



Union Européenne des Producteurs de Granulats
Europäischer Gesteinsverband
European Aggregates Association

UEPG Guidance

End of Waste Criteria For Recycled Aggregates From Construction & Demolition Waste



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This guidance has been developed by the Recycling Task Force of UEPG for the benefit of members in the knowledge that the European Commission does not intend to introduce a common European regulatory document on End of Waste criteria application by Member States.

This Guidance considers the industry support for the wider Circular Economy and resource efficiency with particular regard for material re-use across the construction sector.

This Guidance sets out key common requirements that will enable recycled materials to cease to be wastes and hence meet the relevant Product Standards.

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Foreword

Background

Uncertainty over the point at which waste has been fully recovered and becomes a product within the meaning of Article 3(1) of the EU Waste Framework Directive (2008/98/EC) has inhibited the development and marketing of materials produced from waste which could otherwise be used beneficially without damaging human health and the environment. In some cases, this uncertainty has also inhibited the recovery and recycling of waste and its diversion from landfill.

Interpretation of EU legislation is ultimately a matter for the Courts and there is now a substantial body of case law on the interpretation of the definition of waste. Drawing on the principles established in this case law, it is possible to identify the point at which certain wastes can be regarded as having ceased to be waste and thus when the Directive's waste management controls should no longer apply.

What is the UEPG Guidance?

This Guidance sets out the common requirements for End of Waste Criteria for the production and use of a product from a specific waste stream. It is proposed that compliance with these criteria is considered sufficient to ensure that the fully recovered material will be accepted as 'product' and therefore used without undermining the effectiveness of the Waste Framework Directive and without the need for waste management controls.

This Guidance indicates how compliance, common to all Member States, can be demonstrated and points to good practice for the storage, transportation and handling of the fully recovered product. The Guidance also aims to provide increased market confidence in the quality of products produced from waste and so encourage greater recovery and recycling within the overall circular economy.

1. Introduction

Definitions of terms that appear in italics when they are first used in this Guidance are given in Appendix A.

1.1. What is this UEPG Guidance?

- 1.1.1 The Guidance sets out End of Waste criteria for the production and use of *aggregates* from *inert* waste from construction and demolition activity (CDW). Where the criteria set out are met, then the resulting materials will normally be regarded as having been fully recovered and to have ceased to be waste. Compliance with the current technical and environmental standards is then required for individual product designation and use.
- 1.1.2 This Guidance is voluntary, *producers* and *users* are not obliged to conform with the criteria. If they do not then the material will normally be considered to remain a waste and local *waste management controls* will apply to its handling, transport and use. Producers and users are reminded that local Member State regulations must be respected at all times.
- 1.1.3 This Guidance does not affect the obligation of *producers* to hold the required local Member State *environmental authorisation* and to comply with its conditions when receiving, transporting, storing and processing such materials/wastes.
- 1.1.4 This Guidance does not affect authorisation or any other legal requirements that do not depend on the status of the material as a waste.

1.2 The purpose of this Guidance

- 1.2.1 The Guidance has four main objectives:
- i. clarifying the point at which waste management controls are no longer required;
 - ii. providing users with confidence that the aggregate they purchase conforms to an approved industry specification defined in accordance with an appropriate European aggregate standards;
 - iii. providing users (specifiers and designers) with confidence that the aggregate is suitable for a use within a *designated market sector(s)* by conforming with the industry standard; and
 - iv. protecting human health and the environment (including soil).
- 1.2.2 In addition, the Guidance describes good practice for the transportation, storage and handling of aggregate (see Appendix D).

1.3 Complying with the Guidance

- 1.3.1 Aggregate will normally be regarded as having ceased to be waste, and therefore no longer subject to waste management controls, provided:
- Environmental and human health impacts meet the requirements of each Member State.
 - it conforms to the requirements of the European standard appropriate to the use it is destined for as set out in Section 2.
 - the aggregate is produced under *Factory Production Control (FPC)* as required by the European standard and as set out in Section 2.
 - within Factory Production Control, inputs are limited and controlled as set out in Section 2;
 - it requires no further processing, for the use it is destined for as set out in Section 2;
 - it is destined for a use within the designated market sectors set out in Section 4; and
 - it meets the CE conformity marking requirements as set out in the Construction Products

Regulations (CPR), which applies to all aggregates placed on the market to harmonized European Aggregates Standards after July 2013. Members are reminded that individual Member States may adopt different levels of Assessment and Verification Certification Performance (AVCP).

1.3.2 Producers must demonstrate that these criteria have been met in accordance with the methods detailed in Section 3.

- It is proposed that this Guidance is adopted as a technical regulation under *Technical Standards and Regulations Directive (98/34/EC)* as amended.

1.3.3 An outline of the main stages and control mechanisms of the Guidance is presented in Figure 1. These are described further in Sections 2 and 3.

1.4 When Guidance compliant material may become waste

1.4.1 Producers and users of aggregates should note that, even if the Guidance is complied with, the material will become waste again if it is discarded or there is an intention or requirement to discard, for example if:

- it is disposed of; or
- it is stored but has not expectation of being used. The acceptable period of storage is subject to individual Member State regulations.
- Guidance compliant material is mixed with other waste materials the resulting mixture shall be considered a waste and subject to waste management controls.

1.4.2 For clarification, if Guidance compliant material is mixed with non-waste materials, e.g., natural aggregates, the resulting mixture shall be considered as a product and not a waste. This may be subject to local Member State.

1.5 Non - Compliance with the Guidance

1.5.1 Where this Guidance is not complied with, for example the aggregates does not conform to the requirements of the European standard or the producer cannot demonstrate evidence of compliance, the aggregates produced will be considered as waste. In such circumstances, the producer or user must comply with the appropriate waste management controls of the relevant Member State.

1.6 Updating the Guidance

1.6.1 UEPG will review and update this document as appropriate. Triggers for a review include:

- Reported pollution incidents;
- Developments in scientific understanding;
- Emerging contaminants & how to handle them (persistent organic pollutants - POPs);
- Changes in the market affecting the demand for *recycled aggregates*;
- Changes in legislation or case law;
- Changes to the agreed European standard;
- Introduction of European regulations covering environmental, human health and regulated dangerous substances.

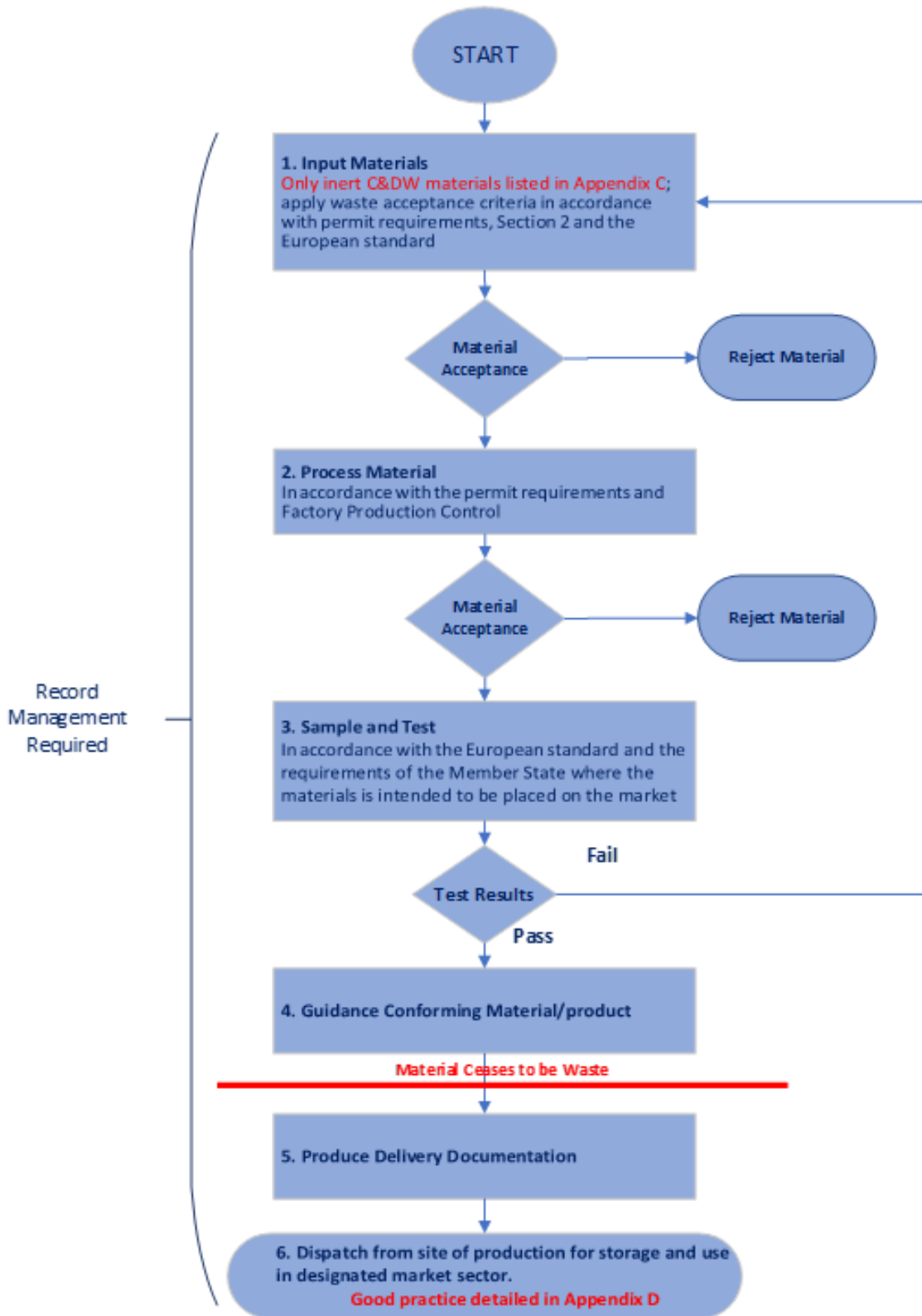
1.7 Importing and exporting Guidance compliant material

1.7.1 Producers intending to export/import material that has been produced in compliance with this Guidance should be aware that, although the material may cease to be waste in one Member State, the destination Member State may take a different view.

Before importing/exporting such material it is prudent to check with the competent authority for the country of dispatch/destination. A list of the competent authorities can be found at:

http://ec.europa.eu/environment/waste/shipments/pdf/list_competent_authorities.pdf

Figure 1: The main stages and control mechanisms for End of Waste Criteria



2. Producing aggregates from inert CDW

2.1 Regulating the production process

2.1.1 The process of turning inert CW waste material into a product is classified as a waste recovery operation and is subject to the waste management controls set out in the Waste Framework Directive and Member State Regulations. This Guidance does not affect the obligation on producers to hold an environmental authorization applicable to the Member State.

2.2 Criteria for producing aggregates that has ceased to be waste

2.2.1 To comply with this Guidance, aggregates must be produced in compliance with the criteria outlined in Sections 2.3 to 2.5. In addition, the material should be destined for use in the designated market sector described in Section 4.

2.3 Input materials

- 2.3.1 The only acceptable input materials are the inert CDW materials specified in Appendix C.
- 2.3.2 To ensure that only inert CDW is accepted, producers must have acceptance criteria which meet, as a minimum, the requirements set out in Appendix B (B.2.3) and C.

2.4 Processed in accordance with the approved standard including a Factory Production Control system

- 2.4.1 The producer must comply with the requirements of the relevant Member State and in accordance with Factory production control set out in an aggregates product standard (for example, BS EN 13242), as appropriate for the use for which the aggregates are destined, to comply with this Guidance. Appendix B details the main EN standards and specifications relating to aggregates at the time of publishing this Guidance.
- 2.4.2 The specifications in Appendix B have properties selected from the aggregates standards. The requirements for the attestation of conformity apply in all cases. Members are reminded that additional local Member State requirements may also be applicable. The standards and specifications in Appendix B are subject to review and producers should ensure they work to the latest version. Any changes to the agreed standards and specifications may trigger a review of this Guidance (see Section 1.6.1).
- 2.4.3 Producers must set up and produce the aggregates under a system for Factory Production Control as set out in the relevant EN standards as listed in Appendix B.

2.5 Environmental Considerations and Regulated Dangerous Substances

2.5.1 Producers and users of recycled aggregates must refer to individual Member State environmental regulations relevant to the use of the material.

2.6 Requires no further processing

2.6.1 The aggregates must require no further processing, including size reduction, for the use for which it is destined at the time it is produced to comply with this Guidance.

3. Providing evidence of compliance with the Guidance

3.1. Producers must be able to demonstrate compliance with all the requirements of this Guidance.

3.2. Some of the records specified below may already be required as part of the producer's environmental terms and conditions of operational permits

3.3. Records management

3.3.1 To be able to demonstrate compliance with the Guidance, producers must maintain *delivery documentation* for every load/batch of *recycled aggregates* dispatched

3.3.2 This delivery documentation must include:

- customer's name and contact details;
- date of supply;
- product description to aggregates standard and customer specification;
- the name and contact details of the producer, including the address of the site of production;
- quantity supplied by weight/volume; and
- a statement that the product was produced in compliance with this Guidance.
- a statement that the product was produced in compliance with CE marking and appropriate product standards. In the case of non-harmonised standards, the product could be referenced to the appropriate European product standard

These requirements are the minimum to meet production and supply obligations and to demonstrate evidence of compliance with this Guidance. Individual Member States may have additional regulatory record-keeping obligations. Where requested by the purchaser further documentation should be provided

3.3.3 For the purposes of this Guidance the producer, must

- keep and retain specified records for a minimum period of product liability and
- make records available, on request, for inspection by the regulator.

4. Storage and use of recycled aggregates

4.1 General

4.1.1 As for all aggregates, producers and users of recycled aggregates that complies with this Guidance should take full account of any resulting environmental and human health impact during the storage and use of recycled aggregates.

4.2 Storage of recycled aggregates

4.2.1 Aggregates produced in compliance with the requirements of this Guidance are product and may need to be stored temporarily either before delivery to the customer or at the customer's premises. As product these materials are not subject to waste management controls.

4.2.2 As for all materials, if it appears that the material is being stored indefinitely with no certainty of use, the material may revert to being a waste and hence local Member State waste management controls will apply.

4.2.3 Producers, distributors, and users should follow good practice for the transportation, storage and handling of aggregates, details of which are included in Appendix D.

4.3 Use of recycled aggregates - designated market sectors

4.3.1 To comply with this Guidance, aggregates must be destined for use in unbound or bound applications in civil engineering and construction (as set out below) 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.

Appendix A Definitions

In this Guidance, the words and phrases below have the following meanings.

Agent: An agent acts like a broker, putting buyer and seller together. The agent does not take possession of the aggregates but is paid commission while the buyer is invoiced directly.

Aggregate: A granular material of natural, manufactured, or re-cycled origin used in construction. For the avoidance of doubt, clays and soils are not considered to be aggregates for the purposes of this Guidance.

Delivery documentation: Record of who the aggregates are supplied to, including the documentation accompanying each load of aggregates. It details the standard to which the product complies and states that the product was produced in compliance with this Guidance in chapter 3.3.2.

Designated market sector(s): The sector(s) listed in Section 4 to which this Guidance applies. See section 4 above.

Environmental authorisation : Environmental authorisations issued or exemptions registered under the Environmental Permitting Regulations of individual Member States.

European Waste Catalogue (EWC): European Waste Catalogue (EWC 2002 and amendments) – a comprehensive list of waste codes and descriptions based on waste source and type (Commission Decision 2000/532/EC amended by Commission Decisions 2001/118/EC and 2001/119/EC and Council Decision 2001/573/EC).

Factory Production Control (FPC): A management system focusing mainly on the production process which aims to ensure that product quality is consistently maintained to the required specifications.

Inert: Waste is inert if:

- (a) it does not undergo any significant physical, chemical or biological transformations;
- (b) it does not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health;
- (c) it does not endanger the quality of any surface water, groundwater, or soil.

Producers: The operator(s) undertaking aggregates processing.

UEPG Guidance: Sets out the criteria for the production of a **product** from a specific waste type - CDW. Compliance with these criteria is considered sufficient to ensure that the recovered product can be regarded as having ceased to be waste and, therefore, no longer subject to waste management controls. In addition, the Guidance indicates how compliance may be demonstrated and points to good practice for transportation, storage and handling of the recovered product.

Recycled aggregates: aggregates resulting from the processing of mineral material either previously used in construction or from the processing of the residues of material production.

Technical Standards and Regulations Directive 98/34/EC: Seeks to ensure the transparency of technical regulations and is intended to help avoid the creation of new technical barriers to trade within the European Union.

User(s): User means construction companies, manufacturers, contractors and all those or individuals responsible for the end use of aggregates.

Waste management controls: Controls under legislation that govern the treatment, handling, containment, transportation storage use and disposal of waste.

UEPG: Union Européenne des Producteurs des Granulats, stands for the European Aggregates Association, representing primary and secondary aggregates including sand, gravel, crushed rock, marine, recycled and manufactured aggregates.

Appendix B Approved industry standards and Factory Production Control

B1 Approved industry standards

B1.1 The producer must comply with all the requirements of the Member State where it is intended to be put on the market and appropriate to the use for which the aggregates is destined for. Table B1 details the product standards and main specifications where the requirements are based on at the time of publishing this Guidance.

Table B1: Standards, specifications and quality controls for the use of aggregates

Product and Use	Standard	Specification	Quality controls
1 Unbound recycled aggregate: Pipe bedding Drainage	EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction		EN 13242 AVCP Table ZA 1
2 Unbound recycled aggregate: Granular fill General fill Capping	EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	EN 13285: Unbound mixtures: Specifications	EN 13242 AVCP Table ZA 1
3 Unbound recycled aggregate: sub base	EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	EN 13285: Unbound mixtures: Specifications	EN 13242 AVCP Table ZA 1
4 Recycled aggregate for concrete	EN 12620: Aggregates for concrete		EN 12620 AVCP Table ZA 1a

5 Recycled aggregate for asphalt	EN 13043: Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas		EN 13043 AVCP Table ZA 1a
6 Recycled aggregate for hydraulically bound mixtures	EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	EN 14227-1 to 5 Hydraulically Bound Mixtures: Specifications	EN 13242 AVCP Table ZA 1
7 Reclaimed asphalt for use in bituminous mixtures	EN 13108-8 Bituminous mixtures - Material specifications - Part 8: Reclaimed asphalt.	EN 13108-1 to 5 Bituminous mixtures - Material specifications	EN 13108-8

The AVCP levels indicated are the standard 'default' levels, but Member States may require different ones.

B2 Factory Production Control (FPC)

B2.1 Production and standards/specification requirements

- A system of FPC must be set up. This is mandatory when producing to EN aggregate standards and to this Guidance.
- The requirements set out in B2.2 to B2.9 are complementary to the evaluation of conformity requirements of the individual aggregate standard, which must be implemented in full.
- The FPC is required to include the following quality management requirements which must be implemented.

B2.2 General points about the procedures

- An 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 that 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.

B2.3 Waste Acceptance Criteria

- To ensure that only inert waste is accepted, the producer must develop and enforce strict 'Acceptance Criteria' specific to each site/location.
- The Acceptance Criteria must incorporate all regulatory requirements relating to the receipt of incoming waste. These requirements include those arising from an environmental permit, waste management license 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;
 - supplier and transporting agent;
 - and method of acceptance.
- Every load must be inspected visually, both on initial receipt and after tipping, to ensure compliance with the Acceptance Criteria. A reduced inspection plan may be applied to material coming from a consistent source.
- 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.

Where possible, pre-inspection of material sources to ensure compliance with the EU Construction and Demolition Waste Management Protocol with respect to the separation of contaminants

B2.4 Production and testing

- The manner in which processing equipment is maintained and adjusted during production must be defined.
- Input materials must be stocked in a controlled manner in clearly identified locations.
- The finished product must be identifiable up to the point of sale.
- Procedures must be in place and implemented to maintain the quality of the product during handling, storage, transport and delivery.
- Procedures for the use, control, calibration and maintenance of inspection, measuring and test equipment must be setup and followed. Equipment must be uniquely identified.

B2.5 Training

- All personnel must be appropriately trained, as related to their job role, on the application of FPC including:
 - acceptance criteria;
 - procedures for non-compliant input wastes and output products;
 - sampling;
 - testing; and
 - inspection.

B2.6 Records

- Records of relevant controls and inspections, calibrations, changes and training must be maintained for a suitable period of time. This period must be defined.

- A Method Statement of Production (MSP) must be produced and maintained. The MSP represents the recovery process for the incoming waste and it is part of the FPC. It must contain a description or representation of the production process for each product type including:
 - input materials;
 - equipment used; and
 - actions undertaken at each stage from acceptance of waste to allocation to product stockpiles.
- The aggregates must be produced to a recognised standard and/or specification. This specification will define the properties and characteristics of the product, as suitable for its application.

B2.7 Documentation

- Delivery documentation must, as a minimum requirement, include the information set-out in clause 3.3.2.
- 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).

B2.8 Testing

It should be noted that the testing regime can vary depending on national requirements and the frequencies in the standards are only a default

- 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 B2.9 below for information about minimum test frequencies).
- Table B2 provides a summary of the frequencies required for the minimum testing requirements 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. A summary of the frequencies required for the minimum testing requirements within the mainstream standards is provided in Table B2 (below).
- More detailed testing requirements are defined within the aggregate standards and specifications.

B2.9 Minimum testing requirements - frequencies (see table below)

Tables B2 and B4 collate 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.

B2.10 Departure from minimum test frequencies (see table below)

- Where materials are known to be marginal or if initial test results show them as such, the frequency of testing should be increased.
- The producer must prepare a schedule of test frequencies taking into account the minimum requirements of the relevant FPC.
- Under special conditions the test frequencies may be reduced below those given in the FPC annex of the standards. Possible reasons include:
 - highly automated production equipment;
 - long-term experience with consistency of special properties;
 - sources of high conformity; and
 - running a Quality Management System with exceptional measures for surveillance and monitoring of the production process.
- Reasons for reducing test frequencies must be stated in the FPC manual.

Table B2: 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.)

End use	Standard and Specifications	Test	Test reference	Minimum test frequency (see B2.9)
All end uses	EN 13242 EN 12620	Particle size Distribution	EN 933-1	1 per week
		Particle density	EN 1097-6	1 per month
		Resistance to fragmentation (LA)	EN 1097-2	2 per year
		Classification of constituents (see table B3)	EN 933-11	1 per month
		Water soluble sulfate	EN 1744-1	1 per month
Aggregates for concrete	EN 12620	Particle density and water absorption	EN 1097-6	1 per month

		Sulfur containing compounds	EN 1744-1	2 per year
		Chlorides	EN 1744-5	2 per year
		Influence on setting time of cement	EN 1744-6	2 per year

Table B3 Aggregate product specification requirements including Factory Production Control (FPC)

Test requirements of the main aggregate product standards.

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

Property	EN test method	Product standard/specification	Minimum test frequency
Grading	EN 933-1	EN 12620 Aggregates for concrete	1 per production week
		EN 13043 Aggregates for bituminous mixtures	
		EN 13242 Aggregates for unbound and hydraulically bound mixtures	
		EN 13242	
		EN 13043	
		EN 12620	
Particle shape	EN 933-3 and EN 933-4	EN 12620 Aggregates for concrete	1 per production month
		EN 13043 Aggregates for bituminous mixtures	
		EN 13242 Aggregates for unbound and hydraulically bound mixtures	1 per production month
	EN 1097-6	EN 12620 Aggregates for concrete	

Particle density		EN 13043 Aggregates for bituminous mixtures	1 per production month
		EN 13242 Aggregates for unbound and hydraulically bound mixtures	1 per production month (<i>no requirement for unbound mixtures</i>)
Composition	EN 933-11	EN 12620 Aggregates for concrete	1 per production month
		EN 13043 Aggregates for bituminous mixtures	
		EN 13242 Aggregates for unbound and hydraulically bound mixtures	
Acid soluble chloride salts	EN 1744-5	EN 12620 Aggregates for concrete	2 per year
		EN 13043 Aggregates for bituminous mixtures	
		EN 13242 Aggregates for unbound and hydraulically bound mixtures	
Acid soluble sulphates	EN 1744-1	EN 12620 Aggregates for concrete	2 per year
		EN 13043 Aggregates for bituminous mixtures	
		EN 13242 Aggregates for unbound and hydraulically bound mixtures	
Water soluble sulphates	EN 1744-1	EN 12620 Aggregates for concrete	1 per production month

Table B4. Classification of constituents: testing to 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**: 10 cm³/kg unbound, 5 cm³/kg aggregates for concrete

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

Appendix C Wastes considered to be inert waste for the purpose of this Guidance and to be acceptable for the production of recycled aggregates

General Restrictions

This Guidance only applies to aggregates i.e., a granular material used in construction, which is processed from inert CDW waste. For the avoidance of doubt, clays and soils are not considered to be aggregates for the purposes of this Guidance.

Table C1 lists all the input materials and their relevant 'waste code' or European Waste Catalogue (EWC) code considered inert and acceptable for the production of recycled aggregate under this Guidance. The table includes notes to clarify any limits and restrictions relating to specific waste types. Waste inputs must not contain or be contaminated with dangerous substances as described in the List of Wastes relevant to individual Member States. Incidental quantities of inert physical contaminants (such as soils, peat, clays, 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 table B3 of this Guidance.

Table C1: Acceptable inert waste input materials

Waste of naturally occurring minerals (non-hazardous)

Type and exclusions	Waste code
Waste gravel and crushed rocks other than those mentioned in 01 04 07 May include excavation from mineral workings.	01 04 08
Waste sand and clays Waste sand only. Must not include contaminated sand.	01 04 09

Wastes from manufacture of glass and glass products

Type and restrictions	Waste code
Waste glass-based fibrous materials Allowed only if: Wastes without organic binders	10 11 03

Packaging (including separately collected municipal packaging waste)

Type and restrictions	Waste code
Glass packaging	15 01 07

Construction and demolition waste - concrete, bricks, tiles and ceramics

Type and restrictions	Waste code
Concrete	17 01 01
Bricks	17 01 02
Tiles and ceramics	17 01 03
Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07

Construction and demolition waste - wood, glass and plastic

Type and restrictions	Waste code
Glass Must not include fibreglass or glass fibre.	17 02 02

Construction and demolition waste - bituminous mixtures, coal tar and tarred products

Type and restrictions	Waste code
Bituminous mixtures other than those mentioned in 17 03 01	17 03 02
<p>Allowed only if:</p> <p>Bituminous mixtures from the repair and refurbishment of the asphalt layers of roads and other paved areas (excluding bituminous mixtures containing coal tar and classified as waste code 17 03 01).</p> <p>Must not include coal tar or tarred products.</p> <p>Must not include freshly mixed bituminous mixtures.</p>	

Construction and demolition waste - soil (including excavated soil from contaminated sites), stones and dredging spoil

Type and restrictions	Waste code
Soil and stones other than those mentioned in 17 05 03 Must not contain any soil or stone from contaminated sites.	17 05 04
Dredging spoil other than those mentioned in 17 05 05 Allowed only if: Inert aggregate from dredgings. Must not contain contaminated dredgings. Must not contain fines.	17 05 06
Track ballast other than those mentioned in 17 05 07 Allowed only if: Does not contain soil and stones from contaminated sites.	17 05 08

Construction and demolition waste - other construction and demolition wastes

Type and restrictions	Waste code
Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04
<p>Allowed only if:</p> <p>The waste is generated from utilities trenchings.</p> <p>The waste consists of sub base aggregates i.e. granular material.</p> <p>The waste contains only materials that would be described by entries 17 01 01, 17 03 02 and 17 05 04 in this appendix if the waste was not mixed.</p>	

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

Type and restrictions	Waste code
Glass	19 12 05
Does not include glass from cathode ray tubes.	
Minerals (for example sand, stones)	19 12 09
Must not contain concrete, bricks, tiles, sand, stone or gypsum from recovered plasterboard.	

Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions

Type and restrictions	Waste code
Glass	20 01 02
Must not include fibreglass.	
Garden and park wastes (including cemetery waste) - soil and stones	20 02 02
Must not contain contaminated stones from garden and parks waste.	

Appendix D Good practice for the transportation, storage and use of recycled aggregates

D1 Pollution prevention and environmental good practice

- Follow the pollution prevention guidance applicable to individual Member States to help those working on construction and demolition sites to prevent pollution.

D2 Health and Safety

- All applications of aggregates should comply with recommendations from the Health and Safety Authority of individual Member States.

Processing operations to produce recycled aggregates from EOW materials may present a range of health and safety hazards, including:

- Contact/entrapment with moving machinery.
- Interactions between pedestrians and vehicles/mobile plant.
- Exposure to airborne dusts containing respirable crystalline silica and other dangerous substances to health.
- Exposure to high noise levels.
- Processing and materials handling operations should be planned, managed and controlled to eliminate or reduce risks by complying with the relevant health and safety laws and/or regulations in the individual member states and applying relevant safe working practices.

D3 Transportation, storage and handling

- Aggregates should be handled and stored at the processing site in a way to minimise the creation of airborne dust.
- Engineering control measures such as containment, enclosed silos/bins/hoppers, local exhaust ventilation, sprays suppression systems, etc. should be used where there is a risk of airborne dust creation.
- Open conveyor handling systems should be provided with wind boards or other protection to prevent wind-whipping.
- Manual handling of the aggregates should be through the use of mechanical aids wherever possible. Account should be taken of the Manual Handling Regulations applicable in each Member State.
- Transportation from the processing and storage locations should be arranged in a way to minimise dust escape into the local environment. All road transport should be covered.
- Aggregates are inert, but dust and fine particles should be prevented from entering watercourses and drains. Deposition of dust on vegetation and surrounding property should be avoided by controlling the release of dust at source.



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