

Test methods

All loads must undergo a visual inspection in order to assign a grade.

In the event of a dispute over the assigned grade further optional test methods are detailed which may be used by the processor to verify colour composition, contamination levels and nominal particle size.

Visual inspection

Tip the lot. Estimate and record the percentages by mass of different colours of glass, amounts of contaminants and size and description of pieces in the visible layer. Assign a grade and complete a log sheet.

An example log sheet is given.

Determination of colour composition

Hand sort pieces >8 cm in a test sample into different colours and determine the mass of each colour as a percentage of the total.

Determination of levels of organic, ferrous, non-ferrous and inorganic contamination

Hand sort pieces in a test sample into different materials and determine the mass of each contaminant as a percentage of the total.

Determination of nominal particle size

Determine the percentage mass of a test sample which passes through a sieve with aperture size of the agreed nominal particle size. A pass is <10 % passing through.

Guidance for good practice in collection

Collection schemes

- Guidance on operating bring sites, civic amenity sites and kerbside collection schemes
- E.g. location, site set up, integrity of bins, health and safety

Commercial site collection systems

- Good practice in collecting cullet from leisure outlets such as pubs, clubs and restaurants
- E.g. training of employees, when to reject loads

Transportation, handling and storage

- How to minimize breakage and contamination of collected glass
- E.g. design, loading and unloading of bays

Delivery to glass processors

- How to increase the acceptability of loads and deal with rejected loads

Reporting procedure

- What feedback to expect from processors on delivered loads

Training

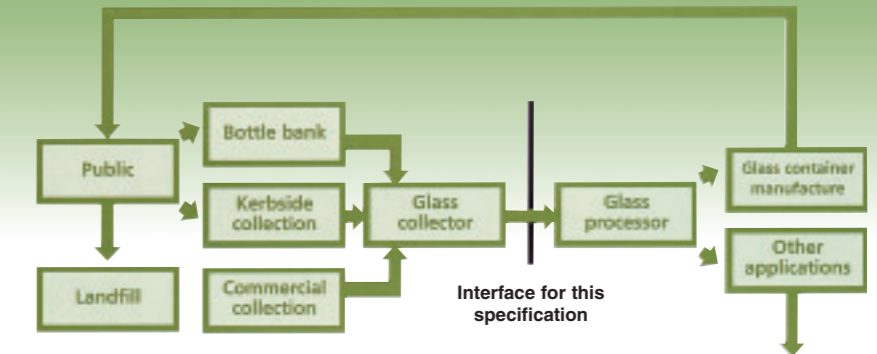
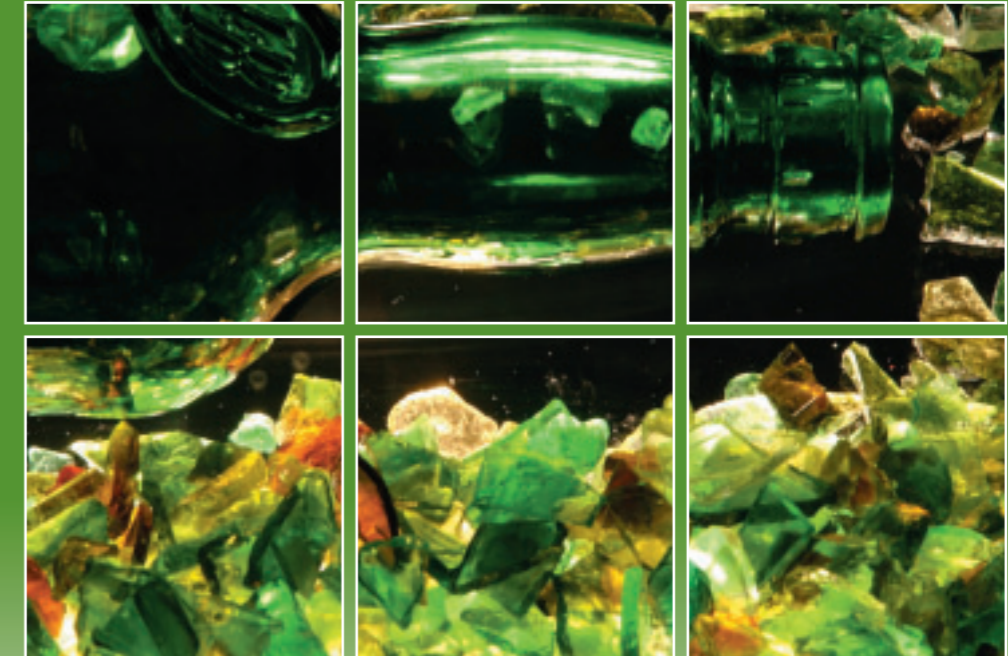
- What local authority representatives need to know
- How to conduct public awareness campaigns to promote collection and proper separation of recyclables
- What glass recycling employees need to know

End market applications

- Examples of applications for recycled glass in container manufacture, aggregates, abrasives, decorative/artistic ware, fillers, filtration media, flooring, flux/binder, insulation and sports turf

Summary of PAS 101

Recovered container glass
Specification for quality and guidance for good practice in collection



Overview

The Publicly Available Specification, PAS 101, has been prepared by BSI in consultation with the Waste and Resources Action Programme (WRAP)¹ and a development committee.

Good practice for cullet collection

PAS 101 includes a comprehensive guide to good practice in the collection and delivery of recovered container glass. Following this guidance should help collectors achieve the higher grades of the PAS 101 specification.

Specification for cullet quality

PAS 101 seeks to harmonize various independent specifications to provide a comprehensive specification for all raw container glass collected in the UK for recycling.

It introduces a four tier grading system for raw cullet quality, grades A to D, according to the degree of colour separation, contamination and particle size.

Test methods

PAS 101 details test methods which may be used to verify that the required quality is met for each specified grade in the event of a dispute.

How to order a copy

WRAP has a limited number of free copies of PAS 101 to distribute. E-mail helpline@wrap.org.uk or telephone 0808 1002040 to request a copy.

Model glass contract

WRAP are also launching a Model Glass Contract, designed to promote the more widespread use of contracts between local authorities and collectors. Contact WRAP for more information.

¹ www.wrap.org.uk

Specification

A grade shall be assigned on delivery, by the processor, after visual inspection of the tipped load.

Grade A

Description	Whole or broken containers that are colour separated
Colour requirements	Clear: no more than 4 % other colours Brown: no more than 5 % other colours Green: no more than 5 % other colours
Contamination limits	No more than 0.5 % organic, 0.1 % ferrous and 0.2 % non-ferrous Inorganic and other glass types subject to agreement between processor and collector No medical, toxic or hazardous materials
Particle size	Containers which are not intentionally crushed or broken
NOTE All percentages are % by mass	

Grade B

Description	Whole or broken containers that are colour separated but do not meet the Grade A colour specification
Colour requirements	Clear: no more than 6 % other colours Brown: no more than 15 % other colours Green: no more than 30 % other colours
Contamination limits	As per Grade A
Particle size	As per Grade A
NOTE All percentages are % by mass	

Grade C

Description	Mixed colour glass that is not compacted
Colour requirements	Exceeds Grade B colour requirement, ie.: Clear: more than 6 % other colours Brown: more than 15 % other colours Green: more than 30 % other colours
Contamination limits	No more than 1.0 % organic, 0.2 % ferrous and 0.4 % non-ferrous Inorganic and other glass types subject to agreement between processor and collector No medical, toxic or hazardous materials
Particle size	As per Grade A
NOTE All percentages are % by mass	

Grade D

Description	Compacted glass
Colour requirements	As per Grade C
Contamination limits	No more than 3 % of surface area is organic, inorganic, ferrous or non-ferrous Other glass types subject to agreement between processor and collector No medical, toxic or hazardous materials
Particle size	Nominal particle size subject to agreement between processor and collector