## Group 1 - Loss of stone material

<table>
<thead>
<tr>
<th>Weathering form</th>
<th>Back weathering due to loss of scales (sW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone type</td>
<td>Back weathering due to loss of scales (sW)</td>
</tr>
<tr>
<td>Location</td>
<td>Back weathering due to loss of scales (sW)</td>
</tr>
<tr>
<td>Scale</td>
<td>Back weathering due to loss of scales (sW)</td>
</tr>
</tbody>
</table>

- **Weathering form:** Back weathering due to loss of scales (sW)
- **Stone type:** Sandstone
- **Location:** Monastery, Birkenfeld / Germany
- **Scale:** Width of the image: 45 cm

- **Weathering form:** Back weathering due to loss of scales (sW)
- **Stone type:** Limestone
- **Location:** Masonry, Cairo / Egypt
- **Scale:** Width of the dimension stone: appr. 70 cm

- **Weathering form:** Back weathering due to loss of scales (sW)
- **Stone type:** Sandstone
- **Location:** Khazne / Treasury, Petra / Jordan
- **Scale:** Width of the image: appr. 75 cm

- **Weathering form:** Back weathering due to loss of crumbs / splinters (uW)
- **Stone type:** Tuff
- **Location:** Minster, Neuss / Germany
- **Scale:** Width of the image: appr. 80 cm

- **Weathering form:** Back weathering due to loss of crumbs / splinters (uW)
- **Stone type:** Limestone
- **Location:** Castle, Bad Kösen / Germany
- **Scale:** Height of the image: appr. 60 cm

Reference:
Weathering form: Back weathering due to loss of stone layers dependent on stone structure (xW)
Stone type: Greywacke
Location: St. Lambertus Church, Monschau-Kalterherberg / Germany
Scale: Width of the image: appr. 30 cm

Weathering form: Back weathering due to loss of stone layers dependent on stone structure (xW)
Stone type: Sandstone
Location: Stele, Nemrut Dag / Turkey
Scale: Height of the stele: appr. 2.2 m

Weathering form: Back weathering due to loss of crusts (cW)
Stone type: Sandstone
Location: St. Georg Church, Dinkelsbühl / Germany
Scale: Width of the image: appr. 30 cm

Weathering form: Back weathering due to loss of crusts (cW)
Stone type: Sandstone
Location: Castle, Hannover / Germany
Scale: Height of the image: appr. 40 cm

Weathering form: Back weathering due to loss of undefinable stone aggregates / pieces (zW)
Stone type: Limestone
Location: Wall, Malta
Scale: Width of the dimension stone: appr. 55 cm
<table>
<thead>
<tr>
<th>Weathering form</th>
<th>Stone type</th>
<th>Location</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rounding / notching</td>
<td>Limestone</td>
<td>Wall, Cairo / Egypt</td>
<td>Width of the dimension stones: appr. 20 cm</td>
</tr>
<tr>
<td>(Ro)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rounding / notching</td>
<td>Sandstone</td>
<td>St. Johannes Church, Weinsberg / Germany</td>
<td>Width of the grave stone: appr. 60 cm</td>
</tr>
<tr>
<td>(Ro)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alveolar weathering</td>
<td>Limestone</td>
<td>Citadel, Victoria - Gozo / Malta</td>
<td>Width of the dimension stone: appr. 30 cm</td>
</tr>
<tr>
<td>(Ra)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alveolar weathering</td>
<td>Sandstone</td>
<td>Castle, Zwingenberg / Germany</td>
<td>Width of the image: appr. 50 cm</td>
</tr>
<tr>
<td>(Ra)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alveolar weathering</td>
<td>Sandstone</td>
<td>Palace Tomb, Petra / Jordan</td>
<td>Height of the image: appr. 1 m</td>
</tr>
<tr>
<td>(Ra)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Weathering form: Weathering out dependent on stone structure (tR)
Stone type: Sandstone
Location: St. Stephan Chapel, Ergersheim / Germany
Scale: Height of the image: appr. 50 cm

Weathering form: Weathering out dependent on stone structure (tR)
Stone type: Limestone
Location: Cathedral, Naumburg / Germany
Scale: Height of the image: appr. 60 cm

Weathering form: Weathering out of stone components (Rk)
Stone type: Limestone
Location: Cathedral, Malaga / Spain
Scale: Height of the image: appr. 25 cm

Weathering form: Weathering out of stone components (Rk)
Stone type: Sandstone
Location: Castle, Zwingenberg / Germany
Scale: Width of the image: appr. 50 cm

Weathering form: Weathering out of stone components (Rk)
Stone type: Limestone
Location: Monastery, Dafni / Greece
Scale: Width of the image: appr. 25 cm
Weathering form: Clearing out of stone components (Rh)
Stone type: Limestone
Location: Cathedral, Naumburg / Germany
Scale: Width of the image: appr. 30 cm

Weathering form: Clearing out of stone components (Rh)
Stone type: Conglomerate
Location: Monastery, Monserrat / Spain
Scale: Width of the image: appr. 50 cm

Weathering form: Roughening (Rr)
Stone type: Marble
Location: Sculpture, Venice / Italy
Scale: Height of the head: appr. 30 cm

Weathering form: Microkarst (Rm)
Stone type: Limestone
Location: Head of a statue (Apollo), Nemrud Dag / Turkey
Scale: Height of the image: appr. 60 cm

Weathering form: Pitting (Rt)
Stone type: Marble
Location: Rialto Bridge, Venice / Italy
Scale: Width of the image: appr. 20 cm

Weathering form: Relief due to anthropogenic impact (aR)
Stone type: Sandstone
Location: Karnak Temple, Luxor / Egypt
Scale: Width of the image: appr. 75 cm
<table>
<thead>
<tr>
<th>Weathering form:</th>
<th>Break out due to anthropogenic impact (aO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone type:</td>
<td>Sandstone</td>
</tr>
<tr>
<td>Location:</td>
<td>Sculptural decoration, Angkor / Cambodia</td>
</tr>
<tr>
<td>Scale:</td>
<td>Height of the image: appr. 60 cm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weathering form:</th>
<th>Break out due to anthropogenic impact (aO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone type:</td>
<td>Limestone</td>
</tr>
<tr>
<td>Location:</td>
<td>St. Wenzel Church, Naumburg / Germany</td>
</tr>
<tr>
<td>Scale:</td>
<td>Height of the image: appr. 4 m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weathering form:</th>
<th>Break out due to constructional cause (bO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone type:</td>
<td>Sandstone</td>
</tr>
<tr>
<td>Location:</td>
<td>Cathedral, Aachen / Germany</td>
</tr>
<tr>
<td>Scale:</td>
<td>Height of the image: appr. 55 cm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weathering form:</th>
<th>Break out due to natural cause (nO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone type:</td>
<td>Sandstone</td>
</tr>
<tr>
<td>Location:</td>
<td>Palace Tomb, Petra / Jordan</td>
</tr>
<tr>
<td>Scale:</td>
<td>Width of the image: appr. 12 m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weathering form:</th>
<th>Break out due to non-recognizable cause (oO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone type:</td>
<td>Limestone</td>
</tr>
<tr>
<td>Location:</td>
<td>Relief, Venice / Italy</td>
</tr>
<tr>
<td>Scale:</td>
<td>Width of the image: appr. 2 m</td>
</tr>
</tbody>
</table>
Weathering form: Break out due to non-recognizable cause (oO)
Stone type: Sandstone
Location: Luxor Temple, Luxor / Egypt
Scale: Width of the image: appr. 55 cm

Weathering form: Break out due to non-recognizable cause (oO)
Stone type: Marble
Location: Acropolis, Athens / Greece
Scale: Width of the image: appr. 2 m

**Group 2 – Discoloration / Deposits**

Weathering form: Coloration (Dc)
Stone type: Marble
Location: Certosa, Pavia / Italy
Scale: Width of the image: appr. 40 cm

Weathering form: Coloration (Dc)
Stone type: Soapstone
Location: Sculpture, Congonhas / Brazil
Scale: Height of the image: appr. 15 cm
Weathering form:  Bleaching (Db)
Stone type:  Limestone
Location:  Residential house, Aachen / Germany
Scale:  Width of the image: appr. 45 cm

Weathering form:  Soiling by particles from the atmosphere (pI)
Stone type:  Sandstone
Location:  Cathedral, Zeitz / Germany
Scale:  Height of the image: appr. 1.5 m

Weathering form:  Soiling by particles from the atmosphere (pI)
Stone type:  Limestone
Location:  Mosque, Cairo / Egypt
Scale:  Width of the image: appr. 55 cm

Weathering form:  Soiling by particles from water (wI)
Stone type:  Basaltic lava, tuff
Location:  University, Aachen / Germany
Scale:  Width of the image: appr. 115 cm
Weathering form: Soiling by droppings (gI)
Stone type: Limestone
Location: Cathedral, Naumburg / Germany
Scale: Height of the image: appr. 80 cm

Weathering form: Soiling due to anthropogenic impact (aI)
Stone type: Limestone
Location: Masonry, Cairo / Egypt
Scale: Height of the image: appr. 1 m

Weathering form: Efflorescences (Ee)
Stone type: Limestone
Location: Mosque, Cairo / Egypt
Scale: Height of the image: appr. 60 cm

Weathering form: Efflorescences (Ee)
Stone type: Sandstone
Location: Masonry, Zeitz / Germany
Scale: Height of the image: appr. 90 cm

Weathering form: Subflorescences (Ef)
Stone type: Sandstone
Location: St. Stephan Chapel, Ergersheim / Germany
Scale: Width of the image: appr. 25 cm
Weathering form: Subflorescences (Ef)
Stone type: Sandstone
Location: Horus Temple, Edfu / Egypt
Scale: Width of the image: appr. 15 cm

Weathering form: Dark-colored crust tracing the surface (dkC)
Stone type: Limestone
Location: Cathedral, Halberstadt / Germany
Scale: Width of the image: appr. 1 m

Weathering form: Dark-colored crust tracing the surface (dkC)
Stone type: Tuff
Location: Monastery, Knechtsteden / Germany
Scale: Height of the image: appr. 80 cm

Weathering form: Dark-colored crust changing the surface (diC)
Stone type: Limestone
Location: Sculpture, Cathedral, Naumburg / Germany
Scale: Height of the head: appr. 30 cm

Weathering form: Light-colored crust tracing the surface (hkC)
Stone type: Sandstone
Location: Ed-Der / Monastery, Petra / Jordan
Scale: Height of the image: appr. 35 cm
Weathering form: Light-colored crust changing the surface (hiC)
Stone type: Limestone
Location: Mosque, Cairo / Egypt
Scale: Width of the dimension stone: appr. 30 cm

Weathering form: Light-colored crust changing the surface (hiC)
Stone type: Sandstone
Location: Castle, Gelnhausen / Germany
Scale: Height of the image: appr. 1.5 m

Weathering form: Colored crust tracing the surface (fkC)
Stone type: Marble
Location: Sanctuary of Demeter, Eleusis / Greece
Scale: Height of the image: appr. 55 cm

Weathering form: Colored crust tracing the surface (fkC)
Stone type: Quartzite
Location: Church of Sao Francisco des Assis, Ouro Preto / Brazil
Scale: Height of the image: appr. 30 cm

Weathering form: Colored crust changing the surface (fiC)
Stone type: Sandstone
Location: Tomb carved from bedrocks, Petra / Jordan
Scale: Width of the image: appr. 20 cm
Weathering form: Microbiological colonization (Bi)
Stone type: Limestone
Location: Sculpture, Torcello / Italy
Scale: Width of the head: appr. 20 cm

Weathering form: Microbiological colonization (Bi)
Stone type: Sandstone
Location: Castle, Haut Koenigsbourg / France
Scale: Height of the image: appr. 35 cm

Weathering form: Microbiological colonization (Bi)
Stone type: Tuff
Location: Moai, Easter Island / Chile
Scale: Height of the statue: appr. 5 m

Weathering form: Colonization by higher plants (Bh)
Stone type: Sandstones
Location: Temple, Angkor / Cambodia
Scale: Height of the image: appr. 5 m
Weathering form: Colonization by higher plants (Bh)
Stone type: Sandstone
Location: Lion Triclinium, Petra / Jordan
Scale: Height of the image: appr. 2 m

Weathering form: Colonization by higher plants (Bh)
Stone type: Travertine
Location: Wall, Meersburg / Germany
Scale: Width of the image: appr. 1 m

Weathering form: Coloration to dark colored crust tracing the surface (Dc-dkC)
Stone type: Sandstone
Location: Town hall, Hamburg / Germany
Scale: Height of the image: appr. 1.4 m

Weathering form: Coloration to colored crust tracing the surface (Dc-fkC)
Stone type: Limestone
Location: Cathedral, Halberstadt / Germany
Scale: Width of the image: appr. 80 cm
Weathering form: Soiling by particles from the atmosphere to dark-colored crust tracing the surface (pI-dkC)
Stone type: Limestone
Location: Town hall, Aachen / Germany
Scale: Height of the image: appr. 2 m

Weathering form: Soiling by particles from the atmosphere to dark-colored crust changing the surface (pI-diC)
Stone type: Limestone
Location: St. Wenzel Church, Naumburg / Germany
Scale: Width of the image: appr. 25 cm

Weathering form: Efflorescences to light-colored crust tracing the surface (Ee-hkC)
Stone type: Sandstone
Location: Castle, Nuremberg / Germany
Scale: Width of the image: appr. 1.3 m

Weathering form: Efflorescences to light-colored crust tracing the surface (Ee-hkC)
Stone type: Tuff
Location: St. Martin Church, Düsseldorf / Germany
Scale: Height of the image: appr. 50 cm
Weathering form: Efflorescences to light-colored crust tracing the surface (Ee-hkC)
Stone type: Sandstone
Location: Temple of the Winged Lion, Petra / Jordan
Scale: Height of the image: appr. 1.2 m

Weathering form: Microbiological colonization to dark-colored crust tracing the surface (Bi-dkC)
Stone type: Quartzite
Location: Monastery, Caraca / Brazil
Scale: Width of the image: appr. 1.3 m

Weathering form: Microbiological colonization to dark-colored crust tracing the surface (Bi-dkC)
Stone type: Sandstone / limestone
Location: Collegiate Church, Thann / France
Scale: Width of the image: appr. 1 m

**Group 3 – Detachment**

Weathering form: Granular disintegration into powder (Gp)
Stone type: Limestone
Location: Cathedral, Cadiz / Spain
Scale: Width of the image: appr. 45 cm
<table>
<thead>
<tr>
<th>Weathering form</th>
<th>Stone type</th>
<th>Location</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granular disintegration into sand (Gs)</td>
<td>Sandstone</td>
<td>University, Aachen / Germany</td>
<td>Width of the image: appr. 30 cm</td>
</tr>
<tr>
<td>Granular disintegration into sand (Gs)</td>
<td>Quartzite</td>
<td>Museu da Inconfidencia, Ouro Preto / Brazil</td>
<td>Width of the image: appr. 40 cm</td>
</tr>
<tr>
<td>Granular disintegration into grus (Gg)</td>
<td>Granite</td>
<td>Karnak Temple, Luxor / Egypt</td>
<td>Width of the image: appr. 30 cm</td>
</tr>
<tr>
<td>Crumbling (Pu)</td>
<td>Limestone</td>
<td>City wall, Cairo / Egypt</td>
<td>Width of the dimension stone: appr. 40 cm</td>
</tr>
<tr>
<td>Crumbling (Pu)</td>
<td>Limestone</td>
<td>Mosque, Cairo / Egypt</td>
<td>Width of the image: appr. 40 cm</td>
</tr>
</tbody>
</table>
Weathering form: Crumbling (Pu)
Stone type: Sandstone
Location: Castle, Schillingsfürst / Germany
Scale: Width of the image: appr. 50 cm

Weathering form: Splintering (Pn)
Stone type: Limestone
Location: Sanctuary of Demeter, Eleusis / Greece
Scale: Height of the image: appr. 35 cm

Weathering form: Crumbling to splintering (Pu-Pn)
Stone type: Quartzite
Location: Town hall, Aachen / Germany
Scale: Height of the image: appr. 30 cm

Weathering form: Single flakes (eF)
Stone type: Sandstone
Location: Castle, Ludwigsburg / Germany
Scale: Width of the dimension stone: appr. 60 cm

Weathering form: Multiple flakes (mF)
Stone type: Limestone
Location: Mosque, Cairo / Egypt
Scale: Width of the dimension stone: appr. 45 cm
Weathering form: Scale due to tooling of the stone surface (qS)
Stone type: Limestone
Location: Pillar, Cairo, Egypt
Scale: Width of the dimension stone: appr. 45 cm

Weathering form: Scale due to tooling of the stone surface (qS)
Stone type: Marble
Location: Sanctuary of Demeter, Eleusis / Greece
Scale: Height of the image: appr. 35 cm

Weathering form: Single scale (eS)
Stone type: Sandstone
Location: University, Aachen / Germany
Scale: Width of the dimension stone: appr. 40 cm

Weathering form: Single scale (eS)
Stone type: Sandstone
Location: Castle, Ludwigsburg / Germany
Scale: Width of the image: appr. 60 cm

Weathering form: Multiple scales (mS)
Stone type: Mudstone
Location: Cheonjeon-Ri Petroglyph, Ulsan / Korea
Scale: Width of the image: appr. 115 cm
Weathering form: Multiple scales (mS)
Stone type: Sandstone
Location: Monastery, Birkenfeld / Germany
Scale: Width of the dimension stone: appr. 45 cm

Weathering form: Exfoliation (Xl)
Stone type: Sandstone
Location: Cathedral, Zeitz / Germany
Scale: Width of the dimension stone: appr. 40 cm

Weathering form: Exfoliation (Xl)
Stone type: Sandstone
Location: Castle, Heidelberg / Germany
Scale: Height of the image: appr. 30 cm

Weathering form: Splitting up (Xv)
Stone type: Sandstone
Location: Church, Iphofen / Germany
Scale: Height of the image: appr. 45 cm
Weathering form: Splitting up (Xv)
Stone type: Sandstone
Location: Residence, Würzburg / Germany
Scale: Height of the image: appr. 60 cm

Weathering form: Detachment of a dark-colored crust tracing the surface (dkK)
Stone type: Limestone
Location: Cathedral, Naumburg / Germany
Scale: Width of the dimension stone: appr. 40 cm

Weathering form: Detachment of a dark-colored crust changing the surface (diK)
Stone type: Sandstone
Location: Cathedral, Magdeburg / Germany
Scale: Width of the dimension stone: appr. 30 cm

Weathering form: Detachment of a dark-colored crust changing the surface (diK)
Stone type: Limestone
Location: City wall, Naumburg / Germany
Scale: Width of the image: appr. 25 cm

Weathering form: Detachment of a light-colored crust changing the surface (hiK)
Stone type: Limestone
Location: Thorn house, Bad Kösen / Germany
Scale: Width of the image: appr. 40 cm
Weathering form: Detachment of a light-colored crust changing the stone surface (hiK)
Stone type: Limestone
Location: El Merdani Mosque, Cairo / Egypt
Scale: Width of the image: appr. 25 cm

Weathering form: Granular disintegration into sand to single flakes (Gs-eF)
Stone type: Sandstone
Location: Chapel, Ergersheim / Germany
Scale: Height of the image: appr. 55 cm

Weathering form: Granular disintegration into sand to single flakes (Gs-eF)
Stone type: Sandstone
Location: Thorne house, Bad Dürkheim / Germany
Scale: Width of the image: appr. 45 cm

Weathering form: Granular disintegration into grus to single flakes (Gg-eF)
Stone type: Quartz porphyry
Location: Chapel, Wettin / Germany
Scale: Width of the image: appr. 85 cm

Weathering form: Granular disintegration into grus to single flakes (Gg-eF)
Stone type: Granite
Location: Sphinx Temple, Giza / Egypt
Scale: Width of the dimension stone: appr. 1 m
Weathering form: Single flakes to crumbling (eF-Pu)
Stone type: Limestone
Location: Megalithic Temple of Ggantija, Gozo / Malta
Scale: Width of the image: appr. 35 cm

Weathering form: Crumbling to single scale (Pu-eS)
Stone type: Limestone
Location: Slab, Giza / Egypt
Scale: Width of the image: appr. 45 cm

Weathering form: Splintering to single scale (Pn-eS)
Stone type: Limestone
Location: Acropolis, Athens / Greece
Scale: Width of the dimension stone: appr. 50 cm

Weathering form: Single flakes to single scale (eF-eS)
Stone type: Sandstone
Location: Cathedral, Aachen / Germany
Scale: Width of the image: appr. 30 cm

Weathering form: Multiple flakes to multiple scales (mF-mS)
Stone type: Sandstone
Location: Monastery, Birkenfeld / Germany
Scale: Width of the image: appr. 90 cm
Weathering form: Multiple flakes to multiple scales (mF-mS)
Stone type: Limestone
Location: Megalithic Temple of Ggantija, Gozo / Malta
Scale: Width of the image: appr. 35 cm

Group 4 – Fissures / deformation

Weathering form: Fissures independent of stone structure (vL)
Stone type: Sandstone
Location: Karnak Temple, Luxor / Egypt
Scale: Height of the image: appr. 70 cm

Weathering form: Fissures independent of stone structure (vL)
Stone type: Marble
Location: Agora, Athens / Greece
Scale: Width of the image: appr. 55 cm

Weathering form: Fissures dependent on stone structure (tL)
Stone type: Sandstone
Location: Tomb carved from bedrocks, Petra / Jordan
Scale: Width of the image: appr. 1 m

Weathering form: Deformation, convex (IV)
Stone type: Marble
Location: Old Cemetery, Bonn / Germany
Scale: Height of the image: appr. 60 cm
Weathering form: Deformation, concave (rV)
Stone type: Marble
Location: Cemetery, Cologne / Germany
Scale: Height of the image: appr. 65 cm