

2021 RALLY TYRES

TYRES CATALOGUE



PIRELLI

RALLY TYRES

GRAVEL

SCORPION™

ASPHALT

P ZERO™

Cinturato™

SNOW

SOTTOZERO™ SNOW

ICE

SOTTOZERO™ ICE

K



It is a tyre with elevated steering precision and grip during traction and braking, above all on fast roads, even at low grip levels. Its rigid structure and its compact tread pattern ensure good stability above all in fast corners characterized by prolonged stress on the tyre. The asymmetric tread pattern ensures excellent performance both in traction and in braking due to the orientation of the internal blocks. The external blocks facilitate an excellent steering precision and high lateral grip. The product is available in different compounds, according to the characteristics of stage surface and the weather conditions. For the hardest and most severe surfaces, the K is available in a "reinforced" version. The directionality and traction are combined with durability and integrity thanks to its reinforced structure both in the tread area and in the sidewalls which are more resistant to lacerations and cuts.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
165/70-15	K6A	610	171	150	1915	5,5	6A	6A	6A
175/70R15	K4-K6	623	187	170	1956	6	6	6	4
185/70R15	K4A-K6A-K8A	640	199	165	1995	6	8A	6A	4A
195/70R15	K6A	650	203	180	2045	6,5	6A	6A	6A
205/65R15	K4A-K6A-K8A	648	221	185	2036	7	8A	6A	4A
205/65R15	K4B-K6B Reinforced RFID	645	227	185	2036	7	6B	6B	4B

TREAD COMPOUND: HARD 4 - SOFT 6 - SUPER SOFT 8

T



This tyre is designed to be used on gravel and non-asphalted surfaces, usually with a low adherence. The tread profile is flat with defined corners, providing excellent directionality and lateral grip. The radial tread blocks guarantee maximum traction, especially on soft ground and less compact surfaces. The construction has special lateral reinforcements which protect the tyre from any damage caused by impacts.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
165/70R14	T6	590	178	150	1855	6	6	6	4

TREAD COMPOUND: SOFT 6

GM



Pirelli GM is a tyre for gravel roads, developed for historic rally cars. The tread pattern design has been optimized for the specific use in all dry, damp, wet or muddy conditions according to the chosen compound. The strength of Pirelli GM is its great versatility. It has a unique asymmetric tread able to work efficiently in both directional stability and pure traction, ensuring the best performance in every weather condition. The strength success of this tyre lies in its three distinct versions: GM4, GM6 and GM8. The first is the compound developed for dry surfaces, perfect for maintaining high and stable performance on hard abrasive grounds with high temperatures. The GM6 compound is specifically for wet surfaces and low temperatures, assuring traction and lateral grip. The GM8 performance levels are enhanced on mud with low temperatures.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
165/80R13	GM6-GM8	600	170	135	1871	5,5	8	6	4
185/70-15	GM6-GM8	640	203	160	2015	6,5	8	8	6
185/70R13	GM4-GM6-GM8	600	195	160	1875	6	8	6	4

TREAD COMPOUND: MEDIUM 4 - SOFT 6 - SUPER SOFT 8

KX



Highly versatile tyre and able to perform across the vast spectrum of different conditions in WRC. Tread pattern and profile is an evolution of the successful WRC K tyre with changes to the block density, groove depth and siping. Additional sidewall protection ribs guarantee the maximum resistance to accidental damage. Internally the construction geometry and carcass materials together with the tread compounds, both hard & soft have been specifically developed to adapt to the characteristics of the Rally 1 WRC Cars.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
205/65R15	KX-HA/SA	650	225	185	2035	7	SA	SA	HA

TREAD COMPOUND: HARD H - SOFT S

KM



It is suited above all to damp, wet and muddy conditions. It can be used also in dry conditions on loose or sandy surfaces. It is less suitable for compact and fast stages. The tread pattern derives from the K version. The reduced width of the tread and the more open pattern ensure the correct balance between performance and handling on low grip surfaces. The less rigid construction allows an excellent adaptation of the tyre to the ground and provides easier steering.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
205/65R15	KM6A	650	220	180	2045	7	6	6	-

TREAD COMPOUND: SOFT 6

XR



It is highly recommended for uneven ground and also for mixed off/on-road stages on hard, compact and abrasive surfaces. It is particularly resistant to impacts thanks to its internal structure, specially designed to ensure an easy steering and an excellent resistance to stresses. The tread and the sidewall profiles are designed to strengthen the structure in these areas and to ensure the maximum integrity of the tyre. The symmetric tread ensures a very good stability on clean and abrasive surfaces. It has an excellent durability thanks to the specific design of the tread blocks and the profile.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
225/55R15	XR5A	645	222	195	2025	7	-	-	5

TREAD COMPOUND: MEDIUM 5



RA



This product has been specifically developed for a reduced and linear treadwear, especially in the center. The design criteria used has strongly contributed to a larger contact area and consequently more constant and stable performance characteristics.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
195/50R16	RA5-RA7-RA7+	600	193	190	1885	6,5	7+	5/7	
205/45R17	RA5-RA7-RA7+	625	203	195	1965	7	7+	5/7	
235/40R18	RA5A-RA7C-RA7+B-RA9	650	225	210	2035	8	9/7+	5/7	

TREAD COMPOUND: HARD 5 - MEDIUM 7 - SOFT 7+ -SUPERSOFT 9

RW



This product is designed specifically for damp and full wet asphalt conditions. The three longitudinal channels and the transversal grooves are positioned to ensure an efficient water dispersion, avoiding aquaplaning.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
195/50R15	RW1C	580	192	180	1825	6,5	RW	RW	-
195/50R16	RWC	600	193	190	1885	6,5	RW	RW	-
205/45R17	RW1C	625	203	195	1965	7	RW	RW	-
235/40R18	RWC	650	225	210	2035	8	RW	RW	-

RK



Thanks to its two longitudinal grooves, this product, designed for asphalt, can be used both in dry and damp conditions. The two longitudinal channels are positioned on the internal part of the tyre to ensure more effective directionality and avoid aquaplaning. The outer part of the tread due to the asymmetric profile presents a flatter and less grooved footprint which contributes to maximising grip and lateral stability.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	CONDITION		
							WET	DAMP	DRY
175/60R14	RK5-RK7	560	188	160	1765	6	7	5/7	
175/60R14	RKW7A	560	188	160	1765	6	W7A	W7A	-
195/50R15	RK5-RK7	580	192	180	1825	6,5	7	5/7	
195/50R15	RKW7A	580	192	180	1825	6,5	W7A	W7A	-
215/45R17	RK5-RK7A	625	220	208	1965	7,5	7	5/7	
215/45R17	RKW7A	625	220	208	1965	7,5	W7A	W7A	-

TREAD COMPOUND: HARD 5 - MEDIUM 7 - DAMP W7



SNOW



SOTTOZERO™ SNOW

SOTTOZERO SNOW S



It is a specific tyre for full snow road conditions. It has narrow blocks and deep grooves. This tyre has been designed for use on 100% snow conditions.

Studding:
Max protrusion 2 mm
Stud length 15mm

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	NUMBER of studs
135/85R15	Sottozero Snow SA1	620	130	95	1950	5	228

SOTTOZERO SNOW



This tyre is characterized by a tread pattern ensuring a perfect adaptability to different types of surfaces. It has a dense siping in the center for better traction and braking and more robust blocks on the shoulder for increased stability. The shoulder and intermediate tread blocks have the stud position indicated. This tyre has been designed for use on mixed conditions up to 30/40% snow/ice and asphalt. Sottozero Snow is designed for 2WD and 4WD cars.

Studding:
Max protrusion 2 mm
Stud length 15mm

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	NUMBER of studs
185/45R16	STZ-B	620	199	170	1900	6,5	222
195/45R17	STZ-B	625	203	185	1965	7	234
235/40R18	STZ-B	650	222	190	2045	8	200

These sizes are available in studded and non-studded versions.



SOTTOZERO ICE J1



It is a studded "Sweden" tyre, with a directional asymmetric design which is ideal for snow-covered and icy surfaces. Its specific orientation of the tread blocks together with the patented Pirelli studding process guarantees the best stability and grip of the studs, even in the most extreme surface conditions. Sottzero Ice J1 is designed for 4WD.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	NUMBER of studs	STUD PROTRUSION MM
205/65R15	Sottzero Ice J1B	650	202	145	2045	7	384	7-8

SOTTOZERO ICE WJ



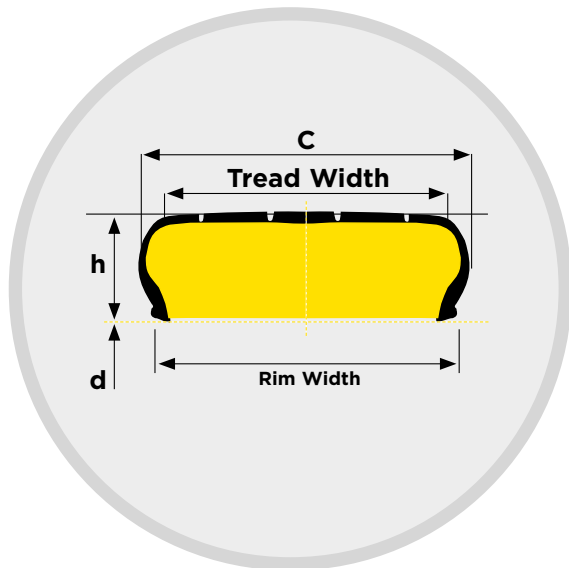
This asymmetric tyre is ideal for snow-covered and icy surfaces. It is a studded "Sweden" tyre, whose specific orientation of the tread blocks along with the patented Pirelli studding process guarantees the best stability and grip of the studs, even in the most extreme surface conditions.

SIZE	VERSION	ø mm D	SECTION WIDTH mm C	TREAD WIDTH mm Cb	ROLLING CIRCUMFERENCE	RIM	NUMBER of studs	STUD PROTRUSION MM
185/65R15	Sottzero Ice W1B	630	190	140	1980	6,5	360	7-8
205/65R15	WJ1	650	202	145	2045	7	377	9



TYRE IDENTIFICATION

The markings that appear on the sidewall of the tyres indicate the basic size of the tyre and the rim diameter. The example reported below illustrate how to read the marking that appears on the sidewall of rally tyres.



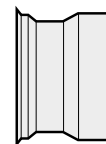
MARKING

The treads of the different versions of rally tyres are described by one or two letters followed by a number. The letters identify the type of tread. The number after the letter indicates the compound. The smaller this number, the harder the compound. In some cases there is a final letter, which indicates the latest development.

For example RA 7 C
 RA - tread design
 7 - compound level
 C - development level

RIMS

The size of the rims indicated in this manual must be respected. If you have any doubts, please contact Pirelli staff.



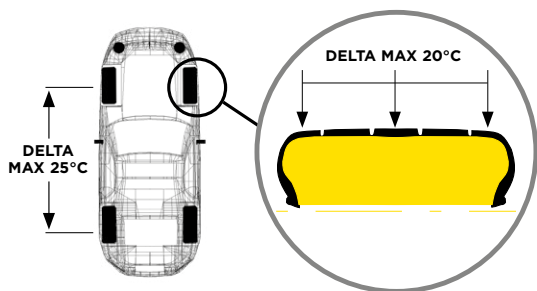
FITMENT

Make sure that tyres are fitted by experts with specialised dedicated machinery and equipment, following all appropriate safety procedures. Before assembling/mounting the tyres on rims, clean the surface of the beads and the area of the rim that comes into contact with the tyre. Use **ONLY** special tyre lubricants for mounting tyres. Do **NOT** use silicone or petroleum lubricants. Check the state condition of the valves and always use valve caps to prevent air loss. Check the valve seals and the tightness and look for any tears or cracks, replace them if necessary. Follow the indications provided on the sidewall of the tyre referring to the rolling direction and the correct positioning of the internal and external sidewalls, if specified. Use a safety cage when inflating tyres. Before unseating the tyre from the rim during dismounting, make sure that the tyre has been fully deflated, removing the inner valve mechanism.

C	h/C	R	d
Nominal section width expressed in mm	Technical series. This expresses the ratio between the section height (in mm) and the nominal section width (in mm)	Radial construction	Nominal rim diameter, expressed in inches
↓	↓	↓	↓
205	65	R	15

TREAD TEMPERATURES

Temperatures measured on the tread are an excellent indicator for deciding the best choice of tread compound and for optimising the vehicle setup for each wheel position, such as camber and toe. Pirelli recommends measuring the temperature at three different points: inner (innermost side of the vehicle), centre, outer tread. Average temperatures must be the ones suggested in the Pirelli Rally catalog, the difference between the values measured internally, in the center and externally must be maximum 20°C/68°F, while the difference between the front and rear axles must be no more than 25°C/77°F. If these values are exceeded, Pirelli recommends the use of a different tread compound, or that the vehicle's geometry should be adjusted.



PRESSURE

Working pressure values depend on the size of the tyre in relation to the load that it is subjected to. In other words, it will vary according to the type of car, the weight and conditions of use. In particular, as the weight of the vehicle, speeds and accelerations that the tyre is subjected to increase, the working pressure must be increased. In any case, tyres should not be used at pressures below 1.6 bar. Using excessively low pressures can cause damage to the tyre due to excess stress on the sidewall or unseating from the rim. "Hot" working pressures are usually in the range of 2,2 - 2,4 bar. Initial inflation pressures vary in order to obtain these values, depending on whether the tyres are preheated or used "cold". Indeed, preheated tyres can be inflated to slightly lower values than cold tyres. The difference will depend on the type of heater, the time it remains and the environmental conditions.

GRAVEL

COMPOUND		SURFACE			CONDITION			AIR TEMPERATURE (°C)							PRESSURE (bar)			
	WORKING TEMPERATURE (°C)	SOFT/SANDY	PACKED	HARD/ROCKY	WET	DAMP	DRY	-5	0	5	10	15	20	25	30	30+	COLD PS START	HOT PS END
Super Soft	K8	20°-60°															1,8	2,2-2,4
Soft	K6	50°-90°															1,8	2,2-2,4
Soft	KM6	20°-60°															2,0	2,2-2,4
Medium	K4	70°-130°															1,6	2,2-2,4

ASPHALT

COMPOUND		SURFACE			CONDITION			AIR TEMPERATURE (°C)							PRESSURE (bar)			
	WORKING TEMPERATURE (°C)	SMOOTH	MEDIUM	ABRASIVE	WET	DAMP	DRY	-5	0	5	10	15	20	25	30	30+	COLD PS START	HOT PS END
Super Soft	RA9	20°-60°															1,8	2,0-2,2
Soft	RA7+	30°-70°															1,8	2,0-2,2
Medium	RA7	50°-90°															1,6	2,0-2,3
Hard	RA5	70°-130°															1,6	2,0-2,3
Rain	RW	10°-50°															2,0	2,0-2,3

ICE

VERSION		SURFACE		CONDITION			AIR TEMPERATURE (°C)					PRESSURE (bar)	
	STUDDING		ICY	SNOW	ICE	FROZEN GRAVEL	-15	-10	-5	0	5+	COLD PS START	HOT PS END
WJ	7mm											1,8	2,3
WJ	8mm											1,7	2,3
WJ	9mm											1,7	2,3
J1	7mm											1,8	2,3
J1	8mm											1,7	2,3

SNOW

VERSION		SURFACE		CONDITION			AIR TEMPERATURE (°C)					PRESSURE (bar)	
	STUDDING		ICY	SNOW	ICE	FROZEN GRAVEL	-15	-10	-5	0	5+	COLD PS START	HOT PS END
S	2mm											2,1	2,3
SOTTOZERO	2mm											2,1	2,3
SOTTOZERO	no stud											1,8	2,3

TREAD HAND-CUTTING

The tread on some types of tyres can be hand cut to increase the size of the existing grooves. Hand-cutting is useful for improving grip in certain intermediate situations, between dry and completely wet surfaces, or on mixed gravel/rock and sandy surfaces.

GRAVEL GROOVES

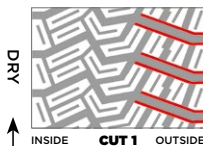
THE COLOURS ARE USED TO HIGHLIGHT WHERE GROOVES CAN BE HAND-CUT



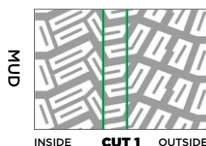
INSIDE ORIGINAL OUTSIDE



INSIDE ORIGINAL OUTSIDE



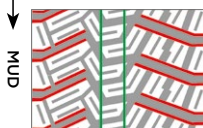
INSIDE CUT 1 OUTSIDE



INSIDE CUT 1 OUTSIDE



INSIDE CUT 2 OUTSIDE



INSIDE CUT 3 OUTSIDE

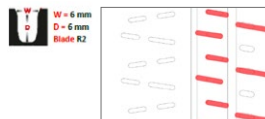
↑ DRY

↑ WET

↓ MUD

ASPHALT GROOVES

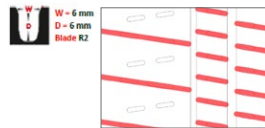
THE COLOURS ARE USED TO HIGHLIGHT WHERE GROOVES CAN BE HAND-CUT



CUT 1 FOR DAMP CONDITIONS



CUT 4 FOR WET CONDITIONS WITH STANDING WATER ON THE STAGE



CUT 3 FOR WET CONDITIONS

W = 6 mm
D = 6 mm
Blade R2

W = 8 mm
D = 7 mm
Blade W4

W = 6 mm
D = 7 mm
Blade R3

W = 6 mm
D = 6 mm
Blade R2

Blade R2 (U): Width 6 mm Depth 6 mm

Blade W3 (L): Width 8 mm Depth 6 mm

SAFETY WARNING

Rally tyres are designed exclusively for rally competition and must not be used for any other purpose or on any other surfaces. Follow the tyre and vehicle manufacturer's instructions as serious injury or death may result from improper usage.

STORAGE

Tyres must be stored inside a building in cool, dry and moderately ventilated conditions. The effects of low temperatures on competition

tyres can be permanently deleterious therefore tyres must not be stored in temperatures below 5°C. The ideal stocking and handling temperature is above 15°C (59°F). Do NOT stock tyres in outdoor storage conditions.

Products should be stored free from mechanical stresses, compressions or other forces causing permanent distortion.

HANDLING

Tyres should be handled under temperature controlled conditions at above 5°C (41°F) to avoid permanent damage (ie: cold cracking).

RALLY TYRES 2023

Follow Pirelli on:



WWW.PIRELLI.COM

PIRELLI