

## RETAINING PHYSICAL TRACES AND EVIDENCE

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**ABSTRACT:** In crime-scene work done after capital crimes or violent terrorist attacks, all kinds of physical traces and items of evidence have to be dealt with. When investigating the crime-scene, the criminal importance and the evidentiary value of the physical traces and evidence secured is not always apparent, the reason why frequently large quantities of evidence are recovered which could be significant for clearing up the crime. The definite marking of the physical traces and the evidence which will later facilitate their exact assignment to the position at the crime-scene is very important and at the same time often difficult. The crime-scene unit of the Bundeskriminalamt have developed a method of retaining evidence in which one individual number is allocated to every physical trace and every item located which shows at once from which part of the crime-scene this physical trace or the item originates. This has proved to be a good method in particular when investigating crimes committed at very large scenes or when there are several crime-scenes and in those cases where a particularly large amount of physical traces and items of evidence are developed.

**KEY WORDS:** Crime scene; Physical traces; Evidence retaining.

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Optimal crime-scene work is particularly important with regard to the objective securing of physical evidence after capital crimes or in cases of violent terrorist crimes. Facts and the course of the incident must be recorded and described in full for verification and reconstruction as this will be the basis for the legal findings in the subsequent criminal proceedings.

The crime-scene work is usually carried out at a very early stage of the respective criminal intelligence collection. For this reason the criminal importance and classification of physical traces and evidence secured is not always apparent.

Latent traces and micro-traces such as fingermarks, fibres, hair or DNA material are also important. In numerous cases, only optimum conditions provided in a laboratory allow these traces to be secured correctly and professionally. For this reason items which might be affected with such traces must be secured, too.

What information can be obtained from a trace depends on:

- the time and way of securing the trace,

- the knowledge, skill and carefulness of the scene of crime officer,
- the technical facilities for deducing information and processing same,
- the quality of the reference collection.

On principle, the scene of crime must be systematically searched for physical traces and evidence; and all items which might be of importance to solving the crime must be seized.

For this reason, it is indispensable that scene of crime officers proceed in accordance with a systematic and well thought-out scheme. They must not consider anything as unimportant right at the beginning nor disregard anything at all. In most cases, all items whose relevance to the case cannot be ruled out are seized and stored at the competent office. In case of large scenes of crime, there may be hundreds of items and physical traces.

On principle, every single item, which may constitute a piece of evidence, must be documented clearly and its chain of custody reconstructed completely. After an item of evidence has been discovered, its position at the crime scene documented (by means of photographs, videos or sketches) and the item packed suitably, it must be added to a list of exhibits together with an exhibit number, an exact description and any other additional information available.

Any further handling of the exhibits, be it in connection with an application for forensic examination, negotiations of transfer, or setting up a report on securing evidence, is based on this list. In addition to the general data:

- office,
- log no./file no.,
- subject,
- scene,
- date,
- page,
- signature/s,

the list should provide the following columns for listing exhibits:

Exhibit number	Number Measure Weight	Denomination of the item	1. Remarks 2. Results 3. Whereabouts 4. Seizing officer
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The exhibits themselves must be marked clearly and permanently. As exhibits often carry physical traces, labels or tags must be attached to the wrapping so as not to destroy any physical traces. The least information required is:

- office,
- log no./file no.,

- exhibit no.,
- date of retention,
- name of seizing officer (initials).

The label/tag must be marked before its is attached to the respective item of evidence (copying marks!)

In the early eighties, the crime-scene unit of the Bundeskriminalamt developed a method of retaining evidence, in which even large numbers of physical traces and evidence can be clearly and systematically catalogued and recorded in lists of exhibits or seized objects.

This number and the log no. of the case accompany the item through the whole procedure up to the court hearing and finally until the item is destroyed or returned to the owner.

Based on the number, the different locations of exhibits throughout the criminal proceedings can be reconstructed at any time (chain of custody).

This method assigns an “individual number” to every physical trace or every item collected, which shows from which area of the crime scene the physical trace or item originates. The number consists of:

- a guide number numerically documenting the location (searched object, building, room) and the area of the physical traces/item of evidence,
- the actual exhibit number.

If several objects must be searched, every object is assigned a guide number:

Exhibit number	Number Measure Weight	Denomination of the item	1. Remarks 2. Results 3. Whereabouts 4. Seizing officer
1		Object 1	
2		Object 2	
3		Object 3	

Let us assume that object 1 is a farm with a residential building, an out-building and a garage on a rather large piece of land. In this case further guide numbers are allocated to the individual areas/objects in order to allow several search teams to work simultaneously and allocate unambiguous numbers to every item of evidence.

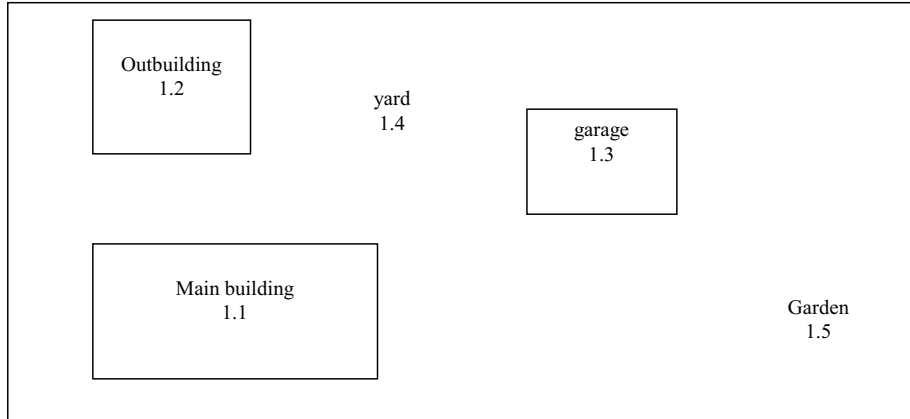


Exhibit number	Number Measure Weight	Denomination	1. Remarks 2. Results 3. Whereabouts 4. Seizing officer
1.		Object 1	
1.1		Residential building	
1.2		Outbuilding	
1.3		Garage	
1.4		Yard	
1.5		Garden	

Tip: always insert the respective guide number in the sketch. There is no binding rule for the order. A system should be chosen depending on the specific case (ex. clockwise, upwards, relevance).

Further guide numbers are allocated to areas within the residential building in advance:

Exhibit number	Number Measure Weight	Denomination	1. Remarks 2. Results 3. Whereabouts 4. Seizing officer
1.1		Residential building	
1.1.1		Cellar	
1.1.2		Ground floor	
1.1.2.1		Hall	
1.1.2.2		Kitchen	
1.1.2.3		Living room	
1.1.3		First floor	
1.1.4		Attic	

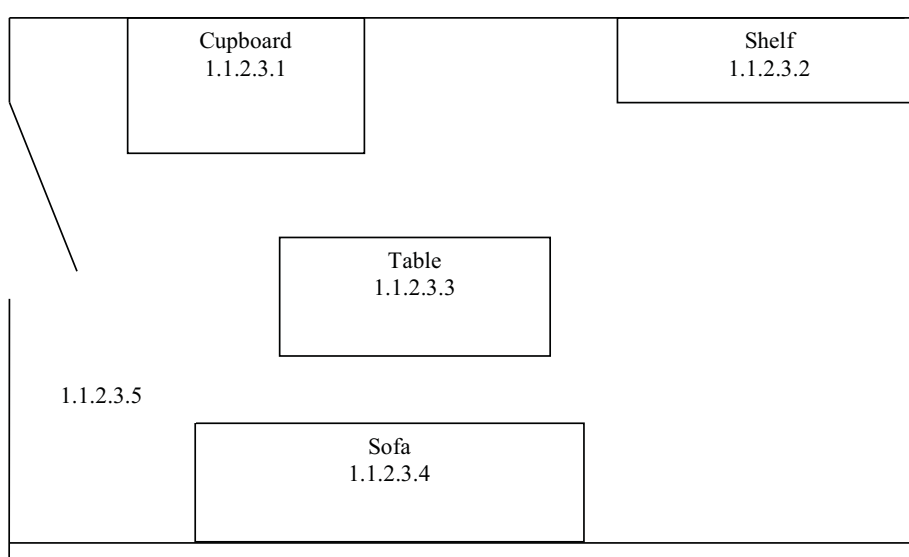
Tip: for scene of crime work and retention of evidence at the scene of crime, it is indispensable to subdivide the scene of crime into areas before allocating numbers.

It is advisable to draw a sketch and mark and number the areas. It does not matter if no traces are collected or items of evidence secured in one of these areas.

It is useful to actually mark each room with its guide number (ex. adhere white carton with black numbers to door). The numbers may then be included in the photo/video documentation. Later they facilitate linking a picture to the respective room. Furthermore, the search officers have an unambiguous name for each room in their internal communication.

It is a proved method to assign a fixed area to each search officer and to note down their responsibilities. In cases of major searches, the officer in charge of the list of exhibits and the sketcher had better not join the search measures.

Rooms may be subdivided into areas on the basis of furniture for example. Each area is numbered and sketched, for example a living room:



If items of evidence are found, the exhibit number begins with the guide number of the respective location.

Exhibit number	Number Measure Weight	Denomination	1. Remarks 2. Results 3. Whereabouts 4. Seizing officer
1.1.2.3		Living room	
1.1.2.3.1	1	Cupboard	3. In the object
1.1.2.3.1.1		Middle drawer	
1.1.2.3.1.1.1	1	Pistol with filled magazine	4. Officer Müller (KK)
1.1.2.3.1.1.2	1	Pack of ammunition	4. Officer Müller (KK)
1.1.2.3.2.	1	Shelf	3. In the object
1.1.2.3.2.1		Lower shelf	
1.1.2.3.2.1.1	1	Little wooden box with objects, presumably for drug consumption	4. Officer Meier (KOK)
1.1.2.3.3	1	Table	3. In the object
1.1.2.3.3.1	1	Transparent plastics bag containing white powder	1. Under table top 4. Officer Meier (KOK)
1.1.2.3.4	1	Sofa	3. In the object
1.1.2.3.4.1		Micro-traces recovered by means of vacuum filtration	4. Officer Müller (KK)
1.1.2.3.5		Floor between sofa and door	
1.1.2.3.5.1	1	Roll of aluminium foil, opened	4. Officer Müller (KK)

The officers seizing the respective evidence must be named in any case as they need not be identical with the officer signing the final list of exhibits. This information will help the competent court to name the actual witness later.

If fingerprints on objects are made visible, the guide number or exhibit number will be part of the physical-trace number. The physical-trace number 1.1.2.3.3. D1 for example means fingerprint evidence 1 at the table with guide number 1.1.2.3.3. A second trace of fingerprint evidence would be numbered 1.1.2.3.3 D2.

The physical-trace number is not included in the list of exhibits but, if at all, in a separate list of fingerprint evidence.

On principle cards showing all traces at the scene of crime and reports on collected evidence must be set up.

Even if there are numerous physical traces, a clear and unambiguous denomination of each fingerprint evidence is guaranteed.

At a later time, a subdivision may be made at the office and the list of exhibits may be completed. Example:

<b>Tatortspurenkarte</b>		<input type="checkbox"/> Erstfertigung
Tat-/Fundort		<input type="checkbox"/> Duplikat
Tat-/Funddatum	Aktenzeichen	
Straftat/Ereignis		
Geschädigt		
Gesichert durch		am
Ass./Spur-Nr.	Seite/Pag.-Nr.	
Gegenstand		
Skizze		

Exhibit number	Number Measure Weight	Denomination	1. Remarks 2. Results 3. Whereabouts 4. Seizing officer
1.1.2.3.2.1.1	1	Little wooden box with objects, presumably used for drug consumption	4. Officer Meier, KOK
1.1.2.3.2.1.1.1	1	Disposable syringe, original wrapping	1. Subdivision on DDMMYY by officer Meier, KOK
1.1.2.3.2.1.1.2	1	Coffee-spoon with black adhesions	1. Subdivision on DDMMYY by officer Meier, KOK
1.1.2.3.2.1.1.3	1	Gas lighter, Diabolo make	1. Subdivision on DDMMYY by officer Meier, KOK

This method of retaining physical traces and evidence also avails itself for the examination of motor vehicles. In this case, guide numbers should be allocated to individual areas, too, before the search starts. Example:

Exhibit number	Number Measure Weight	Denomination	1. Remarks 2. Results 3. Whereabouts 4. Seizing officer
1	1	Car (description, registration mark, VIN)	
1.0		Neutral samples for securing micro- traces by means of vacuum filtration	
1.1		Interior	
1.1.1		Driver's area	
1.1.2		Front passenger's area	
1.1.3		Backseats (drivers' side)	
1.1.4		Backseat (front passenger's side)	
1.2		Boot	
1.3		Engine compartment	
1.4		Exterior	