

PLASTIC FINISHES IN 1960s BELGIAN OFFICE BUILDINGS

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ABSTRACT: This paper focusses on the presence of visible synthetic materials (plastics) and finishes from the 1960s in the interior of office buildings. Although the ongoing research on synthetic materials as art pieces is well developed, building components from the interior and exterior of Belgian patrimony have not yet been studied, and remain undervalued as integral components of heritage buildings. The research presented in this paper tackles this issue by examining two specialized Belgian journals, namely *La Technique des Travaux* and *La Maison*. A selection of case studies from these two journals was examined in-depth to assess general tendencies and obtain a thorough evaluation and validation of the visible plastic materials and finishes in the case studies: the floor, wall and ceiling finishes. The plastic elements of listed monuments have often been removed, and do not receive a similar level of protection to other materials. Plastic heritage is not valued and protected as a relevant part of recent historic architecture. This part of the built patrimony needs to be recognized with equal status and therefore conserved.

KEYWORDS: plastics; synthetic materials; interiors; finishes; Belgium

INTRODUCTION: The 1960s is often characterized as an optimistic decade with a booming economy. Life became more vibrant and color was an important element in building interiors, which could be expressed in the new synthetic material, plastic. The use of industrially manufactured plastic for the building market grew from original uses in military equipment.

The flexibility of plastic fabrication enables specific characteristics to be incorporated into a particular component. Therefore, many interior floors, ceilings and walls of office buildings from the 1960s are finished with synthetic materials and finishes, such as the moveable partition walls of the Belgian Radio and Television (BRT) Center building, the wall and ceiling elements used in the Solvay research center and the moveable partition walls found in the Glaverbel Headquarters. These are all finished or manufactured from polyvinyl chloride (PVC). The value attached to synthetic materials has changed in the course of time¹.

The synthetic materials and finishes in the interior of buildings are commonly seen as 'secondary', that is, they are used to reduce the cost of the construction and serve as 'cheap' alternatives to traditional materials. However, they have a high historic value.

This paper aims to investigate the plastic heritage found in the interiors of office buildings in Brussels by collating case studies based on Belgian publications and particularly from Belgian architectural journals. The cases were listed and analysed as an inventory, and an in-depth investigation of selected examples were carried out. Three levels consisting of a literature study, archival research and an in-situ investigation were explored. The reasoning behind the design of plastic elements was examined in both a theoretical and practical manner and validated in practice.²

Case studies have been selected from 1933 as that year marks the introduction of several well-known plastics on the commercial market e.g. polyvinyl chloride (PVC), polyethylene (PE) and melamine formaldehyde resin (MF) which forms the basis for Formica. The synthetics composed before 1933 benefited from the properties of natural resins that would function as the matrix for the end product. *Plastics Now*, an American publication is one of the leading pieces of literature used in this research to construct a critical analysis of the materials throughout their history. Investigating the general tendencies and the global evolution of plastics shows that Belgium did not play a leading role in the development of today's plastic industry.³ This lack of development is also reflected

in an absence of knowledge about the fabricated components in buildings. The elements that are discussed in this paper have both an aesthetic and functional purpose in comparison with the better-known plastic 'heritage', namely art pieces or furniture. Several research groups have already investigated and questioned methods for the conservation of art pieces in museums, with a loss of function as a necessary consequence. The degradation of the synthetic fabric may reach an irreversible degree, or the degradation may be stabilized. The object becomes a museum object without a defined function to be preserved for future generations⁴. As part of buildings the materials and finishes described in this paper cannot be stripped of their function, and therefore other conservation strategies should be used to conserve them. Research on plastic heritage has not focused on materials used for finishing floors, walls and ceilings, which results in a lack of conservation methods when dealing with this specific challenge.

INVENTORY

First an inventory⁵ was collated in order to obtain examples of visible, plastic interior elements. The book *Renaat Braem 1910-2001* provided 15% of the cases and 70% came from two journals, *La Technique des travaux* and *La Maison*. The remaining 15% were found in other literature such as *Brussels Hoofdstedelijk Gewest*, or verbally from specialists. Overall this literature study does not provide sufficient examples to reach an adequate conclusion, however the numerical results will be presented at this phase of the research.

ARCHITECTURAL JOURNALS

The two journals, *La Technique des Travaux* and *La Maison*, were scanned for reference projects, over the whole period of publication of the journals (1925-1977). The first journal *La Maison* focuses on the interior of buildings and was published during the period 1945-1970 in Brussels. The journal sketches the future way of living and how rooms should be designed. The materialization of the entire room/project, going from furniture to fixed elements, is the main focus of the different articles present in the journal. It was the first of the Belgian architectural journals to be published after WWII. The focus lies on the construction, decoration and equipment of residential buildings. *La Maison* aimed to contribute to social and technical innovation without compromising the spiritual dimension of culture. The overall perspective was to introduce tendencies, and to point at the necessity of the architect as designer of the home. The head director P. L. Flouquet visited the salons frequently and reported on his observations of the new developments in the construction industry, domestic installations and way of living.⁶

The second journal is *La Technique des Travaux* which is a technical journal and focuses on the constructional aspects of the projects. The journal was published in Liege between 1925-1977. The case studies are contemporary buildings chosen for their exceptional or innovative construction. Descriptions of the finishes are briefly provided in the main text or as a caption accompanying photographs. The high rate of development within the construction industry was the main reason for publishing the journal.

Both journals aimed to reach a wide range of readers: engineers, architects, building contractors and designers. They should be seen as a combination of descriptive literature, photographic material and technical drawings. They also aimed to contribute to the debate concerning modern architecture in Belgium, with the editions published after WWII focusing on the global developments of concrete architecture.⁷ The different approaches of both journals complement each other in such a way that both the technical and aesthetic aspect and quality of the material were addressed. The two journals have provided interesting and different approaches of looking at the applied materials.

Apart from the case studies found in the journals themselves, the advertisements of new synthetic materials for interior finishes were an important secondary source. Typical examples are Clartex, Solclip or Floorflex respectively produced by the companies Plastic-Benelux, a subsidiary of Eternit, and Rohm & Haas GmbH, a German company. The products were distributed in Belgium by the company Camille Honhon and Fademac. Clartex is a polyester based product with a corrugated profile, available as tiles or rolls, and used as a finish for walls and ceilings. Solclip and Floorflex are both PVC floor tiles [FIGURE 01]. The possibility of finding more advertisements in order to analyze the manufacturers was also investigated, but with insufficient results.

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Colors: 13 coloris différents. Formats: carrés: 225x225 - 300x300 - 450x450 mm. Lames: 225 - 300 - 450 - 600 x 25 - 50 - 75 mm. Epaisseurs: 1,8 mm - 2,5 mm. Poids au m²: ± 3,4 kg et ± 4,8 kg. De nombreux essais et tests technico-pratiques faits par plusieurs laboratoires officiels, belges et étrangers, garantissent les qualités et avantages de FLOORFLEX.

Pour tous renseignements complémentaires, adressez-vous à la Société FADEMAC à Schaerbeek ou à notre Salle d'Exposition 33, Bd du Jardin Botanique, à Bruxelles.

NE GÂTEZ PAS

C'EST UN PRODUIT DU GROUPE Eternit

01 Advertisement for Floorflex. © La Technique des Travaux, January-February 1955

The inventoried examples are selected on the basis of three different criteria:

- 1 The presence of one or more types of plastics.
- 2 The plastics need to be visible in the interior, which will exclude, for example, insulation.
- 3 The project should be part of the Belgian patrimony.

The criteria resulted in 41 projects included in the inventory. *La Technique des Travaux* provided 20 projects and *La Maison* added another 8. The other 13 cases studies are extracted from other sources. These projects are then analyzed on different levels: their geographic location, construction date, typology and most importantly: the types of plastic that were used.

THE EXAMPLES IN NUMBERS

Most of the examples of plastics that were mentioned in sources were located in Brussels (over 60%) and over a quarter were in Antwerp. Over 40% of examples were in office buildings, and about a quarter in residential buildings, and nearly 70% date from the 1960s. The contents of the inventory show that PVC and its derivatives were the most commonly recorded form of plastic, and were particularly found as floor, wall and ceiling coverings [FIGURE 02].

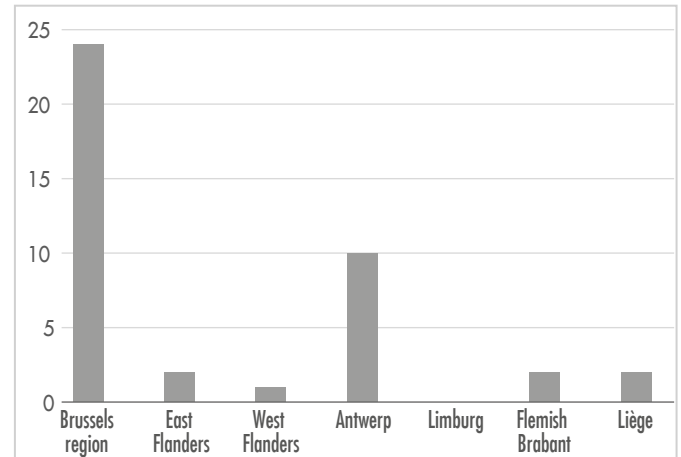
The booming phenomenon of emerging administrative companies in Brussels resulted in specialized manufacturers of plastic elements⁸. The urban evolution of Brussels is thoroughly explained and gathered in *Het Brussels Hoofdstedelijk gewest*.⁹ Other literary works like *Brussel: Geplande geschiedenis, stedenbouw in de 19de en 20ste eeuw* and *Architectuur sinds de Tweede Wereldoorlog* provide an in-depth investigation of the urban fabric and tendencies¹⁰ [FIGURE 03].

The development of administrative buildings in Brussels has been a trigger for the integration of plastics to the interiors of buildings in general. This is also the leading typology throughout the cases of which all but two are in Brussels. The focus on one typology should also be seen from of the commercial perspective as a specialization of the plastic industry. The elements produced by mass production are integrated mostly in more flexible buildings [FIGURE 04].

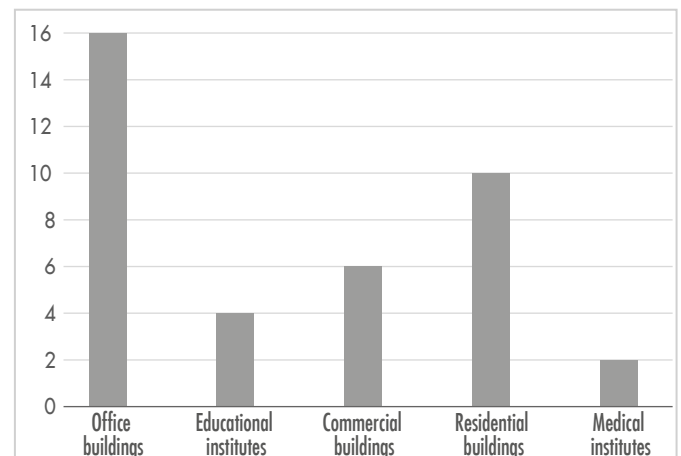
The construction dates of the different cases are concentrated around 1960-1969, when a great number of office buildings emerged in Brussels compared to the rest of Belgium. Overall distributions and specifically those in Brussels both show a similar evolution with a sudden drop in the 1970s, which is also reflected in the journals.

TWO FOCUS CASES

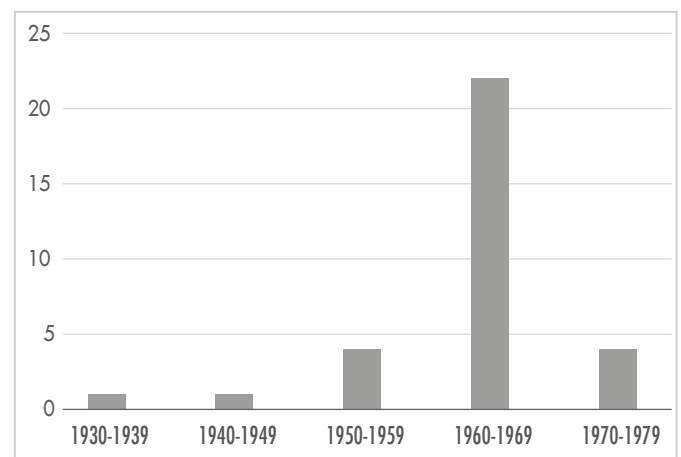
On the basis of the numerical categories above, studies¹¹ were selected from the 41 examples included in the inventory. The Belgian Radio-Television (BRT) center in Brussels will serve to illustrate the in-depth research



02 Geographical distribution of cases in Belgium.



03 Typological distribution of cases in Belgium.



04 Chronological distribution of cases in relation to the construction date.

The case studies are investigated on three different levels:

- 1 Literature study: journals and other written sources were used to obtain a first level of information of the materials chosen to make certain components of the building.
- 2 Archival research: the archival research focusses on the documentation available in public archives. The research aimed to confirm the results of the literature study.
- 3 In-situ visit: the two previous levels of research are to be verified by an in-situ visit. This third and final level serves to indicate broader practices: e.g. how are plastic elements treated when it comes to a renovation or rehabilitation of the original building?

The first two levels are examined to understand the initial concept behind the design of the building, and determine the different materials used within the building. An in-situ investigation of the cases will provide insight about the materials still available in the building.



05 View of the BRT Center. © N. Serneels

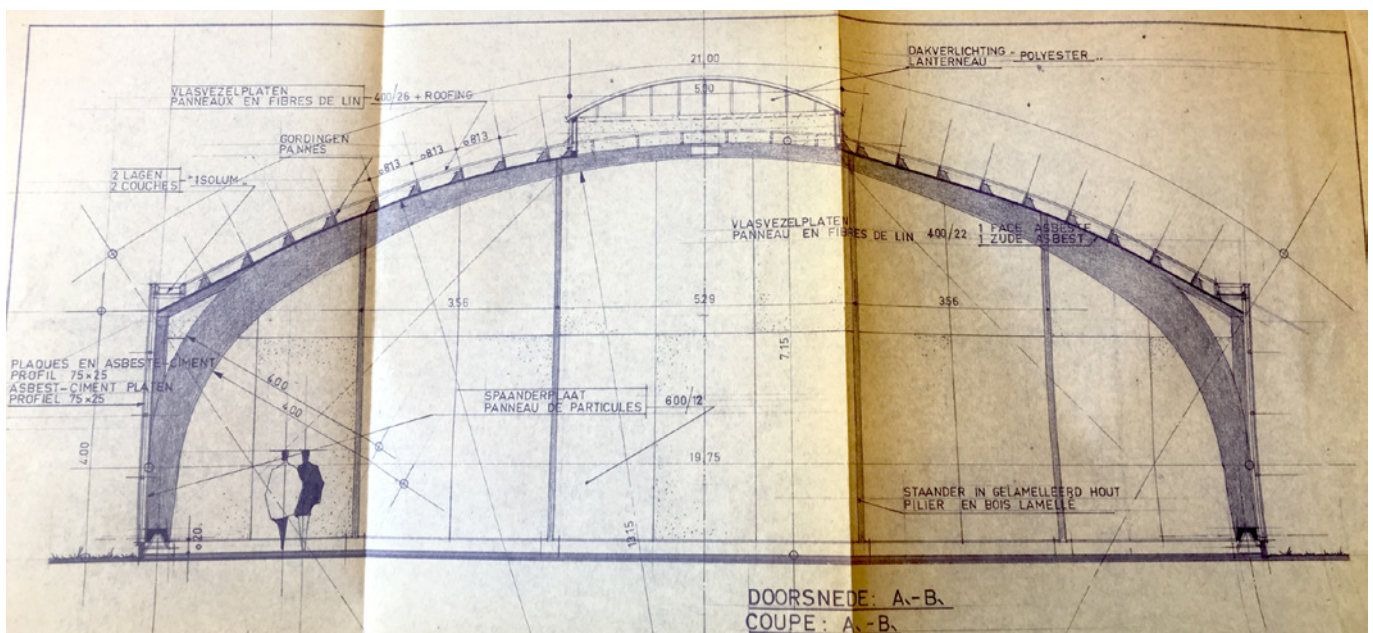
THE BELGIAN RADIO-TELEVISION (BRT) CENTER IN BRUSSELS

This case study is a multi-functional site in Brussels that includes office buildings, a daycare center, a sports center and a park. The site is best known for the iconic telecommunication tower. The construction of the adjacent office buildings started in 1964 to the design of Paul Ramon, a significant figure in the construction of office buildings in Brussels. The construction of the whole site would take 17 years to finish and would accommodate the Flemish and Walloon Radio and Television company in a symmetrically designed building complex. The northern part for the Flemish and the southern part for the Walloon company and connecting these two complexes is the common circulation area. The facades of the buildings are furnished with a repetitive polyester frame around the window openings [FIGURE 05].

The journal *Technique des Travaux* identifies moveable partitions with a vinyl finish for 200 offices in the building. These elements provided a high degree of flexibility to the building.

The literature study is not supported by the archival research. The moveable partitions are not mentioned in the archival documents consulted at the archive of Schaerbeek, although plastic interior elements in other buildings on the site are mentioned.

The daycare nursery on the site was initially executed with PVC floor tiles. The most impressive structure from the original project is the sports hall. According to the plans, this hall is a polyester balloon structure constructed in 1979. The archival research showed that the inflatable was replaced by a permanent construction with a



06 The presence of polyester in the second sports hall, 1976 at BRT-Center. © Communal archive Schaerbeek, 52/B.R.T. Art 47 - Sporthal bouwen, 1975

synthetic roof covering. The archival documents also mention Plexiglass glazing [FIGURE 06].

IN-SITU VISIT

The in-situ visit provides a new dimension to the research above as most of the elements found in the archival literature study no longer exist in the BRT buildings. The main buildings show very few elements made from synthetic materials. A few remaining doors and window sills are rare examples of the large amount of plastics that would have been found in the original buildings [FIGURE 07]. The moveable partition elements that are discussed in the literature have been reconstructed as timber panels.

The in-situ situation suggests that more plastic elements were present originally than have been found in the trade journals, and that these were removed during the renovation of the buildings. The Belgian Radio-Television (BRT) Center building can be seen as an example of how heritage built in the second part of the 20th century has been the subject of change. Although the building is listed and described in the inventory of Brussels patrimony, the original interior plastic elements are not mentioned, which implies that the Agentschap Onroerend Erfgoed did not consider these elements to be valuable.¹²

Also the Library of Scholten was renovated with respect for the original appearance and materialization.

THE LIBRARY OF SCHOTEN

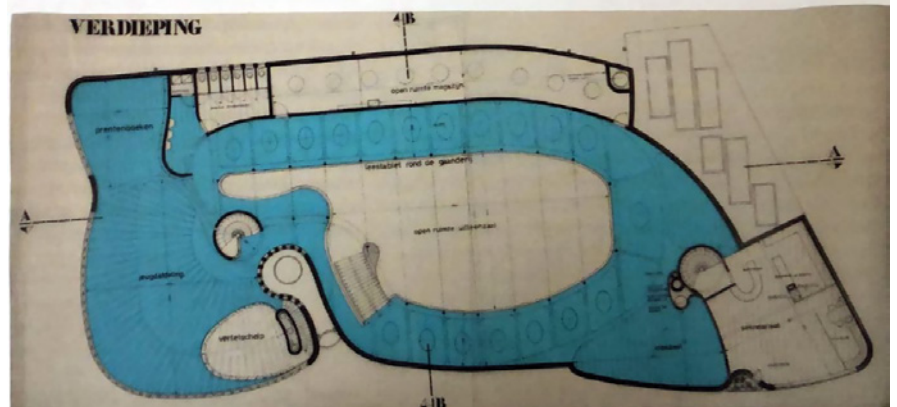
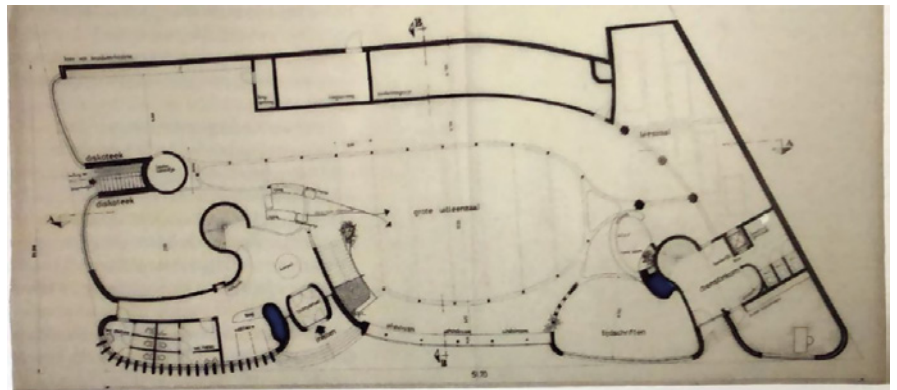
The Library of Schoten is a project designed by Renaat Braem and Piet Janssens, and has been given the status of monument in 1998. The building is situated next to the St Cordula Church built in Neo-gothic style, and therefore needed to exhibit an architectural presence in comparison with the monumental church. The library has an organic morphology and a distinct spatial positioning in the urban fabric

The library needed to become a cultural hub where different generations could meet and experience the collections of literature, knowledge and music in one building. According to Braem the building needed to be a functional sculpture, and therefore the need for art pieces integrated in the building would be unnecessary. The program of this project is conceptualized through an organic promenade where the morphology of the building is inspired by seashells. The building exhibits three materials: masonry and concrete for the structure and glass. The building has an open plan as shown in [FIGURE 08] which is conceived by a structure consisting of reinforced concrete beams supported by the masonry walls. The construction materials are a subtle reference to the church adjacent to the library [FIGURE 09].

The project and more specifically the shell have been explained thoroughly in the design and the choice of



07 Door finished with synthetic fabric at the BRT Center. One of the few remaining witnesses of the initial presence of synthetic materials in the building. © N. Serneels



08 Organic floor plan of the library. © Braecken et al. 2010



09 Exterior of the library of Schoten is a project of Renaat Braem completed in 1974. © N. Semeels

materials, with the impact of the construction being the primary reason for Braem's explanation. This project illustrates that architectural importance and grandeur are more significant motivators than the materialization of the shell, but this project is not a representative case that have been included in the inventory since it is the conception of an object and not so much the finishing of wall, floor or ceiling [FIGURE 10]. It shows that to accomplish the specific designed shape, the innovative material was chosen for the characteristics it is able to present [FIGURE 11].

In the period 2012-2017, the building and shell have been subject of a restoration/renovation campaign which provided both the fresh aesthetic appearance shown today, which also reflects the original, authentic architectural expression in both materialistic and aesthetic level.¹³

HERITAGE PERSPECTIVE: THE VALUE OF OUR PLASTIC PATRIMONY

The introduction of plastics to the building market initially had a strategic purpose to shift the market from war production to modern, civil society. Nonetheless, it has a higher than imagined impact in expressing the post-war mentality. The optimism that is materialized in plastic elements should therefore be seen as a primary heritage value of plastic.

A strong point of plastic is its flexibility. Within the limits of science, the material has been used for the set of parameters that is needed. The material can be manipulated and crafted as the producer wishes. Therefore, the strength of the material lies in its characteristics, and perhaps not in the fabricated objects.

This should not be seen as a reason to downgrade the value of plastic elements from the 1960s. The evaluation and preservation of a building that is subject to renovation



10 Polyester shell in library of Schoten. It is fully made out of polyester and serves as reading corner for children in a library. ©Van de Voorde et al., 2015



11 Polyester shell after restoration. © T. Vereenooghe, retrieved from <https://flic.kr/p/VgDTS6>

or even restoration should be done in the same manner for all materials. When a restoration project includes authentic elements made from synthetic materials that need to be replaced, the question arises whether the elements meant

for substitution also need to be made of a synthetic material. Clear heritage conservation principles should also be developed for plastics in architecture.

CONCLUSION

Plastic heritage is not valued and protected as a relevant part of recent historic architecture. This is in contrast with the importance assigned to plastics in illustrated contemporaneous journals. This part of the built patrimony needs to be recognized with equal status and therefore conserved.

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ENDNOTES

- 1 Faircloth, Bill, *Plastics now, on architecture's relationship to a continuously emerging material*, New York, Routledge, 2015.
- 2 For example: SERULUS, Katarina, *Design & Politics: The Public Promotion of Industrial Design in Postwar Belgium (1950-1986)*. PhD, University of Antwerp, 2016.
- 3 Ibid.: p. xiv-xv.
- 4 SHASHOUA, Yvonne, *Conservation of Plastics: Material Science, Degradation and Preservation*. 2nd edition. Slovenia, Taylor & Francis Ltd. 2009.
WILLIAMSON, Colin, 'Plastic fantastic'. *Faro tijdschrift over cultureel erfgoed*, n°6 (december 2013): 24-29.

- 5 The research explained in *Plastic Finishes in Interiors* will serve as a strong bases for the second chapter of this article since it is still valid. (SERNEELS, Nick, *Plastic Finishes in Interiors*, Plastic Seminar University of Antwerp, Antwerp, 5th of March 2018.)
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- 11 The buildings selected already served half a century and all have been the subject of some kind of renovation. Therefore the initial materiality should have been evaluated of which the conclusion is of great importance in this last level.
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