



TYRES RE-USE AND RECYCLING

WRAP added used tyres to its remit in April 2005, with the aim of breaking down the barriers to the collection, segregation and reprocessing of waste tyres; developing alternative end uses for the recovered material and developing end markets.

WRAP (the Waste & Resources Action Programme) is helping to develop and create end uses for the rubber material from used tyres and to positively address the requirements of relevant legislation and practices.

THE DIRECTIVE

The European Union Landfill Directive is an important driver for used tyre recycling as it bans the disposal of tyres to landfill. Whole tyres were banned as of July 2003 and shredded tyres from July 2006. The ban applies to almost all tyres including car, commercial, motorcycle, aircraft, and industrial (including solid tyres).

THE CHALLENGE

The disposal of used tyres in the UK is a significant problem; every day over 100,000 worn tyres are taken off cars, vans and trucks accounting for a total of around 46 million tyres (440,000 tonnes) per year. Of this figure, about 27 million tyres (260,000 tonnes) are from cars, with truck and van tyres making up the remainder.

PUTTING USED TYRES TO GOOD USE

Used tyres are gathered from a number of sources, including garages, specialist tyre retailers and scrap yards. There are many ways of putting used tyres to good use, although broadly all of these can be defined as re-use, recycling or recovery.

RE-USE

Re-treading is considered to be one of the most preferable and effective methods of re-using worn tyres since the process effectively doubles the life of a tyre, reducing the numbers of new tyres needed and thereby minimising waste.

RECYCLING AND RECOVERY

The recycled rubber from end-of-life tyres can be processed into rubber shred and crumb in grades of different particulate size which are then suitable for incorporation into a wide range of new products. Shredded or crumbed rubber can be used for a number of applications including surfacing for equestrian, sports and safety surfaces, carpet underlay, street furniture and acoustic barriers, as well as incorporation into new tyres. It can also be used for road surfaces.



RECYCLED TYRES IN ACTION

Playgrounds

Playtop is a composite solid surface comprising two rubber layers. It is produced by the Charles Lawrence Group and has been used on the Maystar Estate in Hammersmith and Fulham. The thicker base layer comprises coarse granules produced from ground commercial vehicle tyres blended with 15-20% Nike trainer shoes and bound together with polyurethane resin.

Level crossings

Holdfast Level Crossings Ltd produce durable, safety improving rubber blocks for use where road and rail environments converge. They have installed blocks in about 3,000 of the 8,100 level crossings on the UK railway network. In 2001 alone, over 1.5 million tyres were used in the upgrading of the West Coast mainline.

Sea defences

Southampton University has shown that compressed bales of waste whole tyres can be used to prevent erosion. In 1997 a wall of lorry tyres was built on Copperas Bay in the Stour estuary to stop erosion of low clay cliffs. This defence construction has successfully halted further erosion of the cliffs.

HOW IS RECYCLED RUBBER FROM END-OF-LIFE TYRES USED?

Recycled rubber can be used in many ways, including:

Landscaping: landscape paving · walkways · porous piping

Horticulture: mulches · composting · drainage infill

Construction: roof tiling · acoustic barriers · waterproof membranes

Transport: traffic management · automotive parts · rubberised asphalt

Home and Garden: carpet underlay · footwear · coasters

Facilities Management: safety flooring · matting
· industrial sealers and fillers

Sports & Recreational: artificial sports tracks and surfaces
· sports barriers · golf and bowling greens (drainage improver)

WHAT ARE THE BENEFITS OF RECYCLED RUBBER FROM END-OF-LIFE TYRES?

Shredded or crumbed rubber has many benefits which has led to a continued growth in processing capacity in the UK. These benefits include:

- 100% recyclable material
- impact resistance for safety
- cost effective
- no odour, non toxic, resists fading and is termite and insect resistant
- durable and attractive
- lightweight alternative to aggregates
- quiet within surfacings
- very good sound attenuation within construction applications

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WRAP (the Waste & Resources Action Programme) is a major UK programme established to promote resource efficiency. Its particular focus is on creating stable and efficient markets for recycled materials and products and removing barriers to waste minimisation, re-use and recycling. A not-for-profit company in the private sector, WRAP is backed by substantial Government funding from Defra and the devolved administrations in Scotland, Wales and Northern Ireland.

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Find out more about recycled rubber from tyres:
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