Medium	Under Process	
		185/60 R14	82	S	L/R	5.5	185	150	580	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		185/65 R14	86	S	L/R	5.5	185	155	595	11.2	H/M/S/SS	Soft to Medium	Medium	Under Process	
		175/70 R15	86	S	L/R	5.0	175	150	625	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		185/65 R15	88	S	L/R	5.5	185	155	620	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		195/65 R15	91	S	L/R	6.0	195	165	635	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		195/70 R15	92	S	L/R	6.0	205	170	650	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
		205/65 R15	94	S	L/R	6.0	205	180	645	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
	ZWM2	205/65 R15	94	S	NA	6.0	205	135	645	11.6	H/M/S/SS	Wet and Mud	Broader & Wider	Yes	
E	ZGA1	225/60 R17	99	S	NA	6.5	225	210	705	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
F	ZGM	175/70 R13	82	S	NA	5.0	180	150	570	11.2	H/M/S/SS	Soft to Medium	Medium	Yes	
G	ZVH1	185/60 R14	82	S	NA	5.5	185	150	575	7.0	M / S	"V.Hard with small Pebbles"	Narrow	Yes	
		185/65 R15	88	S	NA	5.5	185	150	620	9.2	M / S		Narrow	Yes	
		195/65 R15	91	S	NA	6.0	200	165	630	7.0	M / S	"V.Hard with small Pebbles"	Narrow	Yes	
		205/65 R15	94	S	NA	6.0	205	170	640	9.2	M / S		Narrow	Yes	

2	OFF-ROAD and CROSS COUNTRY (RADIAL TUBELESS)												
Sl	**Pattern**	**Tyre Size**	**Load index**	**Speed Rating**	**Equivalent size**	**Section Width (mm)**	**Tread Width (mm)**	**Overall Diameter (mm)**	**NSD (mm)**	**Compound**	**Usage***	**ECE (E4) Certified**	**Remarks**
A	Wanderer C/C	185/80 R16	102	S	28 x 7.5 R16	190	160	700	12.0	H/M	Cross country	Under Process	
		205/80 R16	100	S	29 x 8.0 R16	205	175	735	12.0	H/M	Cross country	Under Process	Under development
B	Wanderer O/R	255/80 R15	112	P	31 x 10 R15	255	215	790	15.0	H/M	Off Roading	Yes	
		235/70 R16	105	P	29 x 9.5 R16	235	195	740	15.0	H/M	Off Roading	Yes	
		235/80 R16	109	P	31 x 9.5 R16	235	200	790	15.0	H/M	Off Roading	Yes	

3	MOTOCROSS (BIAS-TUBELESS Can be fitted with Tube also if warranted)													
Sl	**Pattern**	**Tyre Size**	**Load index**	**Speed Rating**	**Front / Rear**	**Std Rim Width* (inch)**	**Section Width (mm)**	**Tread Width (mm)**	**Overall Diameter (mm)**	**NSD (mm)**	**Compound**	**Usage***	**Remarks**	**ECE (E4) Certified**	**Remarks**
A	MMX1	2.75-18	Not Applicable		Front	1.85"	75	90	625	10.2	H/M	Mocross	FRONT	Not Applicable	
B	MMX2	3.25-16	Not Applicable		Rear	2.15"	90	100	600	11.5	H/M	Mocross	REAR	Not Applicable	
	MMX2	100/90-19	Not Applicable		Rear	2.50"	115	145	675	15.5	H/M	Mocross	REAR	Not Applicable	
C	MMX3	80/100-21	Not Applicable		Front	1.85"	95	120	710	10.2	H/M	Mocross	FRONT	Not Applicable	
D	MMX4	110/90-19	Not Applicable		Rear	2.50"	105	155	690	15.5	H/M	Mocross	REAR	Not Applicable	Under development

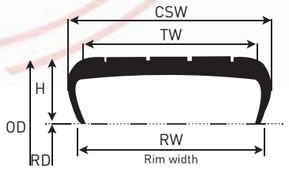
Note: *Std rim width has been specified as above. However for Optimum performance Plus 0.5'' and 1.0'' rim can be tried (Section width would increase by 5mm and 10mm respectively).
**Recommended usage given in the column. However, Customer could decide / select the right compound and right tyre based on their performance feedback.
All the tyre dimensions are in millimeter (mm), rounded off to the nearest values. The specified dimensions are design values and are subject to change by the manufacturer at any time. Check the availability of the compound before ordering the same. Customer requirement can be met based on their choices.

TECHNICAL INFORMATION

TYRE SIZING / MARKING OF RACING AND RALLY TYRES

Tyre Identification

The marking on the side of the tyre tells us the basic size of the tyre, the rim diameter and the width of the rim. We will illustrate how to read the different types of markings that may appear on the side of rally/racing tyres.



CSW	OD		RD
Nominal cross section width expressed in mm	Nominal external diameter expressed in mm		Nominal rim diameter expressed in inches
↓	↓		↓
240	640		18
CSW	Aspect Ratio (AR)	R	RD
Nominal cross section width expressed in mm	The ratio between the section height and the nominal section width (H/CSW) in mm	Radial construction	Nominal rim diameter expressed in inches
↓	↓	↓	↓
205	65	R	15

Rally Tyre Sizing – Eg. 205/65 R15

where,

205 is the CSW of the tyre in mm
65 is the aspect ratio
R – Radial construction
15 – Nominal rim diameter in inches

Racing Tyre Sizing (Classification 1) – Eg. 200/540-13

where,

200 is the TW of the tyre in mm
540 is the OD of the tyre in mm
13 - Nominal rim diameter in inches

Racing Tyre Sizing (Classification 2) – Eg. 240/640 -18

where,

240 is the CSW of the tyre in mm
640 is the OD of the tyre in mm
18 – Nominal rim diameter in inches

USER INFORMATION

TYRE STORAGE: Tyres should be stored in a cool, dry and dark place away from direct sunlight (Suggested storage temperature: 25°C ± 5°C). Avoid storing tyres in an area which is wet, oily or greasy.

RIMS: Recommended width of the wheel as specified to be used for optimum performance. However, from the original specified rim width ± 0.5'' can also be used. ETRTO/JATMA standards can be referred for the correct rim width.

TYRE MOUNTING AND REMOVAL: Mounting/demounting should be done by trained personnel using a suitable mounting machine. Prior to fitment, inspect the rim and tyres for any external damage. Tyres have to be mounted according to the direction of rotation specified on the sidewall. The rim seating area and tyre beads should be lubricated. Recommended tyre pressure to be followed. Check for the proper seating of the beads and tyre centring with reference to RCR (Rim Centre Ring) after inflation. Balancing of the tyres must be done.

LEFT & RIGHT: Directional pattern tyres must be used on the correct side. Left or Right and Outer side marking on the sidewall must be followed for best performance.

HAND-CUT TREAD PATTERN: Groove width between the pattern blocks can be widened if required. However, hand cutting the buttons could alter the performance. Hence a careful decision is to be made based on the terrain conditions.

Gravel Rally - Compound Selection Guide

Compound			Track Surface			Conditions			Track Temperature °C								
Hardness	Working Temp.	Mud/ Slush	Soft/ Sand	Medium/ Packed	Hard/ Rocky	Wet	Damp	Dry	-5	0	5	10	15	25	30	35	40+
Hard (H)	70 - 120°C																
Medium (M)	60 - 110°C																
Soft (S)	25 - 80°C																
Wet (W)	20 - 90°C																

Tarmac (Asphalt)/Circuit Racing - Compound Selection Guide

Compound		Track Surface			Conditions			Track Temperature °C								
Hardness	Working Temp.	Smooth	Medium	Rough	Wet	Damp	Dry	-5	0	5	10	20	25	30	35	40+
Hard (H)	80 - 130°C															
Medium (M)	50 - 110°C															
Soft (S)	40 - 90°C															
Super Soft (SS)	25 - 80°C															
Wet (W)	20 - 90°C															

COMPOUND HARDNESS MARKING: Rally tyre and racing tyre compounds are designed for different applications, usage, weather conditions and track temperatures. Compound hardness is identified by H (Hard compound), M (Medium compound), S (Soft compound), SS (Super Soft compound) and W (Wet compound).

RECOMMENDATIONS FOR CORRECT MAINTENANCE AND USE OF TYRES IN COLD ENVIRONMENTS

MRF Motorsport tyres contain high performance rubber compounds and require special treatment when exposed to low temperatures (below 50˚F / 10˚C). At these temperatures the tyre has reduced flexibility which can result in cracking of the compound if the tyre is not handled correctly.

IN ORDER TO AVOID DAMAGE TO THE COMPOUND AT LOW TEMPERATURES, PLEASE FOLLOW THE INSTRUCTIONS BELOW:

1. Before fitting on a wheel rim the tyres should be stored in a controlled environment at a minimum temperature of 68˚F / 20˚C for at least 24 hours.
2. These tyres should always be stored at a temperature above 50˚F / 10˚C.
3. During prolonged periods of non-use the tyres should be removed from the vehicle. If stored / fitted on the wheel air pressure must be reduced by 50%. Do not move the vehicle after reducing the air pressure, as this may cause the compound to crack.

WARNING

ALWAYS mount tyres only on rims which are undamaged, smooth and clean.

ALWAYS be sure that the tyre bead diameter is the same as the nominal rim diameter on which it will be mounted. The beads cannot be forced out against rim flanges by using more air pressure because this will break the beads and the tyre will explode with force sufficient to cause serious injury or death.

NEVER force the bead(s) over the rim flange or use sharp-edged or improper tools that could damage the bead(s) or other parts of the tyre. When passing tyre beads over the rim flange, ensure as much as possible of the bead already over the rim flange, is sitting in the wheel well.

ALWAYS inflate the tyre without the valve core inserted into the valve stem. Inflation air should be as dry as possible. ALWAYS inflate tyres in a safety cage or with another restraint device. NEVER inflate beyond 40 psi to seat the beads during tyre fitment.

NEVER modify any portion of a MRF racing or competition tyre, such as (but not limited to) by chemically treating the tread compound ("soaking" or "softening" the tread). Any modification could result in premature or catastrophic tyre failure leading to personal injury or death.

EXCLUSION OF WARRANTY

MRF Limited makes NO WARRANTIES WHATSOEVER, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE for its racing or competition tyres. MRF EXPRESSLY DISCLAIMS ALL SUCH WARRANTIES. In no event shall MRF be liable for any kind of general, special, direct, indirect or consequential damages including loss of profits, personal injury etc. arising from the use of its racing or competition tyres. All MRF racing and competition tyres are sold AS IS WHERE IS. Purchasers and users ASSUME ALL RISKS associated with the use of MRF racing and competition tyres.

NEVER USE RACING OR COMPETITION TYRES NOT BEARING THE "E" MARK (OR ANY OTHER LEGAL REQUIREMENT IN THE COUNTRY OF USE) ON PUBLIC STREETS OR HIGHWAYS: IT IS ILLEGAL AND DANGEROUS. NEVER USE A RACING OR COMPETITION TYRE ON PUBLIC STREETS OR HIGHWAYS WHICH HAS BRANDING ON ITS SIDEWALL "Not for Highway Use" OR "For Competition Purpose'': IT IS ILLEGAL AND DANGEROUS. MRF RACING and COMPETITION TYRES WHICH ARE NOT MEANT FOR ORDINARY ROAD USE AND DO NOT BEAR AN "E" MARK ARE DESIGNED AND COMPOUNDED EXCLUSIVELY FOR COMPETITION USE ONLY. These tyres are NOT tested, labelled or intended to meet FMVSS 109/119 or ECE 30/75.

Sellers, purchasers and users of MRF racing and competition tyres agree to defend, indemnify and hold harmless MRF Ltd., its officials and business associates, from every type of risk, loss, injury, damage, legal proceedings of whatever kind of nature, which MRF Ltd. may incur or suffer as a result of the improper sale, installation or use of MRF racing and competition tyres.

Any dispute with regard to this warranty/exclusion of warranty statement and claims if any, against the products shall be exclusively governed by the laws of the Republic of India, and subject to the exclusive jurisdiction of the courts in Chennai, India.