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Recycled Glass Best in Blasting Trials

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Full scale tests at Dunstons Ship Repair in Hull UK have confirmed the advantages of using 100% recycled glass as a new grit blast medium for cleaning steel and preparing metal for painting. The groundbreaking trials are part of a wider series of trials commissioned and funded by the Waste & Resources Action Programme (WRAP) and managed by the Shipbuilders & Shiprepairers Association (SSA).

Carried out in controlled conditions, the trial compared the performance of recycled glass grit with copper slag, the shipyard's usual abrasive, in blasting a mooring pontoon.

Preparing surfaces by grit blasting, powering abrasive particles onto them using high pressure air, is the preferred method in the marine industry as it often the fastest and most thorough means of removing iron oxides, rust, oil, grease, dirt, old paint and other surface contaminants from vessels prior to making repairs and alterations.

Cleaning also tackles corrosion caused by soluble salts in the air, a major problem which can lead to premature paint failure if not removed.

Graham Billany, managing director at Dunstons said, 'We've used copper slag for more than 30 years and while this is a cost effective material, we were interested in exploring the potential of recycled glass grit as an environmentally friendly alternative.'

In the initial trials, recycled glass demonstrated improvements in productivity over the traditional copper slag of up to 240% and the time taken for blasting was reduced by up to half. The performance of medium grade recycled glass grit, supplied by Wolverhampton Abrasives, was compared with copper slag using the same blasting equipment.

In addition to representing a more sustainable use of natural resources, recycled glass grit's main benefits over conventional blast media are that it is non-toxic, inert, and does not cause respiratory or environmental problems. Unlike some traditional media, it does not contain crystalline silica or heavy metals and so can be used in public places and environmentally sensitive areas such as water courses. Glass grit is also free of chlorides and salts that can corrode clean surfaces, so its use delays the 'gingering' of steel. Also, as spent media is classified as a nuisance dust rather than hazardous waste, disposal costs are lower.

Andy Dawe, materials section manager (glass) at WRAP said, 'We've been aware of the advantages of recycled glass grit in the UK for some time, but our task has been to demonstrate the operational and commercial benefits to the market by funding trials such as these. We're delighted the marine industry is recognising the potential of this new medium and hope specifiers and contractors will now use it more widely.'

The widespread use of recycled glass will assist the UK in meeting its target under the European Union packaging directive, which says 60% of glass must be recycled by 2008. Preliminary data for last year indicates that 50% was achieved.

Recycled glass is available manufactured to BSI PAS 102 specifications, setting standards in terms of colour, contamination limits, particle size requirements and appropriate test methods, guaranteeing a consistent, high quality product.

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Grit blasting trials underway at Dunstons Ship Repair in Hull UK.

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