

Retreading

The repeated benefits

Extending the life of a worn truck tyre by retreading is both an environmental and cost effective solution.

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FAST FACTS

Retreading a truck tyre can increase its lifespan by up to 3 times and only requires 1/3 of the oil to manufacture it compared to a new truck tyre

Author if quotation



68% less oil

It takes 83 litres of oil to make one average size truck tyre, a retread only requires 26.5 litres.

Author if quotation

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 tyrestewardship.org.au

Many of the radial truck tyres in our market are of high-quality and are designed to be retreaded and reused. The cost to retread (casing plus cost of a newly applied tread) is normally at a fraction of the cost of a new, reputable brand tyre.

There are great savings on raw materials and energy compared to a new tyre and the US-based "Tire Retread & Repair Information Bureau" states that while it takes 22 gallons (83 litres) of oil to make one average size truck tyre, a retread only requires 7 gallons (26.5 litres). As well, retreading extends the tyre's life by delaying its entry into the "End of Life Tyre" waste stream. This all benefits the customer (fleet / end user) as well as the environment.

Retreading uses a process where the remainder of the worn tyre's tread pattern is buffed off to expose a new fresh surface. Then a new, pre-cured tread is bonded to the casing. The retreaded tyre can then be put back in service without compromising safety or quality.

The use of retreaded tyres is popular in developed markets worldwide, including Europe, the USA as well as Australia and New Zealand and is particularly relevant for aviation and commercial truck tyres. The retread of aviation tyres is a common and necessary practice within the sector, making good environmental and economic sense.

The regrooving and retreading processes for truck tyres may be repeated by as many as three times, extending the lifespan of the casing by up to an additional 500,000 kilometres.



Retreading process

1. Customer casings ready for tread buffing

The process is two-edged, with worn tyres coming into the plant for examination and preparation for retreading, in parallel with the ingredients for making different sized and different-compound rubber treads. Bandag uses as much recycled material as possible and is constantly investigating methods of reducing retread costs. The tread production involves 'cooking' the various tread components, after careful weighing of the ingredients.

2. Splicing a tread onto a casing

The next inspection is 'shearography', with the casing in a vacuum, while lasers measure any surface anomalies and produce an animated visual of any defects. At any point in the inspection processes a casing can be judged unfit for retreading and rejected.

3. Applying the tread

If the casing passes all these tests it progresses to an automated buffing machine that grinds off the original tread.

4. Retread being applied to the casing

The advantage of a mechanical buffer is that it produces consistent shape and finish, ensuring a truly-round, correctly-shaped base for the new tread. At this point there's yet another inspection, after which any remaining damage, such as rust in under-tread areas, is treated. The next step is application of Bandag's unique bonding-rubber 'cushion' to the casing. This slightly 'tacky' coating is optimised for adhesion to the new tread.

Tyre suitability

A tyre's suitability for retreading depends on it having had an appropriate service history, where it has been properly fitted, serviced, maintained and repaired during its life. All tyres submitted for retreading are tested and inspected to eliminate any that have suffered abuse: underinflation, overloading, incorrect repairs or with significant damage.

Reduced retread rates

Despite retreading being a well-established, successful process with many benefits, the rate of truck tyre retreading has been reducing over the last decade. Currently in Australia, sales of truck retreads are now around 1/3 of the sales of new truck tyres and historically, retreads and new tyre sales were almost equivalent.

Cheap tyre competition

One of the main reasons for this reduced retreading activity is the competition from low quality, cheap truck tyres which after their first life are removed & discarded into the waste stream.

Benefits beyond performance

Finally, it is worth remembering the local retreading of tyres is performed in Australia by global brands Bridgestone (Bandag), Michelin (Recamic & Michelin Retread) & Goodyear / Dunlop plus some smaller independents, with all of the benefits that come with local manufacturing, such as local employment, knowledge growth, best environmental outcomes (re-use) and waste minimisation.

Note: The retreading of passenger (car) tyres is generally not cost effective in Australia.

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"If you can see any carcass wire in those blown-out tyres along the highway, don't blame a retread, because there's no wire in a tread!"

Author