



**ADVAN**  
**MEDIA**  
**AD08**

# Concept of ADVAN NEOVA

## Quite Possibly, the Best Street Tyre YOKOHAMA Has Ever Produced.

In motor sports, YOKOHAMA ADVAN has earned an enviable reputation as a high-performance tyre. It's not an easy job to live up to that reputation. So YOKOHAMA looks for more than speed in its quest to create a street tyre that stays a step ahead, and is nothing if not fun on the road.

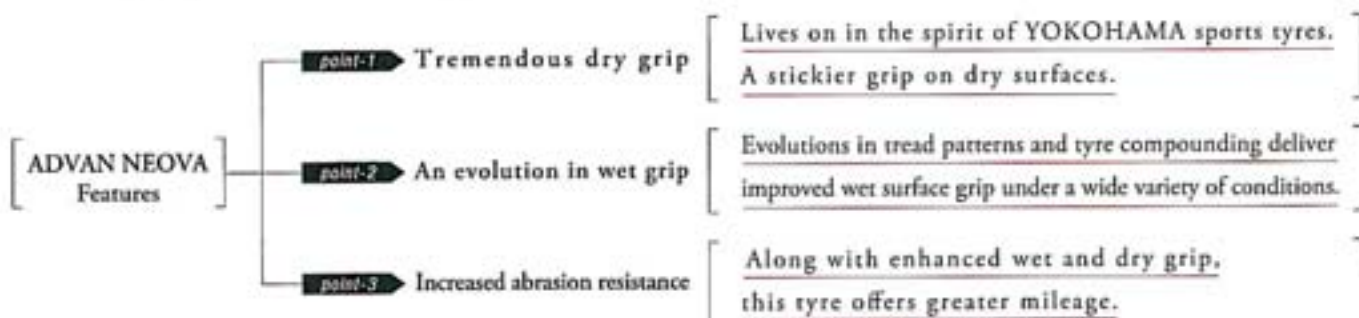
**ADVAN**  
**NEOVA**  
AD08



## Features of ADVAN NEOVA

### On the Circuit, It Shaves Another 0.58 Second off the Lap Time\*. This Performance Comes from Listening Hard to What Drivers Have to Say.

The idea was to create the perfect balance between wet and dry performance in a tyre that would leave all others behind. What did it take to accomplish that goal? That question was answered in lap after lap on the test circuits. YOKOHAMA listened closely to driver feedback, and finally saw the spark of innovation. It's not just a matter of better grip. It's more fun and a greater sense of security. Fine tuning key elements results in speed, so now lets take a look.



## Technology from WTCC

### WTCC is the World's Toughest Test of Tyres. YOKOHAMA's Experience There Pushed the Evolution of ADVAN NEOVA.

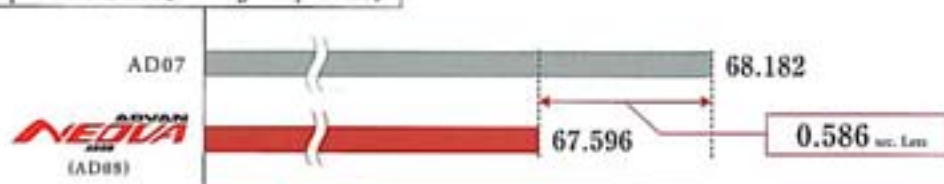
The FIA has three categories of world championships — F1, WRC, and WTCC, the World Touring Car Championship. YOKOHAMA became the official tyre supplier to WTCC races in 2006, and has gained an excellent reputation. These tyres are used and trusted by every team as they fight for the world touring car championship. The know-how and technical skills honed for WTCC competition now create ADVAN NEOVA.



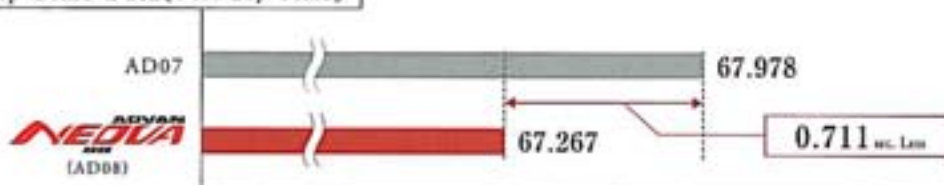


**\*Achieving Lap Times Worthy of the "Best ADVAN Street Tyre"**

Lap Time Data [Average Lap Time]



Lap Time Data [Best Lap Time]



<Test Method> Site: Tsukuba Circuit/Road surface condition: Dry/Driver: Professional employed by Yokohama/Vehicle: Mitsubishi Lancer Evolution X (model year: 2008)/Tyre size: 245/40R18 93W/Rim size: 18x8.5J/Air pressure: F:220kPa, R:200kPa/No. of passengers: 2 \* Values in the graph show measured times for seven laps. Calculated average of 2nd to 6th lap times excluding OUT/IN laps.



# Technology of ADVAN NEOVA

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## Control the Heat, Raise the Performance.

ADVAN NEOVA is clearly a tyre that lives up to its tremendous potential. This always starts from careful analysis of current tyre characteristics. But heat controlling technology that can shave seconds off lap times does not come from technology alone. That takes passion and pride — more reasons why YOKOHAMA ADVAN is always in the lead.

## Tread Pattern

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### New Tread Patterns Incorporate Cutting-Edge Racing Technology.

In creating its new tread designs, the company made great use of its racing technology accumulated over the years. The new tread patterns do not compromise wet performance or mileage, while performance on dry surfaces has become even better.



#### ► Sequential Round Grooves

The design features Sequential Round Grooves. In order to improve tyre life, forces from the road surface are spread and dissipated. The positioning of the grooves is effective in draining water on wet surfaces.



#### ► Unibloc Shoulders

Using circumferentially continuous single shoulder blocks without any gaps, rigidity at the tread is increased, ensuring a powerful grip and further shortening lap times.



#### ► Groove-in-Groove

Micro grooves on the main groove walls ease the stress on each block edge, reducing uneven wear of the tyre, and increasing stability when driving under harsh conditions.



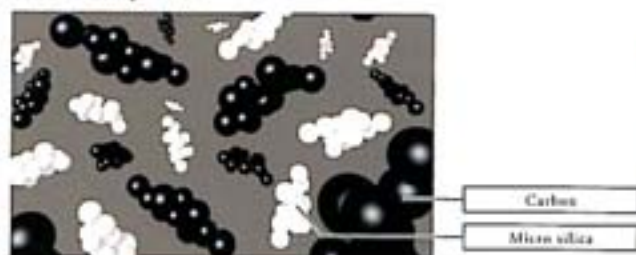


## Compound

### Sustaining a Powerful Grip Using Newly Developed "MS(Micro Silica) Compound 2."

The MS Compound highly evaluated in the previous models has been further enhanced. In "MS Compound 2," the polymer has been completely reconceived, and a new agent already used for WTCC control tyres was added to the compound. As a result, new physical properties - soft at the micro level while maintaining rigidity - were realised. On the micro level, the surface of the compound reaches into the minute spaces of the road surface, expanding the contact area and improving traction. On a macro level, the compound resists deformation by heat and wear, sustaining its powerful grip all the way to the end of the race.

#### ► MS Compound



(Image)

#### ► MS Compound 2

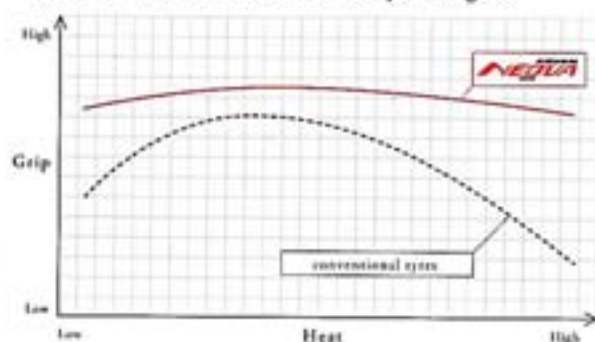


(Image)

### Achieving Strong, Steady Grip. Compound Technology Controls Heat.

Temperature is a critical factor in a tyre's grip performance. No tyre can live up to its potential grip if it isn't fully warmed up right after the start. In conventional compounds, as the tyre tread temperature reaches its limits during high-speed driving, heat softening will quickly sap the tyre's ability to grip the road. YOKOHAMA's MS Compound 2 controls changes in performance in both the low and high temperature ranges, for secure, dependable grip. It was designed to maximise grip from the first lap to the finish line.

Relation between Heat and Grip <image>



# Technology of ADVAN NEOVA

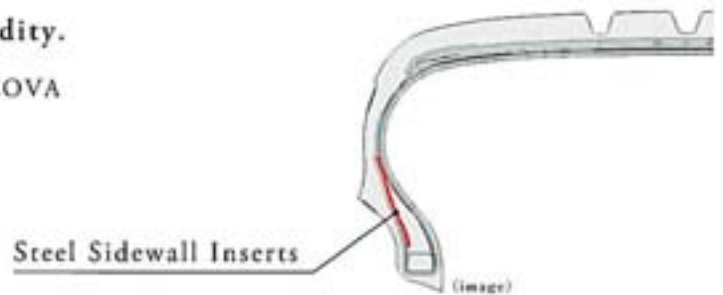
## All-out Performance from Start to Finish.

High-speed tyre performance demands not only grip, but also the optimum structure and profile. From lap 1 to the chequered flag, tyres have to live up to their full potential. ADVAN NEOVA draws on wisdom gained from competition to ensure constant improvement and ever higher performance.

## Construction

### "Steel Sidewall Inserts" for Increased Rigidity.

Steel Sidewall Inserts optimised for the ADVAN NEOVA were adopted to increase casing rigidity. As a result, cornering performance is enhanced. (Tyres sizes featuring Steel Sidewall Inserts vary.)

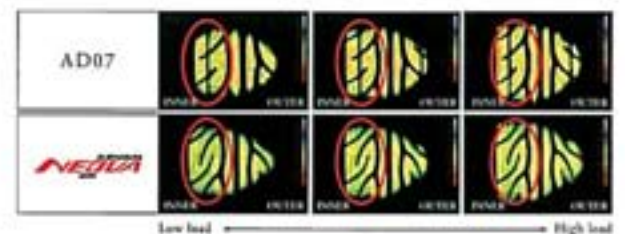


## Profile

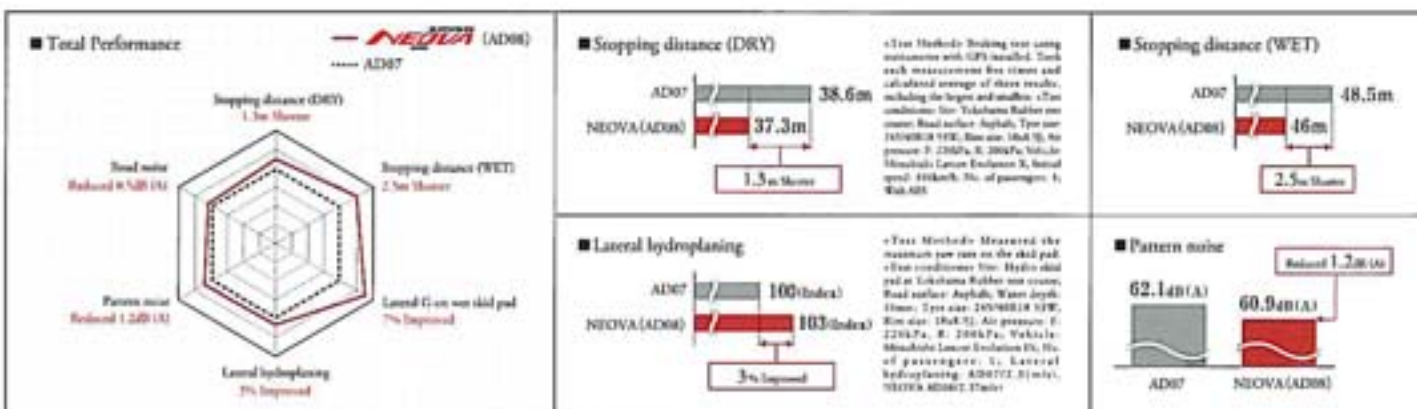
### Maximising Both Mileage and Speed. Exclusive ADVAN NEOVA Profile

Technologies accumulated in the development of a control tyre for WTCC are continually fed back into subsequent designs. This optimises high-speed cornering, with an added benefit — uniform shapes for the contact patterns that must change constantly in response to cornering and abrasion forces. The result — a tyre that excels at both mileage and high-speed performance.

▶ ADVAN NEOVA Actual Footprint Shape Comparison (at 3° camber angle)



## Data





## Q&A

**Question-1** What's the difference between ADVAN NEOVA and ADVAN Sport?

**Answer-1** ADVAN Sport is YOKOHAMA's flagship tyre, which was developed for driving in Europe, where speeds reach 300 km/h. In addition to its high level of sports performance, it's a well-balanced tyre with good wet-surface grip, a comfortable ride, and low road noise. ADVAN NEOVA, on the other hand, was developed with track performance as the top priority. That meant it had to have tremendous dry grip as well as superior cornering control, even at the breakaway limit. It's the closest street sports tyre we have to a motor sports tyre.

**Question-2** You say you use MS Compound 2. Exactly what are the performance advantages of this new compound?

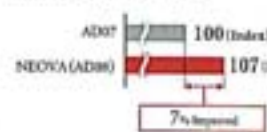
**Answer-2** MS Compound 2 has more carbon in it than MS Compound, and a new polymer increases its strength. Used by itself, however, it would be too hard. But after adding a new compounding agent already used for WTCC control tyres to MS Compound 2, we found it could maintain strength while achieving the correct degree of softness. The exact formula of the new agent is proprietary information.

**Question-3** You say this new tyre has technology developed at WTCC. Specifically, what areas of tyre performance are affected by that technology?

**Answer-3** The compound, construction, and profile technology are based on what we learned at WTCC. The tyres warm quickly, but are not subject to reduced grip, so lap times are the same lap after lap. The additional hardening helps maintain control in high-speed cornering. These technologies are direct benefits of our work in WTCC racing.

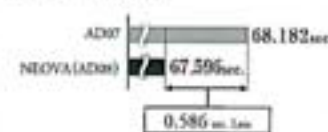
\*Test Methods: Skidpad test using measurements with GFI installed. Track measurements for steering and calculated average of these results, including the longest and shortest. \*\*Test conditions: Size: Yokohama Rubber test course; Road surface: Asphalt; Tyre size: 245/40R18 91W; Run size: 184R 5; Air pressure: F: 220kPa, R: 200kPa; Water depth: 5mm; Vehicle: Mitsubishi Lancer Evolution X; Initial speed: 60km/h; No. of passengers: 1; Wet A/B.

### ■ Lateral G on wet skid pad



\*Test Methods: Turned on wet skid pad (WB) in wet course. Measured the lateral G and calculated average of these results, including the longest and shortest. \*\*Test conditions: Size: Yokohama Rubber test course; Road surface: Asphalt; Water depth: 5mm; Tyre size: 245/40R18 91W; Run size: 184R 5; Air pressure: F: 220kPa, R: 200kPa; Vehicle: Mitsubishi Lancer Evolution X; No. of passengers: 1; Lateral G on wet skid pad: ADV87: 100, NEOVA: 107 (Index)

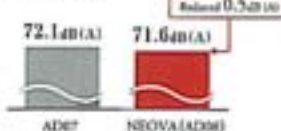
### ■ Lap time (Average)



\*Test Methods: Size: Yokohama Circuit/Road surface condition: Dry/Dryness: Professional compound by Yokohama/Tyres: Mitsubishi Lancer Evolution X (model year: 2008); Tyre size: 245/40R18 91W; Run size: 184R 5; Air pressure: F: 220kPa, R: 200kPa; No. of passengers: 1. \*\* Values in the graph show measured times for seven laps. Calculated average of 2nd to 6th lap times excluding OUT-LAP laps.

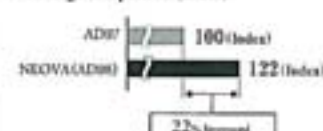
\*Test Methods: Measured noise in the cabin while driving the test circuit. \*\*Test conditions: Size: Yokohama Rubber test course; Road surface: Asphalt; Tyre size: 245/40R18 91W; Run size: 184R 5; Air pressure: F: 220kPa, R: 200kPa; Vehicle: Mitsubishi Lancer Evolution X; Test speed: 60km/h; Microphone position: At drivers window; No. of passengers: 1.

### ■ Road noise



\*Test Methods: Measured noise in the cabin while driving on special road at Yokohama Rubber test course. \*\*Test conditions: Size: Yokohama Rubber test course; Road surface: Asphalt test; Tyre size: 245/40R18 91W; Run size: 184R 5; Air pressure: F: 220kPa, R: 200kPa; Vehicle: Mitsubishi Lancer Evolution X; Speed: 60km/h; Microphone position: At drivers window; No. of passengers: 1.

### ■ Mileage comparison (Index)



\*Test Methods: Conditions: Calculated estimated mileage from wear volume after about 8,000km driving on test course: 24.2% surface made 17.2% and measured volume 10.1% (calculated standard deviation of the road which showed the greatest wear among the 4 types). Tyre size: 245/40R18 91W; Run size: 184R 5; Air pressure: F: 220kPa, R: 200kPa; Vehicle: Mitsubishi Lancer Evolution X; No. of passengers: 1. \*\* Mileage comparison was on an 8km test track and may differ in actual driving conditions. Mileage comparison: ADV87: 100, NEOVA: 122 (Index)

\* The above graphs are illustrations.