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Conservation of Cultural property — Methodology for sampling from materials of cultural property — General rules

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Conservation of Cultural property - Methodology for sampling from materials of cultural property - General rules

Conservation des biens culturels - Méthodologie
d'échantillonnage des matériaux - Règles générales

Erhaltung des kulturellen Erbes - Verfahren der
Probenahme an Materialien des kulturellen Erbes -
Allgemeine Regeln

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Foreword

This document (EN 16085:2012) has been prepared by Technical Committee CEN/TC 346 “Conservation of cultural property”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2013, and conflicting national standards shall be withdrawn at the latest by February 2013.

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Introduction

This is a general standard for sampling of materials constituting cultural property in order to characterize them during all stages of conservation. The sampling procedure depends on the type and condition of the material to be sampled, the specific case under study and the type of investigation chosen.

Sampling is invasive and invariably causes damage, however small. It should only be undertaken if there is strong justification for it and in the closest consultation with those having responsibility for the object and those who will be studying the samples. The consultation should consider whether the same information could be obtained by non-invasive methods.

1 Scope

This European Standard provides a methodology and criteria for sampling cultural property materials for their scientific investigation. It covers, for example, how to characterize the material(s), assess the condition, determine the deterioration causes and/or mechanism(s) and decide on and/or evaluate the conservation treatment(s). Apart from sampling, this document also provides requirements for documentation, and handling of sample(s).

This European Standard does not deal with the decision making process for taking a sample nor how the sample is to be used.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 15898, *Conservation of cultural property — Main general terms and definitions*

EN 16095, *Conservation of cultural property — Condition recording for movable cultural heritage*

EN 16096, *Conservation of cultural property — Condition survey and report of built cultural heritage*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15898 and the following apply.

3.1

investigation

gathering of information necessary for a conservation decision making process

3.2

sample

portion of material, ideally representative, removed from the cultural property for scientific investigation

3.3

sampling

process of removing a sample

3.4

sampling plan

procedure for the selection and the sampling of one or several samples with the objective of doing a scientific investigation of cultural property

3.5

scientific investigation

study by means of examination, analysis, or test method to obtain information on the nature or the properties of cultural property related to issues of conservation

4 Criteria for sampling

4.1 The aims of the sampling should be clearly defined and justified, and a sampling plan (see Clause 5) should be based on these aims.

4.2 Sampling should be carried out according to current legislation and/or the policy of the cultural property owner and/or the authority responsible for the care of the movable or immovable cultural property.

4.3 Prior to sampling, an appropriate record of the condition of the cultural property in accordance with EN16095 or EN16096 should be established, i.e. a condition survey or report.

Sampling requires people with manual skill and knowledge of the cultural property.

4.4 The sampling should be done so as to minimize any visible and/or disrupting/damaging effects and taken, when possible, from an as inconspicuous place as possible provided that it fulfils the aims of the sampling.

4.5 Sampling should be carried out according to the specific requirements of the scientific investigation.

5 Sampling plan

A sampling plan shall be established on the basis of a preliminary survey. The sampling plan shall cover the research question(s) to be addressed and shall be defined in close consultation with those having responsibility of the cultural property and those who will be studying the samples. The sampling plan shall provide an overview of the locations for taking samples, and of the number, size and nature of the sample(s) to be taken. The size and nature of the sample shall be appropriate to the research question being addressed and in accordance with the criteria given in Clause 4. The sampling plan shall specify the person(s) authorised to take the samples, and the method of sampling.

The sampling plan shall specify whether any part of the sample remaining after the investigation shall be returned to the owner/responsible person or shall be retained by the investigator. The sampling plan shall be added to the documentary archive of the object.

6 Sampling recording

During the sampling operation, a sampling data sheet should be completed with all the necessary information as follows:

6.1 A sample identification code: this code is unique and should be associated with the sample at all times.

6.2 Aim or aims of the sampling: these should be related specifically to the objective of the scientific investigation.

6.3 The planned scientific investigation: this describes the intended type(s) of scientific investigation [examination] for the sample.

6.4 Identification of the cultural property: any existing registration code(s)/inventory number should be recorded. Reference to any existing condition surveys and/or condition reports should be included. All information related to the identification of the cultural property, such as name, author, date, etc. should be given.

6.5 Identification of the sample:

- a) date of sampling given as the year, month, and day "(YYYY-MM-DD)";
- b) name of the person who collected the samples, and relevant contact information;

- c) location of the sampling point: this should be described by written records, graphic documentation, photographs, etc. in order to confirm the sample location for future reference. Each photograph should include a metric scale and colorimetric reference when applicable;
- d) description of the physical state (solid, liquid, etc.), type (fragment, core, powder etc.), colour, stratigraphy of the sample;
- e) photographs of the sample with metric scale and colorimetric reference when applicable;
- f) the sampling procedure and/or type of tools used should be recorded.

6.6 Other relevant information are strongly recommended: environmental exposure condition(s) of sample, conditions while sampling, packaging of the sample as well as other comments to be recorded at the time of sampling if deemed important, such as recommendation for storage conditions before the planned investigation.

An example of sampling data sheet is given in Annex A.

7 Number of samples

Only a minimum though sufficient number of samples should be taken. They should be representative and in accordance with the sampling plan.

8 Amount of samples

Only a minimum but sufficient amount of material should be taken. The amount of material depends on the type of cultural property, the nature of the material, and the kind of scientific investigation to be employed.

9 Sampling Operation

Sampling requires appropriate tools and care needs to be taken to avoid contamination of the sample(s). Health and safety regulations should be followed for the protection of the person(s) who are sampling.

10 Packing of the sample

Each sample should be packed according to the recommendations of the professional(s) who will investigate the sample(s). The sample(s) should be protected from contamination, mechanical damage, and alteration during transportation to storage. Each sample shall be identified with the sample identification code in a suitable and durable way.

11 Storage conditions

Special care may be necessary to store the samples depending on their nature and state prior to investigation.

Annex A (informative)

Example of sampling data sheet

The following is an example of a sampling data sheet. The sequence of the elements is not mandatory but would be useful:

Sample identification code	Unique and be associated with the sample at all times
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Aim of the sampling	Should be related specifically to scientific investigation of the sample in question
Planned investigation	Describes the intended type(s) of investigation for the sample

Identification of the cultural property	
Registration code/Inventory number	Any registration code(s) should be recorded if they exist. Make reference to condition survey and/or condition report.
Name/Subject	
Author/origin	
Date/period	
Location	
City, state	
Owner (name, address, phone number, ...)	
Other	

Identification of the sample	
Date of sampling	Year-month-day
The name of the person who carries out the sampling	Person who carries out sampling, and other contact information that may be relevant
The sampling locations	Should be described by written records, graphic documentation and/or photographs in order to be able to find the sample location for future reference. Each photograph should include a metric scale and colorimetric reference if applicable
Description of the sample	Physical state, colour, stratigraphy, e. g. fragment, core, powder, liquid, solid
Photo of Sample	Photograph should include a metric scale and colorimetric reference if applicable
Sampling method	How the sample was taken, procedure and/or the type of tool
Other related information	Environmental exposure condition(s) of sample, conditions while sampling, as well as other comments to be recorded at the time of sampling if deemed important, such as recommendation for storage conditions before the planned investigation

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