

Plastics at the National trust – a case study at Mr Straw’s House

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Plastics form a significant but oft forgotten part of the more modern collections cared for by the National Trust, and present some complex challenges for conservation.

The aims of this study were threefold:

1. Create a ‘condition – treatment priority – stability’ assessment system for plastic condition reporting. This is the first time any condition assessment of plastics has been carried out within the National Trust (NT).
2. Survey the condition of plastics within a NT property to test the assessment system, and to get an overview of the state of preservation of the collection.
3. Provide recommendations for storage and care of plastics within NT.

In order to achieve these aims, Dr Brenda Keneghan¹ and I surveyed Mr Straws House, Worksop, UK. This property was a typical family home, but as very little was thrown away, we found almost 200 household plastics dating from the 1900s through to 1990, from kitchen spice jars to jewellery, as well as Bakelite light switches.

The plastics were scored from 1-4 on their condition, stability and treatment priority, with 1 being the best or most stable, and 4 relating to objects in the poorest condition. These standard scores have been used for all condition surveys within the Trust for some time, but there was no specific wording relating to scoring for plastics. These definitions were decided after discussions with Brenda. On carrying out the survey, the condition of the items surveyed was generally quite good, with 64% of objects falling into category 1 or 2. 71% of the items were not in need of treatment, or only a light clean, and so were graded as 1 for treatment priority. If we assume this is representative of collections of plastics across NT overall, this is generally encouraging.

There was a wide variety of plastics found during the survey. 38 objects were composed of cellulose nitrate or acetate, only one was actively deteriorating (Figure 1); the others appeared stable. Other actively deteriorating items were made from natural rubber, e.g. plimsolls with sticky soles, and a PVC coat, also sticky and yellowing. They will be stored in silicone release paper, which has a non-stick surface to stop them from sticking to their wrapping.

The main action points recommended from the survey were:

- Storage of ‘sticky’ plastics in silicon release paper.
- Storage of cellulose nitrate/acetate items with A-D strips to monitor for degradation.
- Separate out plastics and other items, so they are not stored with mixed materials.

We have successfully defined a condition scoring system that works in situ for assessing plastics and plastic-containing objects. The majority of plastics surveyed were in good condition. The plastics that are deteriorating are those that are known to be vulnerable, namely cellulose nitrate/acetate, PVC and rubber. Verifying this knowledge of the most vulnerable plastics enables us to recommend to properties across NT that these should be seen as a priority for correct storage and recording.

¹ Polymer Scientist, Victoria and Albert Museum.



Figure 1: Example of deteriorating cellulose nitrate comb

Publications from Research

SKIPPER, L & KENEGHAN, B (2013). Assessment of plastics in the National Trust: a case study at Mr Straw's house. *e-conservation*, Spring (25). pp. 196-203.

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