



**The Winning
Edge**



*The tyres we race are
the tyres you buy*



MRF

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**MRF
TYRES**
Tyres with Muscle

**MOTORSPORT TYRES
CATALOGUE 2023-24**



Mr. Arun Mammen,
Vice Chairman & Managing Director, MRF Ltd,
and FIA President Mr. Mohammed Ben Sulayem
with the 2022 ERC Championship trophy.

MRF-Adding Muscle to Motorsport Tyres

MRF - India's largest tyre manufacturer has a rich and varied history, 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 is the leader in all segments of the tyre market in India. The R&D Centres, located in India are responsible for materials development, process and product design and testing. MRF uses the most advanced technologies for simulation, testing and design practices. This gives

us best-in-class tyres for Indian and International markets to exceed in 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. Today MRF has ten modern factories spread across India, each one geared to meet the exacting demands of our large customer base.

Global Ranking

MRF is ranked amongst the Top 20 Tyre Manufacturers of the World and supplies to all OEM's in India.

A Passion for Motorsport

MRF is passionate about motorsports and has been associated with all forms of motorsports for over 4 decades. MRF has won 9 Asia Pacific Rally Championship (APRC) titles with the MRF-Skoda Asia Pacific Rally Championship team. In 2022 Team MRF won the Drivers', Co-drivers' and Teams Championship at the FIA European Rally Championship (ERC) and the 2022 C.I.R.A Championship (Italian Tarmac Championship).

EV Ready

MRF's commitment to sustainability and the environment has resulted in a range of EV tyres for passenger cars under the **MRF ECOTRED** brand. This technology is available for a range of products manufactured by MRF.



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



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.



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.



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.



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.

GRAVEL RALLY TYRE PATTERNS



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 gives 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.

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.



ZWI1

Specifically designed for damp tarmac conditions with much wider shoulder blocks. Designed as per FIA norms and regulations. Optimised construction for better handling on damp tarmac surface with premium tread compound for better grip.



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

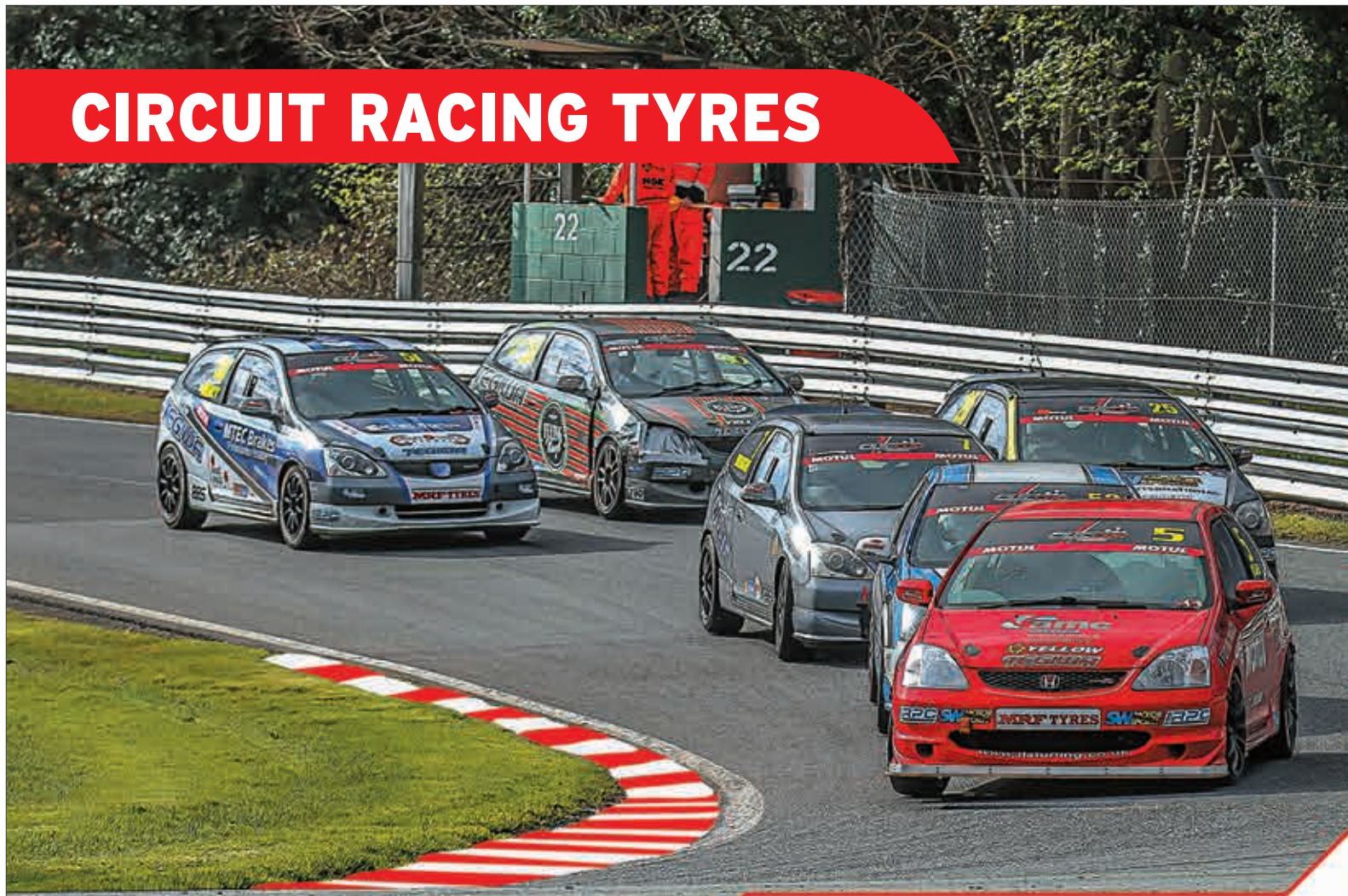
MRF is the first Indian tyre company to design, test and market Formula 3 tyres in the Indian market after extensive testing.

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. Global Racing Teams are also potential customers. 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 TYRES



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.



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.

CIRCUIT RACING TYRES



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.

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)

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. MRF's range of product offerings for this segment are being enhanced.

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 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.

WANDERER O/R



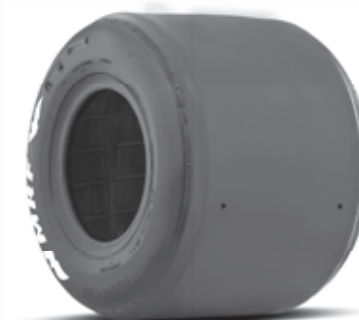
Designed with an aggressive pattern to deliver the best off-roading performance, these tyres provide excellent steering control on dirt, sand and mud, along with great rock climbing ability.



Go-Kart Tyres

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. MRF offers specialized products for Racing, Recreational / Entertainment, Mall Go-Karting segments also.

OTHER MOTORSPORTS TYRE OFFERINGS



SLICK TWO-WHEELER MOTORCYCLE TYRES

MRF's slick two-wheeler motorcycle tyres have been well received by the racing community in India.

Available sizes:
90/80 R17
110/70 R17
130/70 R17
150/60 R17



STUDENT FORMULA

MRF Racing Tyre expertise has been extended to help the Student Formula community in India. Students from Engineering Colleges are innovating in EV's and MRF supports the efforts.

Available sizes:
18 x 6.0-10 ZTD1
18 x 7.5-10 ZTD1



ALL-TERRAIN VEHICLES (ATV)

MRF's extensive knowledge of All-Terrain tyres has been used to develop All-Terrain tyres for ATV's

Available sizes:
25 x 8-12
25 x 10-12



KART CROSS

Kart Cross is a new segment which requires specialized tyres, MRF is present in all categories.

Available sizes:
165/70-10
225/50-10

CIRCUIT RACING - SLICK / WET / INTERMEDIATE

Formula 3 and Formula 4 Racing Cars: Slick and Wet

SI	Brand / 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	Application**	ECE (E4) Certified	Remarks
A	ZTD1	200/540 R13	84	V	225/45 R13	8.0	225	195	540	2.8	H/M/S/SS	Dry Racing	NA	
		240/570 R13	94	V	275/45 R13	10.0	280	245	575	2.8	H/M/S/SS	Dry Racing	NA	
	ZTW5	200/540 R13	84	S	225/45 R13	8.0	225	195	540	5.6	W	Wet Racing	YES	
		240/570 R13	94	S	275/45 R13	10.0	280	245	575	5.6	W	Wet Racing	YES	
2	Touring Cars: Slick													
A	ZTD1	160/550 R13	80	S	185/60 R13	5.5	180	160	555	5.4	H/M/S/SS	Dry Racing	NA	Under development
		170/560 R14	80	S	185/55 R14	6.0	190	170	565	3.4	H/M/S/SS	Dry Racing	NA	Under development
		180/580 R15	82	S	195/50 R15	6.0	190	175	580	5.4	H/M/S/SS	Dry Racing	NA	
		195/580 R15	86	S	205/50 R15	6.5	200	190	585	3.0	H/M/S/SS	Dry Racing	NA	
		200/605 R17	83	S	215/40 R17	7.5	210	200	605	3.4	H/M/S/SS	Dry Racing	NA	
		235/620 R17	89	S	255/35 R17	9.0	255	235	620	3.0	H/M/S/SS	Dry Racing	NA	
		240/640 R18	91	H	235/40 R18	8.5	245	230	645	3.0	H/M/S/SS	Dry Racing	NA	
		280/680 R18	101	Y	285/40 R18	10.0	290	275	680	3.5	H/M/S/SS	Dry Racing	NA	Under development
3	Touring Cars: Wet													
A	ZTW4	235/620 R17	89	S	255/35 R17	9.0	255	235	620	5.6	W	Wet Racing	-	
B	ZTW5	195/580 R15	86	S	205/50 R15	6.5	200	190	585	5.6	W	Wet Racing	-	
		200/605 R17	83	S	215/40 R17	7.5	210	200	605	5.6	W	Wet Racing	YES	
		240/640 R18	91	H	235/40 R18	8.5	245	230	645	5.6	W	Wet Racing	-	
4	Touring cars: Intermediate (for Dry and Damp)													
A	ZTI2	185/60 R13	80	H	175/550 R13	5.5	190	175	550	5.8	H/M/S/SS	Dry to Damp	-	
		205/60 R13	86	H	195/580 R13	6.0	210	190	575	5.8	H/M/S/SS	Dry to Damp		

GO-KART (BIAS - TUBELESS)

5	SI	Brand / Pattern	Tyre Size	Load index	Speed Rating	Equivalent size (For Reference)	Std Rim Width* (mm)	Section Width (mm)	Tread Width (mm)	Overall Diameter (mm)	NSD (mm)	Compound	Application**	ECE (E4) Certified	Remarks
	A	ZD1	4.5 x 10.0-5		NA	105/250-5	120	130	105	260	3.5	H	Dry	NA	Rental Karts-Under Development
			6.0 x 11.0-5		NA	135/270-5	170	175	135	270	3.5	H	Dry	NA	Rental Karts-Under Development
			7.1 x 11.0-5		NA	150/270-5	170	190	155	270	3.5	H	Dry	NA	Rental Karts
			3.6 x 10.0-5		NA	90/250-5	120	130	90	250	3.5	H	Dry	NA	Rental Karts
		ZTD1	4.5 x 10.0-5		NA	105/250-5	120	130	105	260	3.5	M	Dry	NA	Racing Karts
			7.1 x 11.0-5		NA	150/270-5	178	190	155	270	3.5	M	Dry	NA	Racing Karts
			3.6 x 10.0-5		NA	90/250-5	120	130	90	250	3.5	W	Wet	NA	Rental/Racing Karts
			7.1 x 11.0-5		NA	150/270-5	170	190	155	280	3.5	W	Wet	NA	Rental/Racing Karts

STUDENT - FORMULA CAR

STUDENT - FORMULA CAR														
SI	Brand / 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	Application**	ECE (E4) Certified	Remarks
A	ZTD1	18.0 x 6.0-10	NA	NA	165/460-10	6.5	205	160	460	3.2	M/S	Dry Racing	NA	
		18.0 x 7.5-10	NA	NA	190/460-10	8.0	240	190	470	3.2	M/S	Dry Racing	NA	
B	ZTW5	18.0 x 6.0-10	NA	NA	165/460-10	6.5	205	160	460	3.5	M/S	WET	--	Under development

Note to Customers:

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The specified dimensions are design values and are subject to change by the manufacturer at any time and also Speed rating is subject to change.
Equivalent size given for reference only for the customers to know. However, Dual branding may not be available in the sidewall branding in some sizes.
*Std rim width has been specified as above. However for the Optimum performance Plus rim size 0.5" or 1.0" can be tried (Section width would increase by 5mm / 10mm respectively).
**Recommended application given in the column. However, Customer could decide / select the right compound and right tyre based on their performance feedback / Weather conditions.

GRAVEL RALLY (RADIAL - TUBELESS)

1	Sl	Brand / 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	Application**	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 Med (CL)	Yes	Yes	
		175/70 R15	86	S	L/R	5.0	175	165	630	11.2	H/M/S/SS	Medium to Hard (CL-Curve Linear)	Yes	Yes	
B	ZG3	195/65 R15	91	S	L/R	6.0	195	165	635	11.2	H/M/S/SS		Yes	Yes	
		205/65 R15	94	S	L/R	6.0	205	180	645	11.2	H/M/S/SS		Yes	Yes	
C	ZDM2	185/70 R13	86	S	L/R	5.5	190	165	590	11.2	H/M/S/SS		Yes	Yes	
		195/60 R15	88	S	L/R	6.0	195	170	615	11.2	H/M/S/SS	Very Loose Gravel	Yes	Yes	
		205/65 R15	94	S	L/R	6.0	205	185	645	11.2	H/M/S/SS		Yes	Yes	
		165/80 R13	83	S	L/R	4.5	165	140	595	11.2	H/M/S/SS		Yes	Yes	
		175/70 R13	82	S	L/R	5.0	175	150	575	11.2	H/M/S/SS		Yes	Yes	
		185/70 R13	86	S	L/R	5.5	185	155	590	11.2	H/M/S/SS		Yes	Yes	
		195/70 R13	89	S	L/R	6.0	200	165	605	11.2	H/M/S/SS		Yes	Yes	
		175/65 R14	82	S	L/R	5.0	175	150	585	11.2	H/M/S/SS		Yes	Yes	
D	ZDM3	185/60 R14	82	S	L/R	5.5	185	150	580	11.2	H/M/S/SS	Loose to Medium Gravel	Yes	Yes	
		185/65 R14	86	S	L/R	5.5	185	155	595	11.2	H/M/S/SS		Yes	Yes	
		175/70 R15	86	S	L/R	5.0	175	150	625	11.2	H/M/S/SS		Yes	Yes	
		185/65 R15	88	S	L/R	5.5	185	155	620	11.2	H/M/S/SS		Yes	Yes	
		195/65 R15	91	S	L/R	6.0	195	165	635	11.2	H/M/S/SS		Yes	Yes	
		195/70 R15	92	S	L/R	6.0	200	170	650	11.2	H/M/S/SS		Yes	Yes	
		205/65 R15	94	S	L/R	6.0	205	180	645	11.2	H/M/S/SS		Yes	Yes	
		205/65 R15	94	S	NA	6.0	205	135	645	11.6	H/M/S/SS	Wet and Mud	Yes	Yes	
F	ZGA1	225/60 R17	99	S	NA	6.5	225	210	705	11.2	H/M/S/SS	Soft to Medium	Yes	Yes	
G	ZGM	175/70 R13	82	S	NA	5.0	180	150	570	11.2	H/M/S/SS	Soft to Medium	Yes	Yes	
		185/60 R14	82	S	NA	5.5	185	150	575	7.0	M / S		Yes	Yes	
		185/65 R15	88	S	NA	5.5	185	150	620	9.2	M / S		Yes	Yes	
H	ZVH1	195/65 R15	91	S	NA	6.0	200	165	630	7.0	M / S	Very Hard Gravel	Yes	Yes	
		205/65 R15	94	S	NA	6.0	205	170	640	9.2	M / S		Yes	Yes	

OFF-ROAD / CROSS COUNTRY / MUD CROSS (RADIAL - TUBELESS)

2	Sl	Brand / Pattern	Tyre Size	Load index	Speed Rating	Equivalent size	Std Rim Width* (inch)	Section Width (mm)	Tread Width (mm)	Overall Diameter (mm)	NSD (mm)	Compound	Application**	ECE (E4) Certified	Remarks
A	Wanderer O/R	255/80 R15	112	P	31 x 10 R15	7.0	255	215	790	14.5	H/M	Off roading	Yes	Yes	BIS-Under Process
		235/70 R16	105	P	29 x 9.5 R16	6.5	235	195	740	14.5	H/M	Off roading	Yes	Yes	BIS certified
		235/80 R16	109	Q	31 x 9.5 R16	6.5	235	200	790	14.5	H/M	Off roading	Yes	Yes	BIS certified
B	Wanderer C/C	185/80 R16	102	S	28 x 7.5 R16	5.0	190	160	700	11.8	H/M	Cross country	Yes	Yes	BIS-Under Process
		205/80 R16	104	H	29 x 8.0 R16	5.5	205	175	735	11.8	H/M	Cross country	-	-	BIS-Under Process
C	Wanderer M/C	185/80 R16	102	S	28 x 7.5 R16	5.0	190	160	700	15.6	H/M	MUD and SAND	-	-	BIS-Under Process
		205/80 R16	104	H	29 x 8.0 R16	5.5	205	175	735	15.6	H/M	MUD and SAND	-	-	Under Development

Note to Customers:

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The specified dimensions are design values and are subject to change by the manufacturer at any time and also Speed rating is subject to change.
Equivalent size given for reference only for the customers to know. However, Dual branding may not be available in the sidewall branding in some sizes.
*Std rim width has been specified as above. However for the Optimum performance Plus rim size 0.5" or 1.0" can be tried (Section width would increase by 5mm / 10mm respectively).
**Recommended application given in the column. However, Customer could decide / select the right compound and right tyre based on their performance feedback / Weather conditions.

TRACK DAY - RACING (RADIAL - TUBELESS)															
1	SI	Brand / 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	Application**	ECE (E4) Certified	Remarks
A	ZTR Series (TRACK DAY)		185/60 R13	80	H	185/550 R13	5.5	190	180	550	5.8	H/M/S/SS	Dry / Damp	Yes	
			185/55 R14	80	V	185/560 R14	6.0	195	185	560	5.8	H/M/S/SS	Dry / Damp	Yes	
			195/50 R15	82	V	190/580 R15	6.0	195	185	580	5.8	H/M/S/SS	Dry / Damp	Yes	
			225/45 R15	87	W	215/585 R15	7.5	225	215	585	5.8	H/M/S/SS	Dry / Damp	Yes	
			195/50 R16	84	W	190/600 R16	6.0	195	185	600	5.8	H/M/S/SS	Dry / Damp	Yes	
			225/45 R16	89	W	215/610 R16	7.5	225	215	610	5.8	H/M/S/SS	Dry / Damp	Yes	
			205/45 R17	84	W	195/620 R17	7.0	200	190	620	5.8	H/M/S/SS	Dry / Damp	Yes	
			215/45 R17	87	W	210/625 R17	7.0	220	215	625	5.8	H/M/S/SS	Dry / Damp	Yes	
			225/45 R17	91	W	215/635 R17	7.5	225	215	635	5.8	H/M/S/SS	Dry / Damp	Yes	
			235/40 R17	90	W	230/620 R17	8.5	240	230	620	5.8	H/M/S/SS	Dry / Damp	Yes	
			235/45 R17	94	W	230/645 R17	8.0	240	230	645	5.8	H/M/S/SS	Dry / Damp	Yes	
			235/40 R18	91	W	230/645 R18	8.5	235	210	645	5.8	H/M/S/SS	Dry / Damp	Yes	
			245/40 R18	93	W	230/655 R18	8.5	240	235	650	5.8	H/M/S/SS	Dry / Damp	Yes	
			265/35 R18	93	W	260/640 R18	9.5	270	255	645	5.8	H/M/S/SS	Dry / Damp	Yes	
			285/30 R18	93	Y	280/630 R18	10	290	280	630	5.8	H/M/S/SS	Dry / Damp	Yes	
		295/30 R18	94	Y	290/635 R18	10.5	295	290	635	5.8	H/M/S/SS	Dry / Damp	Yes		
		235/35 R19	87	Y	230/645 R19	8.5	235	230	645	5.8	H/M/S/SS	Dry / Damp	Yes		
		265/35 R19	94	Y	260/670 R19	9.5	270	255	670	4.8	H/M/S/SS	Dry / Damp	-	Under Development	
		295/30 R19	96	Y	290/660 R19	10.5	300	285	660	4.8	H/M/S/SS	Dry / Damp	-	Under Development	
	ROAD / TRACK SIZES (RADIAL - TUBELESS) - R117 CERTIFIED														
A	ZTR Series (R/T)		205/50 R13	82	H	200/530 R13	6.5	210	200	530	5.8	-	Road / Track	Yes	
			195/50 R15	82	V	190/580 R15	6.0	195	185	580	5.8	-	Road / Track	Yes	
			225/45 R15	87	W	215/585 R15	7.5	225	215	585	5.8	-	Road / Track	Yes	
			225/45 R16	89	W	215/610 R16	7.5	225	215	610	5.8	-	Road / Track	Yes	
			215/45 R17	87	W	210/625 R17	7.0	220	215	625	5.8	-	Road / Track	Yes	
			225/45 R17	91	W	215/635 R17	7.5	225	215	635	5.8	-	Road / Track	Yes	
			235/45 R17	94	W	230/645 R17	8.0	240	230	645	5.8	-	Road / Track	Yes	
			235/40 R18	91	W	230/645 R18	8.5	235	210	645	5.8	-	Road / Track	Yes	
			245/40 R18	93	W	230/655 R18	8.5	240	235	650	5.8	-	Road / Track	Yes	
			265/35 R18	93	W	260/640 R18	9.5	270	255	645	5.8	-	Road / Track	Yes	
			285/30 R18	93	Y	280/630 R18	10	290	280	630	5.8	-	Road / Track	Yes	
			295/30 R18	94	Y	290/635 R18	10.5	295	290	635	5.8	-	Road / Track	Yes	
			235/35 R19	87	Y	230/645 R19	8.5	235	230	645	5.8	-	Road / Track	Yes	
PULSAR / EXCEL (RADIAL - TUBELESS)															
3	A	ZTC	195/50 R15	82	V	190/580 R15	6.0	195	185	580	5.8	M/S	Racing	Yes	

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*Std rim width has been specified as above. However for the Optimum performance Plus rim size 0.5" or 1.0" can be tried (Section width would increase by 5mm / 10mm respectively).

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

TARMAC RALLY (RADIAL - TUBELESS) - FIA COMPLIANT TYRES															
1	SI	Brand / 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	Application**	ECE (E4) Certified	Remarks
A	ZTA Series		195/50 R15	82	V	190/580 R15	6	200 (<8.0")	185	580	5.8	H/M/S/SS	Dry / Damp	Yes	
			195/50 R16	84	W	190/600 R16	6	200 (<8.0")	185	600	5.8	H/M/S/SS	Dry / Damp	Yes	
			205/45 R17	84	W	195/620 R17	7.0	200 (<8.0")	190	620	5.8	H/M/S/SS	Dry / Damp	Yes	
			235/40 R18	91	W	215/650 R18	8.0	225 (<9.0")	210	645	5.8	H/M/S/SS	Dry / Damp	Yes	
	ZWR1		195/50 R15	82	V	190/580 R15	6	200 (<8.0")	185	580	5.8	W	Rain	Yes	
			195/50 R16	84	W	190/600 R16	6	200 (<8.0")	185	600	5.8	W	Rain	Yes	
			205/45 R17	84	W	195/620 R17	7.0	200 (<8.0")	190	620	5.8	W	Rain	Yes	
			235/40 R18	91	W	215/650 R18	8.0	225 (<9.0")	210	645	5.8	W	Rain	Yes	
2	TARMAC RALLY (RADIAL - TUBELESS) - OTHERS														
	A	ZTA	185/60 R13	80	H	185/550 R13	5.5	190	180	550	5.8	H/M/S/SS	Dry / Damp	Yes	
			205/50 R13	82	H	200/530-13	6.5	210	200	530	5.8	H/M/S/SS	Dry / Damp	Yes	
			225/45 R13	84	H	220/530-13	7.5	230	215	530	5.8	H/M/S/SS	Dry / Damp	Yes	
			185/55 R14	80	V	185/560 R14	6	195	185	560	5.8	H/M/S/SS	Dry / Damp	Yes	
			225/45 R15	87	W	215/585 R15	7.5	225	215	585	5.8	H/M/S/SS	Dry / Damp	Yes	
			225/45 R16	89	W	215/610 R16	7.5	225	215	610	5.8	H/M/S/SS	Dry / Damp	Yes	
			215/45 R17	87	W	210/625 R17	7.0	220	210	625	5.8	H/M/S/SS	Dry / Damp	Yes	
			235/40 R17	90	W	230/620 R17	8.5	240	230	620	5.8	H/M/S/SS	Dry / Damp	Yes	
			235/45 R17	94	W	220/645 R17	8.0	240	230	645	5.8	H/M/S/SS	Dry / Damp	Yes	
			245/40 R18	93	W	230/655 R18	8.5	240	235	650	5.8	H/M/S/SS	Dry / Damp	Yes	
			265/35 R18	93	W	260/640 R18	9.5	270	255	645	5.8	H/M/S/SS	Dry / Damp	Yes	
			295/30 R18	94	Y	280/635 R18	10.5	295	290	635	5.8	H/M/S/SS	Dry / Damp	Yes	
			235/35 R19	87	Y	230/645 R19	8.5	235	230	645	5.8	H/M/S/SS	Dry / Damp	Yes	
			205/50 R13	82	H	200/530-13	6.5	215	200	530	5.8	W	Rain	Yes	
225/45 R13			84	H	220/530-13	7.5	225	215	535	5.8	W	Rain	Yes		
B	ZWR1	235/40 R17	90	W	230/620-17	8.5	240	230	620	5.8	W	Rain	Under Process		
		235/40 R18	91	W	215/650 R18	8.0	225 (<9.0")	210	645	5.8	W	Damp / Rain	Yes		
C	ZW11		185/55 R14	79	S	170/560 R14	5.5	190	175	555	5.6	H/M/S/SS	Dry / Damp	Yes	

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

BUGGY CAR - RACING															
1	SI	Brand / 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	Application**	ECE (E4) Certified	Remarks
	A	LEGEND	205/60 R13	86	H	195/580 R13	6.0	210	195	575	5.6	M	Dry to Wet	Yes	
2	BUGGY CAR - RALLY CROSS														
	A	ZRC	225/640-17	NA		235/45 -17	8.0	240	220	640	7.3	M/S	Dry	NA	Under development
3	KART CROSS (BIAS - TUBELESS)														
	A	ZKC	165/70 -10	27	N	-	5.0	175	150	500	8	M/S		NA	under development
		ZKC	225/50-10	32	N	-	8.0	255	235	470	9.2	M/S		NA	under development
4	2W RACING TYRES (RADIAL TUBELESS)														
	Brand / 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	Application**	ECE (E4) Certified	Remarks	
A	REVZ GP	90/80 R17	46	S	Front	2.15	90	135	585	2.8	S	PS165 - Dry	NA		
	REVZ GP	110/70 R17	54	S	Rear	3.0	105	150	595	2.8	S	PS165 - Dry	NA		
	REVZ GP2	90/80 R17	46	S	Front	2.15	95	120	570	2.8	S	Moto 3 - Dry	NA	Under development	
	REVZ GP	110/70 R17	54	S	Rear	3.0	110	150	580	2.8	S	Moto 3 - Dry	NA		
	REVZ GP	130/70 R17	62	S	Rear	3.5	125	160	625	4.5	S	Upto 250cc	NA		
	REVZ GP2	110/70 R17	54	H	Front	3.0	105	140	585	4	S	PS400 - Dry	NA	Under development	
	REVZ GP2	150/60 R17	66	H	Rear	4.0	145	180	610	4.2	S	PS400 - Dry	NA	Under development	
	FSX2	110/70 R17	54	H	Front	3.0	105	140	585	4	S	PS400 - Wet	NA		
	SX2	150/60 R17	66	H	Rear	4.0	145	195	615	5.2	S	PS400 - Wet	NA		

MOTOCROSS (BIAS - TUBELESS)													
5	Brand / Pattern	Tyre Size	Load index	Speed Rating	Front / Rear	Std Rim Width* (inch)	Section Width (mm)	Tread Width (mm)	Overall Diameter (mm)	NSD (mm)	Application**	BIS Certified	Remarks
A	MMX1	2.75-18	NA	NA	Front	1.85	75	90	625	10	Intermediate to Hard - Upto 100cc		-
	MMX2	3.25-16	NA	NA	Rear	2.15	90	100	600	11.5	Intermediate to Hard - Upto 100cc		-
C		100/90-19	NA	NA	Rear	2.5	115	145	675	15.5	Intermediate to Hard - 100 - 500cc		-
	MMX3	80/100-21	NA	NA	Front	1.85	95	120	710	10.5	Intermediate to Hard - 100 - 500cc		-
			90/90-21	NA	NA	Front	2.15	95	128	700	10.5	Intermediate to Hard - 100 - 500cc	Under Process
D	MMX4	100/90-19	NA	NA	Rear	2.5	105	135	665	15.5	Intermediate to Hard - 100 - 500cc	Under Process	Under Development
		110/90-19	NA	NA	Rear	2.5	125	158	690	15.5	Intermediate to Hard - 100 - 500cc		-
		120/80-17	NA	NA	Rear	2.75	120	145	625	15.5	Intermediate to Hard - 100 - 500cc	Under Process	Under Development
		120/80-18	NA	NA	Rear	2.75	120	145	650	15.5	Intermediate to Hard - 100 - 500cc	Under Process	Under Development

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 **Std rim width has been specified as above. However for the Optimum performance Plus rim size 0.5" or 1.0" can be tried (Section width would increase by 5mm / 10mm respectively).
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PREMIUM SEGMENT																
Tarmac Rally (Radial- Tubeless) - FIA Compliant Tyres																
1	SI	Brand / 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	Application **	ECE (E4) Certified	Remarks	
	A	ZTA Series	195/50 R15	82	V	190/580 R15	6	200 (<8.0")	185	580	5.8	H/M/S/SS	Dry / Damp	Yes		
	195/50 R16		84	W	190/600 R16	6	200 (<8.0")	185	600	5.8	H/M/S/SS	Dry / Damp	Yes			
	B	ZTA PLUS	205/45 R17	84	H	195/620 R17	7.0	200 (<8.0")	200	620	5.8	H/M/S/SS	Dry / Damp	Under Process		
			235/40 R18	91	W	215/650 R18	8.0	225 (<9.0")	210	645	5.8	H/M/S/SS	Dry / Damp	Yes		
	C	ZWR1	195/50 R15	82	V	190/580 R15	6	200 (<8.0")	185	580	5.8	5.8	W	Rain	Yes	
			195/50 R16	84	W	190/600 R16	6	200 (<8.0")	185	600	5.8	5.8	W	Rain	Yes	
205/45 R17			84	W	195/620 R17	7.0	200 (<8.0")	190	620	5.8	5.8	W	Rain	Yes		
	235/40 R18	91	W	215/650 R18	8.0	225 (<9.0")	210	645	5.8	5.8	5.8	W	Rain	Yes		
2	Gravel Rally (Radial - Tubeless)															
	A	ZG3	175/70 R15	86	S	L/R	5.0	175	165	630	11.2	H/M/S/SS	Medium to Hard (CL-Curve Linear)	Yes		
	195/65 R15		91	S	L/R	6.0	195	165	635	11.2	H/M/S/SS		Yes			
	B	ZG4	205/65 R15	94	S	L/R	6.0	205	180	645	11.2	H/M/S/SS	Soft to Hard (CL)	Yes		
	195/65 R15		91	S	L/R	6.0	195	165	635	11.2	H/M/S/SS	Loose to Medium Gravel	Yes			
C	ZDM3	195/70 R15	92	S	L/R	6.0	200	200	170	650	11.2	H/M/S/SS		Yes		
		205/65 R15	94	S	L/R	6.0	205	180	645	11.2	H/M/S/SS		Yes			
3	Gravel Rally - ICE Tyres (Radial - Tubeless)															
	A	ZGI	195/70 R15	92	S	L/R	7.0	205	150	650	11.2	H	ICE meant for WRC	Yes	Studding at Sweden	
	B	ZGI2	175/75 R15	88	S	NA	5.0	175	135	640	11.2	H	ICE	-	Studded Tyre under development	
			195/70 R15	92	S	NA	7.0	205	150	650	11.2	H	ICE			

Note to Customers:

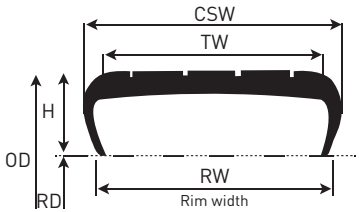
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TECHNICAL INFORMATION

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 exposed to high temperatures or wet, oily or greasy conditions.

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 Outside 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

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
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	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														

conditions.

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:

- 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.
- These tyres should always be stored at a temperature above 50°F / 10°C.
- 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.

AVAILABILITY: All sizes are made to specific order. You are requested to check on the availability of the tyres.