

Tyre Recycling

The disposal of used tyres in the UK is a significant issue that could literally be costing us the earth. Every day in Britain over 100,000 worn tyres are taken off cars, vans and trucks accounting for a total of around 50 million tyres (480,000 tonnes) per year. Presently the UK recovers value from 100% of these tyres due to the landfill ban, which came into effect in 2006. This means that no tyres are now allowed to be dumped in landfill sites, excluding bicycle tyres.

Used tyres are sorted for use in one of four options: retreading; re-use; material recycling; and energy recovery.

Retreading

Retreading is the name of the process which extends the life of a tyre by adding new material.

The Used Tyre Working Group (UTWG), formed in 1995 to act as a link between industry and Government on used tyre recovery issues, favours retreading as the first line recovery option. It is considered to make the best use of the waste tyre source. Manufacturing a retread tyre for an average car takes 4.5 gallons less oil than the equivalent new tyre, and for commercial vehicle tyres the saving is estimated to be about 15 gallons per tyre.

The first stage of retreading is a primary inspection, from which as few as 15% proceed to stage two. In 1999, Colway, the UK's biggest retread firm, processed one million tyres, while rejecting a further four million.



In the second stage, the old tread of the tyre is mechanically removed by a process called Buffing. Application of the new tread follows, using one of two methods: pre-cure or mould-cure.

Pre-cure

The tread rubber has already been vulcanized with the new tread design prior to application.

Mould-cure

Unvulcanised rubber is applied to the buffed tyre before the tread is vulcanized.

The new tyre is then inspected again, before being trimmed and painted. Retreads have to be marked according to the British Standard BS AU 144f: 1988.

Re-use

Some tyres are perfectly suitable for further use on other vehicles. Tyre Safety Regulations apply to the sale of part-worns.

Recycling

By shredding the tyres the rubber that they are made from can be used to make floor surfaces, such as for children's playgrounds or carpet underlay.

Tyres can be used as a fuel for some processes, such as in cement plants. This recovers the energy that is inherent in the tyre and reduces the energy cost of the production of cement.

Recovering energy can be difficult because of the gases that are released from the tyres.

Heating tyres without oxygen being present, a process called pyrolysis, can generate useful gas and oil among other things and produces fewer atmospheric emissions than direct energy recovery.



Fascinating Facts

- Through proper maintenance of tyres, they can last a lot longer before they need replacing. Always ensure that tyres are inflated to the correct pressures.
- Nearly half the truck and bus tyres on the road in the UK have been retreaded and over 90% of all aircraft tyres are retreads.
- With a higher calorific value than top grade coal, a typical car tyre equates to ten litres of fuel oil.
- If the 40,000,000 tyres that are disposed of in the UK each year were laid side by side, they could run from Lands End to John O'Groats approximately 12 times.

Links

Used Tyre Disposal In The UK

www.tyredisposal.co.uk

Aim to increase awareness of the used tyre disposal problem in the UK and provide information on disposal methods.

Retread Manufacturers Association (RMA)

www.retreaders.org.uk

The nationally recognised trade association for UK manufacturers of commercial vehicle and passenger car retreaded tyres.