

# Documentation of glass deterioration

Recent Advances in Glass and Ceramics Conservation

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## Introduction

In 2015 a glass conservation project was carried out at the Rijksmuseum, Amsterdam. The condition of 139 objects from the period between the 16th and 19th century was documented before and after cleaning.

The purpose of this project was as follows:

To create a **condition baseline** for a representative group glass objects by means of **documentation in word and photographs**, which can be used at a later date to detect changes in the condition of the objects.

**Documentation in word:** the description of the condition was carried out using terms that needed as little interpretation as possible. Objects were studied in various light sources (fluorescent lamp, semi-dark with raking light) and magnification. The observations on the condition were documented on a specially designed form.

**Documentation in photographs:** existing photographs, e.g. for a catalogue (see image to the right), provided poor information on the condition of the object, therefore photographs were made specifically aimed at capturing the condition of the objects. This enabled the detection of changes in condition with more certainty than before.



## Stepwise approach

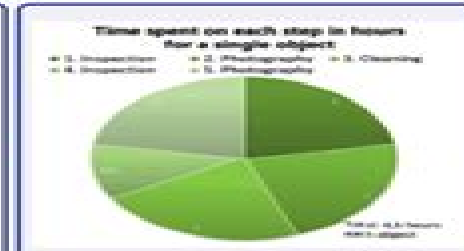
<p><b>1. Inspection</b></p> <p>Condition check in various lighting conditions, and under different magnification. All the observations were documented on a specially designed form.</p>	<p><b>2. Photography</b></p> <p>Camera: 3.5mm f/2.8 18-250 Multi-Shot 50 with IHC macro 120 mm III lens. Number of recordings: 4 in total for each object: 1 overview &amp; 3 detail, each with 2 fixed lighting conditions.</p>	<p><b>3. Cleaning</b></p> <p>Cleaning: demineralised water and non-ionic soap (Synergonic A7); Rinsing: demineralised water; Drying: a paper towel and left to dry in the air for at least one hour.</p>	<p><b>4. Inspection</b></p> <p>The condition of the objects after cleaning was evaluated and compared to the condition before cleaning. Changes in appearance were documented.</p>	<p><b>5. Photography</b></p> <p>All parameters (e.g. distance camera-object, lighting angle, light generator power) were documented on a form to increase reproducibility.</p>

## Findings

		<ul style="list-style-type: none"> <li>The thorough documentation of the condition of the glass objects and reproducible photographs provide a <b>'condition baseline'</b> for each object.</li> <li>For each glass a <b>characteristic feature</b> was identified before inspection, which could be pointed out in both photographs.</li> <li>The two photos on the right were taken using the same <b>photography parameters</b>. The slightly darker appearance of the object in the right photo is a result of the removal of surface deposits, which no longer scatter the light.</li> </ul> <p>Bottle with inscription: "Blusch den geest niet oyt" ["Do not extinguish the spirit"], 1686, Dutch, Rijksmuseum, BK-NM-744.</p> <p>Before cleaning (L) and after cleaning (R), photographed with the same parameter settings.</p>
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## Conclusions and Recommendations

- Adequate **terminology** is necessary for proper description of deteriorated vessel glass.
- The **billboard quality photos** (50 megapixel) are beneficial for the determination of the condition of the glass. Minute defects on the glass surface are visible and can be traced back on the photograph.
- Extensive **documentation of methods and findings** during inspection are crucial for future evaluation of the condition of glass objects.
- The method used in this project enables the creation of almost completely **reproducible photographs**, independent of the photographer making them.
- A small group of objects will be **monitored in the future** using the same procedures as in the current project to evaluate condition changes.
- The thorough **documentation and recreation of all parameters** is crucial to create a reproducible photograph. The choice of background material, for example, can change the photograph completely.



# Deterioration And Conservation Of Painted Glass A Critical Bibliograp

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