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For immediate release

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Yokohama Rubber to Begin Overseas Sales of iceGUARD iG60, the Ultimate YOKOHAMA Studless Tire

Tokyo – The Yokohama Rubber Co., Ltd., announced today that it will begin sales of “iceGUARD iG60”, the latest addition to its “iceGUARD” series of studless tires (Nordic friction tires) for passenger cars, on overseas markets from this autumn. Product releases will be carried out in stages, starting with Northern Europe and Russia, which are core markets for the “iceGUARD iG60” and gradually spreading to other markets in Asia and Europe. The “iceGUARD iG60” will be available in a total of 102 sizes, ranging from 265/35R19 94Q to 135/80R13 70Q. The Company also plans to gradually expand the lineup of available tire sizes. The “iceGUARD iG60” was introduced in Japan as the “iceGUARD 6” in September 2017.

In addition to the “iceGUARD” basic concept’s three core traits of “ice efficacy”, “long-term efficacy” and “fuel efficiency,” the “iceGUARD iG60” has been endowed with a new fourth merit—wet performance, or “wet efficacy”. Development of the “iceGUARD iG60” aimed at raising the tire’s wet performance as well as sharply enhancing braking on ice—the most crucial performance feature of a studless tire.

The iceGUARD iG60’s tread design features an asymmetrical pattern with the inside designed to improve performance on ice while the outside tread pattern is designed for optimal performance on snow. The inside tread pattern improves the tire’s grip on icy surfaces by enhancing the edge effect and expanding the tire’s contact area with the road surface. In addition, newly developed double micro grooves deliver optimum ice performance from the instant the tires are fitted on the vehicle, while its Quattro 3-D Dimple Sipes increase the tire’s rigidity and enhance its steering stability.

A newly developed premium absorptive compound is used in the tread compound. Absorptive micro balloons are dispersed evenly throughout the rubber, improving its ability to absorb water on the icy surface, the main reason for slippage on ice. In addition, the amount of silica compound has been increased and supplemented by the first use of a silica highly reactive white polymer, which promotes uniform dispersion of the silica and raises the tire’s ability to adhere to the surface, thereby improving its performance on icy and wet surfaces. The compound’s use of Orange Oil-S, developed specifically for use on studless tires, keeps the tires soft and pliant even after the typical deterioration of the rubber that occurs with age and use, thus extending the useful life of the tire’s performance on ice. These new technologies increase the tire’s ice performance by 15% over that of the previous product (iceGUARD iG50 PLUS) and its wet performance by 5%, while also securing higher levels of performance sustainability and fuel efficiency than achieved with the previous product. Pattern noise and road noise have also been sharply reduced in order to deliver a quieter ride.



iceGUARD
Studless iG60



Available Sizes

Inches	Aspect ratio	Tire Size	Inches	Aspect ratio	Tire Size	Inches	Aspect ratio	Tire Size
19	35	■245/35R19 93Q XL	17	50	■235/50R17 96Q	15	60	185/60R15 84Q
		■255/35R19 96Q XL		55	205/55R17 91Q			195/60R15 88Q
		■265/35R19 94Q			215/55R17 94Q			205/60R15 91Q
	40	■235/40R19 92Q		60	225/55R17 97Q		65	145/65R15 72Q
		■245/40R19 98Q XL			215/60R17 96Q			165/65R15 81Q
		■265/40R19 102Q XL			225/60R17 99Q			175/65R15 84Q
	45	225/45R19 92Q		65	225/65R17 102Q			185/65R15 88Q
		■245/45R19 98Q		45	195/45R16 80Q			195/65R15 91Q
								205/65R15 94Q
18	35	■255/35R18 90Q	16	50	165/50R16 75Q	14	70	215/65R15 96Q
	40	225/40R18 92Q XL			195/50R16 84Q			195/70R15 92Q
		■235/40R18 95Q XL			205/50R16 87Q		55	155/55R14 69Q
		■245/40R18 93Q			225/50R16 92Q			165/55R14 72Q
		■255/40R18 99Q XL		55	185/55R16 83Q		60	165/60R14 75Q
	45	215/45R18 89Q			195/55R16 87Q			175/60R14 79Q
		225/45R18 91Q			205/55R16 91Q		65	185/60R14 82Q
		225/45R18 95Q XL			215/55R16 93Q			155/65R14 75Q
		■235/45R18 94Q			225/55R16 99Q XL			165/65R14 79Q
		■245/45R18 100Q XL		60	175/60R16 82Q		70	175/65R14 82Q
		■255/45R18 99Q			185/60R16 86Q			185/65R14 86Q
	50	215/50R18 92Q			195/60R16 89Q			195/65R14 89Q
		225/50R18 95Q			205/60R16 96Q XL		75	165/70R14 81Q
		■235/50R18 97Q			215/60R16 95Q			175/70R14 84Q
		■245/50R18 104Q XL			225/60R16 98Q			185/70R14 88Q
	55	215/55R18 99Q XL		65	195/65R16 92Q		80	195/70R14 91Q
		225/55R18 98Q			205/65R16 95Q			155/65R13 73Q
		195/45R17 81Q			215/65R16 98Q			165/65R13 77Q
								155/70R13 75Q
								165/70R13 79Q
17	45	205/45R17 88Q XL	15	50	165/50R15 73Q	13	65	175/70R13 82Q
		215/45R17 87Q			195/50R15 82Q			135/80R13 70Q
		225/45R17 91Q		55	165/55R15 75Q		70	145/80R13 75Q
		■235/45R17 94Q			175/55R15 77Q			155/80R13 79Q
		■245/45R17 99Q XL			185/55R15 82Q			165/80R13 83Q
	50	205/50R17 93Q XL		60	195/55R15 85Q		80	
		215/50R17 91Q			165/60R15 77Q			
		225/50R17 94Q			175/60R15 81Q			
				65				

*Tire sizes with ■ use Pattern No.IG60A. All others use Pattern No.IG60.

Asymmetrical Tread Pattern Further Enhances Ice Performance

Inside

Improved grip on icy and wet surfaces

Power Contact Rib
Wide rib provides firm grip on icy and wet surfaces. Non-parallel sipes deliver multidirectional edging effect.

Outside

New larger groove area enhances wet performance.

Lightning Grooves
Zigzag-shaped grooves increase tire's edge component and improve braking performance.

Delivers powerful traction on snow.

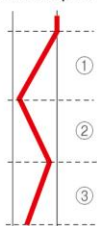
Triangular Spots
Triangular spots formed by the intersection of three grooves provide added strength for ploughing through snow piles, thereby enhancing the tires' performance on snow.

New Quattro 3-D Dimple Sipes provide drivers with greater sense of stability

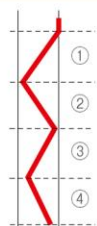
Use of Quattro 3-D Dimple Sipes increases rigidity over that of previous product. Newly developed four-rung stacked sipes support each other to increase block rigidity. Quattro 3-D Dimple Sipes placed in the center of the tire effectively drain road surface water from end sipe to the vertical groove. These sipes also expand the tire's edge component. Sipe edge rigidity is preserved by two upper and lower dimples that maintain the edging effect even after substantial wear.

Cross-sectional comparison of 3-D sipes

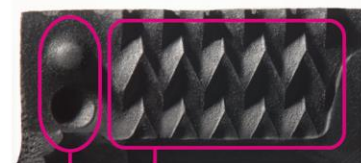
Triple 3-D Dimple Sipe used in previous product



New Quattro 3-D Dimple Sipe



Quattro 3-D Dimple Sipe
Quattro 3-D Sipe



Quattro sipe section
Dimple section

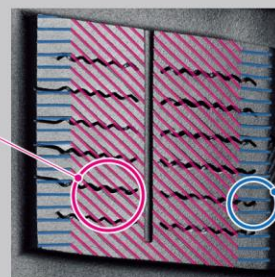
New double micro grooves delivers superior ice performance from get-go

YOKOHAMA's micro grooves design, which ensures excellent performance on ice from the moment the tires are installed, has been further improved by combining diagonal grooves and lateral grooves to enhance the tires' drainage and edging effect on icy surfaces. "iceGUARD iG60" tires deliver a high level of ice performance from the moment they are installed on the vehicle.

Diagonal micro groove

Improved water drainage and lateral edge effect

Diagonal grooves leading to the tire's center improve drainage and the lateral edge effect.



Lateral micro groove

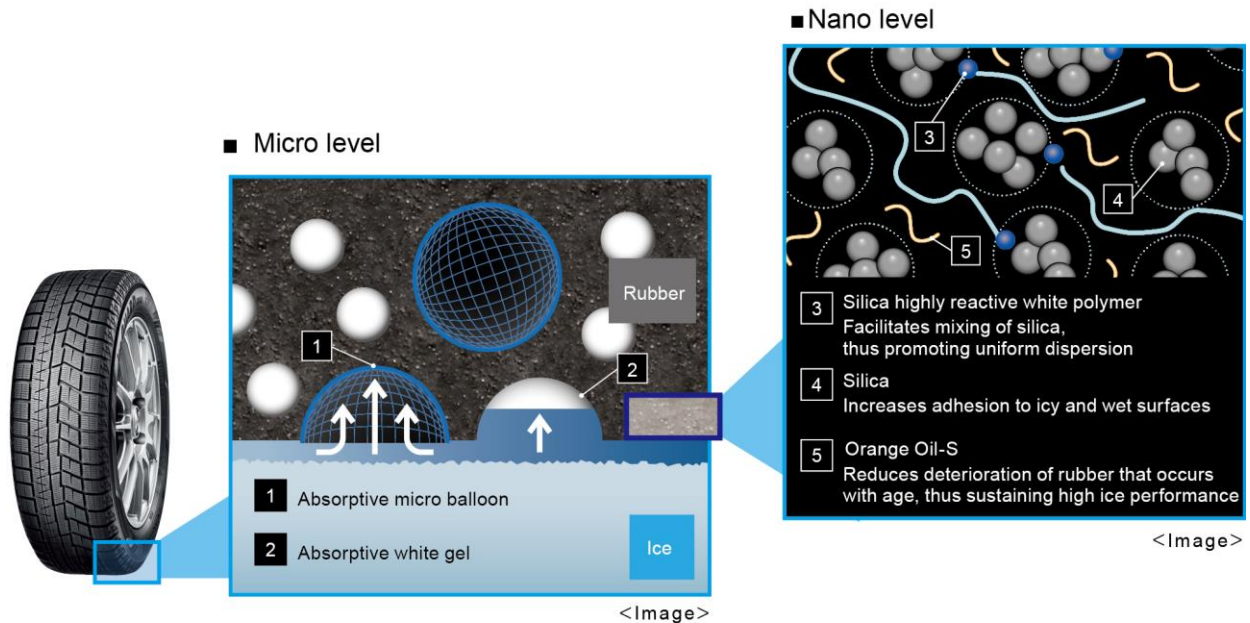
Improved lengthwise edge effect

Improved edge effect when braking on ice for the block edge section connecting to grooves.

New Compound Enhances Performance on Icy and Wet Surfaces

Absorptive micro balloons combine with an absorptive white gel to absorb microscopic watery film on frozen roads. Dispersion of silica by a silica highly reactive white polymer keeps the tire rubber supple, enabling the tire to maintain firm contact even on road surfaces marred by many, small potholes. The shell of the absorptive micro balloons bites into the ice to exert an edge effect.

New Development Premium Absorptive Compound



Watery film on ice surface is main cause of slippage on icy roads.

When ice's temperature becomes -6°C or warmer, the ice begins to melt, creating a watery film on the surface. People often slip when walking on ice because this watery film prohibits shoe soles from sticking to the ice. On the other hand, slipping is less likely when this ice is dry at a temperature of less than -6°C . However, when cars run over an icy road, frictional heat from the tires causes the ice to melt, forming a dangerous microscopic watery film that can cause slippage.

