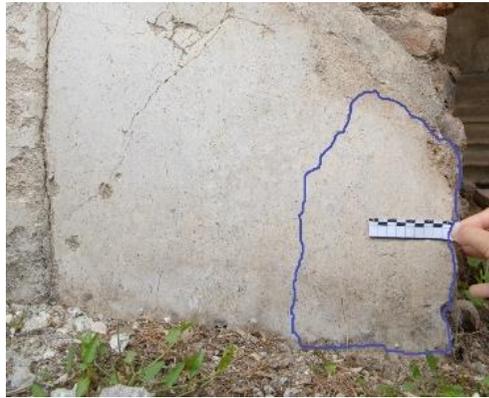


PSPP - Summer Academy 2018

Glossary

Damage	Picture / Example	Definition	Pattern
PRIORITY DAMAGES			
COLLAPSING ELEMENTS (STRUTURE)	 <p data-bbox="439 564 730 620">Tomb PN_EN_04 south, (PN_EN_04_CS_IMG_0004).</p>	<p data-bbox="1086 225 1816 480">The damage phenomenon "Collapsing elements" could be found on the building structure of the tomb mainly on the cornices of the examined tombs. Here there are several layers of subsequently applied restoration mortars, which have separated from each other. This results in a fragile area consisting of loose pieces of mortar. Due to the high weight of the mortar layers, the cornice is in danger of falling down. There is also a danger that the loose pieces of mortar will fall down.</p>	
MOVABLE DETACHMENT	 <p data-bbox="450 1098 994 1153">PN_EN_06 south (PN_EN_6_S_DSC_0263). PN_EN_12 east (PN_EN_12_E_IMG_4213).</p>	<p data-bbox="1086 679 1816 735">Movable detachment means, that the plaster is moving when touched lightly or about to fall down / collapse.</p> <p data-bbox="1086 743 1805 799">Detachments are delamination of plaster layers, they can be divided into:</p> <ul data-bbox="1086 807 1794 935" style="list-style-type: none"> → a) detachment of preparatory layer from the structure → b) detachment of preparatory layers from each other → c) detachment of Intonaco from the preparatory layer → d) detachment of Intonaco with missing preparatory layer <p data-bbox="1086 943 1626 967">These detachments can appear in combination.</p> <p data-bbox="1086 975 1823 1094">The distance between the different layers can be up to 5 cm (in case of deformation up to 10 cm) at the examined tombs monuments. Deformations on Intonaco detachments can occur often as concave shaped edges.</p>	

**NON MOVABLE
DETACHMENT**



PN_EN_06 south
(PN_EN_6_S_DSC_0270).

Detachments are delaminations of plaster layers, they can be divided into:

- a) detachment of preparatory layer from the structure
- b) detachment of preparatory layers from each other
- c) detachment of Intonaco from the preparatory layer
- d) detachment of Intonaco with missing preparatory layer

These detachments can appear in combination (see fig. PN_EN_6_S_DSC_0270).

The distance between two different layers can be up to 1 cm in the tombs examined.

The difference between MOVABLE DETACHMENT and NOT MOVABLE DETACHMENT is that not movable detachments seem to be stable. They can be identified for example by percussive test. The stability can be secured by closed edges of former interventions and still attached plaster.



CRACKS



PN_EN_06 south PN_EN_04 south
(PN_EN_6_S_DSC_0345) (PN_EN_4_DSC_0277).

The cracks are up to 4 mm wide and can appear vertical from the cornice down through every plaster layer. Cracks are often borders for detachments.

Cracks can be divided into:

- Big / large cracks 2-4 mm
- Middle cracks 0,5-2 mm
- Fine cracks <0,5 mm (staying at the surface)



SUPERFICIAL LAYER DAMAGES

LOSS OF COHESION

(2015: SAND-ING/ POWDER-ING)



PN_EN_12 south
(PN_EN_12_S_DSC_0252_edited.jpg
PN_EN_12_S_0254_edited.jpg).

Fine granular disintegration of preparatory layer and Intonaco on already damaged surfaces. Mostly the still existing polished surface of Intonaco is not powdering. This phenomenon occurs on the preparatory layer on the tombs.

Granulated disintegration and scaling of stones and bricks due to erosion. So the internal structure of crumbling masonry becomes weakened, resulting in small fragments of the material falling off.



EROSION



PN_EN_04 south
(PN_EN_04_S_IMG_9966).

PN_EN_04 south
(PN_EN_04_S_IMG_9967).

Erosion can be observed in different context, like on the brick as well as on the different plaster layers and does not proceed at the same rate from one area to the other. The erosion is therefore irregular on the different surfaces. In the base area of the tombs the plaster at the corners is no existent anymore. The bricks are eroded at the originally angular stone edges, which leads to a clearly rounded profile. On the plaster this damage phenomenon is recognizable by the selective loss of small particles in different layers from the originally smooth surface. This loss is irregular.



<p>FLAKING</p>	 <p>PN_EN_02 south (PN_EN_02_S_IMG_2338).</p>	<p>The partial detachment of a superficial layer as a scale or a stack of scales. The scales can be several mm as well as cm in size.</p>	
<p>BLISTERING</p>	 <p>PN_EN_04_S_IMG_9968, PN_EN_04_S_IMG_9969</p>	<p>Blistering is located near the surface and described the detachment of separated, air-filled, raised hemispherical elevations (ICOMOS 2010). This phenomena is visible on the stone as well as on the plaster surface.</p>	
<p>SCALING</p>	 <p>PN_EN_10 south (PN_EN_10_S_DS_C_0283).</p>	<p>Scaling is a phenomenon of thin and deformed (flat or curved) surface plaster (both on Intonaco and preparatory layer). Inside of one layer parts of the surface stick out.</p> <p>There are different Intonaco appearances: concave, roof shaped; little blister or pustule; bigger blister and bulge; flaking with a lot of fine cracks; little "explosions".</p>	

MISSING ELEMENTS

MISSING ELEMENTS (MASONRY)



PN_EN_04 south (PN_EN_04_S_I MG_9964).

The damage “Missing elements” is linked to the masonry of the tomb monuments. The phenomena describes areas in which elements of the building construction were previously located.



MISSING JOINT MORTAR



PN_EN_04 south (PN_EN_04_S_I MG_9965).

This phenomenon often occurs in conjunction with other damage phenomena like erosion. It has been observed increasingly at the corners of tomb in the based area. The mortar has come loose from the joints so that water can now easily penetrate into the structure.



LACUNA



PN_EN_10 south (PN_EN_10_S_DSC_0117).

Lacuna is a loss of material.
 → a) eroded brick & stone
 → b) missing joint mortar
 → c) preparatory layer + Intonaco are missing
 → d) original preparatory layer surface + Intonaco is missing
 → e) Intonaco is missing
 → f) original Intonaco surface is missing



BIOLOGICAL COLONIZATION

**PLANTS/
ROOTS**

**BIODETERIORA-
TION**

(2015: **Biologi-
cal Growth**)



PN_EN_06 south (PN_EN_6_S_DSC_0280
PN_EN_6_S_DSC_0363).

Biological colonization included living organisms like plants, moss and algae, and plants. Plants can grow very fast in between stones and bricks (mostly on the cornices). Biodeterioration can be black or green and usually appears on the plaster and is often found on the Intonaco in lower parts of the wall).

