

## Testing of Recycled Aggregates – Contamination

All recycled aggregates that are procured for use on site or produced from suitable material on site need to be tested at a UK Accreditation Service (UKAS) accredited laboratory to assure conformance to the specification. The British Standards to which these materials require testing are specified on the WRAP website via the [Specifiers Tool](#). Conformance to specification testing usually involves testing for grading, particle size, particle density and composition.

In addition to testing for the above all recycled aggregates need to be assessed for the amount of contaminants present. Contamination above specific limits will result in the recycled material being classed as a waste and subject to waste management legislation.



### Class X

The majority of aggregate specifications specify a maximum allowable limit of 1% for Class X material (foreign bodies such as metal, plastic and wood). You must ensure that any recycled aggregate contains <1% of class X material.

### Asbestos

Recycled aggregates are often derived from the demolition of dwellings, office buildings and other structures that may have contained asbestos. Although these materials are stripped out prior to demolition there have been a few cases within the industry of recycled aggregates imported on to site with asbestos fibres at unacceptable levels. All recycled aggregates must be tested to ensure the absence of asbestos fibres.

### Road Planings – Coal Tar

Coal Tar was produced from the high temperature distillation of coal in the production of domestic “town” gas and used in UK roads up until the late 1970s. Due to the concerns regarding the possible carcinogenic properties of coal tar this was replaced with bitumen as a binder and for surface dressing. It is possible therefore that recycled aggregates derived from road planings may contain coal tar. The threshold levels below which road materials can be used as unbound materials are:

- The concentration of Benzo(a)pyrene is below 100 ppm.
- The concentration of all components of PAH<sup>1</sup> is below 1,000 ppm.
- The concentration of phenol in the leachate (liquid to solid ratio of 10 litres per kg) is below 1 mg/kg.

Materials that do not meet these threshold levels may be considered to be hazardous wastes. Additional guidance on the identification of coal tar in road planings can be obtained from the [County Surveyors Society – Guidance Note, Road Materials Containing Coal Tar](#).

You must ensure when recycled aggregates are imported on to site or produced on site that testing is carried out to demonstrate compliance with the criteria above. Additionally, visual inspections of the recycled material arriving on site should be undertaken and inspection records retained to ensure that the recycled material meets the specification required. Any unsuitable material that does not meet specification must be rejected and returned to the supplier.

If you require additional clarification and / or guidance please contact your Framework or Regional Environmental Advisor.

### Tim Wilkes

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<sup>1</sup> Polycyclic Aromatic Hydrocarbons: Acenaphthene; Acenaphthylene; Anthracene; Benz(a)anthracene; Benzo(a)pyrene; Benzo(b)fluoranthene; Benzo(g,h,i)perylene; Benzo(k)fluoranthene; Chrysene; Coronene; Dibenzo(ah)anthracene; Fluoranthene; Flourene; Indeno(1,2,3-c,d)pyrene; Naphthalene; Phenanthrene; and Pyrene.