

40-50mm aero wheels

James Bracey takes four sets of deep-section racing hoops out for a spin

What?

If you want to go faster, deep-section wheels are a must. With the progress in carbon design, the wheels on test offer comparative weights and rolling characteristics to a classic shallow-rimmed wheel but with the added bonus of better aerodynamic performance. Wheels with rims of between 40-50mm depth offer that 'just right' compromise between weight, handling and speed.

Why?

A deep-section carbon wheel is a great weapon for the arsenal. Capable of

offering higher speeds with reduced effort, these wheels can make a difference even to a budget machine. The wheels on test with their medium-depth rim profile might lose out in overall speed to deeper designs but are typically not as affected by wind conditions.

How?

Ridden using the same test bike with tyres and tubes inflated to a standard pressure. The wheels have been used on the same courses over a variety of terrain to ascertain differences and performance traits. A power meter was used to gauge relative advantages.

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KEY FEATURES

Performance

Wheels should be easy to accelerate and maintain at speed without being too heavy

Reliability

Readily available spares and simple maintenance is important when you're spending this much on kit

Handling

The ability to switch directions quickly, hold a line on rough descents and with minimal deflection by crosswinds is critical

Reynolds Aero 46 £1,999.99

The Aero 46 feature a bulbous 26mm teardrop shape that looks fast even standing still. The rim has a small ridge at the top of the brake track that steps the width back to a narrower 16mm inner width. Reynolds calls this the ISH (Integrated Step Hook) and claims it

Combined weight

1,553 grams

helps stabilise air flow over the rim while increasing lateral stability. It is slightly odd looking down at the wheel, with the rim clearly visible either side of the tyre.

The Reynolds pick up exceptionally quick from a standing start and acceleration is smooth with very little delay. Climbing was impressive and the wheels felt nimble on steeper, power climbs. Descending was superb, incredibly stable on a line and noticeably faster than other wheels. There is a slight amount of lateral flex in the rear wheel during big efforts such as sprints, leading the wheels to rub on the brake pads.

When checked, the spokes were within the usual tolerances, tension was even, and trueness was exceptionally even (within 0.5mm). Reynolds's Cryo-Blue pads gave the wheels consistent, safe braking in the dry and only a small reduction in power in the wet, with minimal squeal.

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Front wheel: 678g

Rear wheel: 816g

Skewers: 59g

Rim depth: 46mm

Rim width: 26mm/16mm

Brake pads: Reynolds Cryo-Blue Power

Spokes: DT Aerolite (16F/20R)

www.upgradebikes.co.uk

Roval CLX 40 Rapide £1,500

At just 40mm in depth, the CLX 40s are the shallowest wheelset on test. While they might lose out to deeper wheels for out and out aerodynamics, they make up for it in weight and performance in the wind. This creates a wheel that stands out as the perfect choice for all-condition, day-to-day riding.

Combined weight
1,473
grams

Roval uses a wide rim shape which creates stability in sidewinds and ensures a good seat for larger 25-28mm tyres. The carbon-shelled hubs house reliable DT Swiss 240

internals and they spin on CeramicSpeed ceramic bearings, adding to the quality.

The build was excellent and the wheels stayed true for the entirety of the test period. With the ceramic bearings and low rolling weight the CLX 40s were a breeze to accelerate and lent the test bike a nimble feel. Pushing into corners, the Rovals tracked impressively with no discernible flex; this was true for sprinting and no brake-rub was felt.

Roval specs SwissStop's superb Black Prince pads and braking is as consistent and powerful as any carbon wheel I have tested; even in the wet they retained better braking than most.

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Front wheel: 595g
Rear wheel: 762g
Skewers: 116g
Rim depth: 40mm
Rim width: 22mm/16mm
Brake pads: SwissStop Black Prince
Spokes: DT Swiss Revolution (18F/24R)
www.specialized.com



Sicasso S45C £1,799

The S45C is Australian brand Sicasso's 'do-it-all' aero wheel. Sitting at 45mm deep, they are a great compromise between aerodynamics and lightweight.

The in-house designed rim is of the on-trend blunt style with a wider tyre seat allowing a great tyre profile. The wheels feature Sicasso's own 11-speed hubs, running on EZO bearings, an upgrade to DT Swiss 180 hubs is available.

The S45Cs are not as fast accelerating as other wheels but where they

excel is their ability to carry speed through undulating terrain, and they noticeably reduced my effort levels when riding in a bunch. The slightly heavier design actually lent a level of comfort that was appreciated and they easily maintain a line over rougher road surfaces.

With no discernible flex these wheels would suit heavier and more powerful riders. At the end of the test the front wheel had gone slightly out of true. As with the other wheels on test, internal nipples and stuck-on rim tape means that truing is a slightly fiddly affair.

The supplied Shimano R55C4 pads give smooth dry-weather braking with only a little drop in wet-weather performance.

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Front wheel: 661g
Rear wheel: 858g
Skewers: 133g
Rim depth: 45mm
Rim width: 23mm/17mm
Brake pads: Shimano R55C3
Spokes: Sapim CX-Ray (20F/24R)
www.sicasso.com

Bontrager Aeolus 5 D3 TLR £2,099

The Aeolus are seriously fast wheels. The 50mm depth, combined with the light weight, make for a speed-enhancing performance. The super-wide, bulbous D3 designed OCLV rim has a large internal profile for assured tyre seating combined with the widest outside width at 27mm. As a bonus, the rim is also tubeless compatible.

Combined weight
1,548
grams

The carbon-shelled hubs feature DT Swiss's reliable internals, similar to most of the wheels in the test, and spoke tension was very good.

Acceleration is almost instantaneous and the Aeolus 5s retain that speed exceptionally well. The lighter overall weight means they're also no slouches when climbing for such a deep wheel and going down the other side is reassured with little flex when pushing into corners.

On windy or blustery days sidewinds can be an issue, with the wheels being pushed off line when passing side-roads or gaps in hedges.

Bontrager supplies Carbon Stop Cork pads, these were not as good as others on test, a slight pulsing and occasional grabbing of the rim led to erratic braking in the dry on occasions. Wet-weather braking was surprisingly more consistent.

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Front wheel: 650g
Rear wheel: 790g
Skewers: 108g
Rim depth: 50mm
Rim width: 27mm/19.5mm
Brake pads: Carbon Stop Cork
Spokes: Double butted (18F/24R)
www.trekbikes.com