



# CIWM

THE JOURNAL FOR WASTE & RESOURCE MANAGEMENT PROFESSIONALS

## Feeling Tyred

Getting To Grips With The UK's Tyre Problem, plus:  
Trailers, Hooklifts & Skips  
The BREW Programme  
Steel, Aircraft & C&D Recycling

The Chartered Institution  
of Wastes Management

October 2007

# Confidence In Quality

New quality standards for the use of tyre-derived rubber mean that contractors can use these materials with confidence

**W**ith the latest EU Directive banning the disposal of tyres to landfill and issues such as sustainability and recycling at the top of clients' agendas, there has never been a better time to increase the use of recycled materials such as tyre-derived rubber in construction projects. Now, with the release of two Publicly Available Specifications (PAS) from WRAP, the waste management industry can produce tyre-derived rubber material, confident that it is providing contractors with a material that follows guidelines set out by the British Standards Institute (BSI).

The UK has to dispose of some 48m used tyres every year, which not only poses a serious challenge for the Government in terms of waste disposal, but also presents a significant opportunity for recyclers to produce sustainable materials. The 130 000 tyres taken off cars, vans and trucks every day has led to a sharp growth in

tyre reprocessing and the development of tyre-derived material that can also be used in a wide variety of applications. While this material boasts many excellent properties and offers a cost-neutral and environmentally friendly alternative to many primary materials, some contractors may be nervous about procuring a material that historically has lacked any guidance or quality standards.

WRAP's PAS107 and PAS108 documents have been developed in collaboration with the BSI to provide the manufacturers of used tyre materials with guidance to ensure that their finished materials adhere to a specified quality standard. For buyers, this means that the materials they are procuring meet an industry-recognised specification, are consistent and environmentally sound.

The documents are the result of a long and detailed analysis and review of the processing procedures employed by the tyre industry, during

which WRAP has worked closely with industry experts and consulted with tyre reprocessors and end users. It is this consultation with industry that has ensured that the standards set are consistent, measurable, realistic and specific – and that they aim for the highest quality standard possible.

## Mutual Benefits

BY PROVIDING the industry with a standard material specification, WRAP hopes to open up further business opportunities for recyclers. Demand for tyre-derived material is likely to rise, with clients increasingly setting minimum requirements for recycled content in construction projects. Contractors using products that include recycled rubber can more easily meet these requirements and actively differentiate themselves from their competitors.

These new specifications will allow recycling companies to categorise the different forms of tyre-derived rubber material that they produce, promoting their individual properties and qualities and clearly demonstrating how they



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## RECYCLING

reach quality standards comparable to their primary material equivalent. The aim is to assist in repositioning the material from being perceived as a waste by-product to being recognised as a practical, sustainable material that has all the necessary qualities for industrial application. Tyre retailers and collectors may also reap the benefits by demonstrating that they are working with reprocessors that adhere to a structured quality production procedure.

The WRAP documents relate to different end use applications and both are intended as practical day-to-day tools for business. PAS107 outlines specifications for manufacturers to produce grades of size-reduced tyre rubber, such as rubber crumb and shred. These voluntary guidelines will ensure that those manufacturers using them will produce only the highest quality tyre-derived rubber, characterised by category, material source, processing technology, particle size and physical properties. This characterisation will make it straightforward for procurers to clearly identify the different forms and properties of the material, allowing easy comparison with their primary material equivalent and helping contractors to demonstrate the environmental benefits they are delivering.

The lightweight, impact-resistant, durable, non-toxic and odourless properties of tyre shred and crumb are suitable for a diverse range of uses in landscaping, construction and civil engineering projects. For example these products can be used as an aggregate replacement, as loose fill in walkways, natural and coloured mulches, drainage infill or for bridleways, sports and leisure surfaces. With the quality guidance now available in PAS107, these uses can be further expanded.

The PAS108 document has a different focus, providing guidelines for the specific density, porosity and dimensions of tyre bales. Tyre bales are created when whole tyres are compressed and secured into a bale within dimensional and density limits. The purpose of PAS108 is to offer a nationally recognised specification to ensure that clients can benefit from the

FOLLOWING RECENT articles on the re-use of tyres we enjoyed receiving this letter with further information on positive initiatives.

### Dear Editor

I note with interest your recent article, (*The Earth Ship Has Landed*, CIWM July 2007).

Whilst it's refreshing and admirable to read what our European neighbours are doing to alleviate the problem of landfilling of tyres, I thought you might like to know of some similar exciting projects using waste tyres currently being demonstrated here in the UK.

Your article was especially in reference to the building of sustainable housing using tyres, and another excellent example of this is a house-building project currently underway in Scotland.

The access road at Nedd's house is being constructed from tyre bales, as are the foundations and walls. Each bale is manufactured from over 100 used car tyres. The estimated number of tyres utilised in the house construction will be approximately 38 500 or 320 tonnes.

The tyre bales have been selected because of their excellent heat insulation properties, strength, permeability and noise reduction attributes. Not content with using tyres the owners have also decided to use an old parachute as a liner. No concrete is being used in the building of this house and it is being finished off with a grass roof.

Using these recycled materials will not only reduce the building's carbon footprint but will offer significant cost savings.

A number of other projects utilising tyres in housing applications have also included the following:

- a soakaway system
- a slope repair project
- the reconstruction of an access road.

Yours Sincerely

Lynn Kerr, Managing Director, R<sup>4</sup>

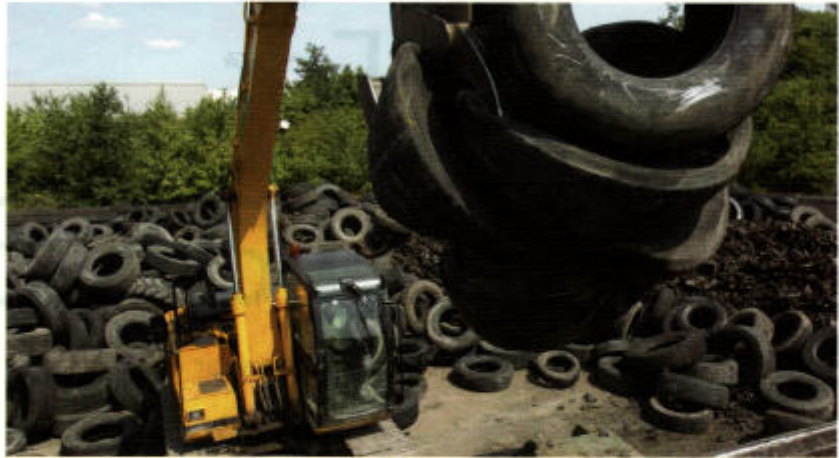


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numerous advantageous properties that the bales offer. Such properties include high permeability, high porosity and low bulk density, as well as good frictional response and stiffness. With unique engineering properties, these tyre bales are used in a range of civil engineering and construction applications, such as road foundations, embankment and abutment fill, slope stabilisation and drainage systems.

Compliance with both documents is voluntary, but they will help to open up the market for tyre reprocessors and create a demand from end users. Above all, the aim is to demonstrate the favourable qualities of tyre-derived rubber, which can be used in a variety of different existing and emerging applications. By producing tyre-derived rubber in line with these specifications, producers and buyers can have increased confidence in its quality and performance.

The benefits of this new guidance for tyre recyclers, contractors and clients are clear. Through the use



130 000 tyres are recovered from cars, vans and trucks every day

of recycled materials in a range of applications, it is possible to demonstrate a real commitment to sustainability and corporate social responsibility at no extra cost and with no loss of performance or quality. By actively engaging suppliers that recognise and adhere to PAS107 and PAS108 production guidelines,

contractors can use these materials, confident that they meet the necessary specifications. **CIWM**

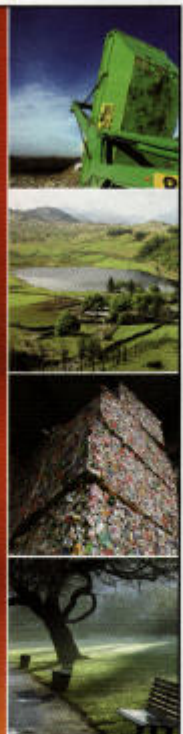
The PAS107 and PAS108 documents are available in the form of a PDF download summary sheet from the WRAP website [www.wrap.org.uk/construction/tyres](http://www.wrap.org.uk/construction/tyres). A full brochure can be ordered by calling +44 (0)808 100 2040

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