



SPORTMAX

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THE DUNLOP SPORTMAX Q2: THE SPORTBIKE TIRE THAT DOES IT ALL

At Dunlop, no sportbike tire is ready for the road until it is racetrack-proven. Case in point: the new Sportmax Q2 featuring Dunlop's Intuitive Response Profile (IRP) and MT Multi-Tread™ technology. This remarkably effective new tire incorporates many key race-tested advancements that add up to a vastly superior street-going tire that is equally at home on the track.

The new Sportmax Q2 draws upon Dunlop's most sophisticated technology and construction advances ever gleaned from the track, which were then refined specifically for street use. With its new IRP technology in the rear tire, the new Q2 possesses steering characteristics unlike any other sport tire made. It intuitively allows the rider greater latitude in line choice while cornering and provides amazingly linear steering no matter what shape, speed or camber the corner, and at all lean angles. Because this radical new profile puts down a bigger footprint at extreme lean angles while also allowing greater lean angles and higher corner speeds, the Sportmax

Q2 provides substantially better grip and handling than the previous Qualifier—the only tire ever to win a MOTY Award from *Motorcyclist* magazine.

Add Dunlop's advanced Multi-Tread technology and you have a street tire that combines the benefits of a tough, long-wearing center compound for increased mileage with a special lateral grip compound on each shoulder for superior cornering traction.

In addition to Dunlop's IRP and MT technologies, the carcass construction of both front and rear tires includes newly designed continuous hex beads that are both lighter and stronger to enhance steering response in the front tire and increase cornering stability in both tires. The rear tire also features a newly developed, stiffer version of Dunlop's Jointless Band (JLB) construction that utilizes a continuously wound aramid belt for reduced carcass distortion, plus stiffer overall construction to meet high-performance demands and provide a more consistent contact patch.



THE JOURNEY FROM TRACK TO STREET

Dunlop's design philosophy takes root in the company's phenomenal racing success. Consider Dunlop's unsurpassed history of achievements in AMA (American Motorcyclist Association) racing: Since the inception of the 600 Supersport class, Dunlop racers have won an unparalleled 20 out of a possible 20 championships through 2008. In the ultra-competitive AMA Superbike class, Dunlop won 23 titles, including the last 19 in a row as of the close of the 2008 season.

In the fall of 2005, the street-going Qualifier was introduced as the successor to the immensely popular D208ZR. As the latest in a long line of sportbike tires benefitting from Dunlop's hard-fought racing success, the Qualifier immediately won accolade upon accolade from the enthusiast press. These impressions presaged the tidal wave of popularity from hundreds of thousands of riders who bought Dunlop Qualifiers over the next three years, making it the best-selling high-performance motorcycle tire in the U.S.

Not satisfied to rest on the achievements of the Qualifier, Dunlop has taken the latest lessons learned from the remarkable N-Tec and Sportmax D211GP multi-compound racing tires that have dominated recent AMA road racing, and designed a worthy successor that offers substantially better performance. The resulting Sportmax Q2 underscores the major strides Dunlop has taken in the development of multi-compound tires and the complex construction that allows them to work so seamlessly on the track and now on the street.





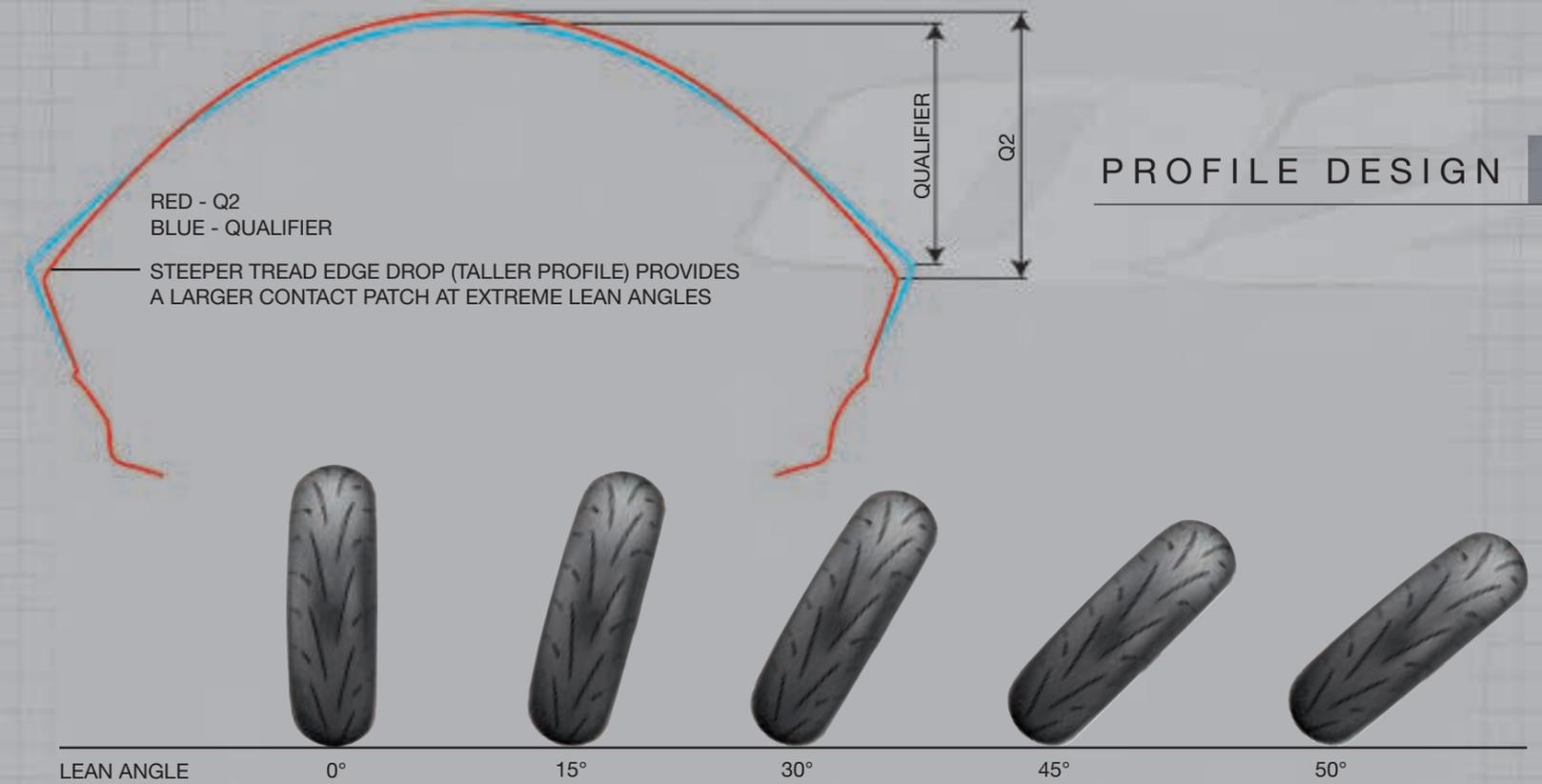
PROFILE DESIGN

A newly developed tire profile also contributes significantly to the advanced design of the Sportmax Q2, with this Intuitive Response Profile (IRP) providing phenomenal steering and handling characteristics. When compared side by side with the previous-generation Qualifier, the front and rear Q2 display a taller profile along with sides that taper in more aggressively. Cross-sectional analysis reveals the intent of this design: creation of a larger contact patch when cornering. To achieve this larger contact-patch, Dunlop engineers utilized three-dimensional computer modeling, FEA (finite element analysis), to scrutinize the many forces exerted on the Sportmax Q2 at varying lean angles. Engineers used FEA to closely evaluate contact patch pressure distribution and the effect that different construction materials had on tire stiffness, especially at full lean angles. For different sets of variables, FEA was used to produce three-dimensional rolling simulations that yielded insights into projected contact patch behavior. Once these variables were identified, a number of working prototypes were tested on a sophisticated drum analyzer to study varying conditions, including different inflation pressures, vertical loads, lean angles and slip angles. Throughout this testing, primary concern focused on the behavior of the tire's contact patch throughout the attitude variations of the tire, from upright to maximum lean.

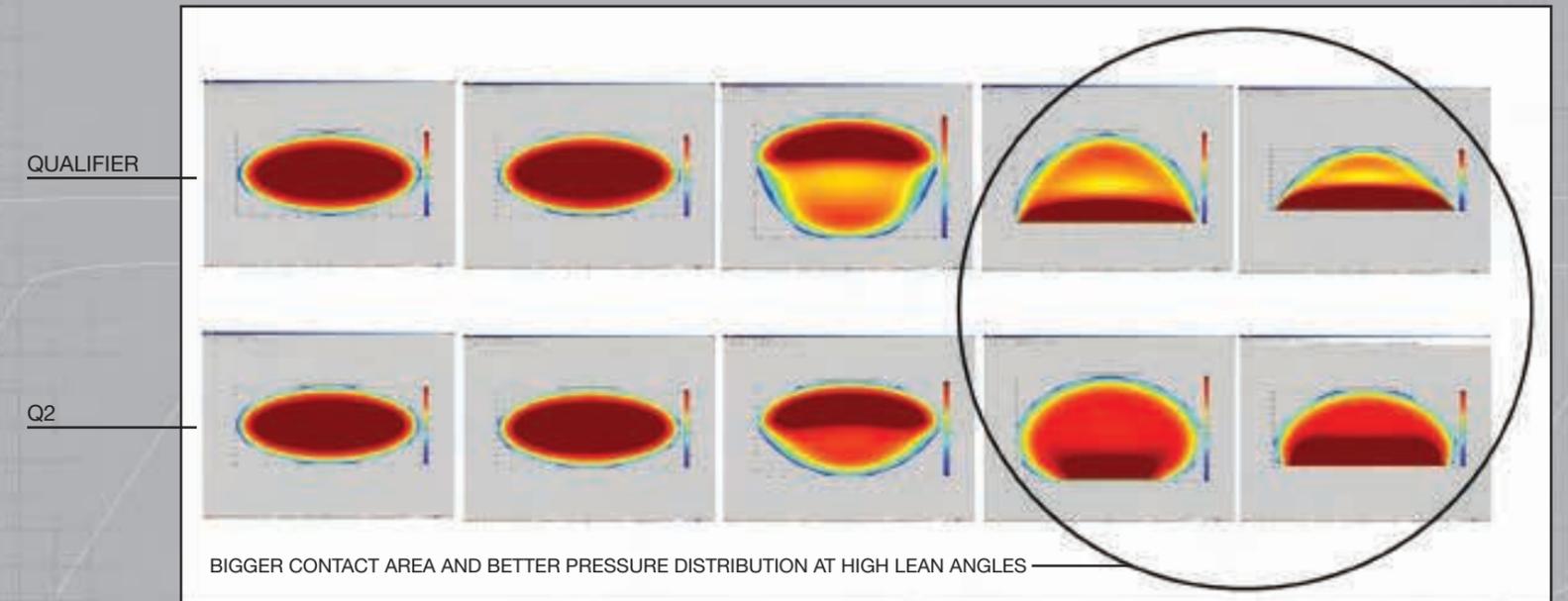
By the time actual testing of prototypes on real-world tracks commenced, the investment in computer modeling, FEA profile design and lab testing paid off handsomely: The Sportmax Q2 achieved significantly greater lean angles and higher cornering speeds than the original Qualifier. (See Testing details on page 18 and 19.)



Q2 VS QUALIFIER REAR CONTOUR PROFILE



PROFILE DESIGN





MT TECHNOLOGY

The launch of the Sportmax Q2 brings Dunlop MT Multi-Tread technology to the entire spectrum of sport riding—all the way from sport touring with Dunlop's Sportmax Roadsmart with MT, to street riding and track days with the new Sportmax Q2 with MT, to aggressive track riding and roadracing with the Sportmax GP-A with MT. Dunlop's entire Sportmax range features Dunlop MT technology, with a tough, cool-running, long-wearing compound placed in the center of the tread to provide enhanced straight-line stability and excellent traction under acceleration, plus long tread life. On the left and right sides of the tire face, lateral-grip compounds developed specifically to enhance traction at moderate-to-maximum lean angles flank the longer-wearing center section.

Dunlop engineers selected these specifically tuned lateral-grip and long-wearing compounds in the Sportmax Q2 to yield maximum sportbike performance. The lateral-grip compounds in the Sportmax Q2 are directly derived from Dunlop's road-race compounds. To produce higher levels of grip, ultra-fine carbon black (UFCB) and a proprietary resin bond together the compounds' polymers. Because UFCB has small-diameter particles with a very dense structure, the resulting bond is very tight, providing the added benefits of low warm-up time and surprisingly good tread wear for a high-performance tire.

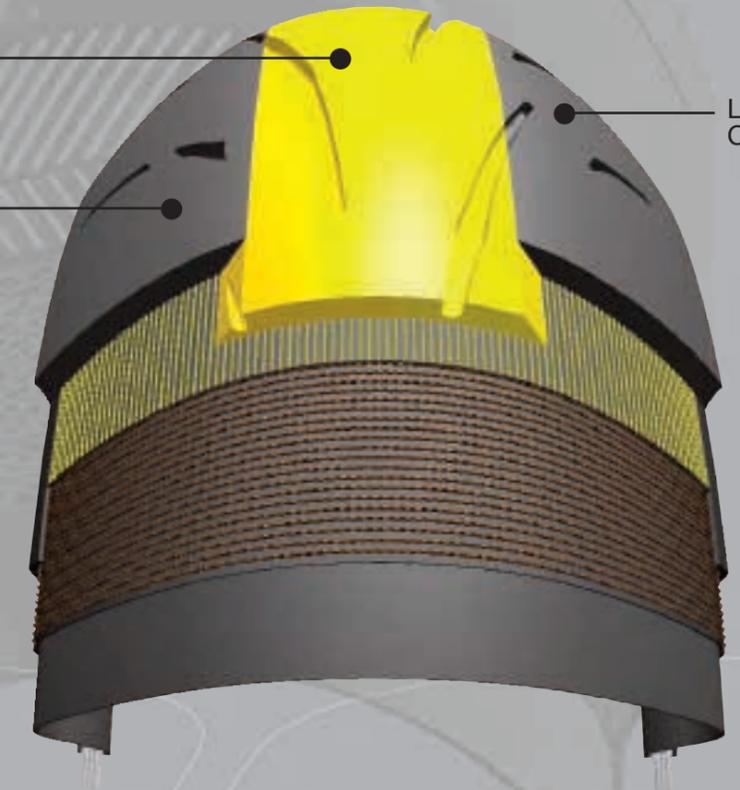


MT TECHNOLOGY

LONG-WEARING COMPOUND

LATERAL-GRIP COMPOUND

LATERAL-GRIP COMPOUND



CONTINUOUS HEX BEADS

Newly designed continuous hex beads that are both lighter and stronger to enhance steering response in the front tire and increase cornering stability in both tires.

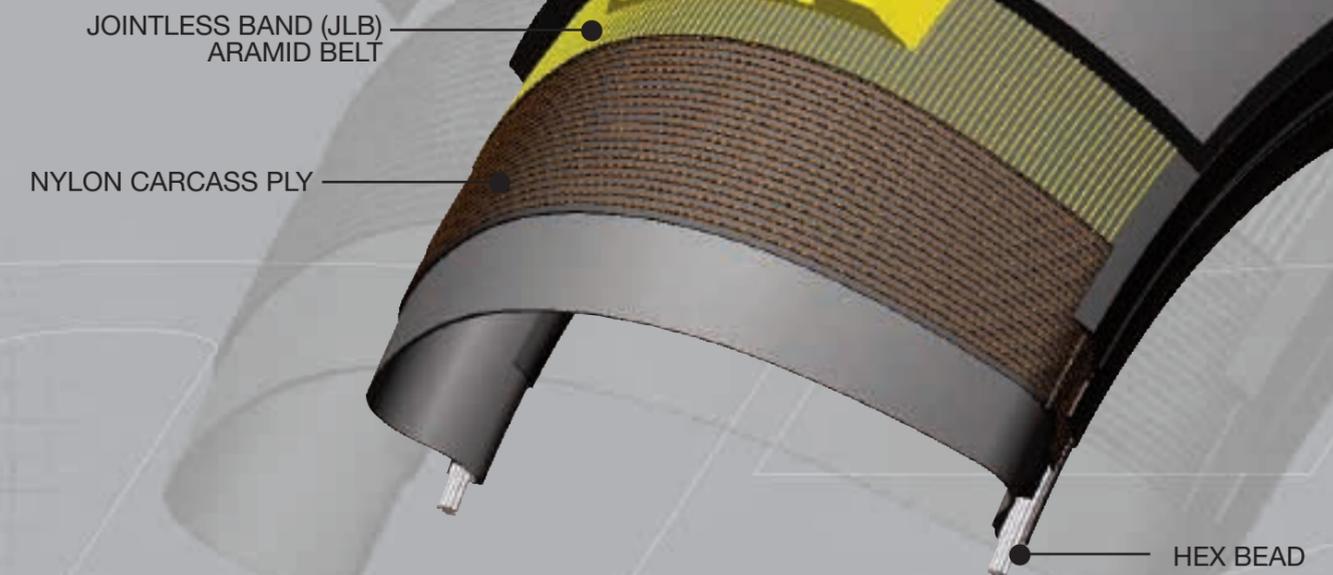


CONSTRUCTION

Alongside development of the Sportmax Q2's more aggressive profile, Dunlop engineers simultaneously worked to optimize tire carcass construction in the front and rear tires to maintain a more consistent contact patch that resisted the increased power, braking forces and cornering loads generated by modern 600cc and 1000cc high-performance motorcycles. This also contributes to the Intuitive Response Profile's incredible handling characteristics. The cut-breaker radial construction of the front Sportmax Q2 parallels that of the Qualifier design it replaces, with two nylon carcass plies and two aramid reinforcing belts for increased cornering stability and enhanced braking at high loads, plus a sport-oriented carcass stiffness to enhance steering response. In addition, newly designed continuous hex beads are both lighter and stronger to improve steering response and enhance cornering stability.

In the rear radial-construction Sportmax Q2, continuously wound Jointless Band (JLB) construction utilizing a strong aramid belt ensures consistent tire diameter in all operating conditions. The aramid belt is a new design derived from racing to offer greater stiffness. The JLB is wound onto the tire with different tensions across the tire—Dunlop's Carcass Tension Control System (CTCS)—so the cured tire has higher tension in the crown for stability and slightly less tension at the shoulders for grip compliance. One nylon carcass ply and one aramid JLB belt typify construction of the 180/55ZR17, 190/50ZR17 and 190/55ZR17 sizes, while the larger 200/50ZR17 employs two nylon carcass plies and a single aramid JLB belt. These constructions yield the best balance between a high level of tire compliance for greater ride comfort and increased carcass stiffness for exemplary tire stability and improved braking under high loads. The improved tire bead also adds significantly to cornering stability and the intuitive feel the rider gets from the tire while cornering.

REAR TIRE CONSTRUCTION





TREAD PATTERN

As with all Dunlop Sportmax tires, the Sportmax Q2 features Dunlop's proprietary cosecant-curve design to align tire forces precisely with the tread grooves. Compared with the Qualifier, the Q2 has a higher "land-to-sea" ratio to put as much rubber on the ground as possible. To maintain wet grip, new polymers have been incorporated into both the long-wearing and lateral-grip compounds. The pattern design has a lower percent of grooved "void" area in the shoulders to maximize cornering performance, and the areas that are grooved are shorter to increase stiffness and minimize wear to the softer lateral grip compounds. In addition, the location of the grooved elements is spaced at varying intervals around the tire to reduce frequency-generated noise and vibration.





TESTING

Prototype testing at Dunlop's Huntsville Proving Grounds in Alabama and many other tracks across the U.S. confirmed the work of the design team and allowed the engineers to fine-tune aspects of the Sportmax Q2 for production. When the final design prototype was evaluated, it revealed some astonishing improvements. Compared with the Qualifier, the Q2 was quantifiably better in these areas:

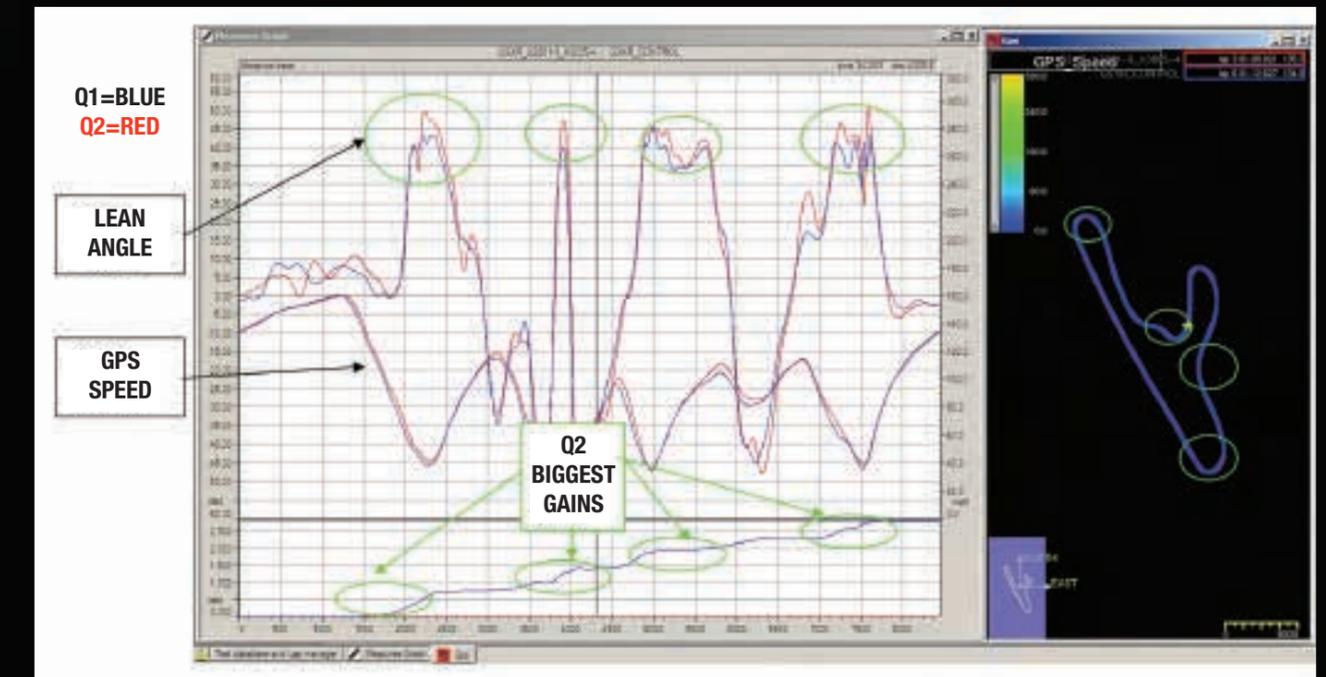
- Traction level grip—up 15%
- Drive grip—up 15%
- Responsiveness—up 5%
- Cornering stability—up 25%

To put more meaning to these numbers, Dunlop test riders put the new Sportmax Q2 through its paces at the South Course of Virginia International Raceway (VIR). In side-by-side comparison tests against the Qualifier on a stock Suzuki

GSX-R1000, the Sportmax Q2 completed the 1.65-mile course 2.81 seconds faster (1.09:82 vs. 1.12:63). Data analysis shows that the new Q2 was able to achieve greater lean angles (52.3 vs. 45.2 degrees) and higher lateral acceleration (1.3g vs. 1.0g). In other words, the Sportmax Q2 went through the turns much faster due to the combination of the new profile, pattern, construction and MT tread compounds. That, in turn, allowed higher entry and exit speeds that resulted in higher straightaway speeds.

For today's sportbike riders, this kind of performance translates to improved overall handling and a greater margin of comfort when working the backroads, not to mention exhilarating performance at track days when the full potential of the Sportmax Q2 with Intuitive Response Profile can be realized. If there was ever one Supersport tire that could do it all, it's the Dunlop Sportmax Q2.

VIR SOUTH COURSE TEST — GSX-R1000
Q2 - 2.81 SECONDS FASTER THAN Q1



FAST LAP	Q1 = 1.12.63	Q2 = 1.09.82
MAX LEAN ANGLE	Q1 = 45.2°	Q2 = 52.3°
LATERAL ACCELERATION	Q1 = 1.0g	Q2 = 1.3g



AVAILABILITY

The Sportmax Q2 will be available in the U.S. in the summer of 2009 and will be offered in these sizes:

FRONT

120/60ZR17

120/70ZR17



REAR

160/60ZR17

170/60ZR17

180/55ZR17

190/50ZR17

190/55ZR17

200/50ZR17





SPORTMAX FAMILY

Whatever your motorcycling passion may be, Dunlop is the name to know. Our Sportmax radial tires carry the highest reputation in every segment of the sport market, and because we offer a huge variety of high-performance options, it's easy to find the tire that's just right for your personal preferences.

	RACE	TRACK	STREET SPORT	SPORT TOURING
SPORTMAX GP-A	■	■	■	■
SPORTMAX Q2	■	■	■	■
SPORTMAX ROADSMART	■	■	■	■

SPORTMAX GP-A



The next-generation Supersport race tire developed and manufactured in the USA to specifically meet the needs of American racers and sportbike riders.

- + MT Multi-Tread compound gives the Sportmax GP-A rear tire unparalleled grip, excellent drive out of corners and superior on-track handling.
- + Multi-Tread rear tires are available in soft/medium and medium/hard combinations to match any track condition.
- + Jointless Band (JLB) rear-tire construction reduces tire growth for cooler running and enhanced grip.
- + 120/70ZR17 front and 190/55ZR17 rear size for club racing or track-day use on 1000cc and 600cc machines.
- + Dunlop is the Official Tire of AMA Pro Road Racing and the Sportmax GP-A is the Official Tire for the Daytona SportBike, SuperSport and SunTrust Moto-GT classes.



SPORTMAX Q2



The new Q2 incorporates race-tested advancements that add up to a vastly superior tire equally at home on the street or the track.

- + Intuitive Response Profile (IRP) technology in the rear tire intuitively allows the rider greater latitude in line choice while cornering and provides amazingly linear steering no matter what shape, speed or camber the corner, and at all lean angles.
- + Radical new profile puts down a bigger footprint at extreme lean angles while also allowing greater lean angles and higher corner speeds to provide substantially better grip and handling.
- + Dunlop's advanced Multi-Tread technology combines the benefits of a tough, long-wearing center compound for increased mileage with a special lateral-grip compound on each shoulder for superior cornering traction.
- + New carcass construction in both the front and rear tires includes newly designed continuous hex beads that are both lighter and stronger to enhance steering response in the front tire and increase cornering stability in both tires.
- + Q2 rear tire features a newly developed, stiffer version of Dunlop's Jointless Band (JLB) construction that utilizes a continuously wound aramid belt for reduced carcass distortion, plus stiffer overall construction to meet high-performance demands and provide a more consistent contact patch.



SPORTMAX ROADSMART



The Roadsmart™ is an advanced sport-touring radial tire with remarkable wet-weather performance, exceptional mileage and sportbike handling.

- + The best wet-weather performance of any Dunlop road tire, with long-lasting mileage to match.
- + MT Multi-Tread rear tire incorporates a long-wearing compound in the center of the tire tread and a lateral-grip compound on each shoulder to maximize cornering performance and provide class-leading grip and feel.
- + Micro-sized carbon particles improve dry grip under acceleration, and wet grip is improved with a special silica additive.
- + Coscant-curve tread design with deep and long grooves to evacuate the maximum amount of water in both straight-line and cornering conditions.





IS THIS HEAVEN? NO, IT'S HUNTSVILLE

Talk about your dream job. How'd you like to work at an 80-acre private riding facility with not one but two Supercross tracks, a motocross track, a mile of fire roads, a supermoto track and a paved road course? Oh, and did we mention the fleet of 50 motorcycles and ATVs just waiting to be ridden hard on all that dirt and asphalt?

That's exactly the tough duty pulled by a team of riders and technicians at Dunlop's Huntsville Proving Grounds (HPG) in Alabama. Truth be told, the hard-riding crew here cycles through more than 2,000 tires per year, pushing them to the limits of adhesion on all sorts of surfaces and through a battery of tests to evaluate Dunlop's latest tire designs for the street and the track. It is a precise science.

HPG is a dedicated motorcycle-only tire-test facility, the only one of its kind in the world. Unlike other companies that test their tires overseas or are forced to share space with automotive tire testing, Dunlop evaluates motorcycle tires for the North American market right here, using American riders on American-spec bikes, so the ultimate results are a natural fit with our riding styles and needs.

HPG's courses can approximate just about any road or race condition, dry or wet. And its test fleet is deep enough for bike-to-bike comparisons. "Say a tire works well on a CBR600RR. Does it also work on a GSX-R600? We can test for that," explained Danny Roberts, the facility's manager. Most of the test bikes are stock 2008 and 2009 models, since most riders "go out, buy a bike and ride it," Roberts said. There are a few dedicated racebikes there and an 1983 Gold Wing. "We still make tires for the older bikes," Roberts said.



DUNLOP PERSONNEL BIOS

MICK JACKSON

MANAGER - MOTORCYCLE DEVELOPMENT

BACKGROUND

- 2005-Present Manager - Motorcycle Development, Dunlop Tires N.A.
- 2004-2005 Replacement Tire Development Manager, Dunlop Tires N.A.
- 2001-2004 Assistant Manager - Motorcycle Development, Dunlop Tires N.A.
- 1997-2000 Chief Designer Dunlop UK, All Motorcycle Race/High Performance Road Tires
- 1994, 1995 and 1996 250cc World Championships with Max Biaggi (Aprilia)
- 1993 250cc World Championship with Tetsuya Harada (Yamaha)
- 1993-1996 Senior Design Engineer, Grand Prix/WSS racing programs
- 1991 and 1992 World Championships with Doug Polen (Ducati)
- 1988-1992 Senior Design Engineer, World Superbike racing program
- 1986-1988 Draftsman, Motorcycle and Car Race/Development Engineer for British Superbike championship program
- 1977-1986 Engineering Apprentice/Toolmaker with Dunlop Tires, UK

ACHIEVEMENTS

- D364 Inventor
- D207 Co-inventor
- D208GP Co-inventor
- Qualifier Co-inventor

EDUCATION

- 1985 HNC Degree, Mechanical/Production Engineering
- 1996 HNC Degree, Computer Science

SHAWN BELL

MOTORCYCLE TIRE DEVELOPMENT ENGINEER

BACKGROUND

- 2005-Present Development Engineer, Dunlop Tires N.A., Buffalo, NY
- 2000-2005 Mechanical Design Engineer, Curbell Electronics, Orchard Park, NY
- 1997-2000 Senior Test Technician, Moog Inc, East Aurora, NY
- 1995-1997 Quality Assurance Technician, EverFab Inc., East Aurora, NY
- Motorcyclist since 1997; current motorcycle 2004 Yamaha R1

EDUCATION

- MBA Marketing Management, 2005
- BT Mechanical Engineering, 1999
- AAS Mechanical Engineering, 1995

NEILL RAMPTON

SENIOR ANALYST - MOTORCYCLE DEVELOPMENT, DUNLOP TIRES N.A.

BACKGROUND

- Engineer - Materials Development, Dunlop Tires UK
- Senior Designer - Car Race Tires, Dunlop Motorsport UK
- Senior Analyst - Tire & Vehicle Simulation, Dunlop Motorsport UK
- Senior Analyst - Motorcycle Development, Dunlop Tires N.A.

ACHIEVEMENTS:

- Responsible for Design/Simulation for: Le Mans 24Hr Sports prototypes
Le Mans 24Hr GT Cars
SuperTouring Cars
Formula 3
DTM German Touring Cars
BTCC British Touring Cars
MotoGP/Superbike

EDUCATION

- Bachelor of Science: Engineering – Coventry University School of Engineering, UK

DANNY ROBERTS

SENIOR TEST RIDER/MANAGER - HUNTSVILLE PROVING GROUNDS

BACKGROUND

- 1995-present Professional Test Rider, Dunlop Motorcycle Tires
- Based at Dunlop's Huntsville, AL, Proving Grounds; participates in testing of all Dunlop motorcycle (off-road, road race and street) and ATV products
- Consults with tire development teams in the United States, United Kingdom and Japan
- 1989-1995 Full-time competitive road racer
- 1986 Began road racing; turned professional in 1988
- Competitive motocross racer ages 9 through 22

COMPETITIVE RACING CAREER HIGHLIGHTS

- 1995 Hired as Associate Test Rider by Dunlop - Dunlop Proving Grounds
- 1995 Member of Team Suzuki - Supersport Support
- 1993/1994 Member of N.A. 5-rider team at South American Red Stripe GP
- 1993 Winner of WERA Pro Series 600cc Superstock National - Moroso
- 1993/1994 Honda CBR900RR National Challenge Champion - Daytona
- 1988 - Acquired Dunlop tire sponsorship lasting until end of career
- 1988/89/91 Team USA member 'Macau Grand Prix'
- 1984 FMC 250cc A Class Champion - Yamaha Team Support
- 1983 NMA Florida Region Champion 250cc A Expert
- 1982 AMA Florida Winter Series Champion 250cc B Intermediate
- 1979 AMA Virginia State 100cc Expert Champion

RICH CONICELLI

TEST ENGINEER - HUNTSVILLE PROVING GROUNDS

COMPETITIVE RACING CAREER HIGHLIGHTS

- 2003 Hired as Motorcycle Test Rider - Dunlop
- 2003 Raced for Team Millennium Kaufman Suzuki - Dunlop
- 2002 Finished 9th in Daytona 200
- 2001 10th in AMA 750 Supersport Championship - Dunlop
- 2000 AMA Superbike Grand National Champion - AMA Horizon Award
- 1999 Began Pro AMA Racing - Superbike, 750 Supersport
- 1999 Four-time S.E. Regional Champion - Suzuki GSX-R750 - Dunlop
- 1999 Started racing for Team HSA Suzuki - Dunlop
- 1998 Three-time S.E. Regional Champion - Honda CBR600F3 - Dunlop
- 1996 Began road racing - Honda CBR600F2 - Dunlop

LEVON PENDERGRASS

LEAD TECHNICIAN - HUNTSVILLE PROVING GROUNDS

BACKGROUND

- 20 years of motocross and off-road racing
- 2008 Promoted to Lead Tech at Dunlop Proving Grounds
- 2001 Hired as Technician at Dunlop Proving Grounds - Huntsville, AL
- 1993-2001 Lead Technician at Cycle City Power Sports Newnan, GA
- 1992-1993 Technician / Parts at Smitty's Cycle - West Point, GA
- 1991 Graduate Motorcycle Mechanics Institute - Orlando, FL

DUSTIN CYR

TECHNICIAN - HUNTSVILLE PROVING GROUNDS

BACKGROUND

- 2007-Present Technician at Dunlop Proving Grounds
- 2005-2006 Crew Chief for Matsushima Racing – AMA National Superbike Series
- 2003-2005 Crew Chief for HSA Racing – AMA National Superbike Series
- 2000-2002 Lead Technician for KWS Racing – AMA National Superbike Series
- 1995-1998 Crew Chief for AMA Superbike competitor Manny Manusuthakis



Q2 IMAGE GUIDE



Q2_Front_3.4



Q2_Rear_3.4



Q2_Front_Tread



Q2_Rear_Tread



Q2_Front_Profile



Q2_Rear_Profile



Q2_Front_1



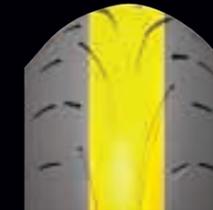
Q2_Front_2



Q2_Rear_1



Q2_Rear_2



Q2_Rear_3



Q2_Rear_Bead



Q2_Front_01



Q2_Front_02



Q2_Rear_01



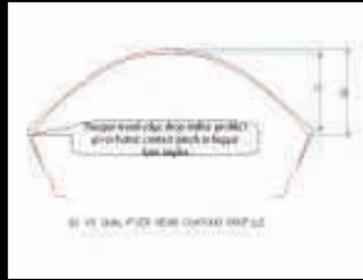
Q2_Rear_02



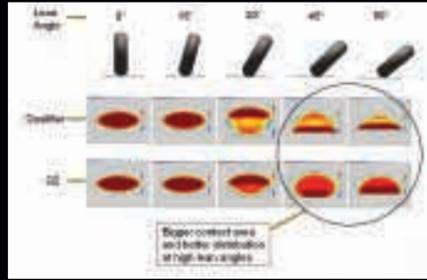
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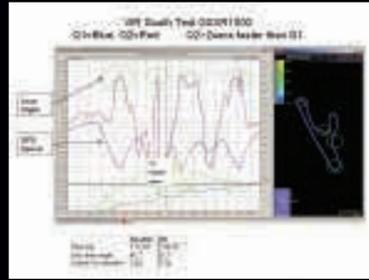
Q2_Rear_Construction



Q2_Ill0_01



Q2_Ill0_02



Q2_Ill0_03

Q2 IMAGE GUIDE



09D_Q2_Action_01



09D_Q2_Action_02



09D_Q2_Action_03



09D_Q2_Action_04



09D_Q2_Action_05



09D_Q2_Action_06



09D_Q2_Action_07



09D_Q2_Static_01



09D_Q2_Static_02



09D_Q2_Static_03







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P. O. Box 1109, Buffalo, New York 14240-1109
1-800-845-8378
dunlopmotorcycle.com
Printed in U.S.A