

Frequently Asked Questions: Nokian Tyres Hakkapeliitta® O1

Why is the tire called the “Nokian Tyres Hakkapeliitta O1?” [“zero-one”]

- Because it represents a revolution in winter tire technology, inspiring new numerical logic
- The “O1” motif also references binary code, with “0” representing Studmode OFF and “1” alluding to Studmode ON

What are the most noteworthy characteristics of the Nokian Tyres Hakkapeliitta® O1?

The biggest advancement is **On-Demand Grip**, enabled by **Double Action Stud Technology**. As temperatures change, the studs adjust automatically between ON-mode and OFF. The innovation is the first of its kind in the tire industry.

How does On-Demand Grip work?

Through an **adaptive base layer** where the bottom flange of the stud rests. When temperatures are cold, the studs are pressed out by the stiff base layer and stay out while driving. When weather warms, the compound softens and produces less force on the studs, allowing them to sink deeper into the tire.

How long has Nokian Tyres been working on this concept?

For more than a decade. In 2014, Nokian Tyres introduced a concept tire with retractable studs. Since then, the company has developed Double Action Stud Technology by testing thousands of prototype tires in a wide array of conditions, including at its White Hell test center in Ivalo, Finland.

What improvements does the tire show over its previous generation?

- Up to 30 percent reduction in **road wear**
- **Ice grip** improved by as much as 10 percent
- Up to 5 percent improvement in **wet grip**
- **Noise levels** reduced by as much as 1 decibel

Where is the tire made?

All sizes of the Nokian Tyres Hakkapeliitta O1 are produced at the company’s factory in Nokia, Finland.

How many sizes are sold?

122 sizes spanning 14 to 22 inches. 24 sizes come with SilentDrive™ Technology.

When will the tire be available for sale?

Consumers can purchase the Nokian Tyres Hakkapeliitta O1 from retailers starting in autumn 2026. It is available for sale to tire dealers in May.

What are the other key features?

- **Double Stud technology.** Two different studs: center for straight, shoulder for curves.
- **SilentDrive™ technology.** Exceptionally low sound level is achieved by adding a layer of acoustic foam on the inner liner of the tire.
- **Aramid Strong Sidewalls.** Extremely strong fibers in the tire's sidewall provide more durability and protection for demanding driving situations.
- **Deep snow grooves.** Aggressive grooves on the shoulder areas provide additional grip when moving onto deep snow.
- **Self-locking 3D sipes.** Self-locking 3D sipes lock the tread blocks together on road contact, improving handling in turns and during evasions

What certifications does the tire carry?

- **Ice Grip Emblem** signifying the tire performs at least 18 percent better than a standard reference tire in an ice braking test
- **Three-peak Mountain Snowflake** valid in both Europe and North America, indicating the tire has passed a snow traction test

What are Nokian Tyres' leaders and experts saying?

Nokian Tyres President and CEO Paolo Pompei

"The new Nokian Tyres Hakkapeliitta O1 represents one of our company's biggest innovations since we introduced the first winter tire more than 90 years ago. This new winter tire achieves what was previously thought impossible – a studded tire that responds to temperature changes to deliver ultimate safety while protecting the road."

Nokian Tyres Development Manager Mikko Liukkula

"The Nokian Tyres Hakkapeliitta O1 is revolutionary because of its on-demand grip, but the other improvements make it legendary. We set out to rethink what a studded winter tire can be. We didn't want to compromise between extreme winter safety and performance in milder conditions. Instead, we developed a solution where grip adapts to the weather, delivering maximum safety when it's needed, and more controlled, gentler road contact when it's not. This is a new way forward in tire technology."