



"Our Coach AP001 tyre is designed to minimise NVH (noise, vibration and harshness) by optimised pitch geometry, pipe and pattern noise decoupling, and reduced groove volume"

Gary Powell

Segmentation in the coach tyre market has been driven by the increasing sophistication of the vehicles themselves, says Steve Howat, Continental Tyres' general manager of technical services UK and Ireland.

"As recently as five or six years ago, most operators were content to use a truck steer-axle tyre on all wheel positions on their coaches. But more sophisticated, powerful, and refined modern coaches have led operators to demand something more specific," he explains.

"Operators' first priority is the safety and comfort of their passengers. But in addition to that, they want to maximise the life of the tyre, and also benefit



Industry experts give guidance on choosing and managing tyres for coach fleets. By Richard Simpson

STRONG SILENT TYPES

from technology that will reduce the tyre's rolling-resistance, and hence fuel consumption."

Continental has responded with three different, coach-specific tyres: CoachRegio HD3, CoachRegio HA3 (pictured, right) and, finally, Coach HA3. The first two are specific drive and steer tyres for shorter and more urban journeys, while the third is for long-distance work on good roads, such as runs to holiday resorts on mainland Europe.

While the Regio tyres provide a compromise of high grip and durability on harsher roads balanced against noise and fuel economy, the HA3 prioritises comfort and fuel economy on good fast highways. It has a unique tread pattern, and while the tread compound itself is designed to optimise grip, it is backed with a compound that works with the belt structure of the tyre carcass to minimise heat build-up.

RIGHT FIRST TIME

Howat emphasises that it is important to ensure that the right tyre types are chosen: "If you order a new coach, you should ensure that it will be delivered with the correct tyres for your operation."

Gary Powell, technical manager at Bridgestone Tyres, pictured above, says its Coach AP001 is designed to minimise NVH (noise, vibration and harshness) by optimised pitch geometry, pipe and pattern noise decoupling, and reduced groove volume.

"This reduces noise to 69dB, which is extremely competitive for a 295/80R22.5 tyre size," he says.

Powell explains that the ribbed tread of this all-position tyre makes it quieter than a block-pattern drive-specific tyre, but it achieves a very acceptable B grade for wet-weather grip. It also achieves a B grade for rolling-resistance/fuel economy. A robust sidewall makes it suitable for urban use while incorporating cooling fins for longer tyre life.

While the coach market has lagged behind trucks in adopting use-specific tyres, it certainly embraced tyre pressure monitoring systems (TPMS) when that technology was introduced seven or eight years ago, as Continental's Steve Howat recalls: "There's a lot of appetite for TPMS. The last thing you want in the coaching business is a flat tyre. Continental was a leader in internal, rather than valve-mounted sensors, which enable the temperature of the tyre to be monitored. We have an internal sensor that will also monitor tread depth in development, and a lot of the larger coach fleets are keen to take this on. Air pressure consistency has also been enhanced by the recent introduction of a new tyre lining material with enhanced air retention."

SPOT WEAR

Where no TPMS is fitted, Howat suggests pressures should be manually adjusted at least once a month.

"If tyre pressures and tread pattern choice is correct, there should be minimal requirement to reposition tyres to even out tyre wear issues - vehicle wheel alignment is also key to this"

Dan Lamb



Coaches can wear steer tyres out ahead of drive-axle tyres, but Howat has noticed a recent phenomenon of 'spot wear' which seems to afflict drive tyres.

"You can see 40 or 50 flat spots in a single tread rib around the circumference of the tyre, with adjacent ribs unaffected," he says. "It's not clear why it happens, but one theory is that a wheel assembly that is only slightly out of balance may be provoking a reaction from the vehicle's air suspension, which in turn causes the wear.

"We don't see it so much on steer axles, but that could be because it's scuffed out by the steering action."

Steer tyres generally wear faster than drives, but Howat reports that most operators are reluctant to fit regrooved tyres to this position.

"They either get retained for fitment to drives, or returned. Even with all-position tyres, rotating tyres from high to low-wear positions isn't widely practised in the industry. Providing it has been done in a competent and timely manner, regrooving is a safe practice," he emphasises (see also pp16-17).

"Remoulded tyres are not used at

all by the majority of coach operators, but we can use the remoulding process to turn them into truck tyres as the basic sizes are shared. The drive pattern Regio tyre is available as a remould."

Dan Lamb, Michelin's passenger transport sales manager, pictured above, says: "If tyre pressures and tread pattern choice is correct, there should be minimal requirement to reposition tyres to even out tyre wear issues - vehicle wheel alignment is also key to this.

"Legally, regrooved tyres are acceptable on all positions on a coach, however as most coaches have the same tyre size all round, the regrooved steer tyres are usually run off on the drive axle (or tag axle on a three-axle vehicle).

"Again, legally it is permissible for retreaded tyres to be fitted to the steer axle, however it is the Michelin, and indeed industry, recommendation that retreaded tyres are only fitted on axles that are not front steered axles. Our major coach fleet customers fully utilise regrooved and retreaded tyres." (However, tyres aged over 10 years are banned on the front axles of lorries, buses, coaches and all single wheels of minibuses, as of 2021.)

RETURN TO USE

With much of the UK's coach fleet having been parked up for the last two years, Continental's Howat suggests a couple of tyre-related

issues for attention. "We incorporate UV-protectant chemicals into the sidewall and tread compounds. These are naturally brought to surface by the tyre flexing in use. If the vehicle has been parked up for some time, this protection may have become compromised, so a careful eye should be kept open for cracking. Also, if the tyre pressures were allowed to drop, flat spots may have developed. If the tyre is reinflated to the correct pressure and then driven, the heat build-up in the tyre should restore it to shape."

Bridgestone's Powell adds: "Tyre pressures should be checked in cold condition and tyres 10-20% under-pressure should be checked for external damage before reinflating. Tyres with pressure down 20% or more must be removed from the rim and inspected for possible internal damage. Once correctly reinflated, tyres should be monitored for continuing deflation, as this could be a sign of penetration or a leaking valve or rim. High-pressure valve caps should also be fitted. All checks should be completed by a qualified tyre technician.

"Many industrial chemicals and solvents, including oils, petrol and diesel, can severely damage tyres that are exposed to these contaminants over time. Therefore, tyres should be checked for localised abnormal swelling of the tread compound or unusual deformation of the tread pattern, as this could be a sign of exposure to these contaminants. If this is identified or if you are in doubt, then ask a qualified tyre technician to fully inspect the tyres."

Lastly, Hankook Tyre UK reminds operators preparing for the winter touring season that legal requirements differ in various parts of Europe, and tyres with the three peaks (3PMSF) marking will need to be fitted for some regions. National requirements can be checked on the Hankook website. [TE](#)

