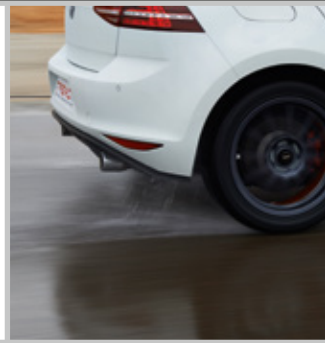


TESTING. EVALUATION. DEVELOPMENT.



**WE DEMAND THAT EVERY DAVANTI TYRE
DELIVERS OPTIMUM PERFORMANCE**



WWW.DAVANTI-TYRES.COM

INNOVATION. PERFORMANCE. QUALITY... AT THE HEART OF EVERY TYRE.

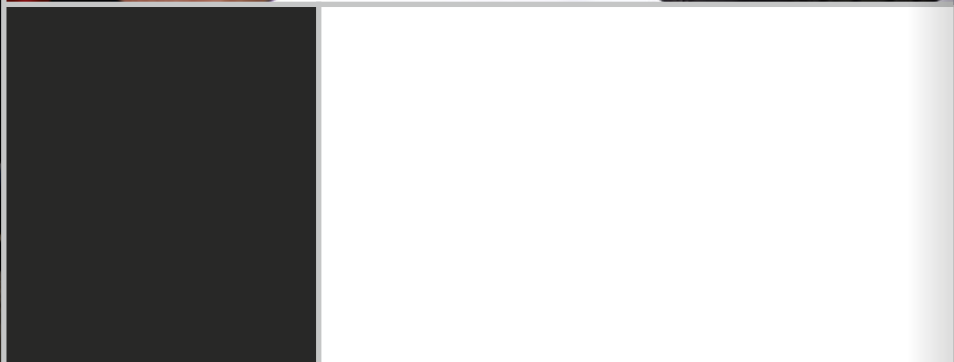
DAVANTI TYRES COMBINE EXPERT ENGINEERING,
ADVANCED MANUFACTURING PROCESSES,
EXTENSIVE TESTING AND PROGRESSIVE DEVELOPMENT.

**Davanti tyres are developed and manufactured
by industry experts using advanced tyre technology
at our world leading manufacturing plant.**

Our enhanced silica compounds combined with innovative tread designs and structures mean every Davanti tyre is built for performance, efficiency and comfort.

Don't take our word for it - we're constantly striving for quality, demonstrated by leading EU label and UTQG grades, and also fantastic customer feedback.

We go far beyond mandatory testing, by putting our tyres through rigorous regimes to ensure they deliver safe and predictable handling and a comfortable drive.



CERTIFICATES AND ACCREDITATIONS

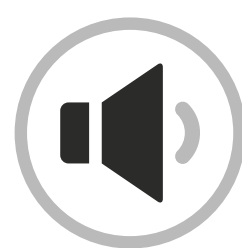
CUTTING EDGE TECHNOLOGY, INDEPENDENT ASSESSMENT AND SYSTEMATIC TESTING MAKE DAVANTI TYRES A PERFORMANCE BRAND YOU CAN TRUST.



E-mark certificate



DOT certificate



E-sound certificate



ISO/TS16949: 2009 certificate



GCC certificate



ECE-SW certificate



SONCAP certificate



ISO 9001 certificate



ISO 14001 certificate



ISO 18001 certificate

EU TYRE LABELLING

EU TYRE LABELS GIVE INDEPENDENT RATINGS FOR THREE IMPORTANT AREAS OF TYRE PERFORMANCE: FUEL EFFICIENCY, WET GRIP AND NOISE LEVELS.

Since their introduction in 2012, EU tyre labels have become increasingly important to consumers when deciding which tyres they should buy. Good label grades are more vital than ever before.

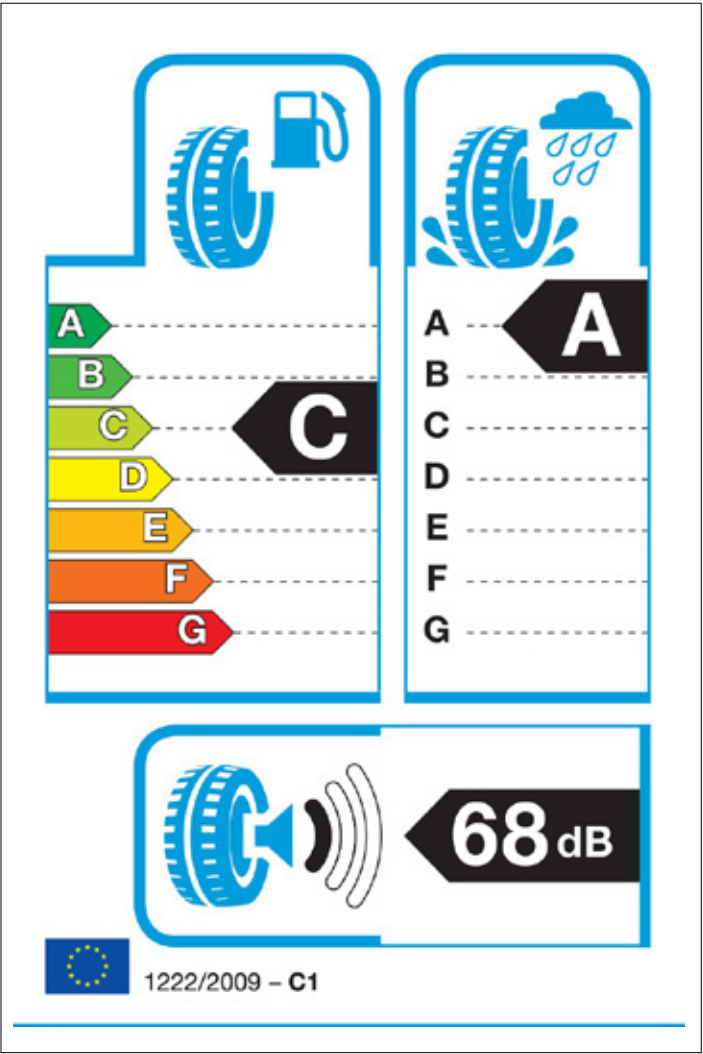
We're exceptionally proud of the EU label grades our products have been awarded. We have worked hard to develop our products to perform efficiently, safely and quietly – and our label grades demonstrate this.

The testing of all Davanti tyres has been carried out by IDIADA at their facilities in Spain.

IDIADA are one of just three independent test laboratories in the world to be members of the European Union's Expert Group.

The group performs inter-laboratory comparison tests in order to establish reference data for tyre label measurements.

Created under EC regulation No 122/2009, the European Union's Expert Group ensure all testing laboratories around the world are operating in alignment, measuring these parameters at a consistent level.



Label scores for: Davanti DX390 - 205/55 R16 94V

APPLUS+ IDIADA PROVING GROUND

IDIADA IS A MULTINATIONAL COMPANY, PROVIDING DESIGN, ENGINEERING, TESTING AND HOMOLOGATION SERVICES TO THE AUTOMOTIVE INDUSTRY.

Continuously developing and growing since 1994, Applus+ IDIADA has become the most comprehensive independent proving ground in Europe.

The proving ground is well known for consistent climatic conditions, which helps to minimise the effects of weather on testing, allowing for accurate results all year round.

Offering the highest level of customer support, combined with first-class test tracks and fully equipped confidential workshops – IDIADA is one of the most accurate and comprehensive testing facilities in the world.



TESTING AND BENCHMARKING

PERFORMANCE MATTERS TO US. WE DEMAND THAT EVERY DAVANTI TYRE DELIVERS OPTIMUM PERFORMANCE.

EU tyre labels are important for providing a standardised, controlled and trustworthy comparison for consumers. Label testing only covers three parameters however; fuel efficiency, wet-grip and noise.

There are many other important measures of tyre performance, and as such, EU labelling does not provide a complete comparison between different tyres.

We work in conjunction with tyre development company, TREAD Ltd, to carry out thorough performance testing on our tyres. With 10 years experience working for automotive manufacturers and tyre companies, they specialise in subjective and objective vehicle testing at proving grounds worldwide.

In November 2015, Davanti commissioned a comprehensive test programme, carried out by Ray Collier, the principal test engineer of TREAD Ltd, at the IDIADA proving ground.

All testing was conducted using not only Davanti tyres but also a range of premium, mid-range and budget brands. The data obtained from the testing enables the benchmarking of Davanti. It gives greater insight into how Davanti performs relative to other tyres on the market, while identifying areas of performance that can be developed and improved in future products.

Tests Performed

Over the course of 10 days at IDIADA, a series of tests were conducted to produce scores for the tyre's performance capabilities in the following areas:

- Dry Braking
- Dry Handling (Subjective)
- Wet Braking – on Asphalt with ABS
- Longitudinal Aquaplaning
- Wet Handling (Objective)
- Wet Handling (Subjective)

Benchmarking Test Tyres

- Davanti
- A **premium** tyre that is European manufactured and a frequent winner of independent tyre tests
- A **mid-range** tyre with OE applications
- A **budget** tyre

Benchmarking Test Tyre Sizes

- 185/60R15 (H Rated)
- 205/55R16 (V Rated)

PRINCIPAL TEST ENGINEER

ALL OF THE DAVANTI TESTING WAS COMPLETED UNDER THE SUPERVISION OF EXPERIENCED AUTOMOTIVE TYRE TEST AND DEVELOPMENT ENGINEER - RAY COLLIER.

Ray, an experienced automotive tyre test and development engineer, combined his degree with extensive driving experience to develop and enhance tyre testing methods.

Ray has experience working with a number of automotive manufacturers and tyre companies at locations around the globe.

Ray has developed a number of innovative techniques to objectively test tyres on vehicles. He uses data gained from testing,in parallel with subjective report writing, to progress tyre development programs.

With a wealth of experience working with and for major automotive manufacturers, nobody is more qualified to understand our customer's requirements.

Ray specialises in:

- Subjective and objective tyre testing
- Aquaplaning/Hydroplaning
- Subjective and objective vehicle testing
- New test methods
- Data acquisition
- Limit handling evaluation



TEST TYRES AND TEST VEHICLES

DAVANTI WAS TESTED AMONGST A RANGE OF PREMIUM, MID-RANGE AND BUDGET BRANDS USING THE LATEST TECHNOLOGY TO OBTAIN THE MOST OBJECTIVE DATA FOR BENCHMARKING.

Objective Data Logging:

Data logging equipment was provided by Racelogic Ltd, an automotive technology company based in Buckingham, United Kingdom. Racelogic specialises in Developing GPS, CAN bus, Inertial navigation system and video recording equipment. Racelogic Ltd design applications for use in vehicle testing, motorsport, marine defense, aviation, and GNSS device testing.



Test tyres:

		Davanti	Premium	Mid-Range	Budget
185/60HR15	Date of Manufacture	Week 11 2015	Week 21 2015	Week 21 2015	Week 23 2015
	EU Fuel Efficiency	C	C	C	E
	EU Wet Grip	B	A	C	C
	EU Noise	67	70	73	70
205/55VR16	Date of Manufacture	Week 9 2015	Week 22 2015	Week 11 2015	Week 24 2015
	EU Fuel Efficiency	C	C	C	E
	EU Wet Grip	A	A	C	C
	EU Noise	68	71	74	71

Test vehicles:

Consistency is the most important thing in tyre testing, so it was necessary to use a car with a stable, predictable chassis, approachable limits and crisp and communicative steering. The VW Golf GTI and Polo BlueGT have all of these qualities, and are more than capable of handling the workload of an intense testing schedule.

Vehicle	VW Golf Polo Blue GT	VW Golf Gti V7
Engine	150 PS	220 PS
Brake System	ABS ON ESP OFF	ABS ON ESP OFF
Loads	Driver	Driver
Seats	5	5
Transmission	6 Speed Manual	6 Speed Manual

TESTING SUMMARY



DRY HANDLING

DRY HANDLING CHARACTERISTICS ARE A KEY FACTOR IN THE OVERALL PERFORMANCE CAPABILITY.

In our testing we graded performance parameters across four categories:

- Ride
- Stability
- Steering
- Noise

Tests were conducted both at high speed – pushing the tyres beyond the limit of their grip – and also at typical driving speeds over a range of controlled surfaces and bumps.

Dry handling is not all about high speed performance. Top lap times are not relevant on dry roads. Tyres should provide safety reserves when taken to their limit and their road performance should be effortless and predictable since this helps a driver to relax and avoid driving errors. For this purpose, the test driver evaluates the reaction to steering input and cornering as well as rear axle stability. They look for how tyres react to changes in direction and pace, the amount of steering lock required and for any loss of grip to be progressive.

TEST FACILITY

IDIADA Dry Handling Circuit (MAIN Circuit)

Direction of travel

Anti-clockwise

Total length

2158 m

Width

7 m

Adherence Coefficient

0.8

REMARKS:

IDIADA’s dry handling circuit gives tyres a work-out with long sweeps that reveal any lack of balance or response. There are tighter turns, plus elevation changes to keep drivers working.

MAIN CIRCUIT

WHITE layout. Main layout and hence customers have right of way when driving.

ALTERNATIVE CIRCUIT

ORANGE layout. Alternative layout and hence customers must ALWAYS give way.

TYRE: 205/55R16					
		Premium	Davanti	Mid-Range	Budget
Ride	Shake	8.5	7.5	7.75	7.75
	Rough Road	8.5	7.5	7.75	7.5
	Impact Absorption	8.5	8	7.5	8.25
	High Speed	8	7.75	8	6
	Overall Ride	8.38	7.69	7.75	7.38
Steering	Driving Effort	8.5	8	7.5	7
	On Centre Feel	8.5	8	7.5	7
	Steering Response	8.5	8	7.25	6.75
	Linearity	8.5	8.25	7.75	6
	Overall Steering	8.5	8.06	7.5	6.69
Stability	Roll Control	8.5	8.25	7.5	6.25
	Yaw Stability	9	7.75	7.25	6
	Lateral Grip	8.75	7.75	7.5	6
	Lateral Stiffness	8.5	8.25	7.5	6
	Throttle Lift Off	8.5	7.5	7.25	6
	Straight Line Stability	9	8.75	8.5	7.5
	Overall Stability	8.71	8.04	7.58	6.29
Ranking Subjective		1st	2nd	3rd	4th
Noise	Pattern	8.5	8.25	8	6.5
	Road	8.5	8	7.75	7.75
	Squeal	8.5	8	6	7
	Overall Noise	8.5	8.08	7.25	7.08
Ranking Noise		1st	2nd	3rd	4th

Test driver subjective review of Davanti DX390:

“Good performance, grip and structure nicely balanced, response is good but slightly delayed to premium tyre (high level). Weight is good, slightly higher on return torque but still good, had small levels of non linear gain but also still acceptable, grip clearly reduced but transition to slip and control in slip good, no progression to slip gentle and constant transition and safe return to grip, rolling comfort reduced with more vertical movements, single solid inputs damped better, noise more open but again OK levels, squeal character OK with no variation in pitch, overall very acceptable performance.”

DRY TESTING



PERFORMANCE MATTERS TO US, WHICH IS WHY WE DEMAND THAT EVERY DAVANTI TYRE DELIVERS DRY HANDLING THAT DRIVERS CAN TAKE FOR GRANTED. HIGHLY RESPONSIVE, YOU CAN RELY ON DAVANTI TO KEEP YOU IN CONTROL – FROM OVERALL PERFORMANCE TO EMERGENCY STOPS.

WET HANDLING

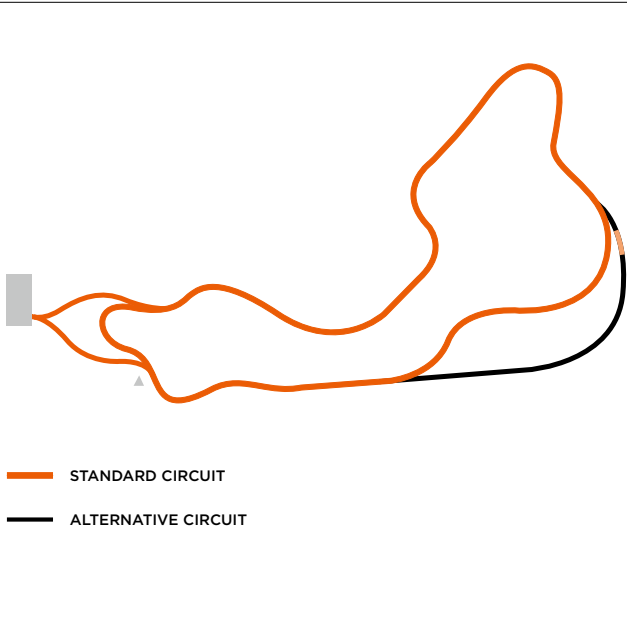
THE ONLY TIME MOST DRIVERS GET CLOSE TO THE LIMIT OF THEIR TYRES’ ABILITY IS ON WET ROADS. GRIP IS DRASTICALLY REDUCED, AND THIS CAN REALLY HIGHLIGHT THE VARIANCE IN PERFORMANCE BETWEEN DIFFERENT TYRES.

Wet handling testing consisted of both objective and subjective tests.

The objective test parameter measured was the time taken for a high-speed lap of the wet handling circuit at IDIADA. This is a broad ranging test that takes in to account a number of tyre performance attributes, such as the tyre’s ability to transfer the car’s power to the road, and ultimately the amount of control the driver has.

The subjective test goes beyond the lap time to give a greater insight in to the tyre’s performance. The test driver applies a rating to a number of parameters, based on their knowledge and experience. They are focusing on driver experience – looking for safe, predictable handling, and effortless road performance.

TEST FACILITY	
IDIADA Wet Handling Circuit (MAIN Circuit)	
Direction of travel	Anti-clockwise
Total length	1517.5 m
Width	6 m
Water height	1 mm
REMARKS:	
The 1,500-metre IDIADA wet handling course winds through trees and sheer rock faces to really test tyres. The 1mm-deep wet surface combines fast sweeps, quick direction changes and off-camber bends with plenty of run-off.	



TYRE: 185/60R15				
	Premium	Davanti	Mid-Range	Budget
WET HANDLING – OBJECTIVE				
Asphalt Circuit Lap Time 1	72.52	75.75	75.27	76.5
Asphalt Circuit Lap Time 2	72.45	75.7	75.5	76.98
Asphalt Circuit Lap Time 3	72.57	75.3	75.52	76.54
Lap Time Average	72.51	75.41	75.43	76.67
STDev.	0.06	0.30	0.14	0.27
Ranking Laptime	1st	2nd	3rd	4th
WET HANDLING – SUBJECTIVE				
Steering Response	9	8	8.25	7
Acceleration	9.25	8	8.25	7
Braking Stability	9	8	8.25	7.5
Yaw: Steady State	9	8.75	8.5	5.5
Yaw: Lift-off	8.5	8	7.75	5.5
Yaw: Braking	8.75	8	7.75	5.5
Lateral Grip	9	7.75	7.75	6
Overall Subjective	8.9	8.1	8.1	6.3
Ranking Subjective	1st	=2nd	=2nd	4th

Test driver comment of Davanti tyres:

“Handling balance very neutral with rear axle very stable and no over steer response, steady state transition to slip slightly faster with more progression in slip than premium tyre due to lower grip, but again balance is still mainly neutral and secure, driver inputs quickly controlled any rear axle slip.”

WET TESTING



IN WET WEATHER, TYRE GRIP IS DRASTICALLY REDUCED. THE WET BRAKING PERFORMANCE OF YOUR TYRE IS ESSENTIAL TO YOUR SAFETY. COMBINING THE LATEST TECHNOLOGY AND TESTING, WE'VE WORKED HARD TO PRODUCE A RANGE OF TYRES THAT OFFER PROVEN EXCEPTIONAL WET HANDLING.

DRY BRAKING

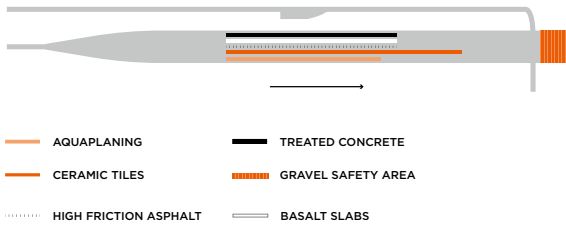
YOU DON'T HAVE TO MAKE AN EMERGENCY STOP VERY OFTEN, BUT WHEN YOU DO, YOU WANT TO KNOW YOU CAN RELY ON YOUR TYRES TO BRING YOUR CAR TO A HALT IN A SAFE AND COMPOSED MANNER.

Dry braking test consists of driving vehicle at 110 km/h, then applying brakes.

The distance covered by the car between 100 km/h and a complete stop was measured by ultra-precise GPS equipment. Extreme results were eliminated and an average was taken of the remainder to determine the final score.

TYRE: 185/60R15												
	Premium			Davanti			Mid-Range			Budget		
	Distance	Time	Decline	Distance	Time	Decline	Distance	Time	Decline	Distance	Time	Decline
1	34.50	2.49	-1.14	40.11	2.83	-0.98	40.28	2.83	-0.98	38.77	2.76	-1.01
2	34.78	2.46	-1.13	40.14	2.83	-0.98	40.51	2.84	-0.97	38.98	2.75	-1.01
3	35.37	2.51	-1.11	40.56	2.83	-0.97	40.69	2.83	-0.97	39.00	2.75	-1.01
4	35.32	2.53	-1.11	40.33	2.82	-0.98	40.69	2.85	-0.97	38.91	2.74	-1.01
5	35.78	2.52	-1.1	40.49	2.82	-0.97	39.93	2.79	-0.99	39.19	2.74	-1
Average	35.15	2.5	-1.118	40.33	2.83	-0.976	40.42	2.83	-0.976	38.97	2.75	-1.008
STDev.	0.5083	0.03	0.016	0.202	0.01	0.005	0.322	0.02	0.008	0.152	0.01	0.004
Corrected Average	35.15			40.26			40.30			38.78		
Ranking Breaking	1st			3rd			4th			2nd		

TEST FACILITY	
IDIADA Dry Braking Surface	
Surface	Asphalt
Total length	200 m
Width	7 m



The diagram illustrates the layout of the test facility, showing a sequence of surfaces along a track. The surfaces are represented by colored bars: a grey bar for Basalt Slabs, a black bar for Treated Concrete, a red bar for Ceramic Tiles, a blue bar for Aquaplaning, a green bar for High Friction Asphalt, and a yellow bar for Gravel Safety Area. An arrow indicates the direction of travel from left to right.

- AQUAPLANING
- CERAMIC TILES
- HIGH FRICTION ASPHALT
- TREATED CONCRETE
- GRAVEL SAFETY AREA
- BASALT SLABS

WET BRAKING

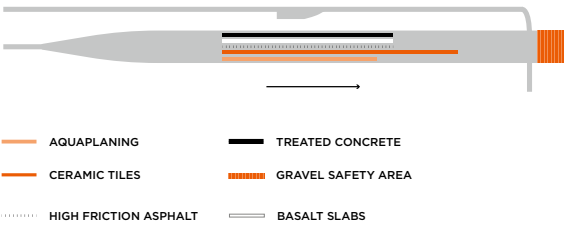
STOPPING QUICKLY ON A RAIN-SOAKED SURFACE IS OF VITAL IMPORTANCE AND REQUIRES A SPECIFIC RANGE OF ABILITIES.

Wet braking test consists of driving vehicle at 110 km/h, then applying brakes.

The distance covered by the car between 100 km/h and a complete stop was measured by ultra-precise GPS equipment. Extreme results were eliminated and an average taken of the remainder to determine the final result.

TYRE: 205/55R16												
	Premium			Davanti			Mid-Range			Budget		
	Distance	Time	Decline	Distance	Time	Decline	Distance	Time	Decline	Distance	Time	Decline
1	41.79	2.97	-0.94	43.92	3.05	-0.9	44.01	3.15	-0.89	44.69	3.13	-0.88
2	42.14	3.02	-0.93	43.58	3.04	-0.9	44.07	3.13	-0.89	44.81	3.15	-0.88
3	42.19	3.00	-0.93	43.52	3.02	-0.9	43.62	3.13	-0.9	44.49	3.12	-0.88
4	41.24	2.96	-0.95	43.50	3.02	-0.9	44.60	3.16	-0.88	44.47	3.11	-0.88
5	41.01	2.91	-0.96	43.73	3.02	-0.9	43.76	3.10	-0.9	44.50	3.12	-0.88
Average	41.67	2.97	-0.942	43.65	3.03	-0.9	44.01	3.13	-0.892	44.59	3.13	-0.88
STDev.	0.531	0.04	0.013	0.176	0.01	0.00	0.376	0.02	0.008	0.151	0.02	0.000
Corrected Average	41.67			43.75			44.21			44.89		
Ranking Breaking	1st			2nd			3rd			4th		

TEST FACILITY	
IDIADA Wet Braking Surface	
Surface	Asphalt
Total length	200 m
Width	7 m
Water Height	1 mm



The diagram illustrates the layout of the test facility. It shows a sequence of surfaces along a track. From left to right, the surfaces are: Aquaplaning (represented by a light orange line), Treated Concrete (represented by a black line), Ceramic Tiles (represented by a dark orange line), Gravel Safety Area (represented by a thick orange line), High Friction Asphalt (represented by a dotted line), and Basalt Slabs (represented by a grey line). An arrow indicates the direction of travel from left to right.

- AQUAPLANING
- CERAMIC TILES
- HIGH FRICTION ASPHALT
- TREATED CONCRETE
- GRAVEL SAFETY AREA
- BASALT SLABS

LONGITUDINAL AQUAPLANING

AQUAPLANING MEASURES THE SPEED WHEN THE TYRE CAN NO LONGER CLEAR WATER UNDER THE TREAD.

Aquaplaning testing is performed on a wet surface, in water depth of approximately 7 mm.

The test procedure consists of hard acceleration on the wet surface. The vehicle speed reached is at the point when the driven front wheels spin at a speed 15 percent faster than the vehicles true speed, as measured by the GPS device. The test is carried out 5 times, and an average calculated to give the overall result.

In this test, a high speed is desirable:

TYRE: 185/60R15				
	Premium	Davanti	Mid-Range	Budget
Run	Speed (km/h)	Speed (km/h)	Speed (km/h)	Speed (km/h)
1	81.00	79.00	79.00	78.00
2	80.00	80.00	79.00	78.00
3	83.00	79.00	79.00	79.00
4	81.00	80.00	80.00	78.00
5	81.00	79.00	80.00	77.00
Average	81.20	79.40	79.40	78.00
STDev.	1.10	0.55	0.55	0.71
Ranking Speed	1st	=2nd	=2nd	4th

TESTING SUMMARIES

INNOVATION. PERFORMANCE. QUALITY...
AT THE HEART OF EVERY TYRE.

15" – Results Relative to Premium Tyre				
		Davanti	Mid-Range	Budget
Dry		-2.5%	-3.3%	-2.7%
Stability	Rating	-1.4	-1.9	-1.7
Steering	Rating	-0.9	-1.4	-1.2
Braking ABS	m	-5.1	-5.1	-3.6
Wet		-2.6%	-2.5%	-4.6%
Braking Asphalt ABS	m	-5.4	-5.3	-6.2
Aqua. Longitudinal	kph	-1.8	-1.8	-3.2
Handling Objective	Sec	-2.9	-2.9	-4.2
Handling Subjective	Rating	-0.9	-0.9	-2.6
Overall		-5.0%	-5.8%	-7.3%

16" – Results Relative to Premium Tyre				
		Davanti	Mid-Range	Budget
Dry		-1.4%	-2.2%	-3.8%
Stability	Rating	-0.7	-1.1	-2.4
Steering	Rating	-0.4	-1.0	-1.8
Braking ABS	m	-3.1	-3.4	-2.4
Wet		-1.3%	-1.8%	-3.7%
Braking Asphalt ABS	m	-2.1	-2.5	-3.2
Aqua. Longitudinal	kph	-1.0	-1.4	-1.2
Handling Objective	Sec	-1.4	-1.9	-3.0
Handling Subjective	Rating	-0.6	-1.0	-2.9
Overall		-2.6%	-4.1%	-7.5%

