



Tyres make a big impact on fuel economy and maintenance bills. Stretching the life of rubber is the aim of the new ContiLifeCycle plant in Hannover, as Ian Norwell discovers

Case to answer

Most fleet engineers send their used cases away for retreading, but where do they go? How efficient is the process? Third party providers may be feeling the pinch as tyre manufacturers increasingly take the task in house in an effort to improve control and offer a product that's as good as new.

Continental is no exception. Indeed, the manufacturer has just opened a combined hot and cold retreading plant in Hannover-Stöcken, which claims a world first, by being a 'green' rubber recycling operation to boot. It's the end of a role for Conti's third party provider, not due to quality issues but simply the company's drive to harvest its economies of scale. So, as of this spring, all Conti retreads will be supplied direct. Herbert Mensching, Continental's managing director for CV tyres, reckons the Stöcken plant will recycle 4,000 tonnes of reclaimed rubber and produce 180,000 retreaded tyres annually.

Good as new

Further, as well as pulling tyre remanufacturing in house, Continental has expanded its facilities at Hannover with a €15 million investment, including a new R&D centre. And the firm is also pushing the limits of rubber recycling technology – notoriously difficult to achieve. Apart from the steel cord that must be separated, vulcanisation puts a large proportion of the rubber beyond retrieval. "We introduced conventional recycling in serial production in 2009, but we felt there were opportunities for increasing the 3% [recycling] that was then possible," states Dr Boris Mergell, head of product development for truck tyres. That sounds like a low figure, but it's a battle with the mechanics of locked-in rubber and chemistry.

"In launching the ContiLifeCycle plant, we have doubled that figure," states Mergell, adding that the improvement is largely due to using a devulcanising agent, lower temperatures and reduced shear forces. That must be regarded as a good result, not just for the economics of recycling, but the environment, too. Fleets keen to be green, may take note. Whether it is Euro 6

engines or a retreaded tyre that uses double the recycled rubber, it all helps to change the sadly grubby image of truck fleets.

Different European markets have different attitudes to hot or cold retreaded tyres. Europe is evenly split, with 51% taking cold retreads and 49% going for the hot option in 2012. The UK is over 60% biased towards hot and Germany almost the opposite. Whatever your preference, Mensching says that retreads should be a vital part of cost efficiency for transport fleets, through casing management, buy-back and exchange, supported by a reliable identity-tracking database.

"In terms of mileage, reliability, fuel efficiency and comfort, a retread offers full performance as a second-life tyre. It's not a compromise," claims Mensching. "The direct cost of tyres is around 5% for a transport operation, but they influence up to 45% of costs, with fuel economy by far the biggest. When a fleet operator sees the same performance from a retread as from his new tyres, it makes him think." Conti claims a retread can offer a 22% saving over new tyre costs. **TE**

Production process

The retreading process feels very like that of a new tyre production line. Initial shearography is followed by electronic speckle pattern shearing interferometry of the cases, to check for defects.

Significant repairs can be accommodated. A nail puncture in the face of the tread, for example, can be safely repaired by drilling and filling, which ensures that no corrosion remains in the steel cord.

The overall process – from inspection to casing buffing, repair, tread application, curing and final inspection – is impressive. Shaking off an outdated reputation may be difficult, but the image of the retread as a poor relation is seriously long overdue for recycling itself.