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To cite this article: Giulia Giovani, Luiz Antônio Cruz Souza, Yacy-Ara Froner & Alessandra Rosado (2016) The use of industrial paint on wood by Lygia Clark, *Studies in Conservation*, 61:sup2, 291-293, DOI: [10.1080/00393630.2016.1184054](https://doi.org/10.1080/00393630.2016.1184054)

To link to this article: <http://dx.doi.org/10.1080/00393630.2016.1184054>



Published online: 19 Sep 2016.



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The use of industrial paint on wood by Lygia Clark

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Contemporary art presents various challenges and questions for those responsible for its preservation. Faced with new variables including but not limited to the use of modern and diverse materials, complexity of construction, in addition to conceptual and intangible questions, the profession needs to re-examine conservation and restoration theories developed thus far. This communication presents an investigation (Giovani *et al.*, 2015) into the paintings of the Brazilian artist Lygia Clark (born Belo Horizonte 1920, died Rio de Janeiro 1988) during the 1950s, with a focus on four works made from industrial paint on wood. They are: *Superfície Modulada N° 12* (1956), *Planos em Superfície Modulada N° 3* (1957), *Espaço Modulado N° 4* (1958), and *Ovo – Contra Relevo* (1959). The paintings belong to the Sattamini collection,¹ and are on loan to the Museum of Contemporary Art of Niterói, Rio de Janeiro, Brazil. These particular paintings gave the opportunity to carry out research into some highly significant works which also provide a snapshot of Clark's career over a short period.

The goals were to understand their production, the way the use of industrial materials was incorporated into the artist's work, and the context in which these were used. Appropriate knowledge of these materials and techniques is essential for understanding the deterioration processes now apparent in the works, and how their materials can affect their appearance and the inherent concept of geometrical abstractionism explored by the artist, given that aesthetic enjoyment is a fundamental part of the artist's intention and the viewer's participation. By improving knowledge of her materials, conservators will gain insights that could help with the dating of the works. Additionally, the study will lead to improved knowledge of vulnerability, and the interaction of the construction materials with agents of deterioration. This

will lead to the development of safer storage and conservation procedures based on the properties of her materials.

This investigation aims to assist and contribute to the field of conservation science through imaging and documentation, documentary research, the creation of reconstructions and the use of physico-chemical analytical techniques. The research was developed in collaboration with LACICOR, the Conservation Science Laboratory of the Universidade Federal de Minas Gerais, Brazil, and had the support of an interdisciplinary team for interpretation and discussion of results.

First, as much information as possible was collected from different sources including art historical studies and personal records, combined with investigation of the historical and social context of the period when these artworks were made, and a survey of the products available at the time. Valuable information was found in one of the artist's expense notebooks, where materials were listed for her paintings. The artist listed two commercial paint brands used during her painting in the 1950s, Wanda™ and Polidura™, and also noted the material used for priming the wooden support, and the characteristics of the finishing paints. It is known that these paints were made from nitrocellulose lacquers and alkyd paints, used for the painting of automotive vehicles.²

Another source of information was found in the newspaper *Diário de Notícias*, in which Clark declared during an interview (*Diário de Notícias*, 1957):

My way of working was a consequence of a strongly-felt need to develop a process for working. I do not merely paint canvases anymore, I paint modulated surfaces, using, for that, wood, Celotex™ and industrial paint. It is

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¹http://www.macniteroi.com.br/site/index.php?op=acervo&sub_op=acervo_text_2

²The use of these paints is discussed in sources on the 1950s, including http://www.carroantigo.com/imagens/PROPAGANDAS_NAC/sherwin%20williams%201961.jpg and http://www.carroantigo.com/imagens/PROPAGANDAS_NAC/NIULAC%20TINTAS%201962.jpg.



Figure 1 Lygia Clark painting in her studio, using industrial paint spray-gun and masks. Reproduced from *Diário de Notícias* (1957) with the permission of *Jornal Diário de Notícias*.

still the job of a blue-collar worker: sawing, sanding, and smoothing the surface. It is not an easy job [...] I use a protective mask because the paint [Niulac™] is highly poisonous. Every worker that utilizes it is obliged to use these masks [...] I cut the wood, sand it, prime a Celotex™ board, then paint these supports with a spray-gun and industrial paint. (Fig. 1)

By mentioning Niulac™, a nitrocellulose paint, Clark stated a connection to the fabrication of automotive vehicles. Celotex™ was a solid support made of compressed wood fibers and lignin.

Finally, analysis of the materials was carried out to yield important data on their inherent vulnerabilities, as well as information on possible alterations, and to support the development of appropriate conservation methods. The analytical techniques employed were: portable digital microscopy, optical microscopy, portable energy-dispersive X-ray fluorescence (EDXRF), and Fourier transform infrared spectroscopy (FTIR). The last technique confirmed the use of automotive paints based on nitrocellulose and alkyd resins. Some of the nitrocellulose samples had undergone

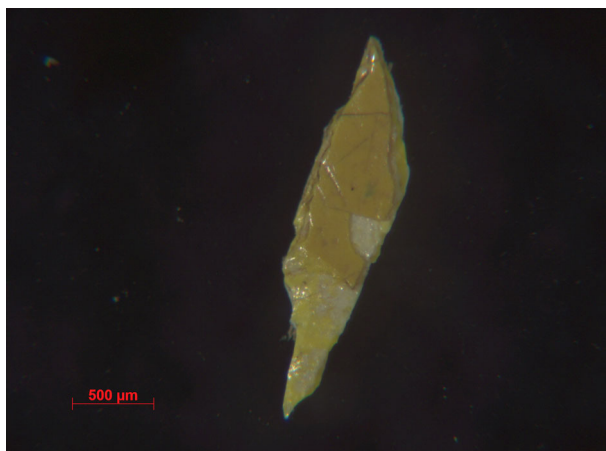


Figure 2 Sample of yellow paint viewed at 50 \times , from *Planos em Superfície Modulada n°3*, 1957. Photo: [Giovani \(2015\)](#).


a deterioration process called de-nitration. In general, the samples appeared brittle and flaking, and some were powdery (Fig. 2). This and further analytical results are in accordance with the observed poor condition of the works. The results have also influenced the way we approach their deterioration, and how it affects the concept and the appearance of the works of one of the most

important artists representing Brazilian Concretism and Neo-Concretism.

Funding

This work was supported by Comissão de Aperfeiçoamento de Pessoal do Nível Superior – Programa de Apoio a Planos de Reestruturação e Expansão das Universidades Federais (Coordination for the Improvement of Higher Education Personnel – Support Programme for the Restructuring and Expansion of Federal Universities).

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