

Guidance

Aggregate from Inert Waste: Resource Framework

How to meet 'end of waste' status for aggregate produced from inert waste.

From: [Environment Agency](#)

Applies to England

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1. The purpose of the Resource Framework

This Resource Framework relates to aggregate produced from inert waste.

This Resource Framework is to help you understand when aggregate products are no longer considered waste. Meaning they meet the '[end of waste](#)' test. This is so you can:

- understand when you no longer need to follow [waste management controls](#) for aggregate products
- be confident that the quality of aggregates produced meets an approved standard
- be confident that the quality of aggregates produced is suitable for use in appropriate markets
- protect human health and prevent pollution of the environment

This Resource Framework does not affect the obligation on producers to hold an environmental permit (including exemptions) that authorises the storage and processing of inert waste and to comply with its conditions.

2. Waste you can use

To follow this Resource Framework, you must only use inert waste materials that are compliant with the waste codes, descriptions and restrictions in the following tables to produce aggregates (granular material). For the avoidance of doubt clays and soils are **not** acceptable input materials for the purpose of this Resource Framework.

‘Use’ means processing material accepted into the inert aggregate production process. Factory Production Control starts once suitable waste types under Table 1.4 are identified for the production of recycled aggregates. (This may be different to wastes accepted onto the permitted site after on-site permitted activities (eg sorting) have taken place).

Incidental quantities (an occasional piece and not present throughout the waste) of physical contaminants (such as peat, silts, wood, plastics, rubber, metal) may be present with the input material but must be removed during the processing of the waste to comply with the constituent requirements of aggregates standards and the ‘classification of constituent testing’ requirement of this Resource Framework.

1.4. Wastes from physical and chemical processing of non-metalliferous minerals

Waste code	Waste description	Restrictions
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07	Naturally occurring waste gravel and crushed rock only, including excavation materials from mineral workings
01 04 09	Waste sand	Naturally occurring uncontaminated waste sand only Must not contain clay

15 01 Packaging (including separately collected municipal packaging waste)

Waste code	Waste description	Restrictions
15 01 07	Glass packaging	Glass cullet produced from waste glass packaging only Must be free from contents and/or contamination in line with example 7, page A45 WM3 Waste classification technical guidance WM3.pdf

17 01 Concrete, bricks, tiles and ceramics

Waste code	Waste description	Restrictions
17 01 01	Concrete	Must not include concrete slurry
17 01 02	Bricks	Waste whole or part bricks
17 01 03	Tiles and ceramics	
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 170106	

17 02 Wood, glass and plastic

Waste code	Waste description	Restrictions
17 02 02	Glass	Glass cullet only Must not include fibre glass or glass fibre Must be free from non-glass components such as frames and/or coatings
17 03	Bituminous mixtures, coal tar and tarred products	

Waste code	Waste description	Restrictions
17 03 02	Bituminous mixtures other than those mentioned in 170301	Bituminous mixtures from the repair and refurbishment of the asphalt layers of roads and other paved areas only Must not include coal tar or tarred products

17 05 Soil (including excavated soil from contaminated sites), stones and dredging spoil

Waste code	Waste description	Restrictions
17 05 04	Stone other than those mentioned in 170503	Stone only Must not include soil

Waste code	Waste description	Restrictions
17 05 06	Dredging spoil other than those mentioned in 170505	Dredging spoil from fluvial, estuarine or canal water bodies Must consist only of granular non-cohesive inert aggregate from dredgings only
17 05 08	Track ballast other than those mentioned in 170507	Must be free from contamination and fine fractions

17 09 Other construction and demolition wastes

Waste code	Waste description	Restrictions
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	Allowed only if: The waste is generated from utilities trenchings or; The waste consists of subbase aggregates i.e. granular material

19 12 Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

Waste code	Waste description	Restrictions
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19 12 05	Glass	Glass cullet only
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19 12 09	Minerals (for example sand, stones)	Naturally occurring minerals only Must not include anthropogenic material or material contaminated by anthropogenic material such as concrete, bricks, gypsum from recovered plasterboard
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20 01 separately collected fractions (except 15 01)

Waste code	Waste description	Restrictions
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20 01 02	Glass	Glass cullet only Must not include fibre glass, glass fibre or glass from cathode ray tubes, fibre glass or glass fibre
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20 02 Garden and park wastes (including cemetery waste)

Waste code	Waste description	Restrictions
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20 02 02	Stone	Must not contain soil
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3. When the final product is not considered waste

3.1. Aggregate produced from inert waste will have met the [end of waste test](#), and so not be considered waste anymore, if you can show all of the following:

- It has been produced using only inert waste materials listed in Section 2 of this Resource Framework
- It conforms to the requirements of the standard appropriate to the end use it is destined for, as set out in Section 7
- The aggregate is produced under Factory Production Control as required by the BS EN standard, as set out in Section 8
- It requires no further processing, including size reduction, for the use it is destined for
- It is destined for use within the designated market sector for unbound or bound applications in civil engineering and construction as specified in Section 4.5
- It conforms with CE conformity marking requirements contained in the Construction Products Regulations, which will apply to all aggregates placed on the market to harmonised European Aggregates Standards from July 2013
- It meets any extra specification requested by and agreed with your customer
- There is certainty of use of the material

3.2 Certified aggregates in storage with little chance of use are considered waste. This means you must follow [waste management controls](#).

4. Providing evidence that quality aggregate has been produced

4.1. Get certification from an approved third-party certification body

4.1.1. You must show you comply with the requirements of this Resource Framework, including all the conditions of the relevant British Standard for the material that you produce. You must prove this to a certification body that is listed below:

Approved schemes:

- CLAIRE Third Party Accreditation Scheme for Secondary Aggregates (subject to EA approval)
- Green Compass Scheme for Aggregates from Inert Waste: Resource Framework (subject to EA approval)

4.1.2. As part of the certification process, you must:

- make and keep records for a minimum of 4 years – following the guidance in sections 4.2, 4.3 and any requirements under Section 8 of this Resource Framework
- make these records available to the certification body for certification purposes

4.1.3. The Environment Agency will agree scheme rules if:

- the method of certification shows that a site has met the requirements of the Resource Framework including the appropriate BS Standard for the material they are producing
- compliance with the Resource Framework and the appropriate British Standard are certified annually by an independent certification body that is listed in section 4.1.1.
- the certification verifies compliance with this Resource Framework including verifying input materials, compliance with a Factory Production Control document, compliance to the appropriate British Standard, checks that no further treatment is required before use and checks on the end use of the product
- the scheme is operating in line with scheme rules agreed with the Environment Agency
- the scheme is accredited to ISO 17065:2012 (or equivalent) by the United Kingdom Accreditation Service (UKAS), maintained annually
- the authorised inspection body carries out at least one audit a year to check and confirm on site documentation
- an impartial committee oversees the certification process
- the scheme rules include a feedback system whereby non-compliances found by the certification body or its appointed auditor are reported to the Environment Agency. The feedback system must also include a mechanism for the Environment Agency to report non-compliances to the scheme rules to the scheme owner

4.2. Record your incoming waste

4.2.1 Your records need to include:

- the waste code and waste description in compliance with Section 2 of this Resource Framework
- the source of the waste
- the date of delivery
- the name and address of supplier
- the name and address of carrier
- your method for confirming the waste is acceptable input material to the Resource Framework and if it's not acceptable (including only in part), your rejection reasons and what you did with the rejected waste

4.3 Record your outgoing product

4.3.1 To be able to demonstrate compliance with this Resource Framework, producers must maintain delivery documentation for every load of recycled aggregate dispatched.

4.3.2 The delivery documentation must include:

- date of supply
- customers name and contact details
- state the site at which the product was produced including name, production site address and contact details
- product description to aggregates standard including type of aggregate dispatched and any additional customer specifications (as agreed between the supplier and the customer)
- quantity supplied by weight/volume; and
- a statement that the product was produced in compliance with this Resource Framework

4.3.3 Further documentation which is required to be kept and can be requested from the purchaser include:

- test results and procedures in accordance with the standards or specification the aggregate has been produced to
- any further tests required to assess suitability for a particular end use
- details of the Factory Production manual

(Delivery documentation requirements for FPC compliance are listed in section 8.1.6).

4.4 All records must be made available for inspection by the regulator, if requested.

4.5 **Designated market sectors**

To comply with this Resource Framework, aggregate must be destined for use in unbound or bound applications in civil engineering and construction (as specified in table 7.1) and appropriate product descriptions must be used on delivery documentation.

- Unbound – including sub-base, capping, general fill, pipe bedding and drainage;
- Bound – including hydraulically bound applications, concrete and asphalt.

5. **Compliant products: loss of non-waste status**

5.1 Aggregate that's compliant with this Resource Framework will become waste again (meaning you must follow [waste management controls](#)) if, at any stage:

- you discard it

- you plan to discard it
- it is required to be discarded
- it is stored indefinitely with little prospect of being used

6. Mixing compliant products with waste and non-waste

6.1. If you mix aggregate that is compliant with this Resource Framework with other waste material, the whole mixed volume becomes waste and you must follow [waste management controls](#).

6.2. If you mix aggregate that is compliant with this Resource Framework with other non-waste material, the whole mixed volume is not waste. This is not classed as further treatment.

7. Standards and specifications which apply to this Resource Framework

7.1 The producer of aggregate produced under this Resource Framework must comply with the requirements of a BS EN aggregate standard appropriate to the use for which the aggregate is destined. The specification will define the properties and characteristics of the product, as suitable for its application.

This Resource Framework lists the main standards and specifications relating to aggregates at the time of publishing.

Product and Use	Standard	Specification
1 Unbound recycled aggregate: Pipe bedding Drainage	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	National Highways Specification for Highway Works (SHW): SHW 2025 CC500 Drainage and Service Ducts (formally series 500) Highway Authorities and Utilities Committee (HAUC): Specification for the reinstatement of openings in highways (SROH)
2 Unbound recycled aggregate: Granular fill General fill Capping	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	National Highways Specification for Highway Works: SHW 2025 CC601 Earthworks (formally series 600), SHW 2025 CC201 section 6 unbound capping, section 7 bound capping

		and SHW 2025 CC207 Footway, cycle track, paved area, kerb unit and access step construction (generally refers to CC201 for subbase and capping materials)
		HAUC: Specification for the reinstatement of openings in highways
		BS EN 13285: Unbound mixtures: Specifications
3 Unbound recycled aggregate: sub-base	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	National Highways Specification for Highway Works: SHW 2025 CC201 Pavement foundation construction (formally series 800) section 8 unbound mixtures for pavement subbase and SHW 2025 CC207 Footway, cycle track, paved area, kerb unit and access step construction (generally refers to CC201 for subbase and capping materials).
		HAUC: Specification for the reinstatement of openings in highways
		BS EN 13285: Unbound mixtures: Specifications
4 Recycled aggregate for concrete	BS EN 12620: Aggregates for concrete	National Highways Specification for Highway Works: SHW 2025 CC203 Rigid pavement construction (formally series 1000) (section 6 Constituents for concrete pavements), other concrete types used in pavements such as lower strength concrete (CC201 section 1

		and CC206 section 3) and early strength pavement quality concrete (CC206 section 5) generally refer to CC203 section 6.
		BS 8500-2: Concrete
5 Recycled aggregate for asphalt	BS EN 13043: Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas	National Highways Specification for Highway Works: SHW CC202 Flexible pavement construction (formally series 900) (section 7 Constituents for bituminous mixtures). HAUC: Specification for the reinstatement of openings in highways
6 Recycled aggregate for hydraulically bound mixtures	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	National Highways Specification for Highway Works: SHW 2025 CC201 Pavement foundation construction (formally series 800) section 9 Hydraulically bound mixtures for pavement subbase, CC02 Flexible pavement construction section 3 Hydraulically bound granular mixture base (refers to CC201 for constituent requirements), CC207 Footway, cycles track, paved area, kerb unit and access step construction (generally refers to CC201 for subbase and capping materials). HAUC: Specification for the reinstatement of openings in highways

		BS EN 14227-1 to 5 Hydraulically Bound Mixtures: Specifications
7 Reclaimed asphalt for use in bituminous mixtures	BS EN 13108-8 Bituminous mixtures – Material specifications – Part 8: Reclaimed asphalt	National Highways Specification for Highway Works: SHW CC202 Flexible pavement construction (Formally series 900) section 7 for bituminous mixtures. BS EN 13108-1 to 5 Bituminous mixtures – Material specifications

Note 1

The British Standards Institute (BSI) publishes guidance documents that explain how the European Aggregate Standards are applied within the UK, the ones relevant to Section 8 are:

PD 6682-1 Aggregates for concrete. Guidance on the use of BS EN 12620

PD 6682-2 Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas. Guidance on the use of BS EN 13043

PD 6682-6 Aggregates for unbound and hydraulically bound materials for use in civil engineering works and road construction. Guidance on the use of BS EN 13242

8 Factory Production Control Requirements

8.1 Production and standards/specification requirements

- Factory Production Control (FPC) must be set up. This is mandatory when producing to BS EN aggregate standards and to this Resource Framework.
- Any requirements set out in Section 8 are complementary to the evaluation of conformity requirements of BS EN 16236:2018, which must be implemented in full.
- The FPC is required to include the following quality management requirements set out below.

8.1.1 General points about the procedures

- A FPC manual must be produced which documents how the FPC is implemented and sets out procedures for establishing the approval, issue, distribution and administration of documentation and data for internal and external use.

- A management representative must be nominated as responsible for ensuring the FPC is implemented.
- The FPC must be reviewed periodically by management to ensure its continuing suitability and effectiveness. Records of such reviews must be kept.
- Controls on sub-contractors must be defined.

8.1.2 Waste acceptance criteria

- To ensure only inert waste (as described in Section 2) is accepted, the producer must develop 'acceptance criteria' specific to each site/location. These criteria must be followed at all times.
- The acceptance criteria must incorporate all statutory requirements relating to the receipt of incoming waste. These requirements include those arising from an environmental permit, waste management licence or a waste exemption, and the duty of care.
The acceptance criteria must also include:
 - a list of the types of waste that are accepted (including waste codes);
 - source/place of origin of the waste
 - the name and address of supplier and transporter
- Every load must be inspected visually, both on initial receipt and after tipping, to ensure compliance with the acceptance criteria.
- A procedure for dealing with non-conforming incoming waste must be set up, for example, rejection of loads, quarantine or disposal. Records must be kept of how the procedure has been implemented. All records must be kept for a minimum of 4 years and be made available to the regulator and certifier on request.

8.1.3 Production and testing

- Procedures for the maintenance and adjustments of processing equipment must be set up and followed
- Input materials must be stocked in a controlled manner in clearly identified locations
- Material taken from stock for processing must be checked for contamination
- The finished product must be identifiable up to the point-of-sale i.e. kept separate to other materials in clearly identified locations
- Procedures must be in place and implemented to maintain the quality of the product during handling, processing, storage, transportation and delivery
- Procedures for the use, control, calibration and maintenance of inspection, measuring and test equipment must be set up and followed. Equipment must be uniquely identified

8.1.4 Training

- All personnel involved in the processing of material under the Resource Framework must be trained on the FPC including:
 - acceptance criteria;
 - procedures for non-compliant input wastes and output products;

- sampling;
- testing;
- processing
- inspection.

8.1.5 Records

- Records of relevant controls and inspections, calibrations, changes and training must be maintained for 4 years
- The FPC should contain an MSP which details a written description of the recovery process for the incoming waste and contain details of the production process for each product type
 - input materials;
 - equipment used; and
 - actions undertaken at each stage from acceptance of waste to allocation to product stockpiles

8.1.6 Product Delivery Documentation

- Delivery documentation must:
 - record the type of aggregate product despatched.
 - state the site at which the product was produced;
 - state that the aggregate was produced under a quality management scheme conforming to the aggregates Resource Framework
- If requested, purchasers must be provided with the results from the testing regime undertaken on each product
- Historical records of test results must be kept and/or made available as summary results (for example, a graph of test results over time).

8.1.7 Testing

- Procedures for the use, control, calibration and maintenance of inspection, measuring and test equipment must be set up and followed. Equipment must be uniquely identified.
- A test plan for production must be defined that includes:
 - the type of testing for each product; and
 - sampling and testing frequency (see Section 9 below for information about minimum test frequencies set out in the main standards).
- The test procedures must be appropriate to the end use of the recycled aggregates and testing frequencies must comply with the standards/specifications for the aggregate produced.
- Producers must have in place testing procedures to meet the testing requirements for each product.

- More detailed testing requirements are defined within the aggregate standards and specifications.

8.1.8 Minimum testing requirements – frequencies

- Section 9 states the minimum test frequencies required by common standards and specifications, including the minimum requirements of the FPC for a range of routine tests.
- Frequencies are defined in terms of ‘production week’ or similar and/or ‘production day’. These periods should be defined by the producer depending on the throughput of the plant/equipment.
- Production week can be defined as the period of seven consecutive days comprising at least five production days or the period taken to complete five production days, whichever is longer.

9. Testing in accordance with end uses and standards

Summary of testing requirements associated with particular end uses and standards (Note: Testing frequencies should be increased where variability is identified through Factory Production Control and where the measured value is close to the specified limit).

9.1 Tests listed are not exhaustive and reference should be made to relevant standards and specifications for additional requirements.

End uses	Standard	Test	SHW2025 Reference	Frequency
All end uses	BS EN 933-1	Particle size distribution	RA-11	1 per week/batch
	BS EN 1097-5	Moisture Content	RA-12	1 per week/batch
	BS EN 1097-2	LA Value	RA-13	1 per 5,000 tonnes or change of source
	BS EN 933-2	Flakiness Index	RA-14	1 per week/batch
	BS EN 933-11	Classification of Constituents	RA-15	1 per week/batch (2,000-5,000 tonnes)

	BS EN 933-11	Contamination (X Class)	RA-16	1 per week/batch (
Additional tests for use in concrete	All end uses			
	Plus			
	BS EN 1097-5	Particle density		1 per week/batch (2,000-5,000 tonnes)
	BS EN 1097-6	Water Absorption		1 per week/batch (2,000-5,000 tonnes)
	BS EN 1367	Freeze/Thaw Resistance		1 every 2 years
	BS EN 1744-1	Sulphur Content		1 per 2,000-5,000 tonnes
	BS EN 1744-1	Chlorides		1 per 2,000 – 5,000 tonnes

Note 2

Test lists are not exhaustive and reference should be made to relevant standards and specifications for additional requirements.

9.2 Classification of constituents: testing to BS EN 933-11, classification groups

Code	Constituents
Rc	Concrete, concrete products, mortar, concrete masonry units

Ru	Unbound aggregate, natural stone, hydraulically bound aggregate
Rb	Clay masonry units (i.e. bricks and tiles), calcium silicate masonry units, aerated non-floating concrete
Ra	Bituminous materials
Rg	Glass
FL	Floating material in volume
X	Cohesive (e.g clay and soil), metals, wood, plastic, rubber, gypsum, plaster

Notes: Maximum permitted for constituent **X**: 1% by mass

Maximum permitted for constituent **FL**: $\leq 10 \text{ cm}^3/\text{kg}$ unbound, $\leq 5 \text{ cm}^3/\text{kg}$ aggregates for concrete

10. Importing and exporting Resource Framework compliant material

Producers intending to export resource framework compliant material should be aware that, although the material may cease to be waste in England, the country of destination may take a different view. Under the Assimilated Waste Shipment Regulation (EC) No /1013/2006), if the competent authority in the country of destination considers the material to be waste, the controls specified in that Regulation will apply to the shipment.

Producers intending to import resource framework compliant material to England should be aware that, if the country of dispatch regards the material as waste, the controls set out in the Assimilated Waste Shipment Regulation will apply to the shipment, even though the material may be regarded as having ceased to be waste in England. Producers importing materials should also ensure that they have appropriate documentation, for e.g. testing paperwork, sufficient to evidence compliance with the requirements of this resource framework. Without this, imported material will be considered waste in England (and subject to waste controls, including the enforcement provisions of the Transfrontier Shipment of Waste Regulations 2007) whatever the view of the country of dispatch.

As such, it is prudent to check with the competent authority for the country of dispatch or destination before importing or exporting aggregates produced under this Resource Framework.

11. Updates to this Resource Framework

The Environment Agency will review this Resource Framework in **INSERT DATE HERE**, with support from industry. The Environment Agency may update or withdraw this Resource Framework before this date because of:

- pollution incidents
- the Resource Framework being used incorrectly

- developments in scientific understanding
- a change in the market
- a change in legislation or case law
- a change to the agreed industry standard or input materials

You can subscribe to email updates about this Resource Framework. These will tell you if it has changed and when it has been withdrawn. Use the 'Get emails about this page' link on this page.

12. If you have questions about this Resource Framework

General enquiries

National Customer Contact Centre

PO Box 544

Rotherham

S60 1BY

Email enquiries@environment-agency.gov.uk

Telephone 03708 506 506